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Section on Education for Global Public Health (SEGPH)

Section on Education for Global Public Health (SEGPH)

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All professionals in the ASPHER community are welcome. Meetings take place online via Skype. A first call was sent out by the chair Ulrich Laaser (ulrich.laaser@uni-bielefeld.de) early in 2014.

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R 1.1 Introduction: A Global Public Health Curriculum

A regionalized even fragmented world – as it was – is converging rapidly in our days at the beginning of the 21st century. Countries embark increasingly on global arrangements (like e.g. the World Trade Organisation) and a globalizing civil society – supported by mobile technologies - connects across borders. At the same time unprecedented waves of migration diversify the Northern societies and deplete the qualified workforce in the South. Social disruption, military conflict, and climate change create increasingly a 90/10 situation where 90% of the global disease burden affects the South but only 10% of the world's resources are available there. To really change this state of affairs we have to think new and to try new avenues (Panter-Brick et al., 2014). A recent publication attempts to define Academic Global Health as relevant for training and research (Didier et al. 2016):
Global Health has been defined as:

"*Within the normative framework of human rights, global health is a system–based, ecological and transdisciplinary approach to research, education, and practice which seeks to provide innovative, integrated, and sustainable solutions to address complex health problems across national boundaries and improve health for all".*

With regard to education Wilson et al. (2016) describes academic global health as:

"*...an area for practice, study, and research that places a priority on improving health, achieving equity in health for all people and ensuring health-promoting and sustainable sociocultural, political, and economic systems. Global health implies planetary health which equals human, animal, environmental and ecosystem health, and it emphasizes transnational health issues, determinants, and solutions; involves many disciplines within and beyond the health sciences and promotes interdependence and interdisciplinary collaboration; and is a synthesis of population based prevention with individual holistic care".*

The World Federation of Public Health Associations published early in 2016 a Global Charter for the Public's Health (WFPHA, 2016). Europe as a privileged region also shares responsibility beyond its continental borders. In the ASPHER Charter (ASPHER, 2013) on

> *'The global dimension of education and training for public health in the 21st century in Europe and in the world' it is underlined that "The implementation of effective and sustainable interventions for health is a long-term endeavour where much depends on reliable global partnership, as noted in MDG 8. We, the Schools of Public Health in Europe, accept our global responsibility, which is guided by the two key principles of Solidarity and Subsidiarity. We act as part of the international community, focusing on education for practice and research to contribute to the global public goods essential for health, the building block for our future...Both education and research are core composite parts in the development of globalization, with international students numbering 2.5 million globally and constituting 20.5% of the total enrolment of the European Schools of Public Health. Global health is an emerging topic of highest relevance in the academic public health curricula."*

In conclusion a defined professional public health workforce with global experience and leadership qualification is required.

The ASPHER survey of Schools and Departments of Public Health (SDPH) in Europe (Bjegovic-Mikanovic et al., 2013) has shown that the subject of global health is taught already by 82% of SDPH with a median of 40 teaching hours per year. Details about the content of the respective modules, however, are not available. Therefore the Section on Education for Global Public Health took up the challenge to develop a standard module for Global Public Health, based on the experience of SDPH already teaching the subject and the earlier development of teaching modules for various public health topics (Zaletel Kragelj et al., 2012; and the 2 teaching books referenced as recommended literature). The learning objectives have been defined as (1) to understand the concepts and the language of global health and be able to develop global partnerships to advance solutions for global public health challenges; (2) Acquisition of knowledge and skills needed to be part of high level public health management to implement and evaluate policies and strategies to improve health globally.

Based on recent publications (Bjegovic-Mikanovic et al., 2014; Laaser et al., 2014; Hobbs et al., 2011) the Section on Education for Global Public Health has embarked on developing a standard curriculum of Global Public Health (appendices 1 and 2), ***which should serve as a an inspiration and material source for primarily for lecturers and teachers of Global Health in Master of Public Health Programmes of SDPH in Europe and beyond.*** However, the rich study material can and should also be used in adapted versions for Continued Professional Development and for Online/Distance Learning.

Examples of teaching international and global public health

https://globalhealth.duke.edu/education-and-training/graduate/master-of-science
www.smd.qmul.ac.uk/undergraduate/intercalated/globalpublichealth/index.html
www.dur.ac.uk/school.health/pg/taught/publicpolicyhealth/
http://sph.unc.edu/phlp/unc-gillings-global-online-masters-in-public-health/
http://www.fph.org.uk/media/search/learning+resources+for+international+&+global+health

Collections of case studies for global health

http://www.casestudiesforglobalhealth.org/
http://www.cgdev.org/page/case-studies
https://www.ghdonline.org/cases/

Blas E, Sommerfeld J, Sivasankara Kurup A (Eds.) (2011). Social determinants approaches to public health: from concept to practice, a collection of 13 case studies addressing social determinants of health. World Health Organization. Available at: http://www.who.int/social_determinants/tools/SD_Publichealth_eng.pdf?ua=1

FOR A COMPLETE LIST OF WEB BASED RESOURCES SEE APPENDIX 3

References

ASPHER (2013). The global dimension of education and training for public health in the 21st century in Europe and in the world. Charter of the Association of Schools of Public Health in the European Region (ASPHER) at the occasion of the 6th European Public Health Conference in Brussels, Belgium, November 13-16, 2013; Available at: www.aspher.org

Bjegovic-Mikanovic V, Vukovic D, Otok R, Czabanowska K, Laaser U (2013). Education and training of public health professionals in the European Region: variation and convergence. Int J Public Health 2013;58/6:801-10; DOI: 10.1007/s00038-012-0425-2.

Bjegovic-Mikanovic V, Jovic-Vranes A, Czabanowska K, Otok R (2015). Education for public health in Europe and its global outreach. Global Health Action 2014:7. Available at: http://www.globalhealthaction.net/index.php/gha/article/view/23570 (accessed 2 February 2015).

Didier W, Tanner M, Kickbusch I, Escher G, Paccaud F, Flahault A (2016). Moving global health forward in academic institutions. JOGH 6/1. DOI: 10.7189.jogh.06.010409.

Hobbs S, Marstein E, Anderson S, Cockerill R (2011). Development of a common curriculum core for doctoral training in health leadership: perspectives from an international collaboration. Work Based Learning e-Journal 2011;2/1: 303-17.

Laaser U, Brand H (2014). Global Health in the 21st Century. Global Health Action 2014;7. Available at: http://www.globalhealthaction.net/index.php/gha/article/view/23694 (accessed 2 February 2015).

Panter-Brick C, Eggerman M, Tomlinson M (2014). How might global health master deadly sins and strive for greater virtues. Global Health Action 2014;7. Available at: http://dx.DOI.org/10.3402/gha.v7.23411 (accessed 2 February 2015).

WFPHA, World Federation of Public Health Associations (2016). A Global Charter for the Public's Health. Available at: http://www.wfpha.org/projects-en/role-of-public-health-in-today-s-global-setting-en (accessed 10.02.2016).

Zaletel Kragelj L, Kovačič L, Bjegović V, Božikov J, Burazeri G, Donev D (2012). The use and exchange of teaching modules published in the series of handbooks prepared within the frame of the „Forum for Public Health in South-Eastern Europe"network. Slovenian Journal of Public Health 51(4):237-250.

Recommended literature

Forum for Public Health in South Eastern Europe; A Handbook for Teachers, Researchers and Health Professionals: Health: Systems – Lifestyle – Policies. Editors: Burazeri G, Zaletel Kragelj L; Assistant editor: Petrela K. Volume I, 2nd edition; Jacobs Publisher, Lage 2013, 455 p., ISBN: 978-3-89918-806-6; free of charge. See especially module 1.44 by Stikova et al. pp.435 ff.) Available at: http://www.seejph.com/public/books/Health-Systems-Lifestyle-Policies.pdf

Forum for Public Health in South Eastern Europe; A Handbook for Teachers, Researchers and Health Professionals: Health Investigation: Analysis – Planning – Evaluation. Editors: Burazeri G and Zaletel Kragelj L; Assistant editors: Petrela K and Muja H. Volume II, 2nd edition; Jacobs Publisher: Lage 2013, 579 p., ISBN 978- 3-89918-807-3, free of charge. http://www.seejph.com/public/books/Health-Investigation.pdf

Appendix 1

Structure of the Curriculum on Global Public Health

Title:	**R 1.1 INTRODUCTION TO GLOBAL PUBLIC HEALTH: Curricular Modules for Lecturers and Teachers**
Module information	The module may be structured according to the European Credit Transfer System (ECTS), corresponding per ECTS to 25-30 hours student workload (thereof up to 10 contact hours of lecturing/ supervision). As part of an academic degree program, the module may be worked into a Masters Curriculum in Global Health with corresponding admission and course completion requirements. Equally the module may also be incorporated into a DrPH (Doctoral program in Public Health) curriculum in which course specifics remain constant but where perspectives are broadened through increased emphasis on relevant readings and calls for ground breaking, context-specific case studies. *Note: Entrance requirements are to be determined by the institution offering the module.*
Authors	Section on Education for Global Public Health
Address for correspondence	ASPHER Office, Brussels, Belgium E-mail: aspher@aspher.org
Key words	Global health challenges, essential public health functions and operations, governance, leadership, ways forward.
Topics	Since the end of the 1990s, globalization has become a common term, facilitated by the social media of today and the growing public awareness of life-threatening problems common to all, such as global warming, global security, and global divides. For the main parameters of health like the Burden of Disease, Life Expectancy and Healthy Life Expectancy, extreme discrepancies are observed across the world. A globally accepted terminology of basic public health functions is essential for global health partnerships where global governance structures are growing including the civil society. In order to manage and guide this process a defined professional public health workforce with global experience and leadership qualification is required. The list of displayed modules is attached as *Appendix 1*.
Learning objectives	Understand the concepts and the language of global health and be able to develop global partnerships to advance solutions for global public health challenges; Acquisition of knowledge and skills needed to be part of high level management to implement and evaluate policies and strategies to improve health globally.
Teaching methods	Lectures, interactive small group discussions, case studies, and international field practice.
Who should apply	Those who pursue an international career in public health management, policy development, research, or advocacy.
Career	Teaching and/or research careers in academic environments;

opportunities	leadership positions in the health care sector, policy makers, private industry and Non-Governmental Organisations; free lance consulting
Assessment of students	Test and/or case problem presentations as well as field visits.
Assessment by students	Questionnaire on the evaluation of the modules (see *Appendix 2*)
COMMENTS on the module by lecturers and students	*Please comment*

1.0 Background

1.1 Introduction
1.2 Global public health functions and services: the history
1.3 Global public health definitions and challenges

2.0 Global health challenges

2.1 Demographic challenges
2.2 Burden of disease
2.3 Environmental health and climate change
2.4 Global migration and migrant health
2.5 Social determinants of health inequalities
2.6 Gender and health
2.7 Structural and social violence
2.8 Disaster preparedness
2.9 Millennium Development Goals
2.10 Health and wellbeing
2.11Global financial crisis and health

3.0 Governance of global public health

3.1 Global governance of population health and well-being
3.2 Health programme management
3.3 Role of the civil society in health
3.4 Universal health coverage
3.5 Public health leadership in a globalised world
3.6 Public health ethics
3.7 The global public health workforce
3.8 Education and training of professionals for global public health
3.9 Blended learning
3.10 Global health law
3.11 Human rights and health
3.12 Global financial management for health

4.0 Going global

Appendix 2:

Evaluation of Global Public Health modules by students and lecturers

EVALUATION BY STUDENTS *(anonymous)*		
Module R *number*	***Insert name of module here:***	**Evaluation (1-5; 5=best)**
Lecturers:	*...insert names of lecturers*	
Lecturer 1	*N.N.*	
Lecturer 2 ...	*N.N.*	
Relevance of module content	*Comments*	
Quality of module content	*Comments*	
Active involvement of students	*Comments*	
Usefulness of supporting material	*Comments*	
Overall evaluation	*Comments*	

The lead lecturer is invited to write a short report of her/his experience using the following framework:

EVALUATION BY LECTURERS *Please send to the E-mail of the corresponding author:* **ulrich.laaser@uni-bielefeld.de**	Title of the lecturer and full name: E-mail:

Questions:	*Please argue about the question:*
1) Was the module useful to facilitate teaching the respective topic?	
2) Which of the following global health competences[1] has been successfully/ unsuccessfully covered?	
a. Understand international health issues, international health regulations and international health organizations.	
b. Describe the major global health problems and potential economic, social and ecological determinants and possible solutions to those problems.	
c. Compare different health and socioeconomic profiles of countries from different levels of development.	
d. Identify and effectively utilize data resources available in international public health settings.	
e. Understand and interpret health indicators.	
f. Design and implement needs assessments in international public	

[1] Source: http://publichealth.tufts.edu/Academics/Public-Health-Program/MPH-and-Combined-Degree-Programs/MPH-Concentrations/Global-Health/Global-Health-competencies

health settings. Design and apply analytical tools for management and evaluation of global health programs.	
g. Demonstrate ability and leadership for public health program and implementation in international settings.	
h. Produce clear and comprehensive technical reports about global health matters.	
i. Demonstrate ability to communicate effectively in a culturally-sensitive manner and in a multicultural variety of international settings.	
3) Could you propose concrete changes in the module outline as published in SEEJPH? *(Please use if possible track changes).*	

Appendix 3

World Federation of Academic Institutions for Global Health (WFAIGH) Education Committee

Presentation at Geneva Health Forum Academic Global Health Workshop

April 21, 2016

Q3: What are the existing educational global health resources and what are the gaps in those resources? Lynda Wilson (Retired Professor, University of Alabama at Birmingham School of Nursing, Representing Consortium of Universities for Global Health), Bettina Borisch (University of Geneva, World Federation of Public Health Associations); Ulrich Laaser (Faculty of Health Sciences, University of Bielefeld, Germany)

Introduction and Overview

The following list includes selected global health education resources identified by the WFAIGH working group (Lynda Wilson, Bettina Borisch, and Ulrich Laaser). Most of the resources are in English, although some Spanish, Portuguese, and French resources have been identified. The working group members propose posting this list on the WFAIGH website (www.wfaigh.org) and invite others to add new resources so that this list can be used by all interested in global health education.

Open Access (Free) Global Health Resources

Websites with General Global Health Education Resources

English

- **Child Family Health International: Global Health Programs Resources**: https://www.cfhi.org/global-health-programs-resources
- **Consortium of Universities for Global Health –** www.cugh.org**.** *The resources section of this website has many global health education resources including videos, modules, case studies, and discussion forums.*
- **Education Portal. International Health.** http://education-portal.com/directory/category/Medical_and_Health_Professions/Public_Health_and_Safety/International_Health.html *Provides access to websites with education information, Distance Learning Options, Career Options, and Employment Information.*
- **Global Health Delivery and GHD Online-** http://www.ghdonline.org *GHD is an interdisciplinary collaboration between Harvard Business School, Harvard Medical School, and Brigham and Women's Hospital, GHD investigates the management decisions behind disease treatment and prevention globally. These lessons are disseminated through multiple channels, including open-access online professional communities, case studies, educational programs, and scholarly publications. GHD's overall mission is to build a network of professionals dedicated to improving the delivery of value-based health care globally. The GHD Online Community is free and provides a platform for blogs and sharing about many global health issues.*

- **Global Health Training Center** - https://globalhealthtrainingcentre.tghn.org
  The Training Centre brings together a wealth of training materials and resources from across The Global Health Network focused on research training and continued professional development needs.
- **International Training and Education Center for Health (ITECH)** – http://www.go2itech.org/what-we-do/heath-systems-strengthening. *This website has extensive global health education resources including resources on leadership, mentoring, and health systems strengthening.*
- **United States National Institutes of Health Fogarty International Center - E-learning Resources for Global Health Researchers.** http://www.fic.nih.gov/Global/Pages/training-resources.aspx
- **United States Agency for International Development Global Health eLearning Center -** https://www.globalhealthlearning.org/about
  Provides free and open access to state of the art technical global health information.

Portuguese

- **Saude Global** - http://saudeglobal.org. *This blog disseminates news, opinion articles and coure related materials selected by the students of Global Health discipline.*
- **HIFA-pt** - *http://www.hifa2015.org/hifa-pt/. HIFA-pt is a partnership between the ePORTUGUÊSe Network from the World Health Organization and the Global Information Network in Health Care / HIFA2015. The website is not updated.*
- **Portuguese Network developed by WHO -** *http://www.who.int/eportuguese/pt/. Not updated.*
- **Community of Portuguese-speaking countries (CPLP**) - *http://www.cplp.org/id-3333.aspx Community of Portuguese-speaking countries (CPLP) has a website with a channel intended for health information sharing. The channel is mostly used for dissemination events and joint strategies among the member countries of the community.*
- **Oswaldo Cruz Foundation (Fiocruz**) - *http://portal.fiocruz.br/pt-br. Fiocru), under the Brazilian Ministry of Health, is the most prominent institution of science and technology in health in Latin America. It has a variety of publications and also an e-learning system.*

Spanish

- **Alianza Latinoamericana de Salud Global**. http://www.alasag.org/es/
- **El Banco Mundial –** datos sobre salud. http://datos.bancomundial.org/nuevo_sitio_web_sobre_salud_nutricion_y_poblacion
- **Fundación Hesperian**. http://hesperian.org/books-and-resources/resources-in-spanish/
- **Instituto de Salud Global (Barcelona).** http://www.isglobal.org
- **The South American Institute of Government in Health (ISAGS)** - *http://www.isags-unasul.org.* The ISAGS *is an intergovernmental body of public character linked to the Health Council of the South American Nations Union (UNASUR). As a center of higher learning and debate public policy, their actions*

contribute to the development of governance and leadership in health in the countries of South America.

Websites that are Sources of Data About Global Health Problems or Comparative Health Systems

English

- **Commonwealth Fund** – http://www.commonwealthfund.org/about-us. *This is a private foundation that has an international program in health policy is designed to stimulate innovative policies and practices in the United States and other industrialized countries. One section of this website includes interactive maps and data allowing comparison of health systems in industrialized countries.*
- **Human Resources for Health Global Resource Center, European Observatory on Health Systems and Policies Health Systems in Transition (HiT) Profiles** - http://www.hrhresourcecenter.org/node/1572. *This site includes country-based reports that provide a detailed description of each health care system and of reform and policy initiatives in progress or under development. There are reports for Albania, Andorra, Armenia, Australia, Austria, Azervaijan, Belgium, Bosnia and Herzegovina, Bulgaria, Canada, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Georgia, Germany, Hungary, Iceland, Israel, Italy, Kazakhstan, Kyrgyzstan, Latvia, Lithuania, Luxembourg, Malta, Mongolia, Netherlands, New Zealand, Northern Ireland, Norway, Poland, Portugal, Republic of Moldova, Romania, Russian Federation, Slovakia, Slovenia, Spain, Sweden, Switzerland, Tajikistan, Macedonia, Turkey, Turkmenistan, Ukraine, United Kingdom, Uzbekistan and Wales.*
- **Health Policy and systems Research Training Database**: courses.healthsystemsglobal.org
- **Institute for Health Metrics and Evaluation (University of Washington) -** http://ghdx.healthdata.org
- **Management Science for Health** - http://www.msh.org/. *MSH works with health leaders throughout the world on global health's biggest challenges, with a focus on HIV & AIDS, TB, malaria, chronic diseases, family planning, and maternal and child health. The resources section on this website has many educational resources including tools, reports, fact sheets, and articles.*
- **Pan American Health Organization -** *https://www.youtube.com/user/pahopin* ***(in English and Spanish)***
- **United States Agency for International Development – Health Financing and Governance Project website** - https://www.hfgproject.org/about-hfg/. *There are many sections on this website related to global health, including a compendium of health system strengthening indicators* (https://www.hfgproject.org/resources/tools/health-systems-strengthening-indicators/), *a professional online course for health system strengthening* (https://www.hfgproject.org/hss-pro-online-course/), *and numerous publications related to health systems strengthening* (https://www.hfgproject.org/resources/publications/).
- **World Health Organization – Global Health Observatory Data** http://www.who.int/gho/health_systems/en/
- **World Health Organization, Health Systems -** http://www.who.int/topics/health_systems/en/. *See also the link on this website for*

further websites on health systems by each WHO region.

- **World Health Organization – Universal Health Coverage -** http://www.who.int/universal_health_coverage/en/.

Portuguese

Spanish

- **Organización Mundial de la Salud.** http://www.who.int/es/
- **Organización Panamericana de la Salud.** http://www.paho.org/hq/index.php?lang=es

Online Open Access Global Health Courses or Modules

English

- **Coursera Courses on Global Health –** There are 17 pages listing many free open access global health –related courses on Coursera**.** https://www.coursera.org/courses/?query=global%20health&languages=en**. Examples of only a few of these courses are:**
  - *Duke University – The Challenges of Global Health*
  - *Emory University – Childbirth: A Global Perspective*
  - *Johns Hopkins University – Confronting Gender Based Violence – Global Lessons With Case Studies from India AND Health for All Through Primary Health Care*
  - *Lund University – Global Perspective on Sexual and Reproductive Health Rights*
  - *Stanford University – Introduction to Food and Health*
  - *University of Colorado System – Foundations for Global Health Responders*
  - *University of Copenhagen – An Introduction to Global Health*
  - *University of Edinburgh – Mental Health: A Global Priority*
  - *University of Geneva –An Interdisciplinary Approach to Global Health*
  - *University of Manchester – Global Health and Humanitarianism*
  - *University of Melbourne – Global Adolescent Health*
  - *University of Pennsylvania – Growing Old Around the Globe*
- **EdX - https://www.edx.org/course**
  - *Boston University – The Practitioner's Guide to Global Health – The Big Picture*
  - *University of Toronto – Death 101: Shaping the Future of Global Health*
  - *Karolinska Institute – An Introduction to Global Health*
  - *Harvard University – Improving Global Health: Focusing on Quality and Safety or Lessons from Ebola- Preventing the Next Pandemic*
- **Global Health Gateway.** *The Global Health Gateway is Australia and New Zealand's hub for global health careers. This site has links to many free online courses and podcasts related to global health.* http://www.globalhealthgateway.org.au/index.php/education-and-training/free-online-courses

- **Global Health University – Unite for Sight -** http://www.uniteforsight.org/global-health-university/ **-** *offers courses and certificates related to global health, and some are free.*
- **Institute for International Medicine, INMED**. http://www.inmed.us/courses-inmed/ *Offers on site, hybrid and self-paced courses in various topics.*
- **Johns Hopkins Bloomberg School of Public health. Has links to many online learning modules and courses, many are free.** http://www.jhsph.edu/academics/online-learning-and-courses/.
- **Open Education Consortium, Global health courses.** http://www.oeconsortium.org/courses/search/?search=Global+health
- **World Bank Open Learning Campus.** https://olc.worldbank.org
- **World Health Organization Management and Health Systems Delivery -** http://www.who.int/management/newitems/en/index1.html

Lists many online courses and educational opportunities, some of which are free.

Spanish

- **Campus Virtual de Salud Publica.** https://www.campusvirtualsp.org/es**.** This is a resource of the Pan American Health Organization, with resources in English, Spanish, and Portuguese, many of them open-access.
- **Coursera Cursos en Espanol.** https://www.coursera.org/unam. There are a few courses in Spanish, but none specifically related to global health.
- **Universidad Virtual de Salud de Cuba.** http://uvs.sld.cu

Open – Access Journals that Focus on Global Health

English

- **Annals of Global Health -** http://www.journals.elsevier.com/annals-of-global-health/
- **Global Challenges -** http://onlinelibrary.wiley.com/journal/10.1002/(ISSN)2056-6646
- **Global Health Action -** http://www.globalhealthaction.net/index.php/gha**.** *Global Health Action aims to fuel a more concrete, hands-on approach to global health challenges by publishing research that addresses a global agenda and includes a strong implementation or policy component.*
- **Global Health Review -** http://www.globalhealthreview.org
- **Global Journal of Health Science -** http://ccsenet.org/journal/index.php/gjhs
- **Lancet Global Health -** http://www.thelancet.com/journals/langlo/issue/current
- **Lancet Specialty Collections on Global Health - http://www.thelancet.com/collections/global-health**
- **South Eastern European Journal of Public Health –** http://www.seejph.com/index.php/seejph/article/viewFile/59/50**.** *This is an entire issue dedicated to a curriculum for global public health published in 2015.*

Portuguese

- **Revista Eletrônica de Comunicação, Informação & Inovação em Saúde** - http://www.reciis.icict.fiocruz.br/index.php/reciis/index. *This is a quarterly multidisciplinary journal that provides open access, peer-reviewed publications, with no cost to the authors. Publishes articles of interest to the areas of communication, information and health.*

- **BVS RIPSA The Virtual Health Library of the Interagency Network of Information for Health (BVS RIPSA)** - http://www.ripsa.org.br. *BVS RIPSA is an initiative of the collegiate bodies of RIPSA, supported by the Ministry of Health of Brazil and the Pan American Health Organization (PAHO), and held in collaboration with the Latin American and Caribbean Center of Information in Health Sciences (BIREME).*

Spanish

- **Biblioteca Virtual en Salud. Virtual Health Library.** http://bases.bireme.br/cgi-bin/wxislind.exe/iah/online/?IsisScript=iah/iah.xis&base=LILACS&lang=e&form=F.
- **Geneva Foundation for Medical Education and Research – list of health-related journals in Spanish.** http://www.gfmer.ch/Medical_journals/Revistas_medicas_acceso_libre.htm
- **SciELO (Scientific Electronic Library Online). Index of journals available in Spanish and Portuguese as well as English.** http://www.scielo.br/scielo.php?script=sci_home&lng=es&nrm=iso

Global Health Case Studies

English

- Blas, E., Sommerfeld, J. & Sivasankara, K. A. (Eds.) (2011). *Social determinants approaches to public health: from concept to practice, a collection of 13 case studies addressing social determinants of health*. World Health Organization. Available at: http://www.who.int/social_determinants/tools/SD_Publichealth_eng.pdf?ua=1
- **BMC International Health and Human Rights journal – Published an issue in 2011 focused on** Global health research case studies: lessons from partnerships addressing health inequities http://www.biomedcentral.com/bmcinthealthhumrights/supplements/11/s2
- **Case Studies for Global Health -** http://www.casestudiesforglobalhealth.org**.** *This site includes a collection of case studies that examine and illustrate how people, organizations, companies and governments have worked together to try to solve a global health challenge. Thirty-three case studies were published in 2009. Fifteen of them have been updated here. Another 13 new case studies are also presented here. These studies describe existing or planned collaborative relationships, projects and transactions among a broad global health community. They cover many types of collaborations and a variety of disease conditions as well as current practices and lessons learned in the course of conducting business and structuring partnerships to deal with these conditions.*

- Denton, M., Prus, S. & Walters, V. (2004) Gender differences in health: a Canadian study of the psychosocial, structural and behavioural determinants of health. *Social Science and Medicine*, 58 (12), 2585-2600. (Case study on gender differences in health in Canada.)
- **Global Health Delivery Case Studies -** http://www.ghdonline.org/cases/**.** *To access these case studies it is necessary to sign up (free) to GHD Online.*
- Standing, H. (1997). Gender and equity in health sector reform programmes: A review. *Health Policy and Planning, 12(1),* 1-18.
- Verdonk, P., Benschop, Y. W., De Haes, J. C. & Lagro-Janssen, A. L. (2008). Making a gender difference: case studies of gender mainstreaming in medical education. *Medical Teacher,* 30, e194-201.
- White, M, & Evert, J. (2014). Developing ethical awareness in global health: Four cases for medical educators. *Developing World Bioethics*, *14(3),* 111-116.

Spanish

- Henandez, Pilar. (No date). *Enfermedades infecciosas, migración y salud global. Estudio de caso: Bolivia.* Available at: https://www.academia.edu/5642742/Enfermedades_infecciosas_migración_y_salud_global._Estudio_de_caso_Bolivia
- **Ministerio de Salud (Peru). (2006).** Estudio de casos : Experiencias en la gestión de recursos humanos en salud. Available at: http://www.minsa.gob.pe/dggdrh/libros/pdf/s1/I-06.%20Experiencias%20%20en%20la%20Gestión%20de%20Recursos%20Humanos%20en%20Salud.pdf

Videos Relevant for Global Health Education

English

- **Centers for Disease Control and Prevention Global Health Videos on You Tube -** https://www.youtube.com/playlist?list=PL1BB7628180AA0452
- **Global Health Council videos -** http://globalhealth.org/news-center/videos/
- **Global Health Media Project -** http://globalhealthmedia.org/what-we-do/meeting-the-need/

  The mission of this organization is to improve health care and health outcomes in resource-poor areas by developing videos that "bring to life" basic health care information known to save lives.
- **Greg Martin Global Health Videos on You Tube** - *https://www.youtube.com/user/drgregmartin*
- **Health Sherpa Blog, List of 52 Eye-Opening Videos on Global on You Tube -** http://mastersofpublichealth.org/52-eye-opening-global-health-videos-on-youtube.html
- **Global Health TV -** http://www.globalhealthtv.com/#/home

  This project enables health organizations and the global health community to share their work to address complex global health problems with a diverse audience made

up of health-care professionals, health foundations, businesses, government agencies, academic institutes and interested parties.

- **Pan American Health Organization TV and videos - https://www.youtube.com/user/pahopin**
- **University of Wisconsin Global Health Institute – links to videos and lectures:** *http://ghi.wisc.edu/resources/ghi-presentations-and-videos/*
- **World Health Organization Media Center – many videos and a link to all WHO videos on You Tube -** *http://www.who.int/mediacentre/en/*

Spanish

- Global Humanitaria: Salud y educación en India. (English with Spanish subtitles). https://www.youtube.com/watch?v=xzSzsbGEGNU
- Universidad de Chile. Bienvenida al Programa de Salud Global (con Dr. Leonel Valdivia). https://www.youtube.com/watch?v=miK1Kt3Cr8k. (Discusses program at University of Chile, but also provides general concepts about global health)
- Solar, O. (Jefa Gabinete de Salud de Chile). Determinantes sociales de la salud. https://www.youtube.com/watch?v=VQ4tepU4yyo
- Universidad Peruana Cayetano Heredia. ¿Qué es salud pública y salud global? https://www.youtube.com/watch?v=97Yjl4pHJXs

Discussion Questions: Other Global Health Education Resources and Gaps

- There are significant numbers of resources, but perhaps the issue is that people don't always know where to find the resources. Should the WFAIGH Education Committee facilitate collecting and posting these resources on the website?
- Who is the audience for global health education resources?
  different resources needed for different countries or global regions?

Title:	**R 1.2 GLOBAL PUBLIC HEALTH FUNCTIONS AND SERVICES: THE HISTORY**
Module information	The module may be structured according to the European Credit Transfer System (ECTS), corresponding per ECTS to 25-30 hours student workload (thereof up to 10 contact hours of lecturing/ supervision). As part of an academic degree program, the module may be worked into a Masters Curriculum in Global Health with corresponding admission and course completion requirements. Equally the module may also be incorporated into a DrPH (Doctoral program in Public Health) curriculum in which course specifics remain constant but where perspectives are broadened through increased emphasis on relevant readings and calls for ground breaking, context-specific case studies. *Note: Entrance requirements are to be determined by the institution offering the module.*
Authors	Dr. Ehud Miron
Address for correspondence	Ministry of Health - Northern Region District of Nazareth, Israel E-mail: ehudmi1@yahoo.com
Key words	Public health functions and operations, governance, leadership, ways forward
Topics	As early as 1988 a paper published by the US Institute of Medicine lay down the basis for the functions of public health by defining three core functions which fall under the responsibility of the government. Following soon after a group of US public health agencies defined the 10 Essential Public Health Functions. Other models which define what the Public Health system should be DOIng at the different organisational levels – local, regional and national were developed by non-US agencies as well. A globally accepted terminology of basic public health functions is essential for global health partnerships where global governance structures are growing including the civil society.
Learning objectives	Understand the concepts and the language of the public health functions and the resulting effect at all levels upon adoption of a public health functions model. Assess the benefit of a globally accepted framework for public health functions. Acquisition of knowledge and skills needed to use a public health functions system approach to organizing and evaluating a public health system at any level.
Teaching methods	Lectures, interactive small group discussions, case studies, and international field practice
Who should apply	Those who pursue an international career in public health management, policy development, research or advocacy; entrance requirements are to be determined by the institution offering the modules
Career opportunities	Teaching and/or research careers in academic environments; leadership positions in the health care sector, policy makers, private industry and Non-Governmental Organizations; freelance consulting
Assessment of students	Report on international field visit (2nd module) and case problem presentations.

COMMENTS on the module by lecturers and students	*Please comment*

Global Public Health Functions and Services: The History

The Public Health functions concept came into being as a result of the necessity to improve the structure and sustainability of public health agencies in the US. An examination of Shattuck's contribution to public health in the US in his 1850 report (Shattuk, 1959) which delineates a set of activities and actions organized at state and local level already demonstrates the source of potential conflict in the organization of public health systems. In 1945 a report to the American Public Health Association defined 6 "basic" functions for local public health departments (Emerson, 1945) and the landmark 1988 Institute Of Medicine's report "The future of Public Health" set a group of 3 core functions for public health (Institute of Medicine, 1988).

One of the major limitations of the models devised for organizing public health was in their emphasis on governmental public health. A second limitation was in either being too vague in definitions or being too specific – as far as going into provision of specific services rather than areas of activity.

The next step in the development of public health essential functions came as the US Centers for Disease Control and Prevention (CDC) Public Health Program Practice Office and the Office of Health Promotion and Disease Prevention, along with several public health organizations and agencies established a set of Ten Essential Public Health Services (10 EPHS).

The 10 EPHS defined were:

1. Monitor health status to identify and solve community health problems.
2. Diagnose and investigate health problems and health hazards in the community.
3. Inform, educate, and empower people about health issues.
4. Mobilize community partnerships and action to identify and solve health problems.
5. Develop policies and plans that support individual and community health efforts.
6. Enforce laws and regulations that protect health and ensure safety.
7. Link people to needed personal health services and assure the provision of health care when otherwise unavailable.
8. Assure competent public and personal health care workforce.
9. Evaluate effectiveness, accessibility, and quality of personal and population-based health services.
10. Research for new insights and innovative solutions to health problems.

As the 10 EPHS gained acceptance in the US public health organizational environment they have evolved as the basis for assessing the delivery of services and more important for measuring effectiveness of the public health system. The EPHS allowed a view beyond the services provided by the governmental public health entities and into the partnerships and collaborations which are required and which define the public health system.

The necessity for a wider scope of vision was enhanced as the current US public health system was required to face new challenges or prepare to for expected challenges (Baker et al., 2005). The complexity of the US public health system is increased by the diversity in local public health departments and the existence of a three level system - local, state and federal (Erwin, 2008). When used locally or nationally the EPHS model has allowed analysis, benchmarking and performance measurement and improvement (Brownson et al., 2012).

The US was not alone in attempting to structure its public health system in a manner that would allow measurements, benchmarking and a greater degree of professionalization. One of the first no-US adoptions of the EPHS model was the Pan-American Health Organization's (PAHO) version of the EPHS which was adapted to suit a national one level public health system (PAHO, 2002). In the PAHO model the services became functions and the model was termed EPHF. PAHO examined 41 countries and territories using the EPHF model and was able to map gaps in performance in the participating countries and make recommendations to improve the gaps discovered in the assessment process.

The World Health Organization (WHO) examined the public health systems in three countries in the western pacific potential using the EPHF-PAHO model and the report yielded both an analysis of each countries performance in public health and an international comparison between the three countries examined - Vietnam, Malaysia and Fiji (WHO, 2003).

Canada (British Columbia Government, 2005), Australia (National Health Partnership, 2000) and the United Kingdom (UK Department of Health, 2001) have all come up with their own versions of essential or core functions as part of reforms or initiatives to strengthen their public health systems.
The European experience with Essential Public Health functions has been a later one, introducing a model of public health core operations (Koppel et al., 2009), which was later developed further and adopted at WHO-Europe level (WHO, 2011).

As several frameworks for functions have evolved (WHO, 2011) it has become increasingly difficult to achieve an accepted terminology that would serve as a common language for looking at the public health systems at any level – be they local, national or international (Jorm et al., 2009).

The challenges facing Public Health at the start of the 21st century in different regions of the world are similar (Beaglehole, 2003). The attempts to handle these challenges at local, national or international level are greatly affected by the ability to structure the public health system in a manner which will allow each of the public heath entities on the one hand to be active and independent while on the other hand to work in partnership or collaboration with the other entities in the system. Otherwise activities are still fragmented, poorly coordinated and of limited scope and effectiveness.

The criticism directed at the current models stems from the abundance of models and the lack of a globally accepted set of functions or services that would serve as the basis for a common vocabulary and allow the creation of standards and performance measurements.

The current major models were examined in a recent work and the differences between the models underline their limitations as being too country-specific or region specific while the similarities mark the common ground for public health (Laaser and Brand, 2014).

It is therefore a rational assumption that a model which would be adopted widely would confer the same benefits and also create an international basis for comparison between public health systems (Scutchfield et al., 2012).

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Title	**R 1.3 GLOBAL PUBLIC HEALTH: DEFINITIONS AND CHALLENGES**
Module information	The module may be structured according to the European Credit Transfer System (ECTS), corresponding per ECTS to 25-30 hours student workload (thereof up to 10 contact hours of lecturing/ supervision). As part of an academic degree program, the module may be worked into a Masters Curriculum in Global Health with corresponding admission and course completion requirements. Equally the module may also be incorporated into a DrPH (Doctoral program in Public Health) curriculum in which course specifics remain constant but where perspectives are broadened through increased emphasis on relevant readings and calls for ground breaking, context-specific case studies. *Note: Entrance requirements are to be determined by the institution offering the module.*
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Address for correspondence	Health and Education Unit The Commonwealth Secretariat London, United Kingdom E-mail: Jonurse66@hotmail.com
Key words	Global health challenges, essential public health functions, operations and services, public health definitions, governance, prevention, promotion, protection, workforce.
Topics	This module will context setting and act as an introduction to the wider public health challenges and the need to modernise public health functions and services to respond to these challenges. It will have taught sessions on the following areas: 1. The Public Health Challenges - current and future – an overview 2. Public Health Definitions and concepts 3. An introduction to the Global Framework for Public Health Functions and Services (GPHFS), followed by sessions on the different components of the framework: 4. Governance*:* public health legislation; policy; strategy; financing; organisation; quality assurance: transparency, accountability and audit. 5. Information*:* surveillance, monitoring and evaluation; research and evidence; risk and innovation; dissemination and uptake. 6. Protection: IHR and co-ordination; communicable disease control; emergency preparedness; environmental health; climate change and sustainability. 7. Prevention*:* primary prevention: vaccination; secondary prevention: screening; tertiary prevention: evidence-based, integrated, person-centred quality health-care and rehabilitation; healthcare management and planning. 8. Promotion*:* inequalities; environmental determinants; social and economic determinants; resilience; behaviour and health literacy; life-course; healthy settings.

	9. Advocacy*:* leadership and ethics; social-mobilisation and solidarity - *people-centred approach, voluntary community sector engagement*; communications; sustainable development. 10. Capacity*:* workforce development for public health, health workers and wider workforce; workforce planning: numbers, resources, infrastructure; standards, curriculum, accreditation; capabilities, teaching and training.
Learning objectives	• Understand the changing Public Health Challenges we face and the need to modernize PH functions and services • Knowledge of a range of public health definitions and their relative advantages • Understanding of the range of regional and country level public health operations and functions • Knowledge of the development of a global framework for public health • Understanding of the main components of the global framework for public health.
Teaching methods	Lectures, interactive small group discussions, case studies, project work and the potential for international field practice.
Who should apply	Those who pursue an international career in public health management, policy development, research or advocacy; entrance requirements are to be determined by the institution offering the modules.
Career opportunities	Teaching and/or research careers in academic environments; leadership positions in the health care sector, policy makers, private industry and Non-Governmental Organisations; free lance consulting.
Assessment of students	Project report and case problem presentations
COMMENTS on the module by lecturers and students	*Please comment*

Global public health: definitions and challenges

Global Challenges and the context for developing a Global Framework for Public Health

The Ebola outbreak demonstrates the need to have robust public health systems in place globally and within each country (Martin-Moreno et al., 2014). However, the current reality consists of fragmented, variable and incomplete public health functions and services, with little common understanding of what a good public health service looks like.

This is within the context of old and new threats to global health security, and wider public health challenges, including inequalities and a demographic and disease shift towards non-communicable diseases. These pressures act to increase costs and demand which

threaten the sustainability of health systems as well as social and economic development, including the Sustainable Development Goals (United Nations, 2015).

However, currently there is no global agreement on what public health functions or services consist of, and the lack of a common vocabulary in public health adversely affects the efforts of public health systems, including security and workforce development and quality standards across the world. A Framework for Global Public Health Functions and Services (GPHFS) has the potential of becoming an established, widely accepted vocabulary that would allow public health systems to communicate globally, compare capacity and improve performance through systematic action. Adoption of a GPHFS can contribute to strengthening global health security, the sustainability of health systems, including the implementation of Universal Health Coverage and contribute to the wider post 2015 Sustainable Development Goals.

A Taskforce on Global Public Health Functions and Services met the first time in Kolkata at the occasion of the 14th World Congress on Public Health in 2015 to develop a global understanding and framework for strengthening public health functions in order to advance modern public health services able to respond to the complex range of challenges, inequalities, conflict and health security issues we face today and into the future. It builds upon existing country and regional level public health functions and operations, including those from the Pan American Health Organisation (PAHO, 2012) and the Regional Office for Europe (WHO EURO, 2012), the USA (ASPH, 2015; CDC, 2015), UK (The Faculty of Public Health, 2004), Australia (South Australian Public Health Act, 2013), Canada (Public Health Agency of Canada, 2007), and the Public Health Foundation (Public Health Foundation, 2015) with a summarising comparison of the main systems in Laaser and Brand, 2014). The framework aims to bring together the best of all the existing models and provide a comprehensive, clear and flexible system that can be applied globally and within individual countries, whether low, middle or high- income[2]. An important aspect of this framework is the development of a common set of terms and an agreed definition for public health, as well as an agreed language to describe public health functions and services.

Objectives of the Framework

1. To advance adoption of a globally recognised set of Public Health functions and definitions.

2. To develop a flexible framework and tools that can be applied to different countries and settings to strengthen public health services and functions, including for assessment, planning, training, evaluation and accreditation.

3. To strengthen public health systems to improve global health security and to achieve sustainable and fair health outcomes, including the implementation of Universal Health Coverage.

4. To support wider economic growth and the post 2015 Sustainable Development Goals.

[2] For the historical development of Global Public Health Functions and Services see module NR 3.14.

5. To strengthen leadership and governance, scale up public heath capacity building, standardise assessment and improve quality of public health services.

A definition has been developed to reflect the seven main areas in the framework and to provide clarity of the term public health and facilitate its communication and understanding, as well as aiding advocacy for the global framework for public health. The proposed definition is described below:

The present range of public health definitions (selected examples)

The framework and the definition build upon existing approaches. There are numerous definitions for public health; some are more high level, whilst others are more descriptive. The module describes a range of definitions (Marks et al, 2011) and explores the relative advantages of each definition:

Public health is the science and art of preventing disease, prolonging life and promoting health through the organized efforts of society as formulated by Sir Donald Acheson in 1988 and adopted by the World Health Organisation (e.g. WHO EURO, 2012).

Public health is an organized effort by society, primarily through its public institutions, to improve, promote, protect and restore the health of the population through collective action (PAHO, 2012).

Public health refers to all organized measures (whether public or private) to prevent disease, promote health, and prolong life among the population as a whole. Its activities aim to provide conditions in which people can be healthy and focus on entire populations, not on individual patients or diseases. Thus, public health is concerned with the total system and not only the eradication of a particular disease (WHO HQ, 2011).

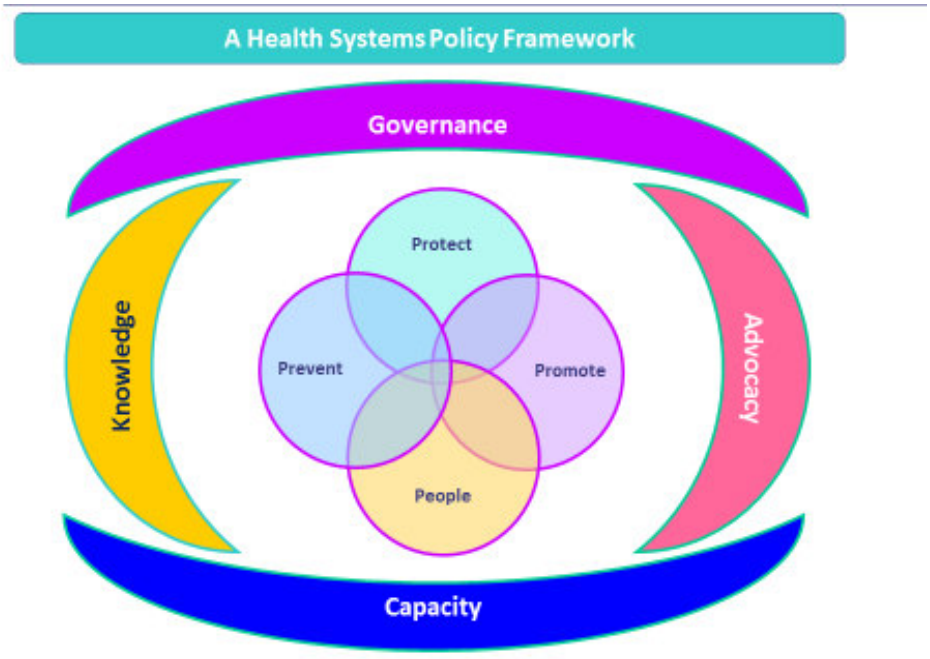
Public health is based on social justice and fairness for all, and its focus is on the collective actions of interdependent and empowered peoples and their communities. Its objectives are to protect and promote health and wellbeing, to prevent disease and disability, to eliminate conditions that harm health and wellbeing and to foster resilience and adaptation Horton et al., 2014).

Public health programs and services labelled “public health” have a focus on the determinants of health and the systematic management of these determinants (National Public Health Partnership, 2000).

Public health may involve a combination of policies, programs and safeguards designed - (a) to protect, maintain or promote the health of the community at large, including where 1 or more persons may be the focus of any safeguards, action or response; or (b) to prevent or reduce the incidence of disease, injury or disability within the community (South Australian Public Health Act, 2013).

Figure: The key components proposed for the GPHFS

A health systems policy framework



(CommonHealth Health and Education Unit, Commonwealth Secretariat, 2015)

The following headings, sub-headings and descriptions are intended to provide a high- level comprehensive overview of the main policy components for health system strengthening, however, they are not complete, nor intended to be exclusive.

An overview – ***the Headings and Sub-headings for the Health Policy Framework:***

1. **Governance***:* public health legislation; policy; strategy; financing; organisation; quality assurance: transparency, accountability and audit.

2. **Knowledge***:* surveillance, monitoring and evaluation; research and evidence; risk and innovation; dissemination and uptake.

3. **Protection:** IHR and co-ordination; communicable disease control; emergency preparedness; environmental health; climate change and sustainability.

4. **Promotion***:* inequalities; environmental determinants; social and economic determinants; resilience; behaviour and health literacy; life-course; healthy settings.

5. **Prevention***:* primary prevention: vaccination; secondary prevention: screening; healthcare management and planning.

6. **People:** primary health care; secondary health care; tertiary health care and rehabilitation.

7. **Advocacy:** leadership and ethics; community engagement and empowerment; communications; sustainable development.

8. **Capacity:** workforce development for public health, health workers and wider workforce; workforce planning: numbers, resources, infrastructure; standards, curriculum, accreditation; capabilities, teaching and training.

Finally the valid European list of competences to perform public health functions has been published in the context of the Association of Schools of Public Health in the European Region (Birt & Foldspang ,2011).

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Title:	**R 2.1 DEMOGRAPHIC CHALLENGES, POPULATION GROWTH, AGING, AND URBANISATION**
Module information	The module may be structured according to the European Credit Transfer System (ECTS), corresponding per ECTS to 25-30 hours student workload (thereof up to 10 contact hours of lecturing/ supervision). As part of an academic degree program, the module may be worked into a Masters Curriculum in Global Health with corresponding admission and course completion requirements. Equally the module may also be incorporated into a DrPH (Doctoral program in Public Health) curriculum in which course specifics remain constant but where perspectives are broadened through increased emphasis on relevant readings and calls for ground breaking, context-specific case studies. *Note: Entrance requirements are to be determined by the institution offering the module.* *Note: This module is a revised version based on L. Kovacic & M. Malik:http://www.seejph.com/index.php/seejph/article/view/59/50 pp.16-22.*
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Key words	Population, birth, death, migration, cities, urbanization and health, aging and health.
Topics	There is growing interest in demography, among the public, politicians, and professionals: “demographic change” has become the subject of debates in many developed and developing countries. This is because it impacts on all aspects of people`s life, social relations, economy, and culture. The world population will continue to grow in the 21st century, but at a slower rate compared to the recent past. The annual growth rate reached its peak in the late 1960s, when it was at 2% and above. Better health, economic and social conditions resulted in longer life and an ageing population. It is projected that by 2025 more than 20% of Europeans will be 65 or over. Better living conditions in cities lead to higher urbanisation, more than 55% of the world’s population residing in urban areas in 2015.
Learning objectives	To understand key issues and trends of demography, population growth, urbanisation and aging and their consequences to population health.
Teaching methods	Lectures, interactive small group discussions.
Who should apply	Candidates for a career in international public health management, policy development, research, or advocacy; candidates in the public health and similar disciplines at the national level.
Career opportunities	Teaching and/or research careers in academic environments; leadership positions in the health care sector, policy makers, private industry and Non-Governmental Organizations; free-lance consulting; Public Health Analysts; Information Specialists.
Assessment of students	Students should analyse, write, and present to the student`s group one problem in the area of demography, population growth, urbanisation or

	aging. For the student's assessment the student's self-assessment method could be used.
COMMENTS on the module by lecturers and students	*Please comment*

* Prof. Dr. Luka Kovacic, Zagreb died in 2015.

Demographic challenges, population growth, aging, and urbanization

Introduction

In the first two decades of the 21st century the world population continues to grow, although at a slower rate than in the past. In the period of the last ten years (2005-2015) the global population was growing in average by 1.24% per year, in 2015 by 1.18% or approximately an additional 83 million people. Accordingly the world population is projected to increase by more than one billion people within the next 15 years, reaching 8.5 billion in 2030, and to increase further to 9.7 billion in 2050 and 11.2 billion by 2100 (United Nations, 2015). There are several additional main issues pointed out in the report published by UNDESA 2015: 1) Better health, economic and social conditions resulted in longer life and an ageing population. It is projected that by 2025 more than 20% of Europeans will be 65 or over. 2) The volume of international migration is increasing because of unequal living conditions. 3) Better living conditions in cities lead to a higher degree of urbanisation, i.e. more than 54% of the world's population resided in urban areas already in 2014.

Sociodemographic challenges of population growth

Although demography is usually considered as a field of sociology, public health professionals and researchers are deeply interested to gain the knowledge and know-how required to answer the questions related to processes of population dynamics, aging, and urbanisation. These processes are closely interlinked, directly or indirectly, with people's health and possible interventions to improve their health.

There is growing interest among the public, politicians and professionals in demography, as "demographic change" has become the subject of intense debates in many developed and developing countries. This is because it impacts on all aspects of people's lives, social relations, economy, and culture.

Demography

Demography is the science of populations. In order to analyse population dynamics it is important to determine birth rate (natality), migration, and death rate (mortality). The interplay of these three components results in demographic change. The main instrument for collection of demographic information is the population census, recommended by the United Nations Organisation to be taken every ten years (usually on the first year of a decennium). Population census is the total process of collecting, compiling, evaluating, analysing and publishing or otherwise disseminating demographic, economic, and social data pertaining, at a specified time, to all persons in a country or in a well delimited part of a

country (United Nations, 1998). Data collected by the population census could provide information on population counts, sex and age structure, migration, housing and dwellings, employment etc. For the interval between two censuses, demographers typically undertake interim population analysis, basing their projections on the most recent census available.

Population dynamics deals with the way populations are affected by birth and death rates, modified by immigration and emigration, and studies topics such as ageing populations or population decline.

This understanding is needed to forecast future population size and structure. Numbers of different population groups such as children, women, adolescents, adults, and elderly are needed as input for health planning and public health programming to improve the health of specific population groups (Grundy, 2004). Population dynamics has traditionally been the dominant branch of mathematical biology, which has a history of more than 210 years, although more recently the scope of mathematical biology has greatly expanded. The first principle of population dynamics is widely regarded as the exponential law of Malthus, as modeled by the Malthusian growth model (Turchin, 2003).

In the past 30 years, population dynamics has been complemented by evolutionary game theory, developed first by John Maynard Smith (Smith, 1993). Under these dynamics, evolutionary biology concepts may take a deterministic mathematical form. Population dynamics overlap with another active area of research in mathematical biology: mathematical epidemiology, the modeling of infectious diseases affecting populations. Various models of viral spread have been proposed and analyzed, and provide important results that may be applied to health policy decisions (Wkipedia, 2016-1).

The Pardee Center published the series of five volumes of Patterns of Potential Human Progress (PPHP) as the forecast and prospects for human development worldwide since 2060. Each volume in the series contains a key aspect of human development: Reducing Global Poverty (2009), Advancing Global Education (2010), Improving Global Health (2011), Building Global Infrastructure (2013), and Strengthening Governance Globally (2014). The volumes are available for free download (Frederik S. Pardee Center, 2014).

A changing balance between fertility and mortality leads to a phenomenon which has been described as the Demographic Transition Model. Five stages can be distinguished Grover, 2014). Each stage is characterized by a specific relationship between birth rate (number of annual births per one thousand people) and death rate (number of annual deaths per one thousand people). **Stage 1**, population size remains constant due to both birth and death rates are high, it can change with major events such as pandemics. The stage 1 applied to most of the world before the industrial revolution. **Stage 2**, rapid population growth because the death rate is lowered by improved living conditions and modern medicine, especially among children, while birth rates remain high - many of the less developed countries today are in Stage 2. **Stage 3**, usually slow population growth as birth rates gradually decrease; **Stage 4**, birth and death rates are both low, stabilizing the population. Those countries tend to have stronger economies, higher levels of education, better healthcare, a higher proportion of working women, and a fertility rate hovering around two children per woman. Most developed countries are in Stage 4. **Stage 5** includes countries in which the fertility rates have fallen significantly below replacement level (2 children) and therefore the proportion of the elderly population is growing.

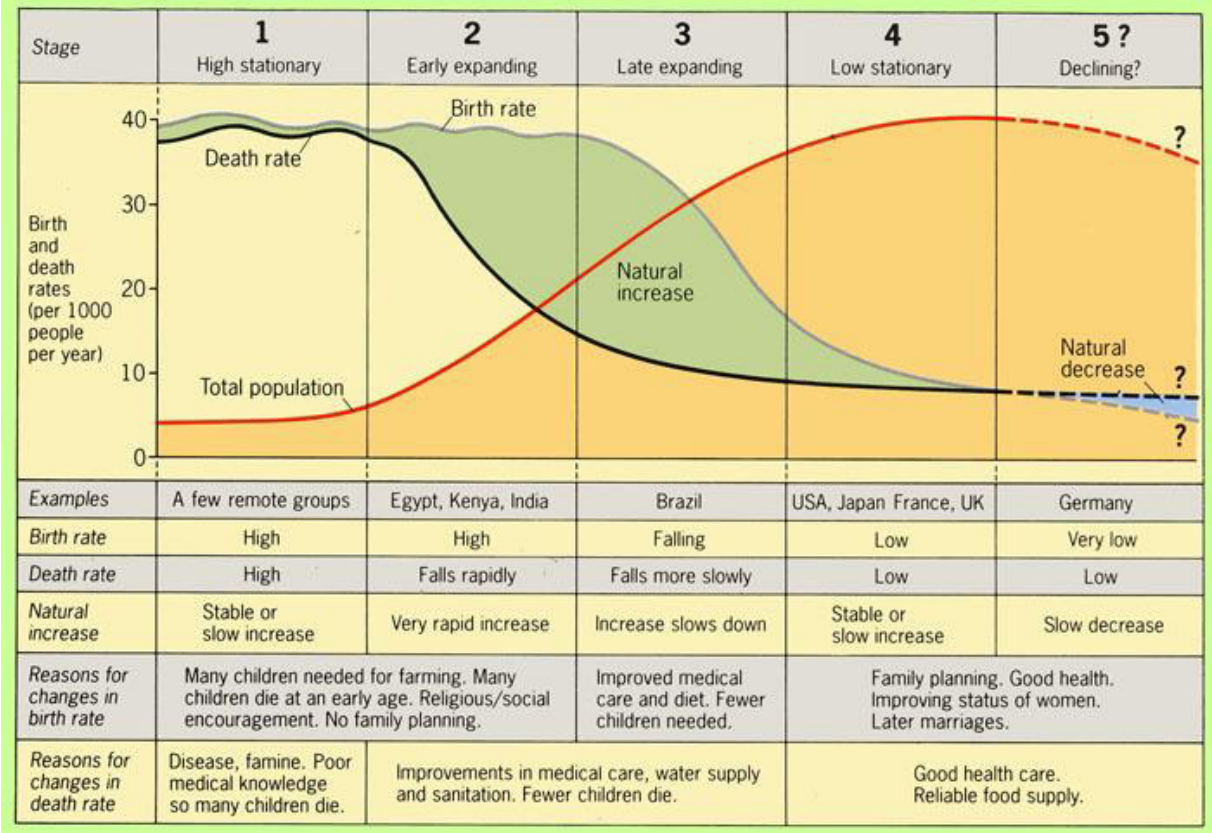

Figure 1. Demographic transition model (available from: **Error! Hyperlink reference not valid.**).

Ageing

Ageing is one of the greatest social and economic challenges of the 21st century for the world and particular for European societies. It will affect all countries in the European Union (EU). By 2025 more than 20% of Europeans will be 65 or over. Because older people have different healthcare requirements, health systems will need to adapt to provide adequate care and remain financially sustainable.

The EU population, like that of most other world regions, is living longer and in better health. Since 1960, life expectancy has climbed up by eight years, and demographic projections foresee a further five-year increase over the next forty years. It means however that, combined with low birth rates of the past decades, Europe's population is ageing fast, something that is happening all over the world with the exception of the poorest countries. The number of people aged 85 years and older in Europe is projected to rise from 14 million to 19 million by 2020 and to 40 million by 2050 (WHO, 2016). The European Statistical Office projects that by 2060 there will be only two people of working age (15-64) in the European Union for every person aged over 65, compared to a ratio of four to one today. The strongest push in this direction is expected to occur during the period 2015-35 when the 'baby boomers', which were born in the two decades after World-War II, start to retire. This is why the EU decided to designate 2012 as the "European Year for Active Ageing and Solidarity between Generations" (European Commission, 2012).

The role of international migration in changing age distributions has been less important than that of fertility and mortality (Lesthaeghe, 2000). The Population Division, Department of Economic, and Social Affairs of the United Nations prepared a report on World Population Ageing: 1950-2050 providing a description of global trends in population ageing, including a series of indicators of the ageing process by regions, areas, and countries. The text and tables could be downloaded free of charge (United Nations, 2013).

Two international policy instruments have guided action on ageing since 2002: the Political declaration and Madrid international plan of action on ageing (UN, 2002) and the World Health Organization's Active ageing: a policy framework(WHO, 2002), followed by the document on aging and health (WHO, 2015). the first two pint point of human rights apply to all people, including older people, even when there is no specific reference in the text to older age groups or ageing Three priorities for action were identified in their recommendations: "older persons and development; advancing health and well-being into old age and ensuring that older people benefit from enabling and supportive environments. Several key issues were flagged in the plan. The WHO policy framework identified six key determinant of active ageing : economic, behavioural, personal, social, health and social services, and the physical environment. The WHO policy framework identified six key determinant of active ageing : economic, behavioural, personal, social, health and social services, and the physical environment. This determinant may be groups as three pillars of active ageing : participation of older persons, health of older persons and security of older persons (WHO, 2002). It recommends four components necessary for a healthpolicy response: prevent and reduce the burden of excess disabilities, chronic disease and premature mortality; reduce risk factors associated with major diseases and increase factors that protect health throughout the life course; develop a continuum of affordable, accessible, high-quality and age-friendly health and social services that address the needs and rights of people as they age; provide training and education to caregivers. (WHO, 2015) While for ageing in Europe there is partnership on The Strategic Implementation Plan (the Plan) that was adopted by the Partnership's Steering Group in November 2011, focuses on actions developed around 3 pillars: prevention, screening and early diagnosis; care and cure; and active ageing and independent living (European Commission 2012). Besides of this there are analysis concentrated to 27 countries referred to as Europe and Central Asia (ECA) which councentrated into policies for rebalancing demographic trends and Policies to tackle economic challenges and opportunities For Besides of this . Throudh positive lens it is view Ageing is a triumph of development. Increasing longevity is one of humanity's greatest achievements. People live longer because of improved nutrition, sanitation, medical advances, health care, education and economic well-being. Life expectancy at birth is over 80 now in 33 countries Challenge related to aging population is income security, access to quality health care, elderly enabling environment, and its recommend ten priority of action to maximinze the opportunity of aging population

Urbanisation

Urbanisation has been a historic process which has increased in its rate of growth. Predominantly rural culture is being rapidly replaced by predominantly urban culture (Wikipedia, 1916-2). Village culture is characterized by common bloodlines, intimate relationships, and communal behavior whereas urban culture is characterized by distant bloodlines, unfamiliar relations, and competitive behavior.

At present globally, more people live in urban areas than in rural areas (United Nations, 2014). In 2007, for the first time inhistory, the global urban population exceeded the global rural population, In 2014, 54% of the world's population resided in urban areas. In 1950, 30% of the world's population was urban and by 2050, 66% of the world's population is projected to be urban. Today Northern America has 82% population living in urban areas, Latin America and the Caribbean 80% and Europe 73%. Africa and Asia still remain mostly rural (Africa 40% and Asia 48% urban). All regions are expected to further urbanize in the future, Africa and Asia faster than the other regions. It is projected that by 2050 the urban population in Africa will be 56% and in Asia 64% (United Nations 2014). About half of the world's urban dwellers reside in relatively small settlements of less than 500,000 inhabitants. There are 28 mega-cities with more than 10 million inhabitants. Among others the agglomeration of Tokyo with around 40 million inhabitants, and Delhi, Shanghai, Mexico City, Mumbai, São Paulo, each with around 20 million inhabitants. By 2030, the world is projected to have 41 mega-cities with more than 10 million inhabitants. Urbanisation has been a historic process which has increased in its rate of growth. Predominantly rural culture is being rapidly replaced by predominantly urban culture. While urbanisation is associated with improvements in public hygiene, sanitation and access to health care, it also entails changes in occupational, dietary and exercise patterns. It can have mixed effects on health patterns, alleviating some problems and accentuating others. In general, major risk factors for chronic diseases are more prevalent in urban environments (Tellnes 2005). It can therefore be concluded that urbanisation in the world today is an ongoing process that has a profound impact on people's living conditions and health status. Directions of further research are outlined by Laaser (2001).

In urban areas, one in three urban dwellers lives in slums or informal settlements. It is important to disaggregate health and health determinants data *within* cities, to unmask the full extent of urban health inequities. In many cities around the world, health determinants have combined to create a triple threat to health conditions. This triple threat consists of (a) infectious diseases such as HIV/AIDS, tuberculosis, pneumonia, and diarrhoeal infections; (b) noncommunicable diseases and conditions such as heart disease, cancers, and diabetes; and (c) injuries (including road traffic accidents) and violence (-.-, 2011). In the same publication six areas for analysis and intersectoral collaboration are listed: 1) natural and built environment; 2) social and environmental conditions; 3) food security and quality; 4) management of health services and emergencies; 5) population characteristics; and 6) urban governance.

Summarising it can be said that Urbanisation improves opportunities for jobs, education, housing, and transportation. Living in cities has advantages of opportunities of proximity, diversity, and marketplace competition. These advantages of urbanisation are however weighed against alienation, stress, increased daily life costs, and negative social aspects that result from mass marginalization. However, economic opportunities are the main reasons that people move into cities. In rural areas, often on small family farms or collective farms in villages, it has traditionally been difficult to access manufactured goods, though overall quality of life is very variable, and may certainly surpass that of the city on some measures. Farm living has always been susceptible to unpredictable environmental conditions, and in times of drought, flood or pestilence, survival may become extremely problematic (Borwiecki, 1998).

Besides the economic effects, urbanisation also has major environmental effects. In cities, where there is less vegetation and exposed soil, the majority of the sun's energy is

absorbed by urban structures and asphalt developed greater production and retention of heat. Vehicles and factories release additional city heat, as do industrial and domestic heating and cooling units. As a result, cities are often 1 to 3 °C warmer than surrounding landscapes. Impacts also include reducing soil moisture and a reduction in re-uptake of carbon dioxide emissions (Eckert & Kohler, 2014).

Case Studies

1. Students should form groups of 4-5 students. Each group will have one task and work on it an hour. Each group has to elect the rapporteur who will report the group conclusions in plenary. Each report should take 15 to 20 minutes.

Tasks for the groups:
A. Students from group A should find the definitions of the terms related to demography, aging, and urbanisation in the databases and discuss their meaning.
B. Students of the group B should identify and analyze the major influences on population dynamics in their country or region.
C. Group C should describe the problems associated with the growth of the population, aging and rapid urbanisation.
D. Students from the group D should identify and suggest reasons for different types of population structure as shown by age and sex pyramids.

2. Each student should calculate how big the world's population and population of her /his country were when she/he was born.

3. Are the directions of further research on urbanization as indicated by Laaser more than a decade ago (2001) are followed in the research as of today?

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Title:	R 2.2 BURDEN OF DISEASE
Module information	The module may be structured according to the European Credit Transfer System (ECTS), corresponding per ECTS to 25-30 hours student workload (thereof up to 10 contact hours of lecturing/supervision). As part of an academic degree program, the module may be worked into a Masters Curriculum in Global Health with corresponding admission and course completion requirements. Equally the module may also be incorporated into a DrPH (Doctoral program in Public Health) curriculum in which course specifics remain constant but where perspectives are broadened through increased emphasis on relevant readings and calls for ground breaking, context-specific case studies. *Note: Entrance requirements are to be determined by the institution offering the module.*
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Key words	Global Burden of Disease Study, setting priorities in health care, disability-adjusted life years, year of life lost, years lived with disability, premature mortality, non-fatal health outcomes, social preferences.
Topics	Health systems today face challenges in the management of available resources. The implemented set of interventions and the criteria used for resource allocation are publicly debated. During reforms and in particular due to tough squeezing of resources, it is crucial to understand a proposed health plan and to have it supported by the public, health professionals, policy makers from other relevant sectors and international community. However, data on health and mortality in populations are not as comprehensive and consistent nor relevant as professionals require, rather are fragmentary and sometimes heterogeneous. The framework of burden of disease and injury study provides information and tools for integration, validation, exploration, and distribution of consistent and comparative descriptors of the burden of diseases, injuries and attributed risk factors, over time and across different health systems. As of 1992, when the first Global Burden of Diseases Study was executed, many national burden of disease studies have been undertaken and this framework is currently refining and updating.
Learning objectives	To understand the concepts and the rationale of studying burden of disease, injuries and health risks; To acquire knowledge and skills needed for undertaking a burden of disease study; To upgrade /develop skills for critical analysis of the data and actionable information; To advance strategic thinking for setting health interventions based on burden of disease evidence.

Teaching methods	Lectures, interactive small group discussions, case studies, and/or home assignment.
Who should apply	Those who pursue an international career in public health management, policy development, research, or advocacy.
Career opportunities	Teaching and/or research careers in academic environments; policy administration of public institutions; work for non-governmental organizations and in consulting companies.
Assessment of students	Test and case study presentation, home assignment.
COMMENTS on the module by lecturers and students	*Please comment*

Burden of Disease and Injuries

The Rationale of Studying Burden of Disease and Injuries

Health systems today face challenges in management of available resources. It is not rare that many people argue the imposed set of interventions and the criteria used for resource allocation. During reforms and in particular due to tough squeezing of resources, it is crucial to understand a proposed health plan and to have it supported by the public, health professionals, policy makers from other relevant sectors and international community. Comprehensiveness and objectivity of the health statistics, ethics, and transparency are standard conditions for setting health priorities, upon which strategy is creating, approving, implementing, and evaluating. However, data on health and mortality in populations are not as comprehensive and consistent nor relevant as professionals require, rather are fragmentary and sometimes heterogeneous. Such baseline can likely result in deficient actions, and hinder or mislead objectives and operations.

In a professional arena, despite the notion of substantial data gaps and uncertainties, the issue becomes not only to provide evidences and actionable information that will help setting the priorities in health, but also to translate them successfully into policy and practice.

An example of such endeavor was the global burden of disease and injury study. As of the first Global Burden of Disease (GBD) Study in 1992 done by Murray and associates (Murray and Lopez, 1996a), many national burden of disease (BOD) studies have been undertaken (at least 37 countries and sub national studies in eight countries) and this framework is currently refining and updating. The GBD Study provides a framework and tools for integration, validation, exploring, and distribution of consistent and comparative descriptions of the burden of diseases and injuries and attributed risk factors, over time and crosswise different health systems (Mathers et al., 2001; Santric-Milicevic et al., 2009). From the perspective of a public health worker, the BOD study that includes trend analysis, projections, and economic evaluations can be used as a treasure trove of ideas, information, and knowledge for decision makers in each country. In that sense, it provides for policy-makers the basis for relevant and feasible future options. This belief supports a number of

innovative approaches to solve health problems, undertaken for certain issues or in some countries. For instance, the Institute for Health Metrics and Evaluation (IHME, 2014) has found gaps between development assistance and disease burden particularly with respect to non-communicable diseases, while Longfield and associates (2013) have shown that adoption of burden of disease metrics has shifted the organization's strategic direction and have doubled its positive health impact. For more examples, please refer to web pages of IHME Acting on Data, Disease Control Priorities Projects, the World Bank, and IHME Policy reports.

Theoretical Groundwork of the Burden of Disease and Injuries Study

The first Global Burden of Disease study was a five year project that applied pragmatic approach in order to develop as much as possible objective estimates of the mortality and disability from a condition, than, to emphasize the importance of non-fatal health outcomes for health policy making, and to quantify the burden of disease and to analyse cost-effectiveness of health interventions with a corresponding summary measures (Murray and Lopez, 1996a).

Between the first Global Burden of Disease (GBD) Study that quantified the health effects of more than 100 diseases and injuries for eight regions of the world (Murray and Lopez, 1996b), there were the updated estimates for 291 diseases and injuries in GBD Studies for 1999-2002, 2004 and for 2008 for 21 regions of the world composed on countries on the basis of two criteria: epidemiological homogeneity, and geographical contiguity (Murray et al., 2012), while the last available study has developed new methods and updated estimates for the period of 2000-2011 (WHO, 2013).

The impact of disabilities (approximately 500 disabling sequelae), such as disease- and injury-specific sequelae or impairments that cause limitations or problems in the performance of actions of a treated and untreated person, were approximated together with the co-morbidity and risk factors (WHO, 2013). To avoid overestimation of the total loss of health, the GBD 2010 study assumed the independence of co-morbidities, thus summed YLDs for an individual reflects the functional total lost health regardless of whether it came from one or several contributing conditions.

Acknowledging aforementioned estimates as important input to health decision-making and planning processes, this endeavor is continuing to capture more of the remaining health distinctions in the analysis and validations in order to address contemporary challenges. If *ad hock* adjustments are necessary, their logic should be justified and scrutinized by experts to gain credibility, plausibility, and representativeness. The GBD study framework has provided guidelines and designed software tool for addressing key data limitations and large methodological variation between data sources and to examine different scenarios (DisMod, DisMod-MR), that help assessment of comparative importance of burden of diseases and injuries in different populations.

A priority for national health and statistical offices would be improvement of primary data so to get highly plausible estimation of the prevalence of disease- and injury-specific impairments, disabilities, sequelae, and costs.

Cost-effectiveness analysis (CEA) is one of *economic evaluation* methods. It compares the relative costs of the outcomes (effects) of two or more interventions or

programmes which have common health outcomes (e.g. mmHg of blood pressure reduction, percentages of serum cholesterol reducation, years of life gained). Also, CEA is used in providing useful information for decision-making about resource allocation from developed to less developed areas. Information is obtained by the comparison of the costs and outcomes of all possible types of health interventions. This requires that the CEA uses an outcome indicator that measures the change in health, taking into account both fatal and non-fatal outcomes. These indicators are: Disability-Adjusted Life Years (DALYs), Healthy Year Equivalents (HYEs), or Quality-Adjusted Life Years (QALYs). It is important to stress that DALY is positive concept in cost-effective analysis (DALYs averted) while DALY is a negative concept in burden of disease calculations (DALYs lost) (WHO Guide to Cost-effectiveness Analysis Group, 2002).

During the research of allocation of fixed health budget between interventions that lead to maximize health in a society, sectoral CEA has been applied. There are only a few applications of this CEA in the literature in order to obtain a comparison of the applied preventive, curative and rehabilitative interventions on different population groups. The aim is to get optimal combination of interventions that should be implemented. Examples include the work of the Oregon Health Services Commission (Dixon et al., 1991), World Bank Health Sector Priorities Review (Jamison et al., 1993), and the Harvard Life Saving Project. Only the World Bank (Tengs et al., 1996) tried to make an international or global sectoral CEA using the Disability Adjusted Life Year, DALY.

In the past ten years, the number of CEA studies has been increased especially where cost-effectiveness was defined as a cost per DALY or QALY units. These studies are in the field of communicable and non communicable diseases or health technology assessment (Bjegovic et al., 2007; Fox et al., 2007; Vassall et al., 2014; Langley et al., 2014, Tran et al., 2014, Bae et al., 2014).

Global Burden of Disease Study classification system for diseases and injuries and risk factors

The GBD study classifies disease and injury, causes of death and burden of disease into three broad groups of cause (Murray and Lopez, 1996a):

Group I – communicable, maternal, perinatal and nutritional conditions
Group II – non-communicable diseases
Group III – injuries, intentional and unintentional.

Group I consists of conditions that decline at a faster pace than all causes of mortality. As a result, in low mortality populations, these causes account for only a small proportion of deaths and they are responsible for under 1/3 of death in both males and females. The most important health problems, non-communicable diseases are in the Group II and they account for about 6 out of 10 deaths globally. Injures because of their etiology which is different from most other diseases and lack of generalized form of mortality change, are classified in Group III (injures accounting for almost 1 in 8 male deaths and 1 in 14 female deaths) (WHO, 2010).

This is the first disaggregation. The second disaggregation refers to sub-categories of disease and injury within each group. Group I has been divided into 5 sub-categories, Group II in 14 and Group III into 2 sub-categories, unintentional and intentional injuries. The third

level of disaggregation is used to identify more specific causes of death within each of 21 sub-categories in the second level. The fourth level of disaggregation is provided for some diseases (e.g. for sexually transmitted diseases – syphilis, chlamydia and gonorrhoea). The criteria for disaggregated causes were based on: magnitude of the disease or injury as a cause of death or disability, the level of health services provided for the cause and current health policy.

In the first GBD, ICD-9 was used as classification system, as well as Basic Tabulation List (BTL) for store data coded according to ICD-9 until the International Classification of Diseases, Tenth Revision (ICD-10) has not been accepted. Before ICD-10 has been included in the study, there was the Short List codes (the A-list) for the Sixth, Seventh and Eighth Revision of the ICD. The GBD study followed the principles of the ICD classification which is: there can be a single cause of death in the primary tabulations. Also, it is possible to modify the GBD list (which require careful consideration of reasons for codes) if codes or causes of death are not in the list important at local level.

Risk factors have different mechanisms influencing the health (Murray and Lopez, 1996a). It is important to make difference between BOD attributable to past exposure to a risk factor and the future burden as consequence of current exposure to risk factor. Calculation of future burden is more complicated, but it is more important for public health planning and prevention than current burden due to earlier exposures. Population exposure to the risk factor is calculated by comparing current level of exposure to reference level (zero exposure for the entire population; a population distribution of exposure achieved in a real population; an arbitrary reference distributional; an arbitrary reference point). Tobacco, alcohol, physical inactivity, unsafe sex, and air pollution are real exposure risk factors. Other risk factors are physiological states (blood pressure or nutritional status). Other risk factors are related to social status (e.g. unemployment, poverty, social inequality).There is different methodological approaches of the analysis of burden of risk factors. Selection of risk factors in BOD depends on different criteria. Some of them are: potential for a global impact, risk causes each associated disease, potential for modification, being neither too broad nor too specific, and data are available for that risk (WHO, 2009). The number of risk factors used in BOD studies depends on country or region in which studies were run. For example, 24 risk factors were included in WHO report (2009), while in Serbia were used only 10 risk factors (Atanackovic-Markovic et al., 2003).

Quantifying the burden of disease and injuries

BOD summary measures were created to combine information on mortality and non-fatal health outcomes as a single number in order to represent the relative importance of the risk factors and causes of death, disease, injuries, and disabilities of a particular population. They were also designed to quantify health inequalities and evaluate economics of health interventions with regard to population health outcomes (Murray and Lopez 1996a). Therefore, systematic assessments of the available data were undertaken with aim to generate comprehensive and internally consistent estimates of mortality and morbidity indices, duration, and severity of disease by age, sex and region. The GBD framework contains 18 distinct but interconnected components, thus with each update, rescaling happens on several levels (IHME, 2013).

Final outputs of the BOD study are summary measures that are classified in two complementary measures in order to assess the impact of mortality and non-fatal health

outcomes (Mathers et al., 2001). BOD summary measures are health expectancies (e.g. disability-free life expectancy, disability-adjusted life expectancy) and health gaps (e.g. disability-free life years, healthy life years). More specifically, those metrics assess time lived in health states or time lost through premature death, disease and disability (WHO, 2013).

If understood that a person's life span consists of years spent both in optimal and suboptimal health, life expectancy (LE) can be represented as a sum of time lived in optimal health (A) and time lived in suboptimal health (B) (equation 1).

Accordingly, health expectancies (HE) represent estimated the average time (in years) that a person could expect to live in a state of health, defined for example, as disability free life expectancy (DFLE), disability- adjusted life expectancy (DALE) and active-life expectancy (equation 2). In contrast to DFLE, which is not sensitive to differences in the severity distribution of disability in populations (it incorporates a dichotomous weighting scheme in which time spent in any health state categorized as disabled is assigned arbitrarily a weight of zero - equivalent to death), DALE, which is more common used, adds up expectation of life for different health states with adjustment for severity weights.

$$LE = A + B \qquad \text{(equation 1)}$$

$$\textit{Health expectancy (HE)} = A + f(B) \qquad \text{(equation 2)}$$

f represents a weight to years lived in suboptimal health, where a weight for optimal health is 1

Health gaps is the time difference between the actual health and some specified norm or goal (i.e. age chosen to define the period before which death or disability is considered premature). It extends the notion of mortality gap that is commonly presented as years of life lost due to premature mortality (Dempsey 1947).Therefore, it is calculated as the sum of the estimated *years lost due to mortality* (C) and years spent in suboptimal health (B) (equation 3).

$$\textit{Health gap} = C + g(B) \qquad \text{(equation 3)}$$

g represent a weight to health states lived during time B, where death is weighted 1

The disability-adjusted life year (DALY) is the best known health gap measure developed for quantifying the burden of disease and injuries by Murray and Lopez (1996). „One DALY can be thought of as one lost year of "healthy" life, and the burden of disease can be thought of as a measurement of the gap between current health status and an ideal situation where everyone lives into old age, free of disease and disability"(WHO 2009). Mathematically, DALY for a specific cause (c), age (a), sex (s) and year (t) is the sum of the time lost through premature death Years of life lost (YLL) and time lived in states of less than optimal health Years lost due to disability (YLD) (equation 4).

For the purpose of international comparisons, in addition to numbers of DALYs, YLLs and YLDs, BOD studies use YLD/YLL ratios and age-standardization of rates per 1000 population, and their projections. Projected changes may reflect changes in age-

specific disease and injury death rates (epidemiology change), alteration in population growth and / population aging (demographic changes) or both.

$$DALY = YLL + YLD \qquad \text{(equation 4)}$$

The YLLs for a cause are essentially calculated as the number (N) of cause-specific deaths *(c) for the given age (a) and sex (s) in year t* multiplied by a *standard loss function (L) specifying years of life lost for a death at age a for sex s* (equation 5):

$$YLL = N \times L \qquad \text{(equation 5)}$$

The loss function is based on the premise that even for the lowest observed death rates there are a proportion of deaths that are preventable or avertable. For calculation of *L* the standard life tables are used. "The standard reference life table represents the potential maximum life span of an individual in good health at a given age, who is not exposed to avoidable health risks, or severe injuries, and receives appropriate health services" (WHO, 2013). For example in the first GBD study, it is set at the highest observed life expectancy for females (82.5 years) and for males (80.0 years) based on the observed male-female gap in life expectancy in the best-off communities within high-income countries (Japan). For 2050 projections, 91.9 years are projected to be achieved at birth by women in Japan and the Republic of Korea (WHO, 2013).

The cause of death information largely relies on one data source, but regions with limited coverage of death registration (vital events registration) have wide data uncertainties and deficiencies, in particular for deaths from specific diseases: "all-cause mortality estimates were with uncertainty ±1% for high-income countries to ±15-20% for sub Saharan Africa" (WHO, 2008). To overcome gaps with cause-specific mortality data, estimates in GBD studies were based on simulation methods and expert judgments. Statistical techniques are used predominately to assess variations across observations. More research is needed to obtain a consensus on a potential of verbal autopsy method for quantification of systematic bias in assigning underlying cause of death.

Estimating the years lived with a disability (YLD) is the more difficult then estimating YLL due to inconsistencies, uncertainty, and gaps in the available data. The estimation of YLD includes analysis of a wide range of different date sources specific to each disease and of different plausibility. It requires judgment based on a good understanding of the epidemiology of the disease and how the context influence expected variation of the disease epidemiology in the community such as access to treatment across variant income/ wealth of population groups or national screening programme implementation and similar. By contrast to YLL, using an incidence perspective because death rates are incidence rates, there are at least two ways of estimating the total time lived with disability. The approach may be the prevalence of disease *times* one year, or by multiplying the incidence of disabilities and the average duration of each disability (equation 6) (WHO, 2013).

$$YLD = I \times DW \times D \qquad \text{(equation 6)}$$

where
I: the number of incident cases for cause c, age a and sex s in period t

DW: a disability weights that reflect the severity of the disease on a scale from 0 (perfect health) to 1 (dead)
D: the average duration of the disease until remission or death

DALYs are the sum of the YLDs and YLLs. For population-based burden studies, the average DALYs are calculated (Box1.)

Across countries, the prevalence data for many health conditions are primarily collected data, while data on incidence and average duration of disease sequelae are with more limitations. Following informal experts'consultations, a simpler form of DALY calculation has been adopted, which included a prevalence-based YLDs without age-weighting and time discounting and adjustments for independent co-morbidity (Murray et al., 2012).

Originally designed, methods for estimation health expectancies and health gaps incorporate social values of a health status and of the value of averting different diseases. A list of social values included:

- value of a loss of life expectancy that is based on the LE at each age that is usually "standard" and less often local expected LE, or arbitrary cut-off LE (for details see the Annex Table B of WHO, 2013)
- discount rate of averting diseases in future (by 3% and 6%), or without discount rate since there is no intrinsic reason to value a year of health as less important simply because it is in the future (Tsuchiya, 2002);
- age-weights (or no age-weights). In conceptualization of DALYs as purely a measure of population health loss rather than broader aspects of social welfare it was difficult to justify the inclusion of non-uniform age weights that give less weight to years lived at young and older ages (Murray et al., 2012b; Jamison et al., 2006).
- health state valuations are classified by severity in seven classes of disability weights (IHME GBD, 2010). Disability weights (DW) are referred also as quality-adjusted life year weights, health state valuations, utilities or health state preferences. To assess disability weights (DW), in the first GBD Study the person-trade-off (PTO) method was used to ask small groups of health professionals to make a composite judgment on the severity distribution of the condition and the social preference for time spent in each severity level (Murray, 1996). Seen unethical, PTO was replaced in the GBD study 2010 with a discrete choice comparisons of "health" for pairs of 220 health states described with brief and lay descriptions (WHO, 2013). Severity levels of health status were summarized using on Euroqol 5D+ (six domains of health status) (Brooks, 1996). Though these data were collected from over 30,000 people in surveys conducted in five countries and different cultural environments, Salomon and associates (2012) concluded that disability weights were highly consistent across the samples (for details see the Annex Table C of WHO, 2013). The recent review of all studies that developed disability weights confirmed the advantages of the global use of the same set of disability weights for international comparability (Haagsma et al., 2014).

Projected burden of disease

There are projections of mortality and burden of disease to 2000, 2010, 2020, and 2030 (Mathers et al., 2006; WHO, 2009). There are two projection models. The first method

"aggregate models" are based on time-series analysis and use historical trends in mortality rates. Also, it counts in the previous trend of variable of interest as the basis for predicting its future value. These methods are limited to countries with good death registration data. The second method is "structural models". This is based on the relationship between mortality and group of independent variables and its projections. The "structural models" offer more robust predictions.

The GBD projections use structural models for set of major cause groups and cause-composition models for detailed causes within these groups. The original GBD projections forecast cause-specific mortality. The change in the projected numbers of deaths globally, from 2004 to 2030 is influenced by: population growth (increase in deaths), population aging (additional increase in deaths), and epidemiological change (increase or decrease in number of deaths by age- and sex- specific death rate). According to updated projections, the four leading causes of death globally in 2030 will be ischemic heart disease, cerebrovascular disease (stroke), chronic obstructive pulmonary disease and lower respiratory infection (mainly pneumonia). Total tobacco-attributable deaths are projected to increase. Lower respiratory infection and three other communicable diseases, diarrheal diseases, HIV/AIDS and TB were and will be the tenth leading cause of death in 2004 and 2030. HIV/AIDS deaths are projected to decrease by 2030 although stay as tenth leading cause of death. Deaths caused by injures represented as road traffic accidents will arise from the ninth leading cause of death in 2004 to the fifth in 2030. Generally in this period of time, projection decline for Group I, increase for Group II, and in Group III, traffic fatalities increase in comparison with unintentional injuries which decrease.

Exercises

Questions for small group discussions:
• Look at the DALY estimates for the period of 2000-2011 at a country level per WHO regions. In a world region, find a country with the lowest number of DALYs per 1000 population in the last estimated year and compare it with a country with the highest number of DALYs that year.
• What can you assume by looking at its YLL and YLD components?
• In a further step, look at their projection by 2050 and try to explain how does observed difference appear in 2050?
• Did you come to valuable findings?
• What additional information would you look for?
• What for all that information can be used?

An example for calculating DALYs

Number of deaths, N: In 2015, in country X, 1000 persons (600 males and 400 females) died at age of 70 due to the severe angina pectoris (ICD -).
Prevalence, P They developed severe angina pectoris at age of 50;
Duration, D: They have spent 20 years of life in disability.
Disability weights, DW: This condition has a disability weights 0.167 (IHME GBD 2010 Disability weights)

Life expectancy at birth (LE): in country X, LE for males is 75 years and for females is 78 years. Alternatively, using the GBD studies tables, life expectancy at birth for females is 82.5 years and for males is 80.0 years.
Years lost due to mortality, L: LE at age of death (70 years) for males was 5 years and for females 8 years (L_l). Alternatively (L_s), females lost 12.5 years of life due to premature death at age of 70 years, whilst males lost 10 years of life due to premature death at age of 70 years.

		Males	Females	Total
Age years		50	50	
Prevalence of severe angina pectoris		600	400	1000
Disability weights: severe angina pectoris		0.167	0.167	
YLD equation	**P*DW*D**	600*0.167*20=2004	400*0.167*20=1336	1000*0.167*20=3340
YLL equation	**N *L_l**	600*5=3000	400*8=3200	3000+3200=6200
	N *L_s	600*10=6000	400*12.5=5000	6000+5000=11000
DALY equation	**YLD+YLL_l**	2004+3000=5004	1336+3200=4536	3340+6200=9540
	YLD+YLL_s	2004+6000=8004	1336+5000=6336	3340+11000=14340

In 2015, those persons from country X have lost 9540 (or 14340) DALY due to severe angina pectoris.

Case studies

1. *How Malawi used DCP2 in planning its Health Sector Strategic Program - See more at:* http://www.dcp-3.org/resources/malawi-dcp2-case-study#sthash.4IQ85D72.dpuf
2. *Tobacco Taxes: A Win-Win Measure for Fiscal Space and Health - See more at:* http://www.dcp-3.org/resources/tobacco-taxes-win-win-measure-fiscal-space-and-health#sthash.3fR4x9cU.dpuf
3. van Ginneken N et al., (2013) Non-specialist health worker interventions for the care of mental, neurological and substance-abuse disorders in low- and middle-income countries. Cochrane Database Syst Rev 19;11:CD009149.
4. *Policy Instruments to Improve Intervention Uptake and Provider Quality - See more at:* http://www.dcp-3.org/resources/policy-instruments-improve-intervention-uptake-and-provider-quality#sthash.hC21qni3.dpuf
5. *Chronic Disease Prevention and Control - See more at:* http://www.dcp-3.org/sites/default/files/resources/Chronic%20Disease_Challenge_Final%20Edits_1.pdf?issu
6. *Universal Public Finance of Tuberculosis Treatment in India: An Extended Cost-Effectiveness Analysis - See more at:* http://www.dcp-3.org/resources/universal-public-finance-tuberculosis-treatment-india-extended-cost-effectiveness-analys-0#sthash.WA1NLbfO.dpuf
7. *Cardiovascular disease and impoverishment averted due to a salt reduction policy in South Africa: an extended cost-effectiveness analysis - See more at:* http://www.dcp-3.org/resources/cardiovascular-disease-and-impoverishment-averted-due-salt-reduction-policy-south-africa#sthash.AyhkulSD.dpuf

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Links

- Institute for Health metrics and Evaluation – IHME: http://www.healthdata.org/
- World Health Organization: Global Burden of Disease: http://www.who.int/topics/global_burden_of_disease/en/
- IHME Acting on Data: http://www.healthdata.org/acting-on-data
- IHME Policy Reports: http://www.healthdata.org/results/policy-reports
- GBD Country profiles: http://www.healthdata.org/results/country-profiles
- Health, Nutrition and Population, The World Bank eLibrary: http://elibrary.worldbank.org/topic/t011

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Title:	**R 2.3 ENVIRONMENTAL HEALTH AND CLIMATE CHANGE**
Module information	The module may be structured according to the European Credit Transfer System (ECTS), corresponding per ECTS to 25-30 hours student workload (thereof up to 10 contact hours of lecturing/supervision). As part of an academic degree program, the module may be worked into a Masters Curriculum in Global Health with corresponding admission and course completion requirements. Equally the module may also be incorporated into a DrPH (Doctoral program in Public Health) curriculum in which course specifics remain constant but where perspectives are broadened through increased emphasis on relevant readings and calls for ground breaking, context-specific case studies. *Note: Entrance requirements are to be determined by the institution offering the module.*
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Key words	Environment and health, ecological public health, climate change, vulnerability, health risks, adaptation measures.
Topics	The concept of limits of growth – how far we can go? The ecological concept of health, ecological public health – reshaping the conditions for good health. From demographic to democratic transitions to be addressed by public health; different DPSEEA models of environmental health assessment – conceptual framework of environmental health wellbeing. Environmental and Climate Change (CC), Burden of Diseases (DALY, YLL). Environment and health inequalities. Environment and health risk assessment studies. Environmental health indicators to assess health effects of Climate Change – threats to be reduced and opportunities to be adopted. Importance of the intersectorial work. Vulnerability, mitigation, and adaptation of the health sector**.**
Learning objectives	Understand the concepts of limits of growth theory, and models of modified and enriched DPSEAA and Climate Change adaptation tools in regard to different social and health determinants and challenges Acquisition of knowledge and skills needed to be part of high level management to implement and evaluate environmental, health and wellbeing aspects of policies and strategies. Applying national and regional approach in climate change vulnerability, impact assessments and adaptation measures - the role of the health sector in the intersectorial actions.
Teaching methods	Lectures, interactive small group discussions, case studies, regional and international field practice
Who should apply	Those who pursue an international career in environment and public health management, policy development, research or advocacy.
Career opportunities	Teaching and/or research careers in academic environments; policy makers and advisers, private, industry and Non-Governmental

	Organizations; free lance consulting
Assessment of students	Test and case problem presentations.
COMMENTS on the module by lecturers and students	*Please comment*

Environmental health and climate change

The Rationale of Studying Environmental health and climate change

The 1972 book Limits to Growth, which predicted our civilization would probably collapse sometime this century, has been criticized as doomsday fantasy since it was published. The predictions were very dramatic - If the present growth trends in world population, industrialization, pollution, food production, and resource depletion continue unchanged, the limits to growth on this planet will be reached sometime within the next one hundred years. The most probable result will be a rather sudden and uncontrollable decline in both population and industrial capacity (Brown, 1974). Though provoked a lot of controversy, it looks like that those predictions are critically right. Something must be done.

New Environmental health – the concept of ecological public health

Public health thinking today needs and overhaul, a return to and modernization around ecological principles. Ecological public health thinking should fit the twenty-first century's challenges. It integrates the four dimensions of existence the material, biological, social and cultural. Public health becomes the task of transforming the relationship between people, their circumstances, and the biological world of nature and bodies. This is also about facing different number long-term transitions; such are Demographic, Epidemiological, Urban, Energy, Economic, Nutrition, Biological, Cultural and Democracy itself. Identifying large scale transitions such are these refocuses public health actions onto the conditions on which human health and eco-system interact (Ryener & Lang, 2012).

Traditionally the relationship between environment and health was presented as the relation between a hazardous state of the environment and its effect on health and wellbeing. The DPSEEA Model, adopted by the WHO to configure an environment and health information system, shows this link between an environmental State though an Exposure to a health Effect. It also makes explicit that environmental States result from Pressure on the environment caused by higher level (often anthropogenic) Drivers. Additionally it made clear that Actions (including policies) could be directed towards any point on the causal chain with the aim of influencing the health Effect. The modified DPSEEA model (or mDPSEEA) was a refinement of the earlier DPSEEA model. It recognised that whether an individual or group within society was exposed to an environmental State or indeed, whether they went on to experience health Effects is influenced by social and economic factors (Morris et al., 2006). Thus, mDPSEEA further expands the environment and health perspective by recognising that the social and behavioural context may also be a target for policy. mDPSEEA has potential to represent relationships between 'good' environments (such as green and natural spaces) and positive effects on health and wellbeing. Accordingly, mDPSEEA better represents the complex interaction of social, behavioural,

economic, physical etc. factors with individual characteristics, giving the model greater policy relevance (Morris et al., 2006). The modified DPSEEA model has proven to be useful as a tool to think about health and the environment, but also as a tool to communicate in a policy arena dominated by complexity.

At the moment, there is no integrated model available that includes all the relevant factors for environment, (human) health, and well-being in relation to a sustainable society but, on subtopics, important steps have been made. For example, there is the ecosystem enriched DPSEEA that incorporates human health with ecosystems health or the framework for integrated environmental health impact assessment of systemic risks that focuses on the broad range of questions decision makers are facing.

Introduction – climate change and health

Human influence on the climate system is clear, and recent anthropogenic emissions of greenhouse gases are the highest in history. Recent climate changes have had widespread impacts on human and natural systems. Warming of the climate system is unequivocal, and since the 1950s, many of the observed changes are unprecedented over decades to millennia. The atmosphere and ocean have warmed, the amounts of snow and ice have diminished, and sea level has risen. Anthropogenic greenhouse gas emissions have increased since the pre-industrial era, driven largely by economic and population growth, and are now higher than ever. This has led to atmospheric concentrations of carbon dioxide, methane, and nitrous oxide that are unprecedented in at least the last 800,000 years. Their effects, together with those of other anthropogenic drivers, have been detected throughout the climate system and are extremely likely to have been the dominant cause of the observed warming since the mid-20th century (Intergovernmental Panel on Climate Change (IPPC), 2014).

All climate and weather variables[3] have some influence on human health. The effect may be either direct on the human body or indirect through effects on disease-causing organisms or their vectors. Direct effects involve mostly physical impacts that act to cause physiologic stress (e.g., temperature) or bodily injury (e.g., storms, floods). Direct effects tend to be observed soon after the causative weather event, and are generally more easily modelled and understood than indirect effects.On the other hand, indirect effects, such as climate impacts on food supplies and the outbreak of vector-borne diseases, may operate through diverse pathways involving multiple variables. People with chronic diseases, especially the elderly, are very susceptible to aggravation of the disease state from both excessively cold and excessively hot weather. Temperatures in warmer temperate zones are ideal for the survival and propagation of causative agents for some bacterial, viral, and parasitic diseases. Temperature also affects human health by affecting agriculture, fisheries, and water resources. The effects of high temperatures on human health are modified by the amount of moisture in the air. Climate change could affect human health through increases in heat-stress morbidity and mortality, tropical vector-borne diseases, urban air pollution problems and allergies, and cold-related illnesses.

Human health will continue to be affected directly and indirectly by climate change, and health systems will need to act to prevent and manage the impacts on populations. At the same time, health services will face various other complicating challenges such as rising

[3] If not otherwise indicated the following section follows MoePP, 2014

costs of health care and an ageing society, making effective preventive strategies even more necessary.

Many influences of climate change including health effects could be diminished or avoided with different adaptabilities. Primary goal of adaptation is to decrease burden of diseases, injuries, disabilities, suffer and mortality. Key determinant of health and the solutions also, lie primary out of direct control of health system. Important mechanisms for disease prevention originating from water and food are traceability, microbiological risk assessment, risk communication and risk management. Number of cases of salmonellas could be diminished by control and monitoring of entire food chain. High level of control measures should be reached along with the potential climate risk and potential storage information, and strengthening of measures of food processing.

Proposed alert and reporting system for possible health impacts from weather impacts aims to assess health risk and to diminish them. Instruments for that would contribute to promotion and on time alarming of population, particularly vulnerable groups, from extreme weather events before its appearance. NGOs play important role in the system, particularly at the part of access to information of the population with social risk factors. Obtained data base will provide extrapolation to the future expected climate changes. Strengthening of capacities is essential step towards preparedness of sustainable adaptable strategies and palliative strategies. That includes education, raising awareness; creation of legal framework, as well as institutions which will inform people for decisions providing them higher long term benefits.

Both, by strengthening and implementation of Weather Early Warning System, as well as preparedness and response of health care system services from one hand and by adequate physical planning and housing from another hand, the reduction of mortality among the people is feasible. The system should include the implementation of preventive and action plans for heat waves and inclusion of strategies for vulnerable group's identification, as well as public health monitoring and citizens campaign promotion with financial estimation of reduction assurance with explanation that the inactivity is the most expensive. The instruments for risks reduction shall contribute in promotion and timely opportune warning forecasting from extreme weather events in the society and especially among the vulnerable groups (MoEPP, 2014).

Capacity building is an essential step in preparing sustainable adaptation and mitigation strategies. It includes education, awareness raising and the creation of legal frameworks, institutions and an environment that enables people to take well-informed decisions for the long-term benefit of their society.

In the complexity of actions, a handbook was introduced for national vulnerability, impact and adaptation assessments – which stresses a methodology that involves as many different stakeholders as is feasible, to identify potential vulnerabilities. Among others it describes the current situation including demographic and socio-economic factors, health systems, epidemiologic factors, and information from non-health sectors. The findings can than inform public health adaptation programs that strategically leverage existing strengths and mitigate the future weaknesses of health systems. (ECDC, 2010; WHO, 2013)

Environmental health indicators (EHIs) provide information about a scientifically based linkage between the environment and health, enabling the conversion of data to

information by summarizing these complex relationships and presenting them in a form that is more easily interpreted by the end-user. Therefore, EHIs can be used as a tool to assess, quantify, and monitor ecosystem health vulnerability from a sustainability perspective and can be utilized to inform adaptations and policy development and measure the effectiveness of climate change adaptation and mitigation activities. In addition, they provide baseline information for assessing and monitoring temporal and spatial variability of risks with respect to climate change, enabling projection scenarios (e.g. epidemics, cost/benefits of interventions) of how the current situation may evolve. Monitoring of human disease surveillance data has the potential to act as a warning system for ecosystem disruption and may be used to identify interventions for the preservation of ecologic and human health. Such an approach means that interventions can be applied higher up the causal chain than would have been possible based on environmental monitoring or health surveillance alone. Implementation of such interventions can improve ecological well-being which in turn will reduce the resultant burden of disease in humans. (Hambling et al., 2011). This also requires conceptual insights beyond the conventional understanding of causation and prevention, as well as political will, trust, and resources. The complexities of policies to mitigate human-induced climate change are clear. Meanwhile, additional resources and strategies will be needed to reduce the health risks related to global change that have already arisen or are now unavoidable. For populations to live sustainably and with good long-term health, the health sector must work with other sectors in reshaping how human societies plan, build, move, produce, consume, share, and generate energy. (Mc Michael, 2013)

Case studies

Case studies of Environment and health risk assessment studies (Gjorgjev et al., 2010)
Drafting DPSEA illustrative models for transport, climate change and housing…
Conducting Climate Change Health Vulnerability and Adaptation assessment in the South East region of Macedonia (Ministry of Environment and Physical Planning MoEPP, 2014). Available at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/371103/Health_Effects_of_Climate_Change_in_the_UK_2012_V13_with_cover_accessible.pdf.

MoEPP, Ministry of Macedonia for Environment and Physical Planning, (2014-1). 3-rd National Communication on Climate Change (ISBN 978-9989-110-89-40). Available at: http://unfccc.org.mk/content/Documents/TNP_ANG_FINAL.web.pdf

Links

Climate adapt portal (EEA): http://www.eea.europa.eu/climate-adapt

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Gjorgjev D, Kendrovski V, Tozija F (2010). Enviromental Health Risk Assesment Studies. In: Methods and Tools in Public Health. Editors: Zaletel Kragelj L, Bozikov J, Bardehle D, Kovacic L. Hans Jacobs Publishing Company, Germany, 2010:525-546.

Hambling T, Weinstein P, Slaney D (2011). A Review of Frameworks for Developing Environmental Health Indicators for Climate Change and Health. *Int. J. Environ. Res. Public Health* 201: *8*.

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McMichael AJ (2013). Globalization, Climate Change, and Human Health. N Engl J Med 2013; 368:1335-43. Available at: http://www.nejm.org/DOI/pdf/10.1056/NEJMra1109341

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Morris GP, Beck SA, Hanlon P, Robertson R (2006). Getting strategic about the environment and health. Public Health 120:889–907.

Ryener G and Lang T (2012). Ecological Public Health: reshaping the conditions for good health, Routledge, London and New York.

WHO (2013). Guidance to support the implementation of the Health National Adaptation Process. Available at*: unfccc.int/resource/docs/2013/sbi/eng/misc02.pdf*

Title:	**R 2.4 GLOBAL MIGRATION AND HEALTH**
Module information	The module may be structured according to the European Credit Transfer System (ECTS), corresponding per ECTS to 25-30 hours student workload (thereof up to 10 contact hours of lecturing/supervision). As part of an academic degree program, the module may be worked into a Masters Curriculum in Global Health with corresponding admission and course completion requirements. Equally the module may also be incorporated into a DrPH (Doctoral program in Public Health) curriculum in which course specifics remain constant but where perspectives are broadened through increased emphasis on relevant readings and calls for ground breaking, context-specific case studies. *Note: Entrance requirements are to be determined by the institution offering the module.*
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Key words	Migration, brain drain, health.
Topics	Nowadays, global migration is considered even more important than in the past. The main reason for that is the number of migrants, which is steadily increasing at the end of the 20th century and will continue to grow in the twenty-first. In general, migrants are supposed to have bad opportunities for health as a consequence of their migrant status. The most important issue in analytical models for the health effects of migration is the type of migration – whether it is voluntary, involuntary, or irregular migration. Usually, migration does not bring improvement in social well being and health. The wide variety of health conditions and consequences is associated with the profile of the mobile population: "what migrants bring, what they find, and what they build in the host country". Many authors stress three temporal and successive phases associated with individual movements: the pre-departure phase, the journey phase, and the post-journey phase. Though different in many ways they suffer from globally dominant health problems: Tuberculosis, trauma/rape/torture/PTSD, HIV/AIDS, cardiovascular disease etc. Prevention of the public health consequences is particularly relevant and important among the migrants and classified in three levels: primary, secondary, and tertiary. A clear strategy at the local, regional, and international levels is needed for efficient interventions. There is human right of migrants to be treated properly.
Learning objectives	After completing this module students and public health professionals should be able to • analyse the phenomenon of international and national migration;

	• recognise key factors influencing the health of migrants; • explore the current health problems and health care needs of voluntary, involuntary, and irregular migrants; • differentiate the main trends influencing the health and the required interventions in these population groups; • implement their knowledge in prevention of public health problems in migrant populations.
Teaching methods	Lecture, focus group discussion, case studies.
Who should apply	Those who pursue international teaching and/or research careers in academic environments, careers in public health or policy development, advocacy e.g. with non-governmental organizations, and in consulting companies. Entrance requirements are to be determined by the institution offering this module.
Assessment of students	Multiple choice questionnaires, presentation of a national case study.
COMMENTS on the module by lecturers and students	*Please comment:*

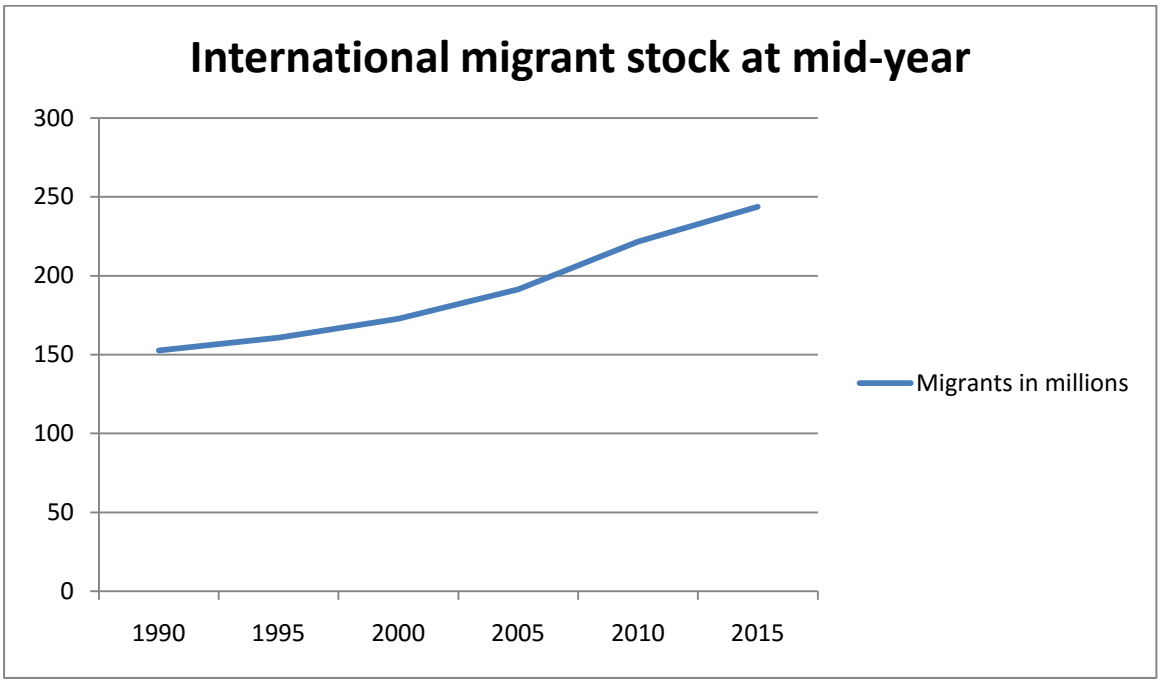
Global migration and health

"Immigration is not a solution. It is not a problem. It is a reality. Our societies need immigration. Policies should be made responsive to such a need…" Antonio Vitorino, 2001, EU Home Affairs Commissioner

Background

Migration is a global phenomenon. There is widespread recognition of the issue and its implications. Nowadays it is considered even more important than in the past. Though people have moved throughout the history to find new opportunities, more people migrate today than ever before, both voluntary and involuntary. At the same time, while the effects and consequences of migration are visible all over the world, it is difficult to quantify this phenomenon (Stalker, 2003).

Figure 1: International migrants - the world situation



United Nations, Department of Economic and Social Affairs (DESA), Population Division
http://www.un.org/en/development/desa/population/migration/data/estimates2/estimates15.shtml

The number of migrants steadily increased at the end of the twenty-century and will continue with large-scale movements of people in the twenty-first century. The available estimates of people taking residence and living outside their country of origin, together with those internally displaced, however varies significantly depending on the source of information. According to UN data, there were about 76 million international migrants in 1965 but 222 million in 2015 (Figure 1). The last figure means that the share of migrants in the world's population is about 3% including more than 200 countries and territories (UN/DESA, 2015). Europe, with a tenth of the world's people, has a quarter of the world's countries and a third of the world's migrants. The share of migrants in European countries averages 10 percent, but varies from less than five percent of residents in Eastern Europe to almost 30 percent in Switzerland (Migration News, 2014).

Today, it is estimated that more than 15 million people per year seek political asylum or become refugees in various parts of the world. The largest number of international migrants settles in Asia, Europe, and North America followed by Africa, Latin America, and Oceania. More than half of them are living in developing countries. At least 2.5 million and more foreign-born persons live in only 20 countries and the share of those living in these countries represents 68% of all foreigners in the world. The biggest numbers live in US, followed by Russia, and Germany (Table 1).

Table 1: 20 countries with the highest immigrant population

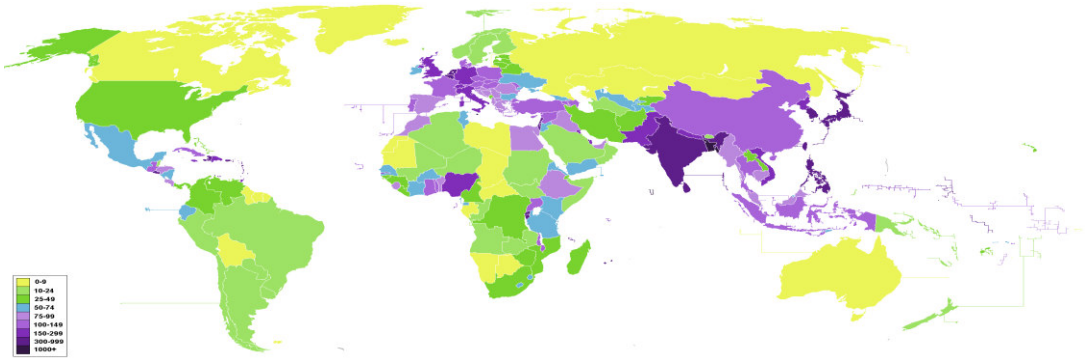
Country	*Number of immigrants*	*Percentage of total number of immigrants in the world*	*Immigrants as percentage of national population*
United States	45,785,090	19.8	14.3
Russia	11,048,064	4.8	7.7
Germany	9,845,244	4.3	11.9
Saudi Arabia	9,060,433	3.9	31.4
United Arab Emirates	7,826,981	3.4	83.7
United Kingdom	7,824,131	3.4	12.4
France	7,439,086	3.2	11.6
Canada	7,284,069	3.1	20.7
Australia	6,468,640	2.8	27.7
Spain	6,466,605	2.8	13.8
Italy	5,721,457	2.5	9.4
India	5,338,486	2.3	0.4
Ukraine	5,151,378	2.2	11.4
Pakistan	4,080,766	1.8	2.2
Thailand	3,721,735	1.6	5.6
Kazakhstan	3,476,233	1.5	21.1
Kuwait	2,920,000	1.3	70
Jordan	2,925,780	1.3	40.2
Hong Kong	2,804,753	1.2	38.9
Iran	2,649,516	1.1	3.4

(for details: UN report Trends in International Migrant Stock: The 2013 Revision and https://en.wikipedia.org/wiki/List_of_countries_by_foreign-born_population)

Migration and Recruitment

The divide between poor and wealthy populations leads to previously unseen mass migration within and between countries, aggravated by violent conflicts as noted above. More than half of all migrants live in developed countries and there are in addition more than 25 million internally displaced persons (IDPs) and estimated 16 million refugees, 4.6 million of them Palestinians under the responsibility of the United Nations Relief and Works Agency for Palestine Refugees in the Near East (UNRWA, 2008). Remittances to developing countries have risen dramatically and total more than $350 billion, over twice the level of official development assistance (World Bank, 2007). The map in Figure 2 displays the gross imbalance of global population densities, i.e. the potential for migration especially from South-eastern Asia.

Figure 2: Population density (people per km2) by country with a population above 10 million, 2012



Source: http://en.wikipedia.org/wiki/Population_density

Rank	Country/Region	Population	Area (km^2)	Density (Pop per km^2)
1	Bangladesh	157,457,000	147,570	1067
2	Taiwan (R.O.C)	23,361,147	36,190	646
3	South Korea	50,219,669	99,538	505
4	Rwanda	10,718,379	26,338	407
5	Netherlands	16,760,000	41,526	404
6	India	1,263,680,000	3,185,263	397
7	Haiti	10,413,211	27,750	375
8	Belgium	11,007,020	30,528	361
9	Japan	127,290,000	377,944	337
10	Philippines	100,271,800	300,076	334

As a consequence of the recent economic downturn, opportunities for migrants have diminished in industrialised and industrialising countries alike. The gloomier prospects trigger return migration, in particular of temporary migrants, including irregular migrants. A consequence will be that migrant workers who lose their jobs will no longer be able to remit to their home regions and countries, and because some regions, countries and numerous families heavily rely on these remittances this will add to their difficulties (Laaser & Epstein, 2010). On the other hand violence and war especially in the Middle East cause waves of refugees trying to escape to Europe; the numbers may reach several millions between 2015 and 2020.

Within countries a movement from rural to urban zones can be observed worldwide. In 2025 about two thirds of the world's population will live in cities. In Europe already today about 90 percent of its population lives in cities of various sizes but only two European cities – London and Paris – can be considered megacities with more than 10 million inhabitants. Megacities, however, are common in the so-called third world: more than 20 megacities emerged worldwide by 2015. To cite some examples, Lagos increase from 0.3 million in 1950 to an estimated 24.6 million in 2015, Mexico City from 3.1 to 20.3 million

and Beijing from 3.9 to 15.6 million. In the list of top urban growth rates only Seoul, Tokyo, Los Angeles, and New York represent industrialized countries. Urbanization is not necessarily bad itself. It becomes a problem when the rate of growth of the urban population exceeds the capacity of the infrastructure to absorb and support it (Seeger, 1995). Urbanisation certainly alleviates several problems, e.g. over-population, land shortages, reduction of rural areas. On the other hand, there are costs in terms of increased poverty, the rise of slum and squatter areas, extremely unequal distribution of resources, overburdening of the urban infrastructure and difficulties to supply mega-cities with the necessary resources such as air and water (Gurgand, 2006; Ravallion et al., 2007).

Indeed, the urban poor are the main group affected by an unequal distribution of resources, and they have to live in quarters characterized by the worst environmental conditions like overcrowded slums and squatter settlements close to polluting industries or congested roads. The physical conditions and population density make the planning and provision of appropriate health care an extremely difficult or impossible task. However, cities and metropolises have turned into the new centres of a polycentric world. As centres of an emerging global society, problems and conflicts become concentrated as well as solutions (Cornelius-Taylor et al., 2001).

Rural-urban migration changes the demography of countries and continents not only quantitatively but also qualitatively, increasing differentials of health, education, and wealth. The more aggressive and better schooled workers in rural areas are often the first to move to urban places, reducing the social capital in the communities they left. This is the case even more so for the professional education when the well educated upper class moves from their less developed home countries to North America, the developed areas of the Western Pacific, or Europe to find a better life. In 2005 the World Federation of Public Health Associations (WFPHA) adopted a resolution requesting ethical restrictions on international recruitment of health professionals from low-income countries (WFPHA, 2005) acknowledging that the developed countries have 33.4 percent of the world's population, but they contain 74 percent of the world's physicians, 89 percent of the world's migrating physicians, and the vast majority of the 14,000 nurses moving across national boundaries each year (Mejia, 2004). For example there are only 750,000 health workers in all of sub-Saharan Africa, a region that serves 682 million people and suffers from 25 percent of the world's burden of disease, whereas it has been estimated that Africa needs about 1 million more doctors, nurses and midwives (as well as pharmacists and other categories of health professionals) to achieve the Millennium Development Goals (Chen et al., 2004). There is of course the right to leave the country of origin under the 1948 Universal Declaration of Human Rights (United Nations, 1948), on the other hand low-income countries should be compensated for the loss of health professionals as they have invested into upbringing and schooling and higher education.

The WFPHA recommends therefore that health worker employers in developed countries, including public and private hospitals, long-term care facilities, and outpatient facilities, adopt a corresponding code of ethics comprising as a key request that health care facilities incorporating workers from abroad are strongly encouraged to manage recruitment and incorporation of health care workers from those countries in such a way that the sending country receives something in return (WFPHA, 2004). Reciprocal strategies of this nature could include sending developed country health workers in an exchange program, remunerating the source government for its investment in a workers' education program, or offering continuing education that a foreign health worker could apply in the home country.

Therefore higher income countries that receive significant numbers of health professionals from lower income countries shall invest in training and skills development in the sending countries, as a means of providing compensation for the loss of trained personnel (Whelan et al., 2004). Since the WFPHA resolution was published in 2004 the international discussion took pace, leading to the draft WHO code of practice on the international recruitment of health personnel, though with softened requests for compensation to sending countries (WHO, 2010).

According to an annual report of the Occupational Health Centre in Qatar it was observed that about 30% of the workers who came for routine periodic medical checkups and were diagnosed having high blood pressure, did not know having hypertension. A similar proportion was also noted for the first time to have Diabetes mellitus. These expatriate workers for labour work in the Gulf Arab countries are majorly from India, Bangladesh, Nepal, and Philippines. Typically migrant workers are seen at the health care facility, commonly at the emergency department, for injuries and accidents. They are usually not followed up as most of them do not carry health insurance cards. Therefore, they are usually left unaware of their chronic disease occurrence such as hypertension or diabetes, and if they were identified as diseased they are not followed up, risking disease complications.

The most rapid growth in the number of international migrants occurs as a result of refugees' crises and forced migration. Conflicts, including wars and civil strife, and disasters affect a large number of people and result in problems. Forced migration, the breakup of families and communities, hostile new environments, and the lack of security and provision for survival continue to take a devastating toll on people affected by war. Children constitute between one-third and one-half of the world's refugees and IDPs population (Levy & Sidel, 1997). According to the World Health Organization, the number of refugees, expelled and displaced persons in the Balkan region are estimated to about 4 million people at the end of the twenty-century.

Migrants are supposed to have bad opportunities for health as consequences of their migrant status. But an important issue in analytical models for the health effects of migration is the type of migration – whether it is (Friis et al., 1998):

1. voluntary migration,
2. involuntary migration, or
3. Irregular migration.

Voluntary migration[4]

When people voluntary migrate they are leaving their home and moving from the country (place) of their origin in searching for personal development, better opportunity for education, employment, living, and economic condition. Some authors call these "pull factors" (Winter, 1996). Voluntary immigrants are usually able to choose their new place of residence. They are generally healthy and younger individuals. Several authors have pointed out that the historical time of migration within a particular group needs to be considered (Friis et al., 1998). Later immigrants during the twenty-century history may differ in social, educational, and other demographic characteristics from earlier immigrants. Looking at the various literatures it is obvious that for the later voluntary migrants the main reason for leaving their countries of origin are the bad economic conditions, while for the earlier migrants it was the political situation in their countries. The effects of voluntary movements are present on both the countries of origin and host countries. Their impact cannot be characterised as solely positive or negative. Typical example is migration of highly skilled migrants, which is a loss for their country of origin. However, sometimes both countries may benefit, such as in the case when migrants help link companies in the home country with business in the new country.

The legal status of voluntary immigrants includes persons granted asylum and permanent residents. Despite the fact that they are usually healthy and young they immigrate in the host country with their different personal life experience and behaviour that could influence their health in the host country. They are coming into contact with a different host culture and start with changes in behaviour, values, and attitudes. This process of integration obviously can cause bigger stress which could damage their health. They need a certain level of social support to overcome such situation (Burnett & Peel, 2001).

Involuntary migration

Individuals and families under involuntary migration can be broadly divided into two categories: refugees and internally displaced persons. The United Nations' High Commission for Refugees (UNHCR) defines refugee as "a person who, owing to a well-funded fear of being persecuted for reasons of race, religion, nationality, membership in a particular social group, or political opinion … is outside of the country of his nationality." (UNHCR, 2016). Another large group of people under involuntary migration are internally displaced persons (IDPs). They are basically refugees, who never crossed the border of their home country, because they are either unable or unwilling to cross the border. Some consider that their position is even worse than that of official refugees. Their own government very often accepts them as an additional burden to the national economy, a political problem, and even as some kind of enemy. That means that both refugees' and IDPs' motivations for migration are different from those of voluntary immigrants. Refugees and IDPs may not want to leave their homes, but they are being pushed by circumstances: often violence, persecution, and human rights abuses, usually by the hands of their government. Many consider that refugees and IDPs are a unique phenomenon within the broader context of migration.

[4] The following section is an adapted version of the working paper by V. Bjegovic at: *www.snz.unizg.hr/ph-see/full/u4-t2-bjegovic.pdf*

Irregular migration

Irregular migration is special type of migration, which is rapidly increasing in the recent time. In many parts of the world possibilities for legal migration have decreased whilst demand for foreign labour has remained constant. This together with poverty, lack of opportunities, political and social violence in the country of origin, may force potential migrants to turn to criminal networks. As a consequence, new trafficking routes are regularly established and the market for travel documents, transportation, and border crossing has developed worldwide. UN Convention Against Transitional Organized Crime (UN/CTOC, 2000) defines "trafficking" as: "The recruitment, transportation, transfer, harbouring, or receipt of persons, by means of the threat or use of force or other forms of coercion, of abduction, of fraud, of deception, of the abuse of power, or of a position of vulnerability or of the giving or receiving of payments and benefits to achieve the consent of a person having control over another person for the purpose of exploitation. Exploitation includes at least the exploitation of the prostitution of others or other forms of sexual exploitation, forced labour or services, slavery or practices similar to slavery, servitude or the removal of organs". A distinction should be made between trafficking and smuggling of migrants. Smuggling means: "The procurement, in order to obtain, directly or indirectly, a financial or other material benefit, of the illegal entry of a person into a state party of which is not a national or a permanent resident".

According to the International Organisation for Migration (IOM) study, there are an estimated 15 to 30 million irregular migrants in the world today. At the same time migrant trafficking and smuggling has become a global business generating huge profits for those involved. Trafficking exposes migrants to extremely vulnerability. They lack valid travel documents and they are considered as subjects of deportation in many countries. The most important, because of their irregular status, they do not have access to legal assistance and medical care. From all the mentioned above it is obvious that the health of irregular migrants is seriously jeopardized. The USAID estimates that 4 million persons become the victims of international trafficking each year, out of which 700.000 are women or children (USAID, 1999).

Migration and health

Migration is a major life event and has important impacts on physical, mental, and social health (Friis et al., 1998). Usually, migration does not bring improved social well being and health, being consistent with the WHO definition, that health is "complete physical, mental, and social well being and not simply the absence of disease or infirmity". Bearing in mind this definition it is clear that health is influenced by many determinants related to social, political, economic and environmental conditions (education, employment, adequate standard of living, participate in public and cultural life, freedom of movement, treatment in the case of illness) (Batchelor, 1995). "In many countries, the gap between the health of advantaged and disadvantaged groups is widening, even though measures such as average life expectancy indicate that the health of the population as a whole is improving" (Woodward & Kawachi, 2001). It is obvious that the migrants are among the disadvantaged group. The wide mixture of health conditions and consequences might be also associated with the profile of a mobile population. It is important to consider, as Haines has written, "what migrants bring, what they find and what they build in the host country" (Haines, 1996). For example elderly refugees may find adapting to new ways particularly difficult. On the other hand, children adapt more quickly and completely to new customs. Women,

because of their roles as wives and mothers, may remain more confident with their homes that would help them to adapt to a new society. Additionally migrants also bring their occupational and educational background, life experiences, values and expectations, family and kinship, experience with exodus and transit. All of these could have both positive and negative influence on their health. “What they find” in the host country is related to the general country situation, problems in resettlement, employment and different level of social support. Once migrants have adjusted to their new environment, or have simply survived the inevitable problems and traumas of dislocation, they move forward in their new lives often successfully. Haines points out that in this stage it is important “what they build” in the host country and that is the economics of a new life, relationship between family and community, as well as rebuilding meaning.

In general, many authors stress that three temporal and successive phases associated with individual movements of people should be considered as substantial for migrants’ health:

- the pre-departure phase,
- the journey phase and
- the post-journey phase.

The first phase is connected to the health determinants such as genetic, cultural, environmental, and existing health behaviour of the migrant in his country of origin. This represents the existing and potential disease risks, or health benefits, that the migrant brings to the activity of movement. Expectation of the regional risks for certain disease usually includes thinking about typical infectious diseases, cancer, cardiovascular diseases, and stroke. The second phase of migration may be associated with acquisition or transmission of illness or disease as a direct consequence of the journey. The health factors and influences that are relevant during travel may be directly predicted by the migrants’ pre-existing health conditions. In high-risk movement, such as trafficking, the risks of travelling are substantial. The third phase can be the most variable for the migrant. Factors important in post-journey phase include “what they find” in the host country: health care accessibility and availability, acquired health risks and exposures to health risks at a differential level than at the home country, different attitudes to health and behaviours, and other social risks and new mobility events. That means that impact on health related to mobility is not limited to that moment of entering and being received by the host country. The positive and negative effects to the health of both immigrants and the general population may persist for many generations (MacPherson, 2001).

In an analytical model for the health effects during different phase of migration it is worthwhile to look at the sources of stress, mediating factors, visible and invisible manifestations (Figure 3).

Figure 3: Analytical model for the health effects of migration (source: Friis et al., 1998).

SOURCES OF STRESS ⇨ (Precursive factors)	MODIFIERS ⇨ (Mediating factors)	MANIFESTATIONS (Outcomes)
Life events Acculturation	Social support Life style	Physical health Mental health Social health Health care Utilization

Public health consequences of migration and possibilities for prevention

It has been already mentioned that the physical and psychological effects of migration on the refugees depend on the reason for migration (war, natural disaster, religious or political persecution) (Gavagan & Brodyaga, 1998). Due to well-known circumstances many of positive health influences are missing in the real life environment of this population, furthermore their health is very often seriously jeopardized by the consequences of their traumatic experience. Their health problems differ depending on geographic region, however they suffer from global health problems: tuberculosis, trauma/rape/torture/PTSD, HIV disease, measles, mumps and rubella, diphtheria, pertussis, and tetanus, hepatitis B, intestinal parasites, malnutrition/growth delay, neonatal tetanus and rheumatic heart disease. In general, the major public health problems of refugees and internally displaced persons are similar in nature (Burnett & Peel, 2001; Hodes, 2001).

Public health problems related to migration are confirmed in numerous researches. Evidence from the United Kingdom has been reported that one in six refugees has a physical health problem severe enough to affect their life and two thirds have experienced anxiety and depression (Burnett, Peel, 2001). Additionally their health is affected by poverty, dependency, and lack of cohesive social support and there is growing evidence that lack of social cohesion is leading to social isolation.

Very often health care service is less accessible for migrants. For example, in a study of refugee children in Buffalo it was found that only 39 percent of the children had adequate evidence of vaccination. Frequent findings in these children included anaemia, parasites, and tuberculosis (Meropol, 1995). Also, in the United States evidence has been shown that 5 percent of Koreans and 15 percent of Cambodians were found to be positive for hepatitis B surface antigen. In a study from Spain, 21% of migrants from Sub-Saharan Africa were chronic carriers of hepatitis B. Although screening for tuberculosis is not regularly carried out, several studies indicated that refugees suffer from it more frequently too (Fassil, 2000).

Many of refugees, expelled and displaced persons in the Balkan region, suffer from diabetes, hypertension, and coronary heart disease. Some of refugees and IDPs experienced episodes of malnutrition and poor hygiene and sanitation. Many of them are at high risk of substance abuse as a coping strategy. Out of all, approximately 20% suffer from severe Post-Traumatic Stress Disorder (PTSD) with need for emergency psychosocial help.

Magnitude and consequences of war traumas are far more complex than it appears at first sight. Disorders that emerge as a reaction to war stress often have long latency periods and a chronic course. Psychological trauma has a significant role in the development of psychiatric and somatic disorders, usually followed by family, social and professional dysfunction. That is especially emphasised in the population of refugees and displaced persons, with accent on those accommodated in collective centres. PTSD is very complex condition in terms of its etiology, psychobiology, epidemiology, co-morbidity and treatment.

Prevention of the public health consequences is particularly relevant and important as we approach migrants' population. Central to prevention is the concept of reducing the risk of occurrence of disease, injury, and disability. Prevention among this underserved population can be also classified into three levels: primary, secondary and tertiary together with an integrated approach.

Primary prevention is the basic strategy and includes provision of adequate food and water, shelter, sanitation, and immunization. When migration is consequence of war and armed conflicts it includes stopping the violence and reconstruct peaceful negotiations and sustainable development.

Secondary prevention involves the early detection of health problems through examination and screening and prompt treatment with consideration of specific characteristics of the migrants' population and common refugee profiles. The examination usually includes a standard medical history with questions about disabilities, substance abuse and mental health issues, as well as a physical examination. Some countries require specific testing for tuberculosis, syphilis and HIV. Some specific diseases should be expected depending on the situation in the migrants' home country. For example, cervical cancer is more frequent in some countries because of infrequent or absent Papanicolaou screening programs. Several countries have developed specific guidelines for early detection of diseases or unwanted phenomena among migrants. An example of specific screening recommendations in the US is presented in the Table 2.

Tertiary prevention involves prevention of excess mortality, morbidity, and consequences once disease or unwanted phenomena have occurred. Most deaths in refugee and displaced populations are preventable using current and affordable technology. The challenge is to institutionalise health intervention within the major relief organisations and to ensure management and logistical systems to support key sustainable intervention with active participation both of migrants and local community.

Table 2: Recommendations for Health Screening in Refugees
(slightly modified; source: Gavagan & Brodyaga, 1998)**.**

Area	**Specific screening recommendation**
General history	Family status, trauma, anxiety, depression
Nutritional status	Dietary history, health habits (including use of tobacco and illicit substances), hemoglobin or hematocrit, height and weight
Physical examination	Blood pressure, oral and skin examination, signs of trauma
Infectious disease, review of previous immigrations	Check stool for ova and parasites, hepatitis serology, VDRL and HIV (as indicated)
Chronic diseases like cancer, hypertension or diabetes	Age-appropriate screening for cancers and other chronic diseases that are often not screened for in Third World countries (e.g. Papanicolaou smears)

Contemporary trends related to global migration

It is well known that many complex causes push international migration movement: bad economic situation in the country of origin, searching for better life, educational opportunities, escaping from political and physical oppression and torture. On the other side, Schatzer (2001) has summarized the following trends in international migration:

- growing economic integration and globalization;
- changing geopolitical interests post Cold War brought nationalist/religious background of conflict to forefront;
- changing demographic trends and gender roles affects international migration;
- trans-nationalism;
- increasing technological innovation (transport, information);
- growing involvement of smugglers / traffickers; and
- harmonisation of policies through regional cooperation.

Given these contemporary trends, the maintenance and improvement of migrants' physical, mental and social health as well as their quality of life is of utmost importance. Because of the modern transportation system, health interventions targeting migrants are difficult to introduce and monitor. That should be evidence based, but there is not enough and appropriate research to direct health promotion and intervention. Therefore, health disorders of this population are an important public health issue meriting investigation of their causes so as to inform preventive action in the future. The complex interaction of these causes includes investigation of migrants' socio-economic status, knowledge, attitudes and different aspects of behaviour, health care needs, health status, and their experience with health care utilisation. A clear strategy on local, regional, and international levels is needed for proper implementation and evaluation of health interventions targeting this population.

"Public health workers increasingly appreciate the fragile interaction between individual host, environment, and infectious agents capable of producing disease. The consequences of these relationships, including the real and potential vulnerability of

populations, are becoming increasingly important indicators of national security" (CDC, 2001).

Problems of the migrant population test the public health response and resources of the nation and expose weaknesses!

Case studies

Presentation of a national Case Study

The student will be required to pick a country or a region of interest to evaluate the health effects of migration in that specific region. He/she will be required to make a presentation to the class in form of a seminar (citing recent publications where needed) which should highlight:

- understanding of international and national migration;
- identifying key factors influencing the health of migrants;
- exploring the current health problems and health care needs of voluntary, involuntary, and irregular migrants;
- knowledge of prevention of public health problems in migrant populations;
- understanding the main trends influencing the health and the required interventions in these population groups.

Suitable countries or regions are (but not necessarily limited to):

- ❖ North America (USA and Canada)
- ❖ Mexico and Cuba
- ❖ South Africa
- ❖ French North Africa (Algeria, Morocco, Tunisia)
- ❖ Countries of European union, United Kingdom and Turkey
- ❖ The Arab GCC countries (Saudi Arabia, Kuwait, United Arab Emirates, Qatar, Bahrain, Oman)
- ❖ Other middle Eastern countries (Iran, Iraq, Syria, Jordan, Israel)
- ❖ India
- ❖ Thailand
- ❖ China
- ❖ Malaysia
- ❖ Australia

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Title:	**R 2.5 SOCIAL DETERMINANTS OF HEALTH INEQUALITIES**
Module information	The module may be structured according to the European Credit Transfer System (ECTS), corresponding per ECTS to 25-30 hours student workload (thereof up to 10 contact hours of lecturing/supervision). As part of an academic degree program, the module may be worked into a Masters Curriculum in Global Health with corresponding admission and course completion requirements. Equally the module may also be incorporated into a DrPH (Doctoral program in Public Health) curriculum in which course specifics remain constant but where perspectives are broadened through increased emphasis on relevant readings and calls for ground breaking, context-specific case studies. *Note: Entrance requirements are to be determined by the institution offering the module.*
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Address for correspondence	Faculty of Medicine, University of Belgrade Centre-School of Public Health and Health Management Institute of Social Medicine Dr Subotica 15, 11000 Belgrade, Serbia E-mail: janko.jankovic@mfub.bg.ac.rs
Key words	Social determinants of health; gender; health inequalities; social inequalities; social conditions; social environment.
Topics	The largest contribution to health inequalities both within and between countries around the world is attributable to the social circumstances in which people live and work, i.e. to the social determinants of health. Educational attainment, income, occupational category and social class are probably the most often used indicators of current socioeconomic status in studies on social inequalities in health which present differences in health that are unnecessary, avoidable, unfair and unjust. They are also systematic (not distributed randomly) and socially produced and therefore modifiable. The fairest way to combat against social inequalities in health is to improve the health of the most disadvantaged faster than that among the rich.
Learning objectives	After completing this module participants will: - be aware that health is not only a medical, but also a social issue - be familiar with the concept of social determinants of health, including gender - understand how social determinants operates at different levels (individual, household, community, national and international) - acquire the skills to apply the social determinants and gender framework to shape and inform health policies and interventions - advance strategic thinking on tackling health inequalities
Teaching methods	Lectures, interactive small group discussions, case studies, exercises.
Who should apply	Those who pursue an international career in public health

	management, policy development, research or advocacy; entrance requirements are to be determined by the institution offering the module.
Career opportunities	Teaching/research careers in academic environments; policy administration of public health institutions, non-governmental organisations and consulting companies
Assessment of students	Multiple choice questionnaires, presentation of case study and exercise performed a field visit and report.
COMMENTS on the module by lecturers and students	*Please comment*

Social determinants of health inequalities

Introduction

The largest contribution to health inequalities both within and between countries around the world is attributable to the social circumstances in which people live and work, i.e. to the social determinants of health (Marmot, 2005).

According to WHO's Commission on Social Determinants of Health (WHO, 2008) these circumstances are shaped by the distribution of money, power, and resources at local, national and global levels.

Social determinants of health affect the health of individuals and communities throughout life and determine the degree to which a person possesses the physical, social, and personal resources to identify and achieve personal aspirations, satisfy needs and cope with the environment (Raphael, 2004). Tarlov (1996) summarized the concept of social determinants as "the social characteristics within which living takes place".

There are many different determinants considered to be among social determinants of health (Regidor 2006). In the publication "Social determinants of health: the solid facts" by Wilkinson and Marmot (Wilkinson and Marmot, 2003) a strong evidence was found for the relation between socioeconomic status and health, i.e. for 10 social determinants of health named the social gradient, stress, early life, social exclusion, work, unemployment, social support, addiction, food, and transport. The organizers of the 2002 York University conference (Raphael, 2009) identified the following 14 social determinants of health: aboriginal status, disability, early life, education, employment and working conditions, food insecurity, health services, gender, housing, income and income distribution, race, social safety net, social exclusion, unemployment, and job security.

In the last two decades we are witnesses of major developments in public health policies. Determination and dedication to reduce health inequalities between population groups have been added to traditional focus of improving the overall health of the population. The term "social determinants" plays a pivotal role in these new policies (Graham, 2004).

A historical perspective

In the middle of the 19th century German social scientist Friedrich Engels (1845; 1987) studied health conditions of the working class in England and pointed out that some factors like poverty, poor housing, inadequate diet, and day-to-day stress were main generators to social class inequalities in health and directly led to infections and diseases among the worst-off.

Rudolf Virchow (1848; 1985), known as the "father of modern pathology" investigated the epidemic of typhus in Upper Silesia in 1848 and stressed social conditions as underlying determinants.

There are numerous British researchers whose inquiry related to social determinants of health and health inequalities. Edwin Chadwick in his report paid special attention to social determinants influencing health (Flynn, 1965). According to him, disease is directly related to living conditions.

The *Black report* represents another important document published in the United Kingdom in 1978 by a research working group led by Sir Douglas Black (Department of Health and Social Security 1980). The results suggest that social class affiliation is important for health and mortality of certain diseases, mainly chronic non-communicable diseases. A constant social gradient was present for almost all causes of mortality. Those on the lowest incomes had higher death rates, and worse ill health, at every stage of life.

Like previously mentioned reports on health inequalities in the UK, the more recently published *Acheson report* (Acheson 1998) demonstrates the existence of health inequalities and their relationship to social class.

Latest developments on inequalities in health

In the last decade the European and worldwide institutions implemented numerous strategies, policies, programmes, and initiatives which affect the social determinants of health and consequently contribute to reducing health inequalities within and among countries.

In 2011 the European Parliament adopted a resolution "Reducing health inequalities in the EU" (European Parliament 2011), which emphasizes the need for:

- equitable distribution of health as one of the global targets for achieving social and economic development;
- improving databases and scientific bases;
- strengthening community engagement to reduce inequalities in health;
- solving the problems of socially vulnerable groups; and
- developing the contribution of EU polices to reduce inequalities in health.

The latest EU strategy - "Europe 2020" which was adopted in 2010 clearly highlights the need to reduce inequalities in health as a prerequisite for prosperity and competitiveness (European Commission 2010). Furthermore, a key action of the EU Health Strategy "Together for Health" and its implementing instrument - "Third EU Health Programme 2014-2020" (European Commission, 2014) is to reduce inequalities in health.

Analogously to the strategy "Europe 2020", the WHO launched in 2011 (WHO, 2011a) the process of adopting a new European policy for health - "Health 2020" in which

one of the main objectives is to improve the health and wellbeing of populations by reducing health inequalities.

It is worth to mention that the European Commission established in 2008 an "Expert Working Group on Social Determinants and Health Inequalities" from the EU, WHO, OECD and the Council of Europe countries with the task to share information and good practices on health inequalities, and to provide input into policy development (European Union, 2015).

The Rio Political Declaration on Social Determinants of Health (WHO, 2011b), adopted in 2011, expresses global political commitment for reducing health inequities by acting on social determinants of health. It reminds us that multisectoral approach to address and possibly tackle health inequalities is needed.

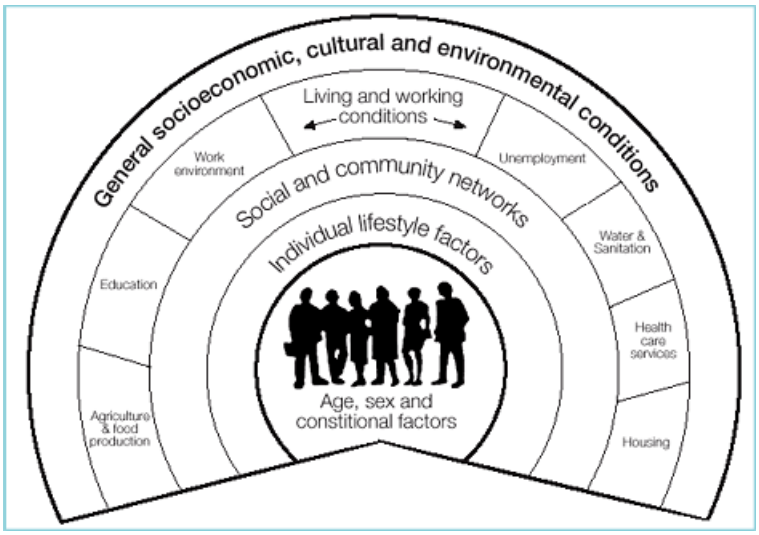
In September 2015 at UN Summit in New York world leaders adopted the "2030 Agenda for Sustainable Development" (United Nations 2015) with 17 Sustainable Development Goals that the world committed to achieving by 2030. Goal 10 focuses on fighting inequalities within and among countries by ensuring equal opportunities and empowering and promoting the social, economic, and political inclusion of all.

Models of social determinants of health

Many models have been developed to show the mechanisms by which social determinants of health influence health outcomes of the population. They also explain the relationships between different types of health determinants and locate strategic points for policy action.

The most commonly used model is Dahlgren and Whitehead's model (1991) which represents social inequalities in health as a result of interactions between different levels of causal conditions, from individual lifestyle factors via social and community networks to the level of national health policies (Figure 1). In the center of this so called "rainbow-like model" are individuals arranged by sex, age, and genetic characteristics that undoubtedly have an impact on their health and that are largely fixed. Surrounding them are determinants that are theoretically modifiable. For example, poor standards of living in a society affects individual's choice related to housing, work, social interactions, as well as eating habits in a negative sense. In addition, cultural beliefs about women's position in society or attitudes towards ethnic minorities influence their standard of living, social status and consequently their health.

Figure 1. Determinants of health



Source: Dahlgren and Whitehead (1991).

Mackenbach's model (WHO, 2005) of selection vs. causation stresses the mechanisms by which health inequalities are generated. Social selection implies that health selects people to different socioeconomic strata, while social causation explains how social position determines health.

Brunner, Marmot and Wilkinson's model (Brunner and Marmot, 1999) also known as multiple influences across the life-course explains how behavioural, psychological, and material factors mediate the relationship between social determinants and health outcomes. Early life, hereditary and cultural factors have strong influence at all stages of life.

Underlying social determinants of health including gender

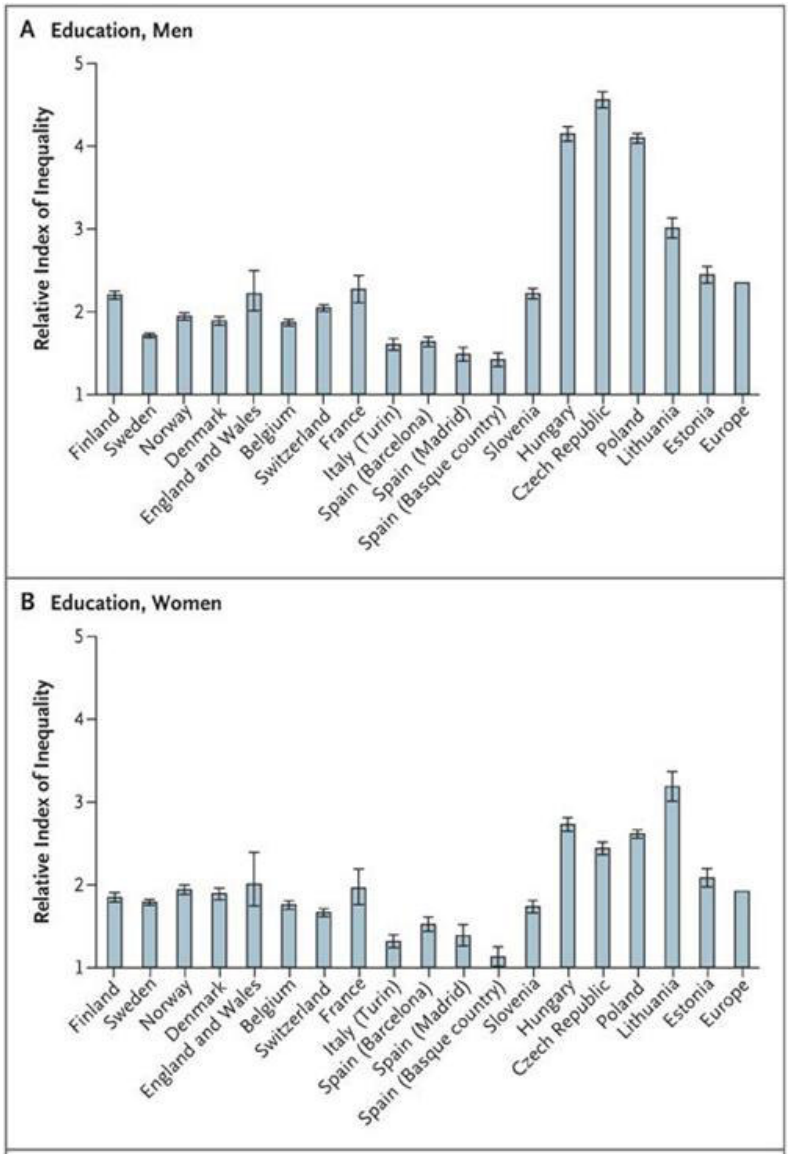
Educational attainment, income, occupational category and social class are probably the most often used indicators of current socioeconomic status in studies on social inequalities in health (Solar and Irwin 2010).

Education

Education is very important social determinant of health and is strongly interrelated with income and occupation. People with higher educational attainment are far more likely to be employed and to find more lucrative and better paid job and consequently to be healthier. It also enables people to acquire necessary skills for identification and solving both individual and group problems. Educational level influence morbidity and mortality of numerous diseases. In Sweden Erikson (2001) observed that men with primary education have two times higher mortality rate than man with doctoral degree. The more surprising is the fact that men with PhD had two times lower mortality than those with tertiary education like lawyers and doctors. It can be concluded that health inequalities are present among people of all levels of education and not merely among those with low and high education. The study conducted in 22 European countries (Mackenbach et al., 2008) also found higher mortality rates among people with low education. The magnitude of educational inequalities from any cause of death varies substantially across Europe in both men (Figure 2a) and women (Figure 2b). Education-related inequalities are smaller than the

average for Europe in all Southern European populations and larger than average in most countries in the Eastern and Baltic regions. For example, in Sweden and Denmark the relative index of inequality for men is less than 2, indicating that mortality among those with the least education is less than twice that among those with the most education, while in the Czech Republic, Hungary, and Poland, the relative index of inequality for men is 4 or higher (Mackenbach et al. 2008).

Figure 2. Educational inequalities from any cause of death in European countries



Source: Mackenbach et al. (2008).

Income

There is a clear association between income and ill health. A high income level reflects a lower mortality rate. One US study (McDonough et al., 1997) clearly shows that higher household income implies lower mortality. People belonging to the poorest households are exposed to four times higher mortality risk than those from the richest households. Gradient was also found between income and health: those who were second household category according to income had higher mortality than the most affluent while third household category had worse health compared to the second. American sociologist Samuel Preston (1975) explained the relationship between income and health as curvilinear. The famous "Preston curve" shows strong positive correlation between Gross Domestic Product (GDP) per capita and life expectancy in poor countries (e.g. Nigeria, Pakistan, and India), i.e. not much wealth is needed to live longer. Conversely, in developed countries (United Kingdom, Germany, and Japan) life expectancy is less sensitive to GDP fluctuations.

Employment status

Unemployment has detrimental effect on health. Unemployed people have worse health and higher risk of premature death compared to those employed (Wilkinson and Marmot, 2003). Sudden job loss is a main cause of stress, cardiovascular and mental diseases, as well as, fatal outcome (Ziglio et al. 2002). Unsecure job position, little control over one's work and high demands all matter for health, especially mental health.

There is negative correlation between type of occupation and morbidity and mortality measures (Wilkinson and Marmot, 2003). According to the Black report (Department of Health and Social Security 1980) inhabitants of England and Wales were classified into five social classes by the occupation of the household head. Mortality rates for unskilled class (labourer, cleaner) were two and half times higher compared to professional class (doctors, engineer). The same ratio was found among women affiliated in social classes by the occupation of their spouses.

Social gradient

The lower the socioeconomic position, the poorer health, and the higher morbidity and mortality rates. People at the bottom of social hierarchy run at least twice the risk of serious illness and premature death as compared to those at the top. Social gradient in health is not confined to the poor. It is present across society, so even among middle class office workers, staff with lower rank are sicker and die earlier compared to higher ranking staff (Wilkinson and Marmot, 2003). Differences were also found among civil servants with stable jobs in the famous Whitehall study (Ferrie, 2004). Men with low-paid jobs had a mortality rate three times higher than that of men with high-paid jobs and also suffered much more disease. Both material and psychosocial factors contribute to these differences (Wilkinson and Marmot, 2003). Autonomy, i.e. control people have over their lives and possibility of active inclusion and participation in social activities are key factors for health, wellbeing and longevity (Marmot, 2004). They are foundation of the link between health and socioeconomic position.

Gender

Gender is a socially constructed concept, while sex refers to inevitable and unavoidable biological differences between men and women. Gender arises from differences in socially constructed gender roles related to different attitudes, behaviours, characteristics, values and inequalities in relative power and influence that shape relations

between women and men, and boys and girls. In many societies, women and girls have lower social status, they are less participative in decision making and suffer more systematic discrimination in access to power, prestige and resources compared to men and boys (WHO, 2002; Annandale and Hunt, 2000). They are often limited in obtaining education and access to respected and well paid occupations (Solar and Irwin, 2010). Women are also more likely to work in informal sector like housework and street vending and take lower ranks in the professional hierarchy (WHO, 2004). As Doyal (2000) noted, fight against gender inequalities in access to resources would be one of the highest priorities on political agenda towards gender equity in health. Therefore, as a consequence of the aforementioned facts, women and girls are at highest risk of negative health effects from gender-based social hierarchies.

Social inequalities in health

A burgeoning volume of research identified social determinants of health as root causes and main generators of health inequalities (Marmot, 2005; Jankovic, 2010; WHO, 2008; WHO, 2013a). Furthermore, members of minority groups such as migrants and Roma populations or patients suffering from socially stigmatised diseases like mental or HIV/AIDS, are additionally exposed to health inequalities (Janevic, 2012; European Union, 2014).

Social inequalities in health are an important and ongoing public health issue in the world and a major challenge for adoption and implementation of health policies (Siegrist, 2004; Acheson, 1998; WHO, 2013a). They present differences in health that are unnecessary, avoidable, unfair and unjust (Whitehead, 1990). They are also systematic (not distributed randomly) and socially produced and therefore modifiable (Whitehead and Dahlgren, 2006a).

There is no country in the WHO European Region, regardless of wealth state, that is immune to social inequalities in health and tackling them should be a public health priority for policy decision makers (WHO, 2013a).

Social inequalities in health lead to an increased vulnerability of the population, as well as, the growing differences in health behavior and outcomes between different population groups. They are measured by various indicators of health such as life expectancy, mortality rates, incidence, and prevalence of various diseases and self-perceived health (WHO, 2010).

Europe is a region with marked inequalities in life expectancy at birth and 16 years difference is present between countries with the highest and lowest life expectancy. Inequalities are also found within countries. Those better-off live longer than the most deprived people (UCL Institute of Health Equity, 2011). Health divide can be also observed by looking at the mortality rates in EU countries. In Lithuania and Latvia age-standardized death rate for men in 2010 was almost 1400 per 100.000, while the lowest one was 561 for Greece. A similar pattern was noticed for females, but less pronounced (European Commission, 2013).

Influence of social inequalities on morbidity has been studied in many European countries, and the results of the studies showed a clear association between social determinants and health status of the respondents (Dalstra et al., 2005; Cavelaars et al.,

1998; Mackenbach et al., 1997; Siegrist and Marmot, 2006; Kunst et al., 2005; Kaikkonen et al., 2009, Jankovic et al., 2011, Jankovic et al., 2015). The worse socioeconomic status the higher probability of assessing poorer health and the higher presence of medical symptoms and chronic conditions (Domínguez-Berjon et al., 2006; Reijneveld, 1998; Van Lenthe et al., 2004; Jankovic et al., 2012). Compared to men women are more likely to report their general health as poor or the presence of a long-standing illness. This can partly be explained by women's lower socioeconomic position in the society (EU, 2013). It is also more likely that people with lower education, lower income, unemployed and people who are engaged in lower paying occupations evaluate their health as poor (McFadden, 2008; Louckx, 2001; Broom, 2006).

Nowadays social inequalities in health are widening both between and within countries, despite improved technology, applied best evidence based interventions and available resources. Faced with this challenge policy decision makers have been searching for the ways of shifting focus from disease to people bearing in mind conditions of their daily lives (WHO, 2006). One solution to address and tackle social inequalities in health is to put more effort for controlling major killer diseases and to improve health systems. But, improved health systems are not sufficient to solve major health threats. A second belated reaction is to deal with poverty, which is already the objective of the first Millennium Development Goal (United Nations, 2012). To decrease social inequalities in health across the world there is an eminent need for the last reaction which is complementary to health system's development and relief of poverty: to take action on the social determinants of health, i.e. to improve the conditions in which people live, work, grow and age (Marmot, 2005). WHO's Commission on Social Determinants of Health indicated a broad range of policies (social, labour, environmental, health) for reducing social inequalities in health according to existing scientific knowledge. In their final report: "Closing the gap in a generation: health equity through action on the social determinants of health" (WHO, 2008) three overarching recommendations were proposed: improvement of daily life conditions, getting to grips with inequitable distribution of power, money and resources and measurement and understanding the problem and assessing the impact of action.

Polices should strive to level up the health of the poor. The fairest way to combat against social inequalities in health is to improve the health of the most disadvantaged faster than that among the rich. The success in that fight is the only valid indicator of reduced social inequalities throughout the whole population (Whitehead and Dahlgren, 2006b).

Exercise

Discussing the social determinants of health

Give to every participant a handout with the following questions:

1. What are the determinants which contribute to good health and ill health? List them.
2. Distinguish between biological and social determinants of health, from the list.
3. What are the differences between sex and gender? Give examples.
4. Are there differences in health status across different social groups? If yes, quote them and the reasons for these differences?
5. List differences in health status between different countries and within your own country.

Participants will work in small groups and will write down their responses on a flip chart. After that whole group discussion facilitated by lecturer will be performed.

Case studies

Source: Blas E, Sommerfeld J, Sivasankara Kurup A (Eds.) (2011). Social determinants approaches to public health: from concept to practice, a collection of 13 case studies addressing social determinants of health. World Health Organization. Available at: http://www.who.int/social_determinants/tools/SD_Publichealth_eng.pdf?ua=1 (accessed 12 March 2016).

The thirteen case studies contained in this publication document the real-life challenges in implementing health programmes using a social determinants approach, including the challenges in scaling up, managing policy changes, managing intersectoral processes, adjusting design and ensuring sustainability:

1. Heidi Bart Johnston, Anna Schurmann, Elizabeth Oliveras and Halida Hanum Akhter.Scaled up and marginalized: a review of Bangladesh's menstrual regulation programme and its impact, p 9.
2. Stephanie Sinclair, Amanda Meawasige and Kathi Avery Kinew Youth for Youth—a model for youth suicide prevention: case study of the Assembly of Manitoba Chiefs Youth Council and Secretariat, Canada, p 25.
3. Irene Agurto, Lorena Rodriguez and Isabel Zacarías. Food and vegetable promotion and the 5-a-day programme in Chile for the prevention of chronic non-communicable diseases: across-sector relationships and public–private partnerships, p 39.
4. Su Xu, Jia Cheng, Chanjuan Zhuang, Shaokang Zhan and Erik Blas. Dedicated delivery centre for migrants in Minhang District, Shanghai: intervention on the social determinants of health and equity in pregnancy outcome for internal migrants in Shanghai, China, p 49.
5. Siswanto Siswanto and Evie Sopacua Reviving health posts as an entry point for community development: a case study of the Gerbangmas movement in Lumajang district, Indonesia, p 63.
6. Sara Javanparast. Child malnutrition—engaging health and other sectors: the case of Iran, p 77.
7. Yeşim Tozan, Joel Negin and James Ogola Wariero. The Millennium Villages Project: improving health and eliminating extreme poverty in rural African communities, p 91.
8. Benjamin Uzochukwu, Benjamin Onwughalu, Erik Blas, Obinna Onwujekwe, Daniel Umeh and Uche Ezeoke. Immunization programme in Anambra State, Nigeria: an analysis of policy development and implementation of the reaching every ward strategy, p 105.
9. Kausar S Khan and Ajmal Agha. Women's empowerment and its challenges: review of a multi-partner national project to reduce malnutrition in rural girls in Pakistan, p 117.
10. Laura C. Altobelli and Carlos Acosta-Saal. Local Health Administration Committees (CLAS): opportunity and empowerment for equity in health in Perú, p 129.
11. James Hargreaves, Abigail Hatcher, Joanna Busza, Vicki Strange, Godfrey Phetla, Julia Kim, Charlotte Watts, Linda Morison, John Porter, Paul Pronyk and Chris

Bonell. What happens after a trial? Replicating a cross-sectoral intervention addressing the social determinants of health: the case of the Intervention with Microfinance for AIDS and Gender Equity (IMAGE) in South Africa, p 147.

12. Jaap Koot, Romanus Mtung'e and Jane Miller Insecticide-treated nets in Tanzania mainland: challenges in reaching the most vulnerable, most exposed and poorest groups, p 161.
13. Patrick Harris, Jan Ritchie, Graham Tabi and Tony Lower. Addressing the social determinants of alcohol use and abuse with adolescents in a Pacific Island country (Vanuatu), p 175.

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Title:	R 2.6 GENDER AND HEALTH
Module information	The module may be structured according to the European Credit Transfer System (ECTS), corresponding per ECTS to 25-30 hours student workload (thereof up to 10 contact hours of lecturing/supervision). As part of an academic degree program, the module may be worked into a Masters Curriculum in Global Health with corresponding admission and course completion requirements. Equally the module may also be incorporated into a DrPH (Doctoral program in Public Health) curriculum in which course specifics remain constant but where perspectives are broadened through increased emphasis on relevant readings and calls for ground breaking, context-specific case studies. *Note: Entrance requirements are to be determined by the institution offering the module.*
Authors	Dr. Bosiljka Djikanovic
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Key words	Gender, health, gender equity, gender inequality, gender analysis, gender mainstreaming.
Topics	While sex in genetically and biologically determined, gender is socially constructed identity that shapes many aspects of person's functioning and has implications on health as well. There are historically present gender disparities that are related to the power, decision making, and different societal expectations of women and men. Although gender norms and values are deeply rooted in the culture, they are not fixed and unchangeable. They might evolve over time and may vary substantially in different environments. Gender analysis aims to identify gender differences that will inform actions to address gender inequality. Gender mainstreaming in medical education is important for eliminating gender biases in existing routines of health professionals.
Learning objectives	To understand basic concepts related to differences between gender and sex, and mechanisms through which gender influences health. Adopt global perspective related to gender inequalities and challenges that women met in different cultures worldwide. Acquisition of knowledge and skills needed for analysis of gender-based differences in health and health-related behavior. To become familiar with the policies and strategies which are being implemented in order to overcome gender-based inequalities.
Teaching methods	Lectures, interactive small group discussions, case studies, and international field practice
Who should apply	Those who pursue an international career in public health management, policy development, research or advocacy; entrance requirements are to be determined by the institution offering the modules.
Career opportunities	Teaching and/or research careers in academic environments; leadership positions in the health care sector, policy makers, private

	industry and Non-Governmental Organisations; free lance consulting.
Assessment of students	Written report and presentation of "gender analysis" of chosen health problem.
COMMENTS on the module by lecturers and students	*Please comment*

Gender and Health

Differences between sex and gender

Women and men encounter different experiences during their lifetime that go beyond their biological differences. Biological differences are conditioned by different genetic structure and biochemical and hormonal mechanisms that make females and males differently susceptible to certain health outcomes and diseases. For example, breast cancer is far more prevalent in females than in males, or hypertension, which is more prevalent in female after menopause, due to the loss of protective function of hormones. Men and women age differently, with older women more likely to live longer than men with disabling chronic diseases like diabetes, heart disease and arthritis (UNFPA & HelpAge International, 2012).

However, the vast majority of other health conditions is influenced by societal experiences related to certain sex, i.e. being born as a male or female. These experiences are present throughout the whole lifecycle, from the birth (and sometimes even before birth), through the childhood, adolescence, adulthood, and aging. People are born as male and female, but they learn to be boys and girls, men and women. Therefore, sex (male, female) has to be distinguished from gender (women, men). While sex is genetically and biologically determined, gender is socially constructed identity that shapes many aspects of person's functioning and has implications on health as well. There are historically present gender disparities that are related to power, decision making, and different societal expectations of women and man. These differences are present in every culture, although not to the same extent.

Although gender norms and values are deeply rooted in the culture, they are not fixed and unchangeable. They might evolve over time and may vary substantially in different environments. Thus, the poor health consequences resulting from gender differences and gender inequalities are not static either, and they can be changed.

Cotemporary considerations of gender differences must acknowledge that some people might consider themselves as *transgender* persons, which happens when there is a mismatch between their sexual and gender identity. This population group might experience inequities at different levels. Their characteristics, health outcomes and challenges they met deserve special attention, but they will not be a focus of this article.

Gender and health

Many health issues are linked to gender inequality, such as women's access to high-quality health care, meeting their sexual and reproductive health needs, experiencing gender-based physical and sexual violence, as well as the burden of informal care carried by women. They all lead to measurable deterioration of women's health. However, considerations of gender disparities in health are more than just women's health. Gender disparities in health take into account and analyze the impact of the different life styles, access to resources, risk-taking behavior, and dealing with a peer pressure among men and women.

There are different mechanisms how gender differences might affect health, starting from the early childhood. When resources are limited, in some countries around the world boys might have been given advantage for education in comparison to girls, especially in low income families. In a long run, there are strong evidences that women's education is one of the most important determinants of women's health, but also the health of their offspring (Black et al, 2013). Furthermore, girls in some countries might have been forced into early marriages, before the age of 18, which is almost all countries illegal and absolutely unacceptable, with profoundly negative effects on their well-being, physical and mental health, and especially reproductive health.

Societal norms consistently favor men's position in society relative to women. This often includes tolerant attitudes related to husbands' promiscuity, followed by the lack of use of condoms and preventing women in insisting on its use. It clearly contributes to the spread of HIV that is caused by gender disparities.

Another important example is women's access to healthcare services, which might be compromised if women in some cultures are not allowed to travel alone to visit physician, or if health care services are not accessible to them for various reasons. In general, women in society have fewer financial resources that are important for independent decision making, and they are not empowered enough to make choices that will positively impact their health.

This is especially relevant when gender-based violence is concerned, which is present in all countries all around the world, and almost all cultures. On the other hand, men are more often engaged in risk-taking behavior, as a result of peer pressure, perceived masculinity, and perceived expectations of society. They are related to alcohol consumption, smoking, but also involvement in accidents, and interpersonal injuries. In the past, and still among undereducated groups, smoking is considered as attractive marker of masculinity, which is nowadays reflected in lung's cancer mortality rate being higher for men than women. However, in the future this trend might change, since many women initiated smoking, but they are quitting less successfully then men (Djikanovic et al, 2010).

Gender in(equity)

Above mentioned gender disparities in health are results of gender inequity and inequality. Therefore, it is important to define these terms and their opposites (gender equity and gender equalities). According to the definitions of World Health Organization, *gender equity* refers to "fairness and justice in the distribution of benefits and responsibilities between women and men" (WHO, 2009). This concept recognizes that women and men

have different needs and strengths, and that these differences should be identified and addressed to rectify the imbalance between the sexes. Gender inequities are unfair and avoidable; they lead to inequities in health outcomes, so use of sex-disaggregated data, additionally stratified for age and other relevant social stratifications, is an imperative in reporting population health indicators, as well as monitoring and evaluation of the interventions that aim to improve health or health-related behaviour. Prerequisite for achieving health equity is addressing gender-based discrimination in policies and practices at all levels.

Gender equality is "the absence of discrimination (on the basis of a person's sex) in providing opportunities; in allocating resources and benefits, or in access to services" (WHO, 2009). Clearly, these discrimination are presented in all countries around the world, although to a significantly different extent, which is mainly associated with the level of development of civil society and respect for human rights in particular society.

Prior to addressing gender inequalities, it is important to conduct gender analysis. *Gender analysis* "identifies, analyses and informs action to address health inequalities that arise from the different roles of women and men, or the unequal power relationships between them, and the consequences of these inequalities on their health" (WHO, 2009). Gender analysis is required since people are born female or male but they learn to be girls and boys, who grow into women and men, which is a part of their gender identity and determines gender roles. A major strategy to implement gender equality is *gender mainstreaming* (Beijing, 1995).

Gender mainstreaming

Gender mainstreaming was defined by the UN Economic and Social Council as "the process of assessing the implications for women and men of any planned action, including legislation, policies or programs, in any area, and at all levels. It is a strategy for making the concerns and experiences of women as well as of men an integral part of the design, implementation, monitoring, and evaluation of policies and programs in all political, economic, and societal spheres, so that women and men benefit equally, and inequality is not perpetuated. It is the ultimate goal of mainstreaming to achieve gender equality" (United Nations, 1997). Gender mainstreaming is very important in the education of future health professionals, since it is a long-term strategy that aims at eliminating gender bias in existing routines in health care, for which involvement of regular actors within the organization is required (Verdonk et al, 2008).

Case studies

- Case study on gender differences in health in Canada:
  Denton M, Prus S, Walters V. (2004) Gender differences in health: a Canadian study of the psychosocial, structural and behavioural determinants of health. *Social Science and Medicine*, 58 (12), 2585-2600.

- Case study on gender mainstreaming in medical education in the Netherlands:
  Verdonk P, Benschop YW, De Haes JC, Lagro-Janssen AL. (2008) Making a gender difference: case studies of gender mainstreaming in medical education. *Medical Teacher* 30, e194-201.

• Review on "women's health approach" and "gender inequality" in relationship with health sector reforms in developing countries:
Standing H. Gender and Equity in Health Sector Reform Rrogrammes: A Review. (1997) *Health Policy and Planning,* 12(1), 1-18.

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WHO (2007). Engaging men and boys in changing gender-based inequity in health: Evidence from programme interventions. Geneva. Available at: http://www.who.int/gender/documents/Engaging_men_boys.pdf?ua=1

Title:	R 2.7 STRUCTURAL AND SOCIAL VIOLENCE
Module information	The module may be structured according to the European Credit Transfer System (ECTS), corresponding per ECTS to 25-30 hours student workload (thereof up to 10 contact hours of lecturing/supervision). As part of an academic degree program, the module may be worked into a Masters Curriculum in Global Health with corresponding admission and course completion requirements. Equally the module may also be incorporated into a DrPH (Doctoral program in Public Health) curriculum in which course specifics remain constant but where perspectives are broadened through increased emphasis on relevant readings and calls for ground breaking, context-specific case studies. *Note: Entrance requirements are to be determined by the institution offering the module.*
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Key words	Structural and social violence, armed conflicts, human rights, public health approach, structural interventions, multilevel prevention.
Topics	Theoretical and conceptual basis is provided for understanding structural and social violence, collective violence and armed conflicts as a public health problem: definitions, typology, burden, context, root causes and risk factors, public health approach, structural interventions and multilevel prevention. General overview of public health approach, ecological model and human rights approach is presented. The Module also explains the impact of structural and social violence on health, human rights, the role of the health sector and suggests a number of practical approaches for prevention and policy intervention.
Learning objectives	After completing this module students and public health professionals should have improved their knowledge to understand the human rights, nature, context, root causes and risk factors, burden and consequences of the structural and social violence and armed conflicts; to become familiar with the use of the ecological model and the public health approach; and to be able to identify the multilevel evidence-based programmes and structural interventions for violence prevention.
Teaching methods	Lectures, interactive small group discussions, role play, case studies, documentaries, international field practice, literature review, and critical reading will be applied.
Who should apply	Those who pursue an international career in public health management, policy development, research, advocacy, and safety promotion.
Career opportunities	Teaching and/or research careers in academic environments; leadership positions in the health care sector, policy makers,

	private industry and Non-Governmental Organizations; free lance consulting.
Assessment of students	Report on international field practice, group work, seminar paper and case problem solving presentations.
COMMENTS on the module by lecturers and students	*Please comment*

Structural and social violence

Theoretical background and definitions

The World Health Organization (WHO). provides the most comprehensive definition of violence defining it as (Krug et al., 2002).: The intentional use of physical force or power, threatened or actual, against oneself, another person, or against a group or community, that either results in or has a high likelihood of resulting in injury, death, psychological harm, maldevelopment or deprivation. Thus, ‘‘the use of physical force or power’’ should be understood to include neglect and all types of physical, sexual and psychological abuse, as well as suicide and other self-abusive acts. This definition associates intentionality with the committing of the act itself, irrespective of the outcome it produces.

Violence can be broadly divided into three broad categories – direct violence, structural violence and cultural violence: Violence, as defined in the dictionary of human geography, “appears whenever power is in jeopardy” and “in and of itself stands emptied of strength and purpose: it is part of a larger matrix of soci-political power struggles” (Hyndman, 2009).

Structural violence, a term coined by Johan Galtung (Galtung, 1969). and by liberation theologians during the 1960s, describes social structures—economic, political, legal, religious, and cultural—that stop individuals, groups, and societies from reaching their full potential. It refers to a form of violence where some social structures or social institutions may harm people by preventing them from meeting their basic needs (Farmer et al., 2006). In its general usage, the word violence often conveys a physical damage; however, according to Galtung, it is the “avoidable impairment of fundamental human needs or…the impairment of human life, which lowers the actual degree to which someone is able to meet their needs below that which would otherwise be possible” (Galtung, 1993). As it is avoidable, structural violence is a high cause of premature death and unnecessary disability Gilligan (1997). defines structural violence as "the increased rates of death and disability suffered by those who occupy the bottom rungs of society, as contrasted with the relatively lower death rates experienced by those who are above them." Gilligan largely describes these "excess deaths" as "non-natural" and attributes them to the stress, shame, discrimination, and denigration that results from lower status. Because structural violence affects people differently in various social structures, it is very closely linked to social injustice and the social machinery of oppression (Farmer 2004, Farmer et al. 2006). Disparate access to resources, political power, education, health care, and legal standing are just a few examples.

Cultural violence refers to aspects of a culture that can be used to justify or legitimize direct or structural violence, and may be exemplified by religion and ideology, language and art, empirical and formal science (Galtung 1990). Cultural violence makes direct and structural violence look or feel "right", or at least not wrong, according to Galtung. The study of cultural violence highlights the ways the act of direct violence and the fact of structural violence are legitimized and thus made acceptable in society. One mechanism of cultural violence is to change the "moral color" of an act from "red/wrong" to "green/right", or at least to "yellow/acceptable" (Galtung, 1990). Human rights are moral principles or norms that describe certain standards of human behaviour, and are regularly protected as legal rights in national and international law They are commonly understood as inalienable fundamental rights "to which a person is inherently entitled simply because she or he is a human being," and which are "inherent in all human beings" regardless of their nation, location, language, religion, ethnic origin or any other status. They are applicable everywhere and at every time in the sense of being universal and they are egalitarian in the sense of being the same for everyone (Sepúlveda et al., 2004). Human rights are rights (as freedom from unlawful imprisonment, torture, and execution). regarded as belonging fundamentally to all persons (Merriam-Webster dictionary, 2014). The rights that everyone should have in a society, including the right to express opinions about the government or to have protection from harm (Macmillan Dictionary, 2014).

The concept of human rights in patient care provides a framework for addressing abuses in health settings and holding governments accountable for general human rights principles to the context of patient care, including both patients and providers; The application of the human rights framework to patient care calls for a range of measures, such as strengthened laws, policies, and guidelines to protect the human rights of patients and providers; careful documentation of abuses within health care service delivery and legal remedies to address them; and training for patients and providers on the concept and application of human rights to patient services. In particular, it is critical to integrate human rights training for health care providers at all levels (*Cohen, 2015).*

Although, WHO does not specifically define societal violence, Kelly (2014). suggests that societal violence is a blending of community and social violence. Societal violence can range from an interpersonal act of violence between two people on the playground to a mass shooting by one person. These examples of violence can have a profound effect on families, local communities, and society as a whole.

However, the definitions above are overlapping and “as violence spreads and assumes unheard-of forms, it becomes difficult to name in contemporary language”. In facing such a truth, it is prudent to reconsider violence as ‘horrorism’, as Cavarero proposes – “Horrorism – as though ideally all the…victims, instead of their killers, ought to determine the name” (Cavarero, 2009).

The typology developed by WHO (Krug et al., 2002 divides violence into three broad categories according to characteristics of those committing the violent act: self-directed violence (upon himself or herself).; interpersonal violence (violence inflicted by another individual or by a small group of individuals).; collective violence (inflicted by larger groups such as states, organized political groups, militia groups and terrorist organizations. These three broad categories are each divided further to reflect more specific types of violence. Figure 1 illustrates the nature of violent acts, which can be physical,

sexual, psychological, involving deprivation or neglect. The horizontal array in Figure 1 shows who is affected, and the vertical array describes how victims are affected.

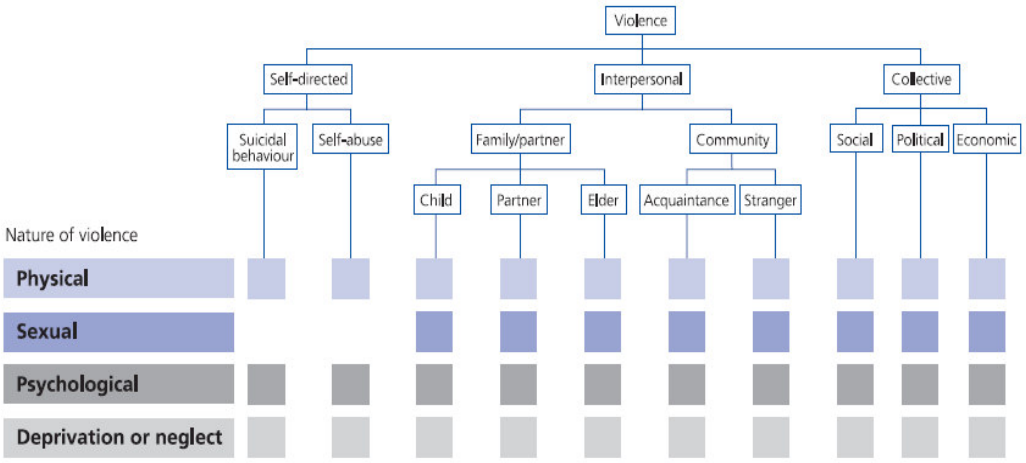
This typology, while imperfect and far from being universally accepted, does provide a useful framework for understanding the complex patterns of violence taking place around the world, as well as violence in the everyday lives of individuals, families, and communities. It also overcomes many of the limitations of other typologies by capturing the nature of violent acts, the relevance of the setting, the relationship between the perpetrator and the victim, and - in the case of collective violence - possible motivations for the violence. However, in both research and practice, the dividing lines between the different types of violence are not always so clear.

Collective violence may be defined as the instrumental use of violence by people who identify themselves as members of a group - whether this group is transitory or has a more permanent identity - against another group or set of individuals, in order to achieve political, economic, or social objectives (Krug et al., 2002). Collective violence can be subdivided into social, political, and economic violence. Unlike the other two broad categories, the subcategories of collective violence suggest possible motives for violence committed by larger groups of individuals or by states. Collective violence that is committed to advance a particular social agenda includes, for example, crimes of hate committed by organized groups, terrorist acts and mob violence. Political violence includes war and related violent conflicts, state violence and similar acts carried out by larger groups. Economic violence includes attacks by larger groups motivated by economic gain – such as attacks carried out with the purpose of disrupting economic activity, denying access to essential services, or creating economic division and fragmentation. Clearly, acts committed by larger groups can have multiple motives (Krug et al., 2002). Various forms of collective violence have been recognized (WHO, 2012), including:

- Wars, terrorism, and other violent political conflicts that occur within or between states.
- State-perpetrated violence such as genocide, repression, disappearances, torture, and other abuses of human rights.
- Organized violent crime such as banditry and gang warfare.

Political violence, evidently, often gives a part for the state to play. When “modern states not only claim a monopoly of the legitimate means of violence; they also routinely use the threat of violence to enforce the rule of law” the law not only becomes a form of violence but is violence (Hyndman, 2009). War is a state of prolonged violent large-scale conflict involving two or more groups of people, usually under the auspices of government. It is the most extreme form of collective violence (Smihula, 2013). War is fought as a means of resolving territorial and other conflicts, as war of aggression to conquer territory or loot resources, in national self-defence or liberation, or to suppress attempts of part of the nation to secede from it. We know also ideological, religious and revolutionary wars. The killing fields and the genocide as a whole are one of the many contemporary examples of state sponsored violence (Ringer, 2002). People were murdered with impunity because it was not considered a crime.

Figure 1: A typology of violence
(Source: World Report on Violence and Health, WHO, 2002 (Krug et al. 2002).



Burden of violence

Injuries and violence are a threat to health in every country of the world accounting for 9% of global mortality – more than five million deaths every year. Eight of the 15 leading causes of death for people between the ages of 15 and 29 years are injury-related: road traffic injuries, suicides, homicides, drowning, burns, war injuries, poisonings and falls (WHO, 2008). The burden of disease due to injuries, particularly road traffic accidents, interpersonal violence, war and self-inflicted injuries is expected to rise considerably by the year 2020 (WHO, 2012). WHO data in 2008 show that - on a global level - violence is a substantial public health problem. Globally, deaths due to violence exceed that of malaria, traffic injuries and tuberculosis (WHO, 2014).

There are major variations in violence mortality rates between different regions in the world and between different gender and age groups. Overall, violence is among the leading causes of death worldwide for people aged 15–44 years (Krug et al., 2002). Over 70% of the global mortality due to interpersonal violence occurs among young persons aged between 15-44 years (WHO, 2008; WHO, 2012). Violent deaths in low-to-middle income countries occur at more than twice the rate of high income countries (32.1 vs. 14.4 per 100.000)., due to a greater number and variety of hazards that expose inhabitants to violence, and fewer resources for violence prevention, the treatment of resulting injuries, and victim rehabilitation (Krug et al., 2002; WHO, 1996). In low to middle income countries homicide and war are dominant, while in high income countries suicides predominate (WHO, 1999; Tozija et al., 2006; Tozija et al., 2007).

The region with the largest number of deaths is the African region. In the African region and Latin America homicide rates are nearly three times greater than suicide rates whereas in the European and South-East Asia region suicide rates exceed homicide rates by a factor of two, in the Western Pacific region even by a factor of 5 (WHO, 2012). Interpersonal violence mortality rates are highest among males in low- and middle-income countries of Latin America and Africa. Females in Africa have the highest interpersonal violence mortality rates.

Deaths are only the most visible part of the interpersonal violence iceberg, and for every death there are many more non-fatal cases. Of the hundreds of victims that survive, many require emergency medical treatment and a significant proportion suffer long term physical and mental health consequences (Tozija et al., 2005). Interpersonal violence occurs in the home and in public settings (such as streets, bars, clubs, workplaces, schools, hospitals and residential care facilities). It is widespread, but discrete and far less visible than the collective violence of terrorism and war. The highest rates of interpersonal violence occur in the poorest communities with the fewest resources to cope with financial, social and psychological strains (Krug et al., 2002). Unfortunately, precise national and international estimates of non-fatal violence are missing, partly because of under-reporting due to a range of factors, including inadequate victim services in the health and criminal justice systems (Tozija, 2009). Violence can have a number of negative effects on the health of those involved such as physical, mental health, behavioural consequences and reproductive consequences (WHO, 2012).

There are direct and indirect violence related costs to the individual, family, community and society as a whole (Tozija, 2013). The majority of victims of violence are in the most economically productive age range of 15-44 years, and for every one of the thousands of millions of dollars spent on direct medical care for victims, many more financial resources are lost due to indirect factors such as time away from work and disruption of family routines. The direct costs and indirect costs of lost productivity due to interpersonal violence represent an enormous economic burden to victims, families and society. The economic burden of interpersonal violence in the USA has been estimated to be 3.3% of GDP, while in England and Wales the annual total costs from violence are estimated at US$ 40.2 billion (WHO, 2007).

Examples of violence

Structural violence is often a major determinant of the distribution and outcome of disease, but is it not in wider circulation in medicine and public health. One reason is that medical professionals are not trained to make structural interventions. Physicians can rightly note that structural interventions are “not their job.” Yet, since structural interventions might arguably have a greater impact on disease control than do conventional clinical interventions, we would do well to pay heed to them (Farmer et al., 2006). As long as medical services are sold as commodities, they will remain available only to those who can purchase them. National health insurance and other social safety nets, including those that guarantee primary education, food security, and clean water, are important because they promise rights, rather than commodities, to citizens. The lack of these social and economic rights is fundamental to the perpetuation of structural violence (Farmer, 2005). Structural violence and direct violence are said to be highly interdependent, including family violence, racial violence, hate crimes, terrorism, genocide and war. Institutionalized elitism, ethnocentrism, classism, racism, sexism, heterosexism and ageism are some examples of structural violence as proposed by Galtung (1993).

Often structural violenc, such as racism and sexism, has become such a common occurrence in society that it is almost invisible. Despite this fact, sexism and racism have been the focus of intense cultural and political resistance for many decades (Farmer et al., 2006).

Structural violence affects the availability of health care in the sense that physicians often need to pay attention to broad social forces (racism, gender inequality, classism, etc.). to determine who falls ill and who will be given access to care. It is more likely for structural violence to occur in areas where biosocial methods are neglected in a country's health care system.

The concept of structural violence is used to show how medical professionals are not trained to understand the social forces behind disease, nor are they trained to deal with or alter them. Structural violence is an issue not only in developing countries, but also in North America. For example, it has had a significant impact on diagnosis and treatment of AIDS in the United States. A study by Moore et al. (1990). found that blacks had a significantly smaller chance of receiving treatment than whites. Farmer et al. (2006). claim that "structural interventions" are the only solution.

Structural violence also exists in the area of mental health where systems are designed to ignore the lived experiences of people with mental illnesses when making decisions about services and funding without consulting with the ill, including those who are illiterate, cannot access computers, do not speak the dominant language, are homeless, are too unwell to fill out long formal surveys, or are in locked psychiatric and forensic wards. Online-only consultation may be inappropriate for people with a lived experience of mental illness. Structural violence is also apparent when consumers in developed countries die from preventable diseases 15–25 years earlier than do people without a lived experience of mental health.

Kelly in her book (Kelly, 1984) presents examples of structural violence and its burden: “A third of the 2 Billion people in the developing countries are starving or suffering from malnutrition. Twenty-five per cent of their children die before their fifth birthday. Less than 10 per cent of the 15 million children who died this year had been vaccinated against the six most common and dangerous children's diseases. Vaccination costs £3 per child. But not DOIng so costs us five million lives a year. These are classic examples of structural violence”.

In recent years, an enormous amount of attention has been focused on social violence, in particular violence that affects the nation’s youth. Violent acts, such as the shootings at Columbine (1999)., Virginia Tech (2007)., Aurora Movie Theater (2012)., and more recently at the Sandy Hook Elementary school (2013). have had a profound effect on today’s youth and adults. These shootings are examples of social violent acts; however, other forms of social violence occur every day throughout the United States (Kelly, 2014).

According to the US Bureau of Justice Statistics (2013). from 1992 to 2011, there was a 49% decrease in homicides. In addition, from 1994 to 2011, there was a decrease in intimate partner violence (IPV). for females (72%). and for males (64%). Homicides among youth declined by 22%; however, this age group still had the highest homicide rate. Despite the decrease of homicides, there was actually an increase in violent victimization (rape, sexual assault, robbery, simple and aggravated assault). for those 12 years and older.

Researchers have explored the influence social violence has on the victims. For example, Graham-Bermann & Seng (2005). and Kelly (2010). found that exposure to social violence has an immediate and direct direct negative impact on youths’ physical and mental health. Further, there is evidence showing that the consequences of violence can continue to

have a lasting impact on their adult lives (Scarpa 2001). The lasting effect of exposure to violence on youth in our society warrants and deserves attention from all healthcare professionals.

Wars grab headlines, but the individual risk of dying violently in an armed conflict today is relatively low. For example, between 1976 and 2008, African Americans were victims of 329,825 homicides (BJS, 2013; US Census Bureau, 2012). Although there is a widespread perception that war is the most dangerous form of armed violence in the world, between 2004 and 2007 a person living in a conflict-affected country had a risk of dying violently in the conflict of about 2.0 per 100,000 population. This compares to the average world homicide rate of 7.6 per 100,000. This highlights the value of accounting for all forms of armed violence rather than an exclusive focus on war related violence. Certainly, there are variations in the risk of dying from armed conflict at the national and subnational level, and the risk of dying violently in a conflict in specific countries remains extremely high. In Iraq, for example, the direct conflict death rate for 2004–07 was 65 per 100,000 people per year and, in Somalia, 24 per 100,000 people. This rate even reached peaks of 91 per 100,000 in Iraq in 2006 and 74 per 100,000 in Somalia in 2007 (Krause et al., 2008).

The genocide in Cambodia in the 1970s, under the Khmer Rouge and Pol Pot, ended with the murder of over two million Cambodians - 25% of the Cambodian population. About fourteen thousand of these people were murdered at Choeung Ek, an extermination camp that came to be called the Killing Fields. Murdered arbitrarily – a person could be killed for wearing glasses which associated it with intellectuals, and so, part of the enemy. The killing fields and the genocide as a whole are one of the contemporary examples of state sponsored violence (Ringer, 2002). People were murdered with impunity because it was not considered a crime.

Since the Industrial Revolution, the lethality of modern warfare has grown. World War I casualties were over 40 million and World War II casualties were over 70 million. Nevertheless, the actual deaths from war may have decreased compared to past centuries. In *War Before Civilization* Keeley (2004). calculates, that 87% of tribal societies were at war more than once per year, and some 65% of them were fighting continuously. The attrition rate of numerous close-quarter clashes, which characterizes endemic warfare, produces casualty rates of up to 60%, compared to 1% of the combatants as is typical in modern warfare. "Primitive Warfare" of these small groups or tribes was driven by the basic need for sustenance and violent competition. Their environment dictates the size of their groups for the most part and they would include only as many people as the tribe could provide for. The small group size also made moving much easier if needed, once resources were becoming scarce in the area.

Prevention and intervention – different approaches

Violence is an outcome of a complex interaction of many factors at different levels: individual, relationship, biological, social, cultural, economic, political and environmental factors. Understanding how these factors are related to violence is one of the important steps in the public health approach to prevent violence on several different levels at once (Tozija et al., 2013).

There are a number of factors that contribute to violence at all levels: *Individual level*: demographic factors, psychological and personality disorders, history of violent

behaviour and having experienced abuse; *Relationship/family level*: poor parenting, marital conflict, friends who engage in violence.; *Community level*: concentration of poverty, high residential mobility, high unemployment, social isolation and illicit drug trade; *Social level*: multiple social inequalities, norms that support violence, availability of means, weak police and criminal justice system.

The *human rights approach* is based on the obligations of states to respect, protect and fulfill human rights and therefore to prevent, eradicate and punish violence. It recognizes violence as a violation of many human rights: the rights to life, liberty, autonomy and security of the person; the rights to equality and non-discrimination; the rights to be free from torture and cruel, inhuman and degrading treatment or punishment; the right to privacy; and the right to the highest attainable standard of health. These human rights are enshrined in international and regional treaties and national constitutions and laws, which stipulate the obligations of the state, and include mechanisms to hold states accountable. The Convention on the Elimination of All Forms of Discrimination Against Women, for example, requires that countries party to the Convention take all appropriate steps to end violence against women. The Convention on the Rights of the Child in its Article 19 states that States shall take all appropriate legislative, administrative, social and educational measures to protect the child from all forms of physical or mental violence, injury or abuse, neglect or negligent treatment, maltreatment or exploitation, including sexual abuse, while in the care of parent(s), legal guardian(s) or any other person who has the care of the child.

The *public health approach* is a science-based, multi-disciplinary approach for understanding and preventing violence. The approach is intended to help coordinate actions by representatives of the many different sectors relevant to violence prevention, including welfare, social work, education, employment, health, police and justice. The public health approach consists of four steps: describing and monitoring the problem; identifying the risk and protective factors; the development and evaluation of prevention programmes; and the implementation and dissemination of these programmes (Krug et al., 2002). Information arising from activities in steps 1 and 2 is vital for developing and evaluating interventions (step 3)., and for widespread implementation and dissemination of proven and promising strategies (step 4). Individual violence prevention programmes will usually include activities relevant to only some of the steps, while national-level violence prevention policies and plans should ensure that all steps are adequately addressed, and that programmes dealing with the different steps are fully informed about the data and evidence from each of the other steps (Tozija, 2009).

The *ecological model* developed in the World report on violence and health is used to capture this complexity and understand the root causes and risk factors of violence as a basis for developing prevention strategies at four levels: individual, social relationship, community, and social (Krug et al., 2002; Sethi et al., 2004).: “Whilst some risk factors may be unique to a particular type of interpersonal violence, more often the various types of violence share a number of risk factors”. To address the multilevel risk factors, prevention programmes also need to operate on multiple levels (Tozija et al., 2012). The ecological model serves a dual purpose in this regard, it explores the relationship between individual and contextual factors and considers violence as the product of multiple levels of influence on behaviour: each level in the model represents a level of risk and each level in the model can also be thought of as a key point for intervention (Krug et al., 2002).

Evidence shows strong relationships between levels of violence and potentially modifiable factors such as concentrated poverty, income and gender inequality, the harmful use of alcohol, and the absence of safe, stable, and nurturing relationships between children and parents. Scientific research shows that strategies addressing the underlying causes of violence can be effective in preventing violence (WHO, 2010). However, the challenge is obvious: many countries cannot afford to stop the harmful cycle of structural violence. (Farmer et al. (2006) argue that the major flaw in the dominant model of medical care is that medical services are sold as a commodity, remaining only available to those who can afford them. Medical professionals still continue to operate with a focus on individual lifestyle factors rather than general socio-economic, cultural, and environmental conditions. One response is to incorporate medical professionals and to acknowledge that active structural interventions are necessary to address the real public health issues.

Multilevel prevention strategies

Traditionally public health interventions are characterized in terms of three levels of prevention, which relate back to the temporal dimension of the Haddon Matrix (WHO, 2012; Haddon 1980). *Primary prevention* involves strategies and interventions to stop violent events from taking place, and are related to the time before violence actually occurs (pre-event phase).; *Secondary prevention* includes strategies aimed at minimizing harm that occurs during and/or is following a violent event and preventing re-victimization and re-offending; *Tertiary prevention* includes all activities for the treatment and rehabilitation of victims and perpetrators and facilitating their re-adaptation to society (post-event phase).

Another way of defining prevention activities focuses on the target group of interest on three levels: *Universal interventions* that target everyone within the population without regard to their differences in the risk of becoming a victim or perpetrator (e.g. the enactment and enforcement of laws to regulate the consumption of alcohol and firearm ownership).; *Selective interventions* target people at enhanced risk of violence only (e.g. parent training and home visitation for high-risk families in selected low-income settings).; *Indicated interventions* are applied to individuals and groups that have already been involved in violent behaviour (as perpetrators and/or victims). in an effort to reduce re-victimization and repeat offending.

Passive versus active interventions: *Passive interventions* are those aimed at preventing violence where the individual is not required to take any action and are independent of human behaviour; *Active interventions* are those where an individual's behaviour is involved and is important for their success. *Community level prevention* includes raising public awareness about violence, stimulating community action, and providing care and support for victims, addressing community level risks and the physical and social characteristics of settings such as schools, hospitals, neighbourhoods and workplaces (Krug et al., 2002). *Social level prevention* strategies include changes in legislation, policies, and the larger social and cultural environment in order to reduce the risk of violence both in various settings as well as in entire communities. Governments may launch broad programmes to benefit society, which may be aimed at reducing interpersonal violence either directly or indirectly such as: reduction of income inequality, de-concentrating poverty, enforcing laws prohibiting the illegal transfer of guns, strengthening and improving police and judicial systems, reforming educational systems, establishing job creation programmes for the unemployed (Krug et al., 2002).

The aim of violence prevention programmes is to reduce the amount and severity of violence in the target population. It is important that the development of prevention strategies is evidence-based. That is, the design of an intervention needs to be based on accurate data concerning the problem and its risk factors (Tozija et al., 2013). The effectiveness of interventions also needs to be rigorously evaluated and reviewed to determine whether they have worked and whether they continue to work. As funding for the development and implementation of prevention strategies is usually limited, it is important to check that the money is being well spent (Butchart et al., 2004; Sethi et al., 2004). Further, it needs to be kept in mind that while an intervention may work effectively in one community, it may not readily transfer to another community with different culture and economy.

Violence prevention work should therefore be conducted at different levels by a range of international, national, local government and civic groups. The United Nations, world economic agencies, human rights organizations, national governments, non-governmental agencies, and concerned individuals have initiated prevention activities. Some outstanding successes in preventing violence have been well evaluated and well documented, whereas others, particularly those in developing countries, remain unevaluated and poorly described (Butchart et al., 2004).

Interpersonal violence prevention programmes may focus directly on one or two risk factors, or may address many different risk factors target one or more at-risk environments, one or more at-risk groups, and sub-groups or whole populations, and one or more different ecological levels at the same time (Butchart et al., 2004). Some programmes have violence prevention as their only objective, while in others the prevention of violence is one among many aims, such as community empowerment programmes and pre-school enrichment programmes that, while aimed primarily at increasing education performance, have also been demonstrated to be effective in reducing youth violence and the risk factors for youth violence (Tozija, 2009). The health sector has primary responsibility for carrying out interventions and monitoring their impact, advocate, collaborate, evaluate. If the primary responsibility for implementation lies with another sector, health has a crucial role in calling for the intervention, collaborating with other sectors in its implementation and monitoring the intervention's impact; also to discourage continued investments in interventions that have been shown to be ineffective or counterproductive to avoid waste of scarce resources (WHO, 2007; Tozija et al., 2006). Countries such as Haiti and Rwanda have implemented structural interventions with positive outcomes. Examples include prohibiting the commodification of the citizen's needs, such as health care, ensuring equitable access to effective therapies, and developing social safety nets. These initiatives increase citizen's social and economic rights, thus decreasing structural violence. However, for these structural interventions to be successful, medical professionals need to be capable of executing such tasks. When planning responses to violent conflicts, recommended approaches include assessing at an early stage who is most vulnerable and what their needs are, co-ordination of activities between various players and working towards global, national and local capabilities so as to deliver effective health services during the various stages of an emergency (Krug et al., 2002).

Exercise

In this exercise the students will work in small groups and will have three tasks:

Task 1:The students will look at publications on structural and social violence and armed conflicts and discuss the different methodologies used to study and address this problem.

Task 2:The students will apply the human rights approach, the public health approach, and the ecological model to analyse the situation in their countries regarding the multilevel root causes and risk factors for structural and social violence and armed conflicts.

Task 3: Case problem analysis will be used for review the existing and potential evidence-based multilevel prevention measures for structural and social violence and armed conflicts.

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Title:	R 2.8 DISASTER PREPAREDNESS
Module information	The module may be structured according to the European Credit Transfer System (ECTS), corresponding per ECTS to 25-30 hours student workload (thereof up to 10 contact hours of lecturing/supervision). As part of an academic degree program, the module may be worked into a Masters Curriculum in Global Health with corresponding admission and course completion requirements. Equally the module may also be incorporated into a DrPH (Doctoral program in Public Health) curriculum in which course specifics remain constant but where perspectives are broadened through increased emphasis on relevant readings and calls for ground breaking, context-specific case studies. *Note: Entrance requirements are to be determined by the institution offering the module.*
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Key words	Disaster, emergencies, disaster management, disaster preparedness, public health emergency, public health emergency preparedness, public health capabilities preparedness, hospital preparedness plan.
Topics	Disasters and major emergencies affect people's lives in many different aspects – their health, security, housing, access to food, water and other life commodities. Therefore, it is vital to strengthen the disaster/emergency preparedness as well as the response to different natural and man-made disasters. The disaster management plays a crucial role in the mitigation of disaster consequences. The aim of the disaster management is to support the countries in building their disaster response capacities. The disaster management has specific roles in the pre-event and in the post-event phases. The main element of the pre-disaster period is the mitigation i.e. preparedness as a key element of the overall mitigation process. The main goal of preparedness is to create readiness, which is described as an ability to quickly and appropriately respond when required. Different emergencies/disasters result in different consequences. Therefore, any preparedness is based on the early and initial risk assessment. The preparedness process would be created as a generic preparedness i.e. "all-hazard preparedness" or "specific" hazard's related preparedness process (preparedness for natural disasters, biological and chemical attacks and accidents, nuclear and radiological preparedness, terrorist attacks etc.). The challenge of the preparedness planning process is to put in place systematic capacities such as: legislation, plans, coordination mechanisms and procedures, institutional capacities and budgets, skilled personnel and information for measurable reductions of loss and damages. So, special attention should be paid to the preparedness of the critical

	infrastructure - health, food, water, finance, information and communication technology, safety, transport, manufacturing etc. The preparedness must be supported by formal institutional, and should be based on their legal and budgetary capacities. According to the responsibility for implementation and the possible recipient/user, the preparedness actions have two components: governmental and population based preparedness. The governmental preparedness is composed of five main categories of activities: planning (development of the Emergency Operation Plans – EOPs), resources/equipment, training, exercises and statutory authority. The preparedness of the public (individuals and business community) is consisted of the actions taken towards enabling ordinary citizens to help themselves, their families, their neighbors, but also helping complete strangers. Public health emergencies are multidimensional, dynamic situations that overwhelm existing healthcare and public health infrastructure, which consequence is adverse community health effects. The preparedness for all health emergencies and the ability to and respond to them, require up-to-date knowledge and skills and prepared workforce to handle all the challenges and to protect the health of citizens. Public health emergency preparedness activities are all activities taken by healthcare and public health organizations to ensure effective response to emergencies. The public health preparedness cycle is the same as the disaster preparedness cycle. Public health functions during the emergencies are derived from and support the accomplishment of the10 essential public health services. There are 15 public health and health care preparedness capabilities that can help the development of the public health emergency preparedness plan. The establishment of early-warning systems is a key component of the public health emergency preparedness plans. Usually, now, these systems are based on surveillance, even though in the past decades the mathematical modeling was a more frequently used tool for prediction of dispersion of the harmful agent in the environment and the exposure assessment of the population to the harmful agent. An integral part of the overall public health emergency preparedness plan is the hospital preparedness plan, which has its own specificities: planning of the emergency/intensive care units; fatality management; infection control and personal protective measures; isolation/quarantine procedure; decontamination; transport of samples and patients and ethical considerations during the emergency. The safety of the hospital infrastructure has to be a part of the preparedness planning.
Learning objectives	To understand the concepts and the language of disaster and disaster management; to learn how to improve “all-hazard” or “specific” hazard preparedness planning, what are the components of the preparedness process, what the governmental responsibilities are and how the public preparedness can be improved. Specific learning objective of this module is to teach students what are the public health emergencies and the specifics of the public

	health emergency preparedness planning, with special focus on the hospital preparedness process and related ethical considerations.
Teaching methods	Lectures, interactive small group discussions, case studies, and international field practice.
Who should apply	Those who pursue an international career in public health management, policy development, research or advocacy.
Career opportunities	Teaching and/or research careers in academic environments; leadership positions in the health care sector, policy makers, private industry and Non-Governmental Organizations; freelance consulting
Assessment of students	• Four exercises (25%). • "Term-paper" (20%) • Oral case simulations (20%): 8 scenarios will be distributed between the students with a maximum of 2 students presenting per scenario • Final written exam, closed book (35%), based on multiple choice questionnaire (MCQ)
COMMENTS on the module by lecturers and students	*Please comment*

Disaster and public health emergencies preparedness – what do they have in common?

"In order to mitigate the losses and to prevent disaster situation local community, country and the international environment should be prepared" – Prof. Luka Kovacic, a conscientious and gifted teacher, diligent and organized scientist, and professor who was always ready to help both students and colleagues.

Introduction

The term disaster has its roots in the Latin dis- and astro, meaning "away from the stars" or, in other words, an event to be blamed on an unfortunate astrological configuration. Disasters occur when a hazard risk is realized. There is a caveat to this definition, however: to be considered disastrous, the realized hazard must overwhelm the response capability of a community (On-line Etymology Dictionary).

Disasters are not new phenomena specific for an era of technological development and surely they are not just hydro-meteorological, geophysical, and biological hazards which occurrence is usually connected with a climate change. Time and time again, epidemics and pandemics have resulted in sizable reductions of the world's population. In the fourteenth century, the Bubonic plague (Black Plague) has decreased as much as 50 percent of a population across Europe. Many theoreticians suggest that some of history's greatest civilizations, including the Mayans, the Norse, the Minoans, and the Old Egyptian Empire, had disappeared under the effects of floods, famines, earthquakes, tsunamis, El Niño events, and other widespread disasters. Nowadays, there is a standing that a worldwide

drought in the eighth and ninth centuries caused the fall of the Mayan Empire in Mexico and the Tang Dynasty in China (Fagan, 2009).

Definition and some characteristics of disasters

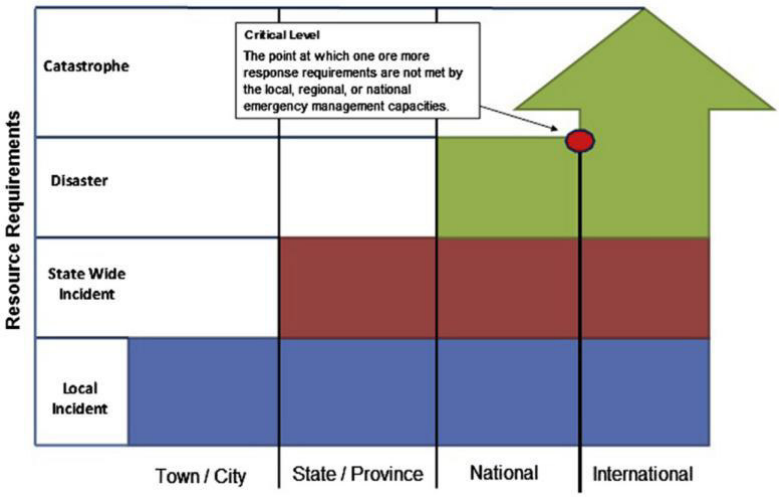
A serious disruption of the functioning of a community or a society involving widespread human, material, economic or environmental losses and impacts, which exceeds the ability of the affected community or society to cope using its own resources is a disaster. The impacts of a disaster may include loss of life, injury, disease and other negative effects on human physical, mental and social well-being, together with damage to property, destruction of assets, loss of services, social and economic disruption and environmental degradation. In contemporary academia, disasters are seen as the consequence of inappropriately managed risk. A disaster is product of a combination of both, hazards and vulnerability, found together at the same place in the same time. Hazards that strike in areas with low vulnerability will never become disasters, as is the case in uninhabited regions. A disaster should be differentiated from a catastrophic event, because coping with a catastrophe needs greater human and material resources and requirements for policy, procedures, and legal modifications, which go beyond conventional planning practice. In most cases, catastrophes exceed national boundaries and have international character.

Disasters are not always limited to a single hazard. Sometimes two or more completely independent disasters occur at the same time; for instance, an earthquake strike during a flood would be a compound disaster. It is more common that one disaster triggers a secondary hazard. Some secondary hazards, such as a tsunami, only occur as a result of a primary hazard, such from earthquakes, volcanoes, or landslides. Compound disasters, which can occur either sequentially or simultaneously with one or more disasters, have a tendency to exacerbate consequences and increase the number of dead, victims and property damage (Kovacic, 2015).

Disasters are measured in terms of the lives lost, injuries sustained, property damaged or lost, and environmental degradation. These consequences are manifested through direct and indirect losses. Direct losses can be measured in terms of money that is directly lost as a result of a damage to a property, equipment and inventory. Indirect losses are those losses which are more difficult to measure in money's value, such as failure of a business because of unexpected changes in the business environment.

The threshold level of the responsibilities of the local/national/international communities in the scope of the required resources for planning and response during the local or statewide incident, disaster, and crisis is shown in Figure 1 (Coppola, 2006).

Figure 1. Planning threshold framework of the incident, disaster and catastrophe



Source: COPPOLA, D. P. 2015 Chapter 5 - Preparedness. *In:* COPPOLA, D. P. (ed.) *Introduction to International Disaster Management (Third Edition).* Boston: Butterworth-Heinemann; page 283

Disasters may be sudden-onset or "creeping." Sudden-onset disasters often happen with little or no warning, and most of their damaging effects are sustained within hours or days (earthquakes, tsunamis, volcanoes, landslides, tornadoes, and floods). Creeping disasters occur when the ability of response agencies to support people's needs degrades over weeks or months, while they can persist for months or years (drought, famine, humanitarian crises, armed conflict, etc.).

Definition of emergency

An event or situation which causes or threatens serious damage to human welfare, deaths and injuries; which causes serious damage to property or the environment or disruption to the community and/or which can seriously damage national or international security is an emergency. Not all emergencies are disasters. Only those that overwhelm response capacity can generate disasters, which mainly depend on the preparedness to respond to the needs of the community during such events.

Emergency events (similarly to disasters) can generally be categorized as planned or unplanned. Furthermore, some events result from natural causes and some from man-made causes. Naturally caused events may be triggered by weather or geological instability. Man-made events may originate from accidents or intentional acts (terrorism). The more predictable events (those resulting from weather or man-initiated accidental causes) may be controlled better than those from less predictable sources (geological occurrences or unintentional man-made disasters).

Is there a difference between a disasters and emergencies and is it important? The key differences between emergencies and disasters are generally twofold—the methods of response and the incident's impact.

The second key difference between the two is their scope of impact. Disasters tend to affect all normal activities in a large geographic area. Emergencies, on the other hand, are more contained, disrupting normal activities in a particular community or a single facility. The following summarizes the key similarities and differences between emergencies and disasters (Laszcz-Davis, 2009).

Table 1.Similaritiies and differences between emergencies and disasters

SIMILARITIES	DIFFERENCES
• Both begin as unexpected occurrences, with little or no warning • Both produce negative effects • Both require immediate response • Both may well have available personnel and resources that are initially overwhelmed by demands for their services • Both have similar goals—save lives, protect property, mitigate impact and hasten recovery	• Differing methods of response • Differing resources available • Differing impacts

In summary, disasters and emergencies can be caused with the occurrence of the same hazard. The preparedness and basic response approaches adopted in addressing emergencies and disasters are similar; however, the incident's scope of impact and resources utilized may well differ.

Definition of hazard

Emergencies and disasters are consequences of the occurrence of a hazard(s). A hazard is a dangerous phenomenon, substance, human activity or condition that may cause health impacts, property damage, social and economic disruption, or environmental damage. Such hazards arise from a variety of geological, meteorological, hydrological, oceanic, biological, and technological sources, sometimes acting in combination. In technical settings, hazards are described quantitatively by the likely frequency of occurrence of different intensities for different areas, as determined from historical data or scientific analysis.

Disasters through numbers

Now more than ever, individuals, communities, organizations, and countries face the risk for serious events such as fires, energy curtailments, explosions, bomb threats, civil disorders, workplace violence, utility failures, earthquakes, severe weather conditions, hazardous chemical spills/releases, vapor clouds, oil/product spills, biological insults, and terrorist threats that can impact life, property, peace, security, and the environment.

In 2015 were reported 346 disasters: 152 floods, 90 storms, 32 droughts, 20 landslides, 19 earthquakes, and tsunamis etc. The economic loss is estimated at 66.5 billion US$. With 22,773 deaths in 2015, the overall disaster mortality was considerably down on the ten-year (2005-2014) average of 76,424 deaths. In 2015, a total of 98.6 million people

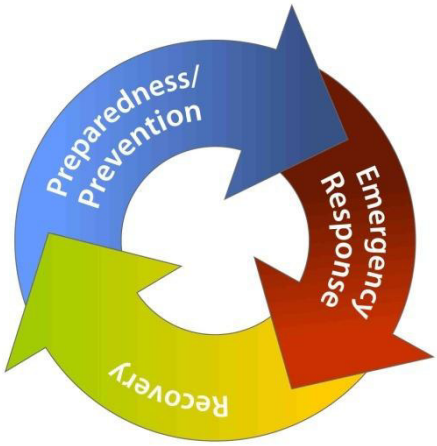
were affected by disasters. A remarkable fact is that 50.5 million people were affected in major droughts, which is well above the ten-year average of 35.4 million. Traditionally, the largest number of casualties comes with the floods in any given year, however, last year, floods came in second place when 152 floods affected 27.5 million people and claimed 3,310 lives. 2015 was the hottest year on record and this contributed to a major loss of lives from heat waves. Overall, 7,346 deaths were recorded and 1.2 million people were affected by extreme temperatures in 2015 (IFRC, 2015). Such decreasing figures (except for droughts) may indicate that the disaster preparedness and early warnings have demonstrated their effects, however further investigation should be executed to prove such observation.

Disaster management and disaster management cycle

Disaster management is defined as knowledge and capacities developed by governments, communities and individuals to effectively anticipate, respond to, and recover from likely, imminent or current hazard events or emergency situation. The aim of disaster management is to reduce (avoid, if possible) the potential losses from hazards, to prepare and to assure prompt and appropriate response during the disaster and to achieve rapid and durable recovery.

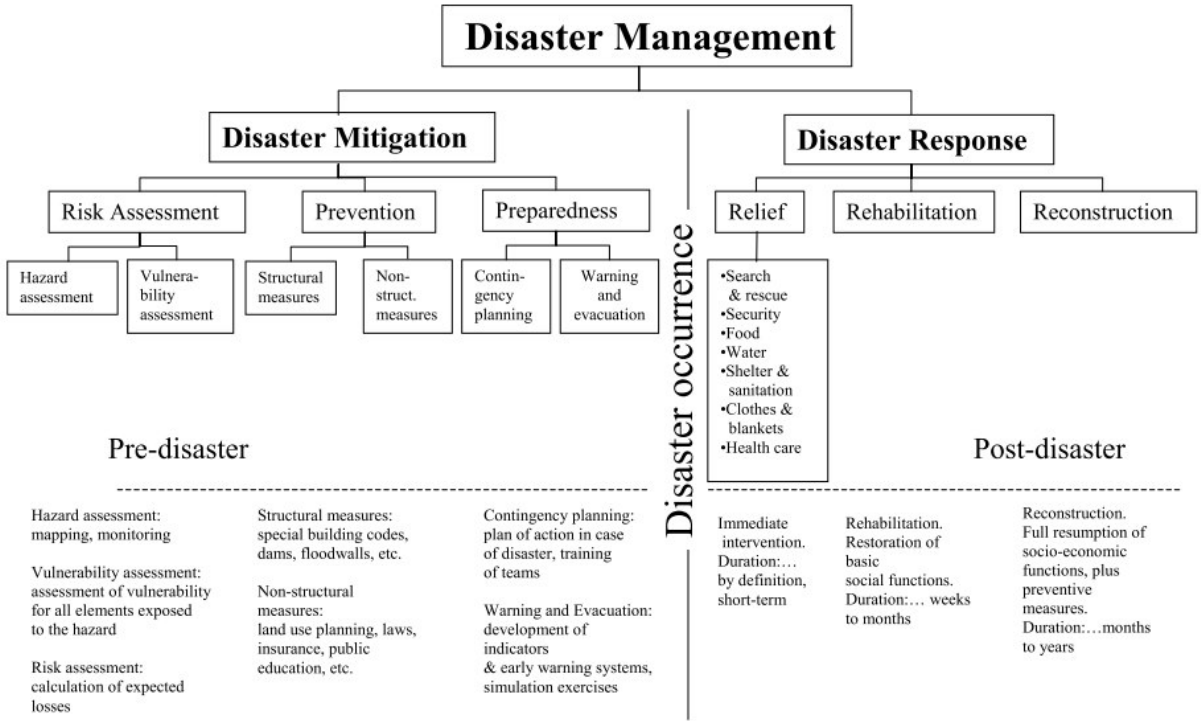
Disaster management cycle is composed of three general phases: prevention and preparedness, emergency/disaster response and recovery (Allen, 2015). Sometimes, for academic or organizational purposes, those phases would be even sub-categorized as shown on the following figure.

Figure 2. Disaster cycle from different aspect



All activities which are necessary for ensuring an effective disaster management should be performed in a pre-event or in a post-event period. The aim of those activities is to ensure an appropriate disaster mitigation (pre-event) and effective disaster response (post-event). The components of the disaster management are shown on the next diagram.

Figure 3. Leading activities in pre-event and post-event disaster management



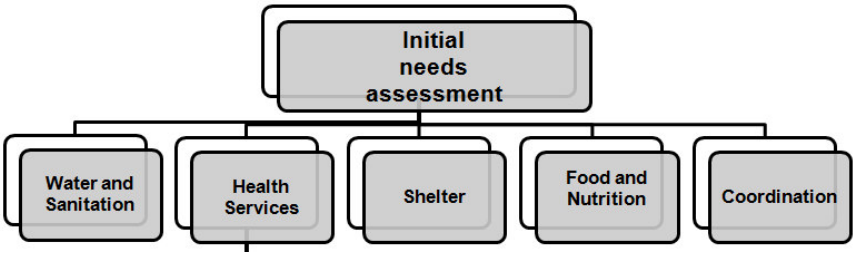
Disaster/emergency preparedness

The core element of the effective disaster mitigation is preparedness. The systematic process of using administrative measures, organizations, and operational skills to implement strategies, policies, and improved coping capacities in order to lessen the adverse impacts of hazards and to minimize the opportunity for development of emergencies (disasters) is called emergency (disaster) preparedness.

Preparedness means proper planning, resource allocation, and training, including simulated disaster response exercises. Preparedness is always based on a sound risk assessment analysis and good linkages with early warning systems. The risk assessment analysis is composed of two types of risk assessment:

- Early risk assessment
- Initial risk assessment

Three general priorities should be identified for early risk assessment: locating the problem, determining the magnitude of the problem, and determining of immediate priorities. The initial needs assessment is based on the situation analyses of available resources and there are about 5 essential (set as minimum) needs during the disaster: water and sanitation, health services, shelter, food and nutrition and coordination activities.



Preparedness means developing a proper plan for ensuring that all elements of the early and initial risk assessments are well recognized and mechanisms for minimizing the risk and saving of lives and properties are appropriately established and coordinated. The main goal of preparedness is to create a readiness which is described as an ability to quickly and appropriately respond when required. Different emergencies/disasters result in different consequences. Therefore, the preparedness process would be created as a generic preparedness i.e. "all-hazard preparedness" or "specific" hazard's related preparedness process (preparedness for natural disasters, biological and chemical attacks and accidents, nuclear and radiological preparedness, terrorist attacks etc.). The U.S. Homeland Security Department has developed 15 different preparedness and planning scenarios for different types of hazards (Clements, 2009).

Additionally, specific preparedness plan may be targeted for the protection of the critical infrastructure of the community, aiming to reduce vulnerabilities and strengthen the resilience of critical infrastructure across the ten sectors:

• Health • Food • Finance • Water • Information and Communication Technology	• Safety • Energy and utilities • Manufacturing • Government • Transportation

Critical infrastructure is the backbone of modern society and it is essential to national prosperity. The infrastructure enables a nation's productivity, quality of life, and economic progression by driving growth, creating jobs and improving productivity, quality of life and efficiency. Networked infrastructure, such as transportation and communications, boosts long-term economic outputs.

Responsibility and end-users of the preparedness planning

Preparedness must be supported by formal institutions and to be based on their legal and budgetary capacities. Preparedness actions and activities can be divided according to the responsibility for implementation and possible recipients/users. Therefore, preparedness activities have two components: governmental and population based preparedness. The government component, which includes the obligation and responsibility for disaster/emergency management, including overall preparedness of governmental and other service agencies and activities, is one group. Population/individuals and businesses preparedness activities are the second component of the complex process entitled as disaster/emergency preparedness. All activities covered by this group are part of the

governmental preparedness planning activities, but they are directly targeted to the end users – citizens and business community.

Governmental Preparedness

Almost all governments maintain a relatively universal set of systems and tools that address the risk posed by natural, technological, and intentional hazards. Although each nation's disaster management components and systems have developed independently and are rooted in different histories, economic realities and other factors, vast institutional sharing between governments has led to a growing organizational standardization of practices (SOPs), protocols and equipment used by disaster organizations. Most of those good practices are notably in the area of first response: fire departments, law enforcement agencies (police departments), emergency management (civil protection) agencies, emergency medical services, and the military. Although certain factors such as wealth, technical expertise, govern in accordance with the specificity of the each country, governmental fundamental missions are almost identical and their preparedness actions should be developed following the common preparedness strategy (Coppola, 2006).

The diverse range of government preparedness actions may be grouped into five general categories, even though all of them must be covered by general planning activities:

- planning,
- resources and equipment,
- exercise,
- training and
- statutory authority.

Planning. The most comprehensive methodology used by the governments at every level (from local to national) to plan for disasters is the creation of a community or national Emergency Operation Plan (EOP). These plans can be scaled up or down depending on event-specific disaster response and recovery requirements (FEMA, 2010).

An EOP is a document that describes in intricate detail the people and agencies who will be involved in the response to the emergencies/disasters and their responsibilities. It also describes how citizens and structures will be protected in the event of a disaster. It may catalog the equipment, facilities, and resources available within and outside the jurisdiction. EOPs are also referred to as contingency plans, continuity of operations plans, emergency response plans, and counter-disaster plans. They can also be created for individual entities, such as schools, hospitals, prisons, and utilities facilities. The main purpose is to introduce and describe various concepts and policies, clarify individual and agency responsibilities, and delineate authority.

According to the preparedness strategy, EOPs should be develop as a generic preparedness plans ("all hazards") or as a hazard's specific preparedness plan; single agency or multi-agency; local, regional or national and/or as business continuity plans.

All-hazards plan approach is based on the premise of an organization's (service's) response to the range of all potential major incidents. Single generic plan can provide a basic structured response for any incident including chemicals, fuel, electricity, flooding etc.

Specific plans approach is designed to meet specific needs (risk specific, site specific or organization's function specific). Multi-agency/integrated emergency plan aims to ensure that the activities of all services/ organizations involved in managing a major incident operate in an integrated manner.

Resources and equipment. The set of tools, technology, and other equipment to assist in disaster response and recovery has helped response agencies to drastically reduce the numbers of injuries and deaths and the amount of property damaged and destroyed as a result of disaster events. This equipment has also increased the effectiveness of response agencies by protecting the lives of the responders. Unfortunately, access to this equipment is driven primarily by the resources available, so there exists great disparity throughout the world in terms of who has what equipment. The equipment means to buy or to mobilize in case of disasters, vehicles, communication equipment, equipment for medical care, personal protective equipment etc.

Exercise. A major part of the preparedness in pursuit of response capability is a disaster exercise regimen. Response exercises allow those involved in emergency and disaster response, as defined in the EOP, to practice and validate their roles and responsibilities before an actual event occurs. Exercises should be designed to engage team members and get them working together to manage the response to a hypothetical incident. Exercises enhance knowledge of plans, allow members to improve their own performance and also help discover any unforeseen problems in the plan in a non-emergency situation. Five kinds of exercises can be conducted in the name of emergency preparedness (Allen, 2015):

- Walkthroughs, workshops or orientation seminars,
- Tabletop exercise,
- Drill,
- Functional exercise, and
- Full-scale exercise.

Walkthroughs, workshops and orientation seminars are basic training for team members. They are designed to familiarize team members with emergency response, business continuity and crisis communications plans and their roles and responsibilities as defined in the plans.

Tabletop exercises are discussion-based sessions where team members meet in an informal, classroom setting to discuss their roles during an emergency and their responses to a particular emergency situation. A facilitator guides participants through a discussion of one or more scenarios.

A drill is a controlled, supervised method by which a single disaster management operation or function is practiced or tested. Drills are most effective when they mimic real-life situations. The tabletop exercise is designed to allow disaster management officials to practice the full activation of the emergency response plan within the confines of a controlled, low-stress discussion scenario, leaded by facilitator.

During the functional exercise are tested and practiced the capabilities of disaster managers by simulating (in time depending manner) an event to which they must respond. The full-scale exercise is a scenario-based event that seeks to create an atmosphere closely

mimicking an actual disaster. All players are required to act during a real event, as outlined in the EOP, working in real time and using all of the required equipment and procedures.

Training. Training is the fourth component to government preparedness. It goes without saying that disaster response officials are more effective if they are trained to do their jobs. Disaster management and disaster preparedness training is not universally available. Even though first-response officials, namely police, fire, and emergency medical services (EMS), are likely to have some basic standard of introductory training no matter where they are located, the specialized instruction required for disaster response is much more technical. Several nations have established centralized or regional training facilities/centers that provide these skills. Some of them work on development and improvement of the teaching capabilities using different approach (Kovacic, 2012). The most important specialized training modules that aim to improve the skills primarily of fire, police, and EMS officials, include evacuation, mass care, mass fatalities management, debris management, flood-fighting operations, warning coordination, hazardous materials, weapons of mass destruction, radiological response, crowd control, response to terrorist attacks, wildfire and wild land fire response.

Statutory authority. The final link in government emergency preparedness is the statutory authority. Government response actions involve a diverse range of government officials and agencies interacting with the public and businesses, and operating on public and private land. There are often broad expenditures of funds, suspensions of normal government and private activities, and other major deviations from "normal." To ensure that all individuals and agencies involved in the emergency management system are able to carry out their duties, it is vitally important that the proper statutory authorities exist. Statutory authorities ensure that emergency and disaster response agencies and functions are established, staffed, and receive regular funding. Largely as a result of UN efforts, namely the Hyogo Framework for Action, almost all countries have, at least in concept, created an office at the national government level that manages emergency situations. The national government emergency management agencies are the best places to provide emergency management priorities, standards, direction, and goals to guide local emergency managers; provide training and expertise in the field of emergency management; provide funding to support mitigation, preparedness, response, and recovery; provide specialized assets, which could include hazardous materials detection, containment, cleanup, and decontamination; heavy lifting and debris removal equipment; and infrastructure repair teams and equipment.

Public preparedness

Public preparedness (individuals and business community) can be considered as actions taken to empower ordinary citizens to help themselves, their families, their neighbors, and complete strangers. To be effective, this effort must exceed simply raising awareness of a hazard. A prepared public must be given the skills that allow them to perform specialized actions such as search and rescue, first aid, and fire suppression. Individual and home preparedness begins with a written plan. The plan needs to consider a variety of scenarios. Consider what you would need to do to sustain yourself at home for several days without utilities or communication. If your home is damaged, you need to have a neighborhood meeting location identified nearby where everyone in the family can meet. If you are at work, school, or someplace else, you need to identify a regional location where you will meet (Coppol,a 2006).

The U.S. Department of Health and Senior Services has developed a program called "Ready in 3" (Clements, 2009). This program encourages individuals to take three simple steps to become better prepared: create a plan, prepare a kit, and listen to information. Recommendations for an emergency kit include support for every family member and pets for at least 3 days. This is an excellent baseline level of preparedness and it is kept simple and inexpensive to allow those short on time or resources to make a step in the right direction.

Public education for improvement of the public preparedness, also called risk communication, preparedness education, social marketing or disaster education, is the backbone of any effective public preparedness effort. Public education efforts have three main goals: awareness of the hazard risk, behavior change, and warning.

The possible methods by which disaster managers may educate the public are numerous and diverse: mass media communication, advertisements, posters, endorsements, employee preparedness campaigns, schools, business, churches, libraries, special events, one-to-one meetings, social networks etc. Feasibility and audience suitability are the key factors in choosing the appropriate method.

Public health emergencies

Nowadays, all public health experts must be aware that ideas, information, and microbes are shared worldwide more easily than ever before. New infections, such as the novel influenza A, H7N9, Middle East respiratory syndrome corona virus or Zika-virus diseases, pay little heed to political boundaries as they spread. The number of terrorist's attacks is bigger and bigger from year to year and the humanitarian emergencies are pressing very strong on the national borders, giving them the high potential to influence the public health of all affected countries, creating a new cross border public health emergency. It's important to stress that emergencies can come in ever-complicated combination: a combined earthquake, tsunami, and radiation disaster; terrorist attacks and bombings that require as much psychological profiling as chemical profiling; or climate change and environmental pollution that would change the pattern of communicable diseases.

Public health emergencies are multidimensional, dynamic situations that overwhelm existing healthcare and public health infrastructure resulting in adverse community health effects (Clements, 2009).

The ensuring of the security of a population's health entails preventing, protecting, mitigating, responding to, and recovering from a wide range of hazards and possible health related consequences. In an emergency, the capacities of all sectors are used to mitigate the acute event. However, the public health consequences of an event are not always visible, and, historically, health expertise has been conspicuously absent from emergency management.

Over the past decade, there is a growing public awareness that health is part of almost every event. In a case of emergency, the scope of public health activities is extends from local to national levels. Moreover, global public health responses involve cross-border health risks, including pandemics, climate change, famine, and displaced populations. Much progress has been made in emergency management to use public health expertise in all phases of the cycle: planning, response, and recovery.

Those complex and interconnected problems have spurred innovation to create interconnected solutions. Increasingly, the countries around the world started to build their national capabilities aiming to improve the health security. Some nations and local communities have well-developed public health emergency plans. But, the fact that most communities are without written and coordinated preparedness and response plans, which offer their citizens the most effective and comprehensive protection in case of public health emergencies, created new approaches headed by international organizations and national governments.

WHO in 2007 adopted new international health regulation (IHR, 2007) that defined the required activities in a case of public health emergencies. The EU in 2013 accepted a new Decision on serious cross border threats to health (Decision 1082) defining that the competence to take public health measures on serious cross-border threats lies with the Member States. The Decision 1082/2013/EU obliges the EU's Member States to inform of such measures with a view to enhancing coordination among themselves in liaison with the Commission. The aim of those documents is to push the countries in the process of development of their own mechanism for preparedness and minimizing the consequences of public health emergencies.

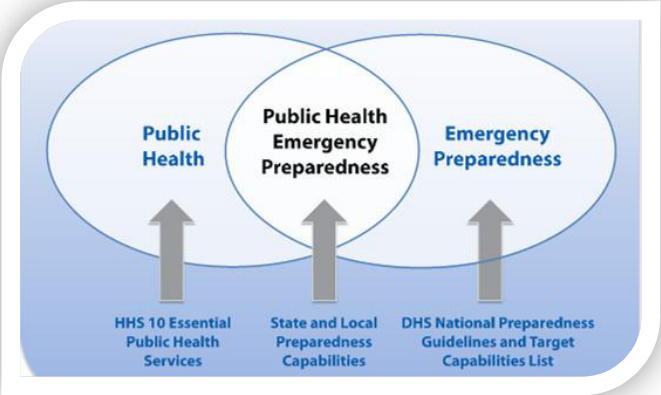
Public health emergency preparedness

The preparedness for and the response to all health emergencies require up-to-date knowledge and skills and prepared workforce to cope with the challenge to protect the health of citizens. However, sometimes it requires very sophisticated equipment such as laboratories with genetic sequencing capacities for infectious agents and rapid detection methods for chemical and radiological hazards. The presence of nimble medical and epidemiological response units, vigilant surveillance, and early warning systems are essential for appropriate and effective public health preparedness (Khan, 2015).

The public health preparedness cycle is the same as well the disaster preparedness cycle. The main goal of effective public health emergency preparedness is to create public health system, which will be able to respond effectively, aiming to protect the health of the population and to sustain the health security.

Public health emergency preparedness activities are all activities taken by healthcare and public health organizations to ensure effective response to emergencies that impact health, especially events that have timing or scale that overwhelms normal capacity (Nelson, 2007). Therefore, public health preparedness must be developed following all specificity of the public health and in accordance with emergency preparedness. (Figure 4)

Figure 4. Public health emergency preparedness



Public health emergency functions. Public health functions during emergencies must be derived and should support the accomplishment of the 10 essential public health services. Those functions are different for each phase of the disaster cycle. These which are related to the disaster prevention and preparedness are shown in the table below (Ciottone, 2015).

Table 2. Public health functions in the prevention/mitigation and preparedness phases during public health emergencies

EMERGENCY PREVENTION AND MITIGATION	**EMERGENCY PREPAREDNESS**
• Conduct the risk assessment of health facilities • Contribute in the community-disaster-risk-assessment process • Monitor the risks and vulnerability of health facilities and the population over time • Manage structural and nonstructural mitigations in health facilities • Support public awareness on disaster risks and mitigation measures • Ensure that the disaster risk reduction is considered in environmental policies and is operationalized by the relevant sectors • Ensure that land-use regulations are in place to prevent population settlement and construction of health facilities in high-risk zones • Ensure that all health facilities, other infrastructures, and houses are insured	• Contribute in the community-disaster-risk-assessment process • Conduct the risk assessment of health facilities • Establish early-warning systems • Develop the emergency response operations plan and conduct the associated activities • Provide education and training of health authorities and personnel • Conduct drills and exercises • Monitor community preparedness for disasters • Provide public awareness programs

Public health emergency capabilities. State and local public health departments are first responders to public health incidents so, their preparedness capacity should be strengthened. Public health preparedness capabilities would assist public health departments in developing annual and long-term preparedness plans and would guide their preparedness strategies and investments.

The public health preparedness capabilities should represent a national public health standard for state and local preparedness of the health departments for responding to public health emergencies, in accordance with required public health functions during disasters. Each of the public health preparedness capabilities identifies priority resource elements that are relevant to both routine public health activities and essential public health services. While demonstrations of capabilities can be achieved through different means (e.g., exercises, planned events, and real incidents), jurisdictions are encouraged to use routine public health activities to demonstrate and evaluate their public health preparedness capabilities.

The US Department of Health and Human Services (HHS) identified the following 15 public health and health-care preparedness capabilities, divided in six core groups, as the basis for state and local public health and health-care preparedness (Khan, 2015). They are shown in Table 2.

Table 3. Public health and health care preparedness capabilities

Biosurveillance • Public health surveillance and epidemiological investigation • Public health laboratory testing	**Information management** • Emergency public information and warning information sharing
Community resilience • Community preparedness • Community recovery	**Incident management** • Emergency operations coordination
Countermeasures and mitigation • Medical countermeasure dispensing • Medical materiel management and distribution • Non-pharmaceutical interventions • Responder safety and health	**Surge management** • Fatality management • Mass care • Medical surge • Volunteer management

Adapted from Shoaf KI, Rothman SJ. Public health impact of disasters. AJEM. 2000;58-63.

Each capability includes a definition of such capability and a list of the associated functions, performance measures, tasks, and resource considerations. The overall approach to implementation of the public health preparedness capabilities is to develop appropriate planning model i.e. to develop a preparedness plan.

Public health emergency preparedness plan. The public health emergency preparedness plan has the same structure and components like the disaster preparedness plan: risk assessment, planning, exercise, training and statutory enforcement. However, the public health emergency preparedness plan has some specificity as well. They are related to

the needs for early warning and surveillance as key elements for assessing of the state of emergency.

The risk assessment is focused on the health system and the functioning of the health care facilities. Public health agencies are required to contribute actively to the process of community risk assessment by providing health-related indicators and information.

The next activity in the overall public health preparedness is development of an emergency response plan (ERP) and associated early warning and surveillance functions, training and exercises. An "all-hazard/whole-health" approach is recommended when planning for public health emergency. A "whole-health approach" entails the following components:

- establishment of a unified preparedness and response platform for all categories of health risks;
- inclusion of all health-related capabilities available by governmental and nongovernmental organizations, the private sector, and the military; and
- assurance that all aspects of public health, including emergency medical care, pharmaceuticals, environmental health, communicable disease control, management of chronic diseases, mental health, reproductive health, and nutrition, are well addressed.

Activities related to the ERP include the development of command, control, and coordination mechanisms; surge capacity protocols; information management; and plans for communications, evacuation, public information, safety of medical staff, volunteers, and population, as well as the stockpiling of equipment and supplies. Formal institutional, legal, and budgetary capacities are needed to support the successful preparation and checking of the applicability of an ERP which would be performed during the exercises as a common component of the preparedness cycle.

Public health personnel must be integrated and participate with other response agencies during drills and exercises to better familiarize each stakeholder with their respective roles and abilities. In addition, this is the phase in which public health agencies would develop interagency agreements, memoranda of understanding (MOUs), and external support contracts.

The establishment of early-warning systems is a key component of the preparedness phase. Early warning is used to predict the likelihood of occurrence of public health emergency and offers the benefit of a rapid response and reduction in morbidity and mortality (Orford, 2014). In order to ensure a rapid and effective response by the EU to a wide range of emergencies, the Commission has put in place a number of early warning and rapid alert systems and open information sources (access to MedISys and other similar information sources) transmitting alerts and early warnings (EWRS, RAS BICHAT, RAS CHEM, RASFF, RAPEX and others relevant to the health crisis such as IHR).These systems are based on an information exchange network for receiving and triggering alerts, as well as exchanging other relevant information. Each of these systems covers a specific health threat field:

- The **Early Warning and Response System (EWRS)** for communicable diseases in the European Union was created by the European Commission to "ensure a rapid and

effective response by the EU to events (including emergencies) related to communicable diseases.

- **RAS BICHAT** is the Rapid Alert System used for exchanging information on health threats due to deliberate release of chemical, biological, and radio-nuclear agents (notification of confirmed or suspected events, exchange of information and coordination of measures among partners).
- **RAS CHEM** is a rapid alert system used for the exchange of information on incidents including chemical agents relevant to terrorism and other events leading to release of chemicals, and consultation and coordination of counter-measures. This system should link the poison centers in the European Union, national chemical agencies and the Ministries of Health.

The EWRS for communicable diseases is the most developed system in case of preparedness to respond to the major public health threats even though the same efforts are given for chemical and radio- nuclear threats.

In response to the threat of communicable diseases, EU policy has focused on:

- surveillance
- rapid detection
- rapid response

Surveillance. Surveillance systems provide information for monitoring the trend of communicable diseases, early detection of outbreaks, and help to identify risk factors, and need for interventions. They provide information for priority setting, planning, implementation and resource allocation for preventive programs and for evaluation and control measures.

European Center for Communicable Diseases (ECDC) has developed indicator-based surveillance, the systematic ongoing collection, analysis, interpretation and dissemination of highly structured information ('indicators') for public health action. Indicator-based surveillance is complemented by event-based surveillance, detection, verification, analysis, assessment and further investigation of potential public health threats ('events'). Surveillance data collected at the European level are predominantly case-based and comprise demographic, clinical, epidemiological and laboratory information. ECDC collects analyses and disseminates surveillance data on 52 communicable diseases and related special health issues from all 28 European Union (EU) Member States and two of the three remaining European Economic Area (EEA) countries (Iceland and Norway).

Even though surveillance is very important and powerful mechanism for following an emergency situation, mathematical models have been more and more frequently used in recent years. Such models can help in analyzing the spread and control of infectious diseases and other harmful agents as health threats and advise decision makers in the area of public health preparedness, risk assessment and crisis management.

The combined use of remote sensing technology, Geographic Information Systems (GIS), spatial statistical techniques and mathematical models can help us in:

- modeling of the dispersion of the harmful agent in the environment, and
- modeling of the exposure of the population to the harmful agent.

Modeling the dispersion of chemical agents is more highly developed than modeling for infectious agents. The modeling of risk zones is currently one of the requirements in the Safety Plans for chemical facilities under the Seveso Directive (2003/105/EC). Modeling of radiation dispersion has been developed in the radiation protection field and several activities have been undertaken at the different departments of the EC.

Rapid detection. It is essential with every public health threat to rapidly identify and confirm the agent involved. Every plan should address the identification of unknown agents, confirmation of known agents, and provision of surge capacity for a Member State facing a laboratory burden. In the laboratory domain, the plans should meet the above needs for both clinical and environmental sampling, with a coordination mechanism linking the actors if more than one is involved. In the following, these dual activities (analyzing clinical and environmental samples) should always be borne in mind.

For laboratory work, a structure should include procedures for laboratory reporting, confirmation of results (second lab, second country) and quality assurance. On the clinical side, clinicians should be able to identify the syndrome and a system should supply them quickly with the adequate guidelines.

For unknown agents, an international system has proved essential for rapid agreement on laboratory procedures and collating clinical data. For known agents of high threat potential, a secondary confirmation at an international level would improve trust in the diagnosis made. If there is a massive surge of samples in a single country, it will be essential to offer support by networking national and international laboratories.

These networks also must, if necessity, have common quality assurance schemes. Laboratory support would be available at Member State level, and for issues beyond national capacity or when national capacity is not available, cooperation between labs within the Community can be organized to optimize the use of pooled EU resources.

Hospital Preparedness plan

An integral part of the overall public health emergency preparedness plan is the hospital preparedness plan. National/community plans would identify and verify the commonly agreed EU minimum requirements for health care facilities, taking into account such factors as the appropriateness and adequacy of physical facilities, organizational structures, human resources, and communication systems.

Emergency departments and intensive health care. Emergency departments in most hospitals might be confronted to a spontaneous influx of victims in case of a large scale incident (i.e. patients arriving at the emergency department without prior notice) necessitating triage arrangements outside the hospital. Generic preparedness plan ought to cover all aspects related to the work of Intensive Care Units (ICUs) in many different emergency scenarios. These have limited resources with expensive equipment that requires a significant amount of highly trained and capable staff for each patient and demand will often be much higher than the resources available. Every country needs plans for extending these resources to the maximum and possibly for stocks of additional equipment and pharmaceuticals to be used in an emergency.

Fatality management. Multi-sectoral (health, law enforcement, civil protection, forensic agencies) and multi-cultural approaches are mandatory in case of the fatality management during mass incidents. Plans will ensure that extra resources can be put in place when the number of cases overwhelms the system. The agents causing fatalities may demand special handling of bodies to protect personnel and ensure that the agent is not spread further in the environment.

Infection control/personal protective equipment. With many of the agents to consider when planning for a public health event, there are additional concerns about personal protective measures and infection control. Special precautions may be needed to reduce the likelihood of transmission and for certain diseases additional isolation requirements may be needed. In some instances it means using specialized equipment or pharmaceuticals for pre- and post-exposure prophylaxis. This must be appropriately regulated by the law in case of possible consequences of recommended/mandatory pre- and post-exposure measures.

Isolation/Quarantine procedures. For a number of agents, which are considered as public health hazards, isolation of patients is an important countermeasure as well as quarantine measures. It limits the spread of disease to personnel and other patients. For some diseases, isolation procedures have already been agreed, defining cases to be isolated and when they can be released; they need to be developed for others. In some areas specialized resources will be needed and national preparedness plan should include the amount required additional resources.

Decontamination. In some cases of chemical or radiological health emergency, the decontamination of the patients/victims should be necessary. Decontamination of exposed individuals prior to receiving them in the health care facility may be necessary to ensure the safety of patients and staff while providing care. Procedures to determine the need for decontamination and capabilities to carry out the requisite measures would be developed in the frame of the public health emergency preparedness plan.

Transport of samples and patients. Preparedness plans should pay special attention to transport of dangerous pathogens in the country and, if needed, out of the country as well.. Sometimes such transports are approved by competent authorities based on agreements between the laboratories. It is usual to inform the Customs on the type of transportation chosen to by the national laboratories in order to be prepared for public health emergencies. The relevant legislation should be put in place for covering the issues related to the transport of patient and environmental samples in public health emergencies. Local and national legislation on the transport of dangerous substances should be regularly adapted to the evolving scientific and technological circumstances, as reported by international organizations.

Ethical implications of countermeasures. Ethical issues are closely related to the legal issues as mentioned above and are part of the framework needed to assess the cultural acceptability of measures such as quarantine and selective immunization of pre-defined risk groups. Ethical aspects arise when there is a shortage of means for the whole population and only selected groups can get access to available resources. National preparedness plans have to include a guideline for the ethical framework of responses to public health crises. National plans *have to* include a verification process to ensure that the ethical aspects of

policy decisions during an outbreak provide a balance between individual rights and population rights.

Infrastructure safety. The health care infrastructure has become increasingly dependent on other infrastructure systems, so preparedness within the health care sector must cover those dependencies. Especially systems for supply of electric power, water, medical gas and information systems should be taken into account. Also, special attention should be paid to the protection of hospitals from contamination by toxic chemicals and the spreading of contagious substances, by adjusting ventilation systems etc. Other aspects of safe hospitals are preparedness for fire and flooding.

The risk and vulnerability analysis should include preparedness for disruption in various infrastructure systems, externally and internally (safe hospital aspects) and need to provide services in a timely and 24-hour manner. Examples include the Kaiser Permanente Hazard Vulnerability Assessment (HVA) tool, which allows staff in medical centers to prioritize potential events based on calculated risk, by using probability and severity. The Hospital Safety Index (HSI), developed by the WHO assesses the safety level of a hospital in three main components (functional capacity, structural safety, and nonstructural safety).

The Hazard Vulnerability Analysis (HVA) provides a systematic approach to recognizing hazards that may affect demand for the hospital's services or its ability to provide those services. The risks associated with each hazard (natural, man-made, and hazardous substances) are analyzed to prioritize planning, mitigation, response, and recovery activities. Kaiser Permanente has developed a Hazard Vulnerability Analysis tool which is available for download as a planning resource.

The Hospital Safety Index occupies a central place in the local, national, and global efforts to improve the functioning of hospitals in emergencies and disasters. A safe hospital is a facility which services remain accessible and functioning at a maximum capacity, and with the same infrastructure, before, during and immediately after the impact of emergencies and disasters. A key element of progress towards safe hospitals has been the development and application of the Hospital Safety Index – a rapid and low-cost diagnostic tool for assessing the probability that a hospital will remain operational in emergencies and disaster. The original Hospital Safety Index was developed by PAHO and WHO and was released in 2008. Subsequently, the Hospital Safety Index tool has been used to assess the safety of more than 3,500 facilities and has been adopted and implemented by many countries.

Excercises (taken from Kovacic, 2015)

Task 1: Chose one possible hazard that could appear in your country or region and analyze in the group of 3-5 students the conditions when this particular hazard can develop the disaster. Refer the results in the plenary session.

Task 2: The participants will look on traffic accidents data from different countries, analyze and discuss how many different factors, including preventive measures, are linked with the problem. Propose a program for your country, city, or community to reduce traffic accidents by 10%. How many years will be needed for implementation of the program?

Task 3: The participants could look out for the classification of disasters and try to identify common characteristics for the certain groups.

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Title:	**R 2.9 THE MILLENNIUM DEVELOPMENT GOALS (MDG)**
Module information	The module may be structured according to the European Credit Transfer System (ECTS), corresponding per ECTS to 25-30 hours student workload (thereof up to 10 contact hours of lecturing/supervision). As part of an academic degree program, the module may be worked into a Masters Curriculum in Global Health with corresponding admission and course completion requirements. Equally the module may also be incorporated into a DrPH (Doctoral program in Public Health) curriculum in which course specifics remain constant but where perspectives are broadened through increased emphasis on relevant readings and calls for ground breaking, context-specific case studies. *Note: Entrance requirements are to be determined by the institution offering the module.*
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Key words	Millennium development goals, public health professionals, post-2015 Agenda, governance, health systems
Topics	The Millennium Development Goals (MDGs) are eight international development goals to be achieved by 2015 addressing extreme poverty, hunger, maternal and child mortality, communicable disease, education, gender equality and women empowerment, environmental sustainability and the global partnership. Most activities worldwide have focused on maternal and child health as well as communicable diseases, while less attention has been addressed to environmental sustainability and the development of a global partnership. At present, numerous targets have been at least partially attained. However, some goals will not be achieved, particularly in the poorest regions, due to different challenges. The post-2015 agenda is now under debate. The new goals should reflect today's geopolitical, economic and social situation and adopt an all-inclusive, intersectoral and accountable approach.
Learning objectives	To understand the concepts and the rationale behind the Millennium Development Goals and their impact on the global and national Agenda; To acquire knowledge and skills needed to take part to the post 2015 Agenda debate and beyond; To advance strategic thinking to develop and strengthen public health approach post 2015 and beyond.
Teaching methods	Lectures, interactive small group discussions, case studies, and international field practice
Who should apply	Those who pursue an international career in public health management, policy development, research or advocacy; entrance requirements are to be determined by the institution offering the modules
Career opportunities	Teaching and/or research careers in academic environments; leadership positions in the health care sector, policy makers, private industry and Non-Governmental Organizations; free-lance consulting

Assessment of students	Review of publications, activities and debates
COMMENTS on the module by lecturers and students	*Please comment*

The Millennium Development Goals (MDGs)

The Millennium Development Goals (MDGs) are eight global development goals to be achieved by 2015 addressing poverty, hunger, maternal and child mortality, communicable disease, education, gender inequality, environmental sustainability and the global partnership for development. These targets are both global and local, adapted to each country to meet specific needs. The MDGs are inter-dependent and deeply influence each other (UN[5]).

The goals have been generated as an output of the United Nations Millennium Declaration (UN, 2000) and have managed to focus world attention and global political consensus on the needs of the poorest, to achieve an important change in the Official Development Assistance commitments (UN, 2012) and to provide a framework for the entire international community to work together towards a common goal in the last 14 years.

Comparable indicators have been developed to measure the progress of MDGs (UN; UN; UN; UNICEF) and several reports have tracked the global assessment of progress (Mahjoub et al., 2010; Lomazzi et al., 2013; PROCOSI, 2013; UN, 2013; Lomazzi et al., 2014; UN, 2014). Although considerable achievements has been made, reliable data and statistics analyses remain poor, especially in many developing countries (Bourguignon et al., 2008). UN reports on progress towards the MDGs have highlighted several achievements in all health and education areas: global poverty has been declined by more than half, the number of out-of-school children of primary school age worldwide fell by almost half, disparities between boys and girls in school enrolment have been narrowed. Significant gains have also been made against communicable diseases along with progresses in all health indicators. The chance of a child dying before age five has been more than halved and maternal mortality fell by 45% worldwide since 1990. Globally 2.1 billion people have gained access to improved sanitation. Official development assistance from developed countries increased 66% in real terms from 2000 and 2014, reaching $135.2 billion (Hogan et al., 2010; Lozano et al., 2011; UN, 2014; UN, 2015).

However, progress has been somehow unfair. The reduction in global income poverty shall be mainly attributed to the rapid growth of a few countries in Asia (i.e. China, India, Indonesia and Vietnam), while in other countries, poverty reduction has been quite slow, or poverty has even increased (i.e. Sub-Saharan Africa) (Bourguignon et al., 2008). In 2015 more than 600 million people are still using unsafe water sources, approximately 1 billion are living in very poor conditions, mothers continue to die giving birth, and children due to preventable diseases. The goals of primary education and gender equality also remain partially unfulfilled with broad negative consequences since achieving the MDGs deeply

[5] A click on UN etc. leads you directly to the reference.

relies on education and women's empowerment. This aspect is even more evident in rural areas and among marginalized people (UN, 2012; UN, 2013; UN, 2014; UN, 2015). Also, environmental sustainability remains an international defy. MDG8 is one of the most challenging (Bourguignon et al., 2008).

This partial achievement can be attributed to a range of common challenges (Waage et al., 2010). First, the MDGs were not the product of a comprehensive analysis and prioritization of development needs and therefore were often too narrowly focused. Second, this framework has not enough taken into account the impacts on environmental, social, and economic dimensions. Environmental aspects are addressed under goal 7 but only some topics are covered, neglecting key issues for sustainable development. Third, a gender perspective has been integrated explicitly only in MDGs 3 and 5 (Jones et al., 2008, Waage et al., 2010). Improving equalities will require health system strengthening, associated with a political and social engagement to face all forms of discrimination (TheWorldWeWant, 2013). Fourth, a lack of clear ownership and leadership globally and nationally might have partially limited the achievement of the MDGs. We have mainly observed a tendency to a global uniform approach even if different countries scale up health services and make progress at different speeds. A more specific approach as well as the adoption of a 'learning by DOIng' approach involving key stakeholders and taking advantages from evidence-based data from pilot projects shall be considered (Waage et al., 2010; Subramanian et al., 2011). Furthermore, not only stakeholders but also public health professionals should be considered as key actors in the process (Lomazzi et al., 2013, Lomazzi et al., 2014). Fifth, achievement of the MDGs depends much on the fulfillment of MDG8 on global partnership. Engagement by governments (and donors in general) has been deeply affected by the global economic and financial crisis. The public-private partnership should be boosted. Up to now, more than half of the services used for MDGs have been provided by the private sector (WorldBank, 2009; UNDP, 2010); this sector should not be considered only as a donor but be embedded in the path, taking advantages of the competences. Investments should be sustainable, predictable and include innovative financing mechanisms. Sixth, accountability must be an essential part of the framework. Little attention has been paid to the corruption linked to the use of MDGs money (Gagnon, 2009); some studies have been run in recent years to define methods, tools, and good practices to map corruption and develop strategies to block corruption in the health sector, improve accountability and service delivery post-2015 and beyond (UNDP, 2011; Mackey, 2012; Lomazzi et al., 2014). Last but not least, goal measurement is often too narrow, or might not identify a clear means of delivery (Attaran, 2005; Waage et al., 2010). Government reports have sometimes been criticized as false and government-driven, leading to a lack of confidence into the official reporting systems (Pieth, 2012; Anti-CorruptionResearchNetwork, 2013; Lomazzi et al., 2014, Lomazzi et al., 2014). More and better data are definitely needed.

Despite the positive achievements attained, many see the health MDGs as unfinished business. Indeed, MDGs have not fully addressed the wide concept of development embedded in the Millennium Declaration, which embraces human rights, equity, democracy and governance (TheWorldWeWant, 2013). A post-2015 slowdown must be avoided. The Millennium Declaration is still valid and the work should be completed. To fully achieve this aim, the new targets should be tailored to the new socio-economic and political situation. The framework should be adapted to today's needs: new power, new countries, new poor, and new partnerships. The notion of good health is developing, shifting towards a people-centered approach to create and maintain good health and well-being rather than preventing and treating diseases. Health shall be perceived as a societal global issue and

considered as a global good (Smith et al., 2003). Health systems should tailor the new health and environmental challenges. New approaches can be adopted to improve health: new technologies allow exceptional access to information and enable civil society globally to take part in the decision-making process, including also marginalized people (TheWorldWeWant, 2013). The post-2015 health agenda should also embrace specific sustainable health-related targets as well as take an all-inclusive approach to preserve people's health for the entire lifespan. As a first step, the existing MDGs targets should be reached and new targets should be adopted. Equity and education should be considered as the base of health and integrated in all targets. The links between health and sustainable development goals (SDGs) shall be reinforced with a rigorous framework and the new agenda should adopt a social determinant of health approach (UN, 2013; WHO, 2013). An integrated 'health-in-all-policies' approach involving different sectors linked to governance, environment, education, employment, social security, food, housing, water, transport and energy are essential to address the complexity of health inequities (Shaikh, 2008; Pronyk et al., 2012; Boerma et al., 2013; TheWorldWeWant, 2013). Health should be perceived as an investment and not only as a cost (Kickbusch et al., 2013; UN, 2013). Accountability must be guaranteed; on one hand, better data will be required to allow transparency, proper evaluation, and improvements. On the other hand, governments' engagement and partnership dynamics should be boosted to answer at best to the new socio-political context, taking advantage also of innovative solutions offered by low and lower-middle income countries. Last, these targets should be global social contracts among governances and societies, and the concept of social responsibility, lacking for the MDGs, should be incorporated.

Most of the discussions dealt with two types of comprehensive goals for health: universal health coverage (UHC) and healthy life expectancy (HALE). Debates about post-MDG targets and linkages with SDGs have been developed through in-country and thematic consultations, including, e.g. a UN Task Team, a post-2015 high-level panel established by the UN Secretary General, society consultations through social media, an Open Working Group provided by the UNSG in consultation with governments, etc. (Post2015.org, 2013; UN, 2013; UN, 2013; WorldWeWant, 2013).

In 2014 the Human Development Report Sustaining Human Progress: Reducing Vulnerabilities and Building Resilience has showed that overall global trends in human development are positive even if people are also facing challenges impacting on their wellbeing (UNDP).

On September 25th 2015 the 193-Member United Nations General Assembly have formally adopted the 2030 Agenda for Sustainable Development, along with a set of bold new Global Goals (SDGs), marking a crucial milestone in the history of global public health (UN, 2015).

As declared by the UN Secretary-General Ban Ki-moon at the opening of the UN Sustainable Development Summit: The new agenda is a promise by leaders to all people everywhere. It is an agenda for people, to end poverty in all its forms – an agenda for the planet, our common home. The next 15 years will require a real engagement by leaders, professionals, and civil society if we want these goals to become a reality.

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Title:	**R 2.10 THE CONCEPT OF WELL-BEING AND ITS MEASUREMENT**
Module information	The module may be structured according to the European Credit Transfer System (ECTS), corresponding per ECTS to 25-30 hours student workload (thereof up to 10 contact hours of lecturing/supervision). As part of an academic degree program, the module may be worked into a Masters Curriculum in Global Health with corresponding admission and course completion requirements. Equally the module may also be incorporated into a DrPH (Doctoral program in Public Health) curriculum in which course specifics remain constant but where perspectives are broadened through increased emphasis on relevant readings and calls for ground breaking, context-specific case studies. *Note: Entrance requirements are to be determined by the institution offering the module.*
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Key words	Quality of life, happiness, multidimensionality, wellness, positiveness
Topics	Teach a man to fish and you feed him for a lifetime" they say: promoting well-being is not so distant a concept from teaching how to fish, since high levels of well-being are correlated to a reduction of diseases and mental disorders, and vice versa. Well-being can be studied at two different levels: Internal/subjective; whose measures rely on how a respondent places him or herself on a scale; or external/objective; measured through demographics and material conditions. The promotion of well-being has been indicated by the United Nations as one of the 17 sustainable development global goals SDG 3) to be achieved over the next 15 years. In order to face this workload public health professionals with the ability to think globally and act locally are needed.
Learning objectives	Be able to describe the models and facets of well-being with the respective measures. Be able to distinguish the causes of subjective well-being and of objective well-being. Be able to interpret the results of the World Happiness Report (Helliwell et al., 2015).
Teaching methods	Lectures, discussions, exercises, work-based learning, readings, practical skills workshop.
Who should apply	Those who seek to increase health and wellbeing in their community or pursue a career in research or advocacy.
Career opportunities	Teaching and/or research careers in academic environments; leadership positions in the health care sector, policy, private industry, and Non-Governmental Organisations; free lance consulting.
Assessment of	Report on an international field visit and case problem

students	presentations.
COMMENTS on the module by lecturers and students	*Please comment*

The concept of well-being and its measurement

The concept of well-being

Concepts of well-being or happiness have been for a long time central elements of quality of life, but only recently these notions entered the scope of statistical measurement. Over the last 20 years, however, more and more evidence has seen well-being as part of surveys. Such measures are reliable and valid and they can favorably inform policy-making. This point has been reflected in a massive growth in the literature on measures of subjective well-being (SWB).

In every measurement, it is valuable to be precise about the nature and goal of the concept under measurement. This case is peculiar for a theme such as SWB where the exact concept under measurement is less obvious than is the circumstance for a more straight-forward idea such as age, income, or gender. An understandable conceptual foundation for SWB is thus essential before discussing validity in any relevant sense.

To being, it needs to be defined exactly what is meant by SWB since not all subjective phenomena necessarily fall under the heading of "well-being". It is also noteworthy to delimit the field of SWB in order to be able to share without any doubt the results of the measurements. Frequently, measuring SWB ends up with measuring "happiness", or vice versa; however, there is more to SWB than happiness, and thus skeptics characterize the measurement of SWB as little more than "happiology".

Experts agree that SWB covers different elements of subjective states (Diener et al., 1999). Nevertheless, there is room for debate about exactly what facets should be included. For instance, Kahneman and Krueger (2006), focus on the hedonic aspects of the subjective experience, while Huppert et al. (2008) opt for including measures of good psychological functioning as well as life purpose. In the following analysis, SWB is taken to be: "Good mental states, including all of the various evaluations, positive and negative, that people make of their lives and the affective reactions of people to their experiences" (OECD, 2013).

This definition is intended to embrace the full range of different aspects of SWB commonly identified. Particularly, the citation to good mental functioning should include concepts as engagement, interest, and meaning, as well as affective states and satisfaction. Such evaluations are subjective and experienced internally (i.e. they are not depending on some external phenomenon).

While it was used a wide definition, it is not implied that SWB is proposed as the single all-encompassing measure of well-being. Differently, this definition is absolutely

consistent with approaches conceiving of well-being as a multidimensional concept, with each of the points having intrinsic value. In measuring overall well-being then, SWB should be always alongside measures of objective outcomes, such as income.

The said definition is purposely broad, and could give the impression that SWB is a vague concept. This is not the case. Actually, there is general consensus among experts on all the aspects comprising SWB (Dolan and White, 2007; ONS, 2011). Particularly, a common distinction is made between life evaluations, involving a cognitive evaluation, and measures of affect, capturing the feelings at a particular point in time (Diener, 1984; Kahneman et al., 1999). In addition to the said distinction, a number of researchers debate also about a clear eudaimonic aspect of SWB, reflecting the sense of engagement and purpose (Huppert et al., 2008). Therefore, the framework considered covers the three main areas of well-being: life evaluation, affect, and eudaimonia (psychological "flourishing").

Measuring well-being

The central feature for international measures of well-being is their comparability. These measures are characterized by optimal validity and reliability, by easiness to use, and by adaptability to potential policies. The first step to create such a measurement tool is the planning. All subsequent steps will be influenced by decisions made in this early stage. Thus, clarity about goals is crucial. Four levels of analysis need to be considered: user needs ("What are my key research questions?"), analysis ("What analytical approach should I take in order to better answer the research questions?"), output ("What kind of output do I need to support the planned analysis?"), and questions ("What items do I need to elicit the data?"). During this last phase, it is possible to specify all the minimum details of the questionnaire design: from the optimal choice of a survey vehicle to the length of the collection period.

Once the measure of well-being is set, a new question is posed: how do my items vary with respect to other significant variables? It is consequently imperative to take under consideration not only how optimize the measure of well-being *per se*, but further what other information should be collected in order to have a complete picture. The basic is demographic data, which matters to well-being just as much as to economic analysis. Age, gender, marital status, household size, and geographic information should never be left aside. Furthermore, material conditions are historically correlated to well-being. Richard Easterlin (1974) first noted that if from one hand a better household income reflects in higher well-being for individuals in a household; from the other a rise in average incomes for the whole country does not bring correspond directly in an increase in the country's average well-being. Thus, when it is possible, objective and subjective data on individual and household income should be collected. At last, health status is a variable which strongly correlates with well-being (Dolan et al., 2008). A large pool of widely used measures is available. The range goes to single item questions, such as the self-rated health, to more detailed modules, as the GHQ-12 (Goldberg et al., 1978) or the PHQ-9 (Kroenke et al., 2001).

A distinction between measures of well-being and many other measures usually part of official statistics is that well-being measurements are always going to be collected through surveys. Thus, issues regarding surveys and sample designs are fundamental. The target population has to be well described. For national representative surveys, the household is the unit of measure relying on a single respondent (usually the head of

household) to provide data for the whole household. This cannot be the case for well-being, since we are discussing about an inherently personal variable, and therefore the unit of measure for well-being must be the individual. This leaves two options: either a representative sample of individuals for each household is produced or all individuals are personally interviewed. The target age group is going to vary in consideration to the research goals. For instance, if we are interested in retirement income policies, the appropriate the target population will be persons aged 65 or older. Generally speaking, however, measures of well-being are usually collected for the adult population, from persons aged 15 years and older.

The enumeration period (i.e. the period over which data is collected) is very important when measuring well-being. Unlike marital status or educational attainment, for which it does not matter at what precise moment the answers are collected, the exact timing of the collection period can significantly impact well-being measurement (Deaton, 2011). For instance, positive affects are higher on holidays and weekends (Helliwell & Wang, 2011). Ideally, enumeration would take place over an entire year, including all days of the week and holidays. This would ensure that the measures provide with accuracy a picture across the entire year. Where such an enumeration is not possible, the data should be collected proportionately at least all over the week.

Seven types of surveys are relevant to well-being and meet different needs. Integrated household surveys are the primary surveys utilized by national agencies of statistics to collect data on issues such as expenditure, income and labour market. An example is the EU-SILC, consisting of a core on living conditions and income alongside other special topic modules. The 2013 module is focused on well-being. Nevertheless, not all national agencies of statistics run such a survey. Some agencies, as the Australian Bureau of Statistics, focus mainly on measures of social inclusion and social capital, while others (Canadians) rotate modules between different waves. The latter approaches are particularly fit vehicles for data collection on well-being. Time-use surveys involve respondents completing a diary alongside questionnaires of different nature. The inclusion of a time-use tool offers an opportunity to capture different subjective states and to collect data on the time spent in distinct subjective states. In particular, these tools are particularly effective in capturing affects at multiple detail levels. Victimisaton surveys collect data on the distribution and level of criminal victimization. The interaction between this topic, safety's perceptions and well-being is of major interest, both from the standpoint of how victimisation affects well-being, and from the perspective of how the victim is impacted by victimisations of different nature. Thus, well-being questions are of highly valuable to such surveys. Health surveys have a long lasting tradition of the inclusion of well-being measures as part of mental health tools such as the GHQ-12, including items referring to different aspects of well-being. Many national agencies run periodic or one-off topic surveys with the intention of exploring a topical argument in detail. Because the content of these tools could be tailored to the explored topic, such surveys are perfect vehicles for examining aspects of well-being in depth. Nevertheless, the mutative nature of special topic surveys makes them not so appropriate for a long-time monitoring of well-being. Panel surveys follow over time the same individuals, schematically re-approaching them. Because of their nature, these tools are able to control causality much better than cross-sectional surveys. The German Socio-Economic Panel (GSOEP) included items on well-being. Strong evidence on the relationship between life decisions and their determinants comes from this approach.

Promoting well-being

Well-being is integral to population health and it influences the functioning of individuals, families, and large communities. Mental and behavioral disorders, including addictive behavior, place extremely large burdens on individuals, families and society; moreover, they increase the risk of co-morbidities and social exclusion. Early adulthood is a crucial period for laying the foundations of a healthy life. There is fascinating evidence that promotion of SWB and prevention interventions, when effectively implemented, enhances protective factors for good mental and physical health, reduces risk factors for mental disorders, and leads to long-lasting positive effects on a wide range of educational, economic and social outcomes for young people. Medical and psychological factors, family and social spheres (including the workplace), as well as digital communities, are some of the different aspects impacting the well-being of the young. Their ability to cope will be enhanced by the resilience to adversity. There is a need for more evidence on resilience factors and on effective interventions promoting SWB in the young adults. Empowering the young offers the possibility of a positive influence on development in a sensitive period such as the transition to young adulthood, thanks to early neuroplasticity.

Proposals focusing on developing population-oriented primary prevention interventions will be the most effective in promoting SWB of young people and also assess them for their effectiveness. A boost in effectiveness is also given by attention at resilience and reduction of the impact of different nature's risk factors. For optimal results, the target group includes young up to 30 years.

A multidisciplinary approach and the involvement of both the young themselves and relevant stakeholders is another key part of the research design. Moreover, a step further will be done through innovative approaches in involving the young and gathering their feedbacks for the design of the intervention. An intervention's essential bedrock is the holistic approach, not leaving gender and health inequality aspects out of the picture. In a context like Europe with different social, economic, and cultural realities every action needs to be diversified and the multifaceted. Furthermore, ethical issues too are going to be part of the picture. The analyses of impact and effectiveness have to be run in quantitative terms as well as qualitative terms, in a gender disaggregated way when relevant. If the methodology is valid, reasonable, and goals oriented the results will run through Europe and beyond and the produced evidence will be quickly and fully exploited.

A starting point is surely the goal 3 of the 17 sustainable development global goals, in which is specifically reported that by 2030, the aim is to promote mental health and well-being (United Nations Sustainable Development, 2016).

Exercises

The areas to cover in this module are: biostatistics, behavioral sciences, environmental health, epidemiology, and policy.

Biostatistics
Students are asked to analyze one of national open access EUROSTAT databases to answer basic statistical questions on well-being. This assignment is appropriate for intermediate-level students. In particular, students work on importing databases, examining distributions, and performing and interpreting basic statistical tests (such as t-test or ANOVA).

Behavioral sciences
Students are asked to select and review one of the articles available on a health determinant of interest and to note its relationship with well-being. In a brief paper, the students then come up with proposing a theoretically-based intervention centered on the unhealthy behavior to improve well-being. Students learn reading and understanding the scientific literature, describe the impact of health behaviors on well-being, and mixing behavioral theories and intervention planning.

Environmental health
Students are asked to study an article on determinants of well-being for people with diabetes. In a second phase, a brief paper is going to explaining well-being disparities between the study groups while examining the impact of social and environmental exposures. Students learn to identify health imbalances, develop hypotheses to explain well-being measurements, and consider risk and health information requirements.

Epidemiology
Students are asked to query two of longitudinal national open access EUROSTAT databases and contrast and compare observed trends. With the help of the literature, the students attempt to interpret the observed trends in a brief paper. Students learn to identify trends and precisely transfer epidemiology information in written form.

Policy
Students are asked to identify and comment a well-being disparity in the EUROSTAT databases. In a second phase, a brief paper is going to show a policy brief using scientific literature as support. Also evaluation and budget issues have to be taken into account. Students learn to propose policy solutions and develop an evaluation budget and plan.

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Title:	R 2.11 THE GLOBAL FINANCIAL CRISIS AND HEALTH
Module information	The module may be structured according to the European Credit Transfer System (ECTS), corresponding per ECTS to 25-30 hours student workload (thereof up to 10 contact hours of lecturing/supervision). As part of an academic degree program, the module may be worked into a Masters Curriculum in Global Health with corresponding admission and course completion requirements. Equally the module may also be incorporated into a DrPH (Doctoral program in Public Health) curriculum in which course specifics remain constant but where perspectives are broadened through increased emphasis on relevant readings and calls for ground breaking, context-specific case studies. *Note: Entrance requirements are to be determined by the institution offering the module.*
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Key words	Global, Financial crisis, recession, budgeting processes, health system financing, managed care, efficiency, health, health impacts, health systems, resource allocation
Topics	The economic situation influences the health status of a population in many ways. The financial crisis has now given greater weight on an old debate about the financial sustainability of health systems in Europe. Drivers of health expenditures will be critically analyzed. The vulnerability of public budgets and its consequences for health budgets is depicted. The toolset of politics, and policies applied by policy-makers will be analyzed. Managed care approaches are presented and evaluated.
Learning objectives	To understand the principles of a global financial market and the inter-dependencies of national budgets and allocation of resources on health budget etc.; To understand the direct and indirect impacts of a global financial crisis on health To understand the dynamics of financial and economic crises; To understand the constraints of financing and setting up health budgets To identify particularly vulnerable areas of health care in constrained environment such as neonatal medical care; affordability of out-of-pocket purchased medicines among the elderly and retired citizens; access to the most expensive medical technologies such as targeted biologicals indicated in cancer and autoimmune diseases; radiation therapy; various implant-based interventional radiology, orthopedic and cardiovascular surgical procedures To understand the relevance of catastrophic household expenditure imposed by illness among the world's poor residing in low and middle income countries (increased vulnerability during crisis evidenced) To acquire knowledge and skills needed for redesigning health

	systems; To design a case study and to analyze the impact of the crises on health outcomes based on secondary statistics.
Teaching methods	Lectures, interactive small group discussions, case studies, problem based learning.
Who should apply	Those who pursue an international career in public health management, health policy development, research or advocacy planning; entrance requirements are to be determined by the institution offering the modules.
Career opportunities	Teaching and/or research careers in academic environment; Policy administration in public institutions, non-governmental organizations and in consulting companies.
Assessment of students	Test and case problem presentations.
COMMENTS on the module by lecturers and students	*Please comment*

The global financial crisis and health

The scope of the problem

Health and health care are influenced by many factors that differ from country to country and from national economy to national economy. The economic situation influences the health status of a population in many ways; at least it is part of the social determinants of health. “The social determinants of health are the conditions in which people are born, grow, live, work, and age. These conditions are shaped by the distribution of money, power and resources at global, national and local levels – sometimes termed “structural determinants” of health inequities” (World Health Organisation - Regional Office for Europe, 2013).

Good health of population is an important locational factor and an incentive for establishing various enterprises. On the other hand, the making up of the production processes and working places, technological progress, education and the political (regulatory) framework of the government interact with health, too. Increasingly, the policy of firms is to put maximization of profits on top of their priorities even at costs of negative effects on health. Changes in the prosperity of a national economy will have its effects at various places. The most obvious are at diverse places of the economic sector. Nevertheless, public institutions and government are also influenced, but mostly indirect and sometimes with a certain delay. Taxes and contribution fees are calculated based on the profits of enterprises and the income of employees. The financing of health care and insurance may depend on income also, and, in the case of a Beveridge system, on tax income of the government.

Health care systems are faced with two basic problems: Increasing expenditures and a financing power that does not keep pace with the increasing demand - independent how the system is financed, i.e. in a Bismarckian, Beveridge, more market-oriented or government financed and operated like in a historical Semashko model. Some call it a permanent financing crisis. The public debate focuses on the determinants of health

expenditures and identifies the ageing population (e.g. Ogura and Jakovljevic, 2014, Polder et al., 2002, National Institute of Aging et al., 2011) and the increasing weight of non-communicable diseases as important drivers (Jakovljevic and Milovanovic, 2015). In fact, "a number of disorders that typically occur in old age are a result of disease processes, not normal aging" (National Institute on Aging et al., 2010 p.18). However, how much an ageing population is responsible for increasing health expenditures is controversely discussed in the literature.

For some researchers the contribution of an ageing population to increasing expenditures is very low (Zweifel et al., 2004) - actually the annual growth rate of per capita expenditures is about 1.5% (Breyer et al., 2011), which is less than the observed growth rate of about 2% in the OECD (Felder, 2013). Some studies suggest that proximity to death causes the largest part of expenditures, and consequently a shift in the mortality risk to higher ages will not affect lifetime health care expenditures as death occurs only once in every life (Breyer and Felder, 2006, Seshamani and Gray, 2004). Actually, some studies find that age does not explain healthcare expenditures when variables like closeness to death, income, or life expectancy are controlled for (Hall and Jones, 2007, Shang and Goldman, 2008). In other words, expected cumulative health expenditures for healthy elderly individuals are similar to those for less healthy individuals of all ages. This suggests the existence of a "red herring" (Breyer et al., 2011, Zweifel et al., 2004).

Scientists who support the "Compression of Morbidity Thesis" postulate and prove with their findings that with increasing life expectancy it is possible to grow old in good health, and the more expensive period of life is shifted to a higher age, forming a more rectangular curve (Fries, 1980, Vaupel, 2010, Fries et al., 2011, Bronnum-Hansen, 2005). This would mean that the „real" increase of life expectancy occurs more in the midst of life. Consequently, the expenditures in younger or middle-aged groups must be lower or even negative (Niehaus, 2006 p.6). On the contrary and in accordance with the „Morbidity Expansion Thesis" the curve of expenditures must be shifted upwards at all ages, i.e. for younger ages also, because the disease burden will not be reduced (Niehaus, 2006). There is also empirical evidence for the „Morbidity Expansion Thesis" (Bhattacharya et al., 2004, Graham et al., 2004). There is also an indirect effect. Medical technology and its progress is an important driver of health expenditure growth, and medical technology, strongly interacts with age and health, i.e., population ageing reinforces the influence of medical technology on health expenditure growth and vice versa (de Meijer et al., 2013).

Furthermore, there are also a number of increasingly complex challenges: Globalization, evolving health threats, financial constraints on government spending, and social and health inequalities are some of the most pressing (Bjegovic-Mikanovic et al., 2014, Laaser, 2015).

The so-called financial crisis has now shed new light on an old debate about the financial sustainability of health systems in Europe. For many years, it was the "ghost" of ageing populations. Further expenditure drivers were identified in the development of medical technology and medical progress, which offer new (and more expensive - but not necessarily more costly) treatment options; these are supplemented by changing public expectations (Bjegovic-Mikanovic et al., 2014). All of these were suited for tormenting policy-makers who were troubled by a steady growth in health sector spending. However, the most far-reaching real threat came in the shape of a different triumvirate: financial crisis, sovereign debt crisis and economic crisis. After 2008, the focus of concern turned from the

future to the present, from worrying about how to pay for health care in thirty years' time to how to pay for it in the next three months (Thomson et al., 2014).

Financial and economic crises

To understand the development and the rapid spread of the crises, we first have to look at the basic principles of a global market and the world economy. The firms and institutions together make it possible for money to make the world go round. Part of this are *"financial markets, securities exchanges, banks, pension funds, mutual funds, insurers, national regulators, such as the Securities and Exchange Commission (SEC) in the United States, central banks, governments and multinational institutions, such as the International Monetary Fund (IMF) and World Bank"* (The Economist, 2014). A situation in which "*the supply of money is outpaced by the demand for money is called financial crisis". This means that liquidity is quickly evaporated because available money is withdrawn from banks, forcing banks either to sell other investments to make up for the shortfall or to collapse".* (Business Dictonary.com, 2015) As The Financial Times (2015) points out, the consequences are that the involved institutions, such as banks, typically stop to pass funds to others. They also demand early repayment of loans and other financial instruments, they liquidate holdings of financial assets that can be sold, and they possibly increase collateral requirements etc. to an extent that is outside the prior expectations of market participants. This ends up in what is often referred to as "frozen" financial markets, where trading volumes fall considerably and market participants often cannot be convinced to trade financial instruments, independent of prices. The infection of other countries, i.e. the transmission of the financial and economic shock from one nation to another gains speed at times where substantial financial capital, goods, and services flow across borders. These cross-border interdependencies additionally bring down economies that suffer from a financial crisis (Financial Times - ft.com/lexicon, 2015).

The Financial Times (2015) also identifies four channels through which the "disease" spreads. The first three belong to the private sector. (1) Losses on financial assets which are held abroad can damage confidence in the domestic financial institutions that made those investments. (2) Participants in financial markets in one country may re-evaluate their assessment of certain adverse risks taking place there in the light of recent developments in other nations, arguing that certain pertinent circumstances are common. (3) Because many firms supply customers abroad severe economic downturns can spread across borders, as falling exports reduce the national incomes. This trade-related channel has grown in importance with the development of international supply chains. Reductions in sales of a final good can produce cuts in orders for foreign sourced parts and components worth multiples of the original transaction (so-called bullwhip effect). (4) Certain government policies that seek to bolster the domestic economy at the expense of other nations also have a share in spreading the "disease" across borders. Essentially measures are taken such as raising tariffs and other trade barriers, devaluing national currencies, insisting that domestic financial institutions repatriate financial asset holdings from abroad, restricting government contracts to domestic firms etc. (so-called beggar-thy-neighbour policies).

Of course, a global financial crisis must not necessarily result in a global economic crisis. But in modern economies, where working capital is needed to bridge the time span between the occurrence of expenditures, e.g. for parts, supplies, and staff, and the time when revenues occur, the following withdrawal of credit creates the potential for widespread

corporate bankruptcies. A financial market breakdown, then, can quickly create a severe downturn in economic activity, involving falls in national income and increases in unemployment that are in excess of those witnessed during traditional economic recessions. Such a process undergoes several phases. Guillén (2014) provides a very detailed list of the events and the corresponding timing, which can help to identify the different phases of the process.

In one of the later stages austerity plans (from 2010 on) were brought in, concentrating on tax rises and budget cuts of governments. These plans were discussed controversially and criticised. Some thought that these measures were too dangerous, because national economies had not returned to their previous growth paths. Others argued that austerity, in combination with structural reforms, would rise - on the long run - the rate of economic growth, and, finally, would raise expectations of future tax levels and calm down fears about the long-term solvency of governments (Financial Times-ft.com/lexicon 2014c). Resulting from a combination of austerity, deleveraging, and rebuilding bank balance sheets economic growth fell below projections for many large economies during the years 2010 to 2012 (Financial Times - ft.com/lexicon, 2015).

The interdependence between health and financial crisis

In health care - at "normal" times of scarce resources - governments try to close the gap between rapidly increasing demand and slower raise of financing opportunities by applying four classical administrative measures: (1) Cutting down expenditures (various budgets), (2) excluding services from being reimbursed (problem to patients), thus increasing the amount of patient´s contribution, i.e. out-of-pocket payments, (3) by raising the contribution fees from the insured, and, (4) last but not least, by bargaining with providers and forcing the setting of fixed prices, and by increasingly trying to substitute patented pharmaceuticals by generics. Of course, there is some variation, depending on the health care model - tax financed or contribution fee financed. Rationing of services is also an option. Policy-makers are mostly gazing at expenditures but not on (opportunity) cost. This means that efficiency issues and consequently efficiency gaps have not been in the focus. New approaches of delivering care, aiming at improving efficiency, by overcoming traditional barriers, are not yet widely applied, or still under critical appraisal (Nolte and Pitchforth, 2014).

Ruckert et al. visualise how health equity and financial crisis are linked. They distinguish between direct and indirect channels of influence (Ruckert and Labonté, 2012). Direct influence channels lead from "economic decline & lower tax revenue" to "health budget cutbacks" and to "health impacts", then. Furthermore, there is also a link to "transformation of health system", "commodification of users fees" and finally to "health impacts". The indirect channels are "reduction in welfare programs", "climate of austerity", "labour market transformation" and finally "health impacts" (Ruckert and Labonté, 2012 p2). Studying the consequences of the financial crisis in Canada, they come to the conclusion that the "findings suggest that health equity is primarily impacted through two main pathways related to the global financial crisis: austerity budgets and associated program cutbacks in areas crucial to addressing the inequitable distribution of social determinants of health, including social assistance, housing, and education; and the qualitative transformation of labour markets, with precarious forms of employment expanding rapidly in the aftermath of the global financial crisis. Preliminary evidence suggests that these tendencies will lead to a further deepening of existing health inequities,

unless counter-acted through a change in policy direction" (Ruckert and Labonté, 2014 p1).

The global crisis has arrived at all parts of society and, even though located outside the health system, its unexpected occurrence, demonstrated its vulnerability, and deploys large negative effect on the provision of health (Mladovsky et al., 2014). Health systems are complex, nested entities. However, like enterprises or public organisations they need predictable reliable sources of income to operate appropriately. Sudden interruptions of funding can make it difficult to maintain necessary levels of health care (Mladovsky et al., 2014).

Financing health systems

In this situation governments and policy-makers - metaphorically speaking - have "to square the circle", i.e., they are faced with inconsistent systems of conflicting goals. They have to regain financial stability, protect banks, maintain the level of public health, sustain the competitiveness of their national economy, and care for the principles of equity, equality, and solidarity. Governmental income comes from various taxes and/or from the financial market. To raise fresh capital from the market creditworthy is a prerequisite and one has to be able to pay high interest rates, which of course is a financial burden for the next generations, and which in turn impacts the above mentioned principles. In addition, it is not possible to raise taxes unboundedly.

To protect health of its population is first and foremost an ethical goal. However, the operation which takes place at different levels of the health system is under the reservation of financial feasibility, i.e. the economic situation of a country is an important constraint, which follows other (economic) laws. Allocation of resources takes place at different levels of the system and at different organizational structures (Jakovljevic, 2013). Nevertheless, budgeting processes have one thing in common: They are not only rationally determined. Money goes there where budget holders with strong power are. Therefore, the allocation does not really follow cost-benefit ratios. The health sector competes with other sectors of a governmental budget. This is the first hurdle, and there are bad examples how money from the health sector was reallocated to finance spending in other areas (Thomson et al., 2014); other hurdles will follow.

Policy-makers may now decide to maintain, decrease or increase current levels of public expenditure on health. Given the tool set mentioned above they can review and alter the level of contributions for publicly financed care, the volume and quality of publicly financed care, and the cost of publicly financed care (Mladovsky et al., 2014). Of course, when making these decisions one has to keep in mind the goals of the health system, or as Mladovsky et al. state "achieving fiscal balance is likely to be important in the context of a financial crisis but generally it is not regarded as a primary goal of the health system - on a par with or overriding health policy goals such as health gain or financial protection - since, if it were, it could be achieved by cutting public spending on health without regard for the consequences" (Mladovsky et al., 2014 pVI).

An overview of applied policy tools

The general situation is characterized by falling Gross Domestic Product (GDP), rising unemployment, growing fiscal pressure, reallocation of money from the health sector to finance spending in other areas (Thomson et al., 2014 p8) and reducing health budgets

etc.. The health consequences may be directly derived, i.e. through restrictions in getting access to care and treatment or more indirect through poor working conditions, unemployment, unsecure living conditions etc. Some authors discuss the correlation between unemployment and negative health outcomes, like suicide (Ayuso-Mateos et al., 2013, Vogli, 2014), and poverty and postponed doctor visits (Thomson et al., 2014). Mladovsky et al. (2014) analysed the health policy responses to the financial crisis, too. Their main conclusions are that: European Region countries have applied a mix of policy tools. Some countries seem to have used the crisis to increase efficiency, although little has been done to improve public health, which is a missed opportunity. Looking outside of Europe BRICS -countries ((Brazil, Russia, India, China) serve as a typical example of well performing economies during a global recession, actually succeeding to produce net gains in population health outcomes since 2007 (Jakovljevic, 2014). However, in 2013 the health expenditures in Brazil were 9.7% of the GDP; India spent 4%, and the Russian Federation 6.5% of their GDP; in high income countries across the world it is 11.9% (Worldbank, 2015) Out of pocket payments were relatively high compared to countries like Sweden, Switzeland, USA, and United Arab Emirates. In Brazil it is 29.9%, 58.2% in India and 48% in the Russian Federation (Worldbank, 2015), which, of course, says nothing about efficient use of budgets. Nevertheless, it is an interesting indicator of how roles are allocated. Of course, the favourable situation and financing possibilities of BRICS-countries heavily depend on the (still increasing) GDP growth rate. With the exception of India the other countries currently show a decline or even negative rate (Russian Federation and Brazil) (IECONOMICS, 2015). These countries are not immune to the global financial crisis. Ritwik et al (Ritwik and Pankaj, 2010) describe the transmission channels by which the financial crisis affected the four emerging economies, too. They also give an overview on the political measures to stabilize the financial sector after 2008.

That Policy responses aiming at secure financial sustainability, and to improve the health sector's fiscal preparedness for financial crises, should be consistent with the fundamental goals of the health system. Such tools which can take into account health policy goals are:

"increased risk pooling; strategic purchasing, where contracts are combined with accountability mechanisms including quality indicators, patient reported outcome measures and other forms of feedback; health technology assessment to assist in setting priorities, combined with accountability, monitoring and transparency measures; controlled investment in the health sector, particularly for health infrastructure and expensive equipment; public health measures to reduce the burden of disease; price reductions for pharmaceuticals combined with cost-effectiveness evidence and other measures to promote rational prescribing and dispensing; shifting from inpatient to day-case or ambulatory care, where appropriate; integration and coordination of primary care and secondary care, and of health and social care; reducing administrative costs while maintaining capacity to manage the health system; fiscal policies to expand the public revenue base; counter-cyclical measures, including subsidies, to protect access and financial protection, especially among poorer people and regular users of health care; and, outside the health sector, active labour market programmes and social support services to mitigate some of the adverse effects of economic downturns" (Mladovsky et al., 2014 pVIII).

Contra productive measures, i.e. measures that could undermine health system goals include: *"reducing the scope of essential services covered; reducing population coverage; increases in waiting times for essential services; user charges for essential services; and*

attrition of health workers caused by reductions in salaries. The discussion highlights the trade-offs involved in any policy decision. These trade-offs should be understood and made explicit so that decision-makers can openly weigh evidence against ideology in line with societal values. Policy decisions should be guided by a focus on enhancing value in the health system rather than on identifying areas in which cuts might most easily be made" (Mladovsky et al., 2014).

From the viewpoint of health system, fiscal balance is a constraint. This views would decision-makers allow shifting the debate away from balancing the budget at any cost towards a more performance oriented view of the health system (Mladovsky et al., 2014).

Possible Responses: Managed Care

It is unlikely that the budgeting situation and the global economic situation will change for the better in the near future. Besides the consequences of financial and economic crises, which will continue to have an effect, governments are confronted with an increasing eroding of their tax income. "Creative accounting" of firms, aiming at finally shifting profits to places where the tax rates are lowest can worsen the budgeting situation and will cause discrepancies between expenditures for health care and tax income. Furthermore, "competition" between countries/governments/cantons/ cities, strongly supported by "tax-saving models" from banks, aggravates this trend. Moreover, health expenditures that are caused by a working population have to be financed in one country whereas taxes of the corresponding firm where the workers belong to are paid somewhere else.

To overcome restrictions coming from the difficult economic situation, and to gain more independence, it is unavoidable to challenge the utilization of resources. This applies for all kinds of health related activities, health care and public health programs. Efficiency and/or managed care are magic words that are often used in this context.

Managed care is a very complex approach. Principally is the goal to manage health care delivery in such a way that costs can be controlled. This is done for example by eliminating redundant facilities and services and to reduce costs, and to include health education and prevention. Managed care is not a coherent theory. In fact it is made up of various organizational forms (solutions) and different management tools that are applied, and it is still developped further. Disease management, case management and integrated care are well-knnown prominent forms.

One of the challenges of health care systems is fragmented care, which often leads to inefficient use of resources. Very often this fragmentation is caused by organizational problems, like silo-thinking and fragmented budget responsibility. This occours at providers as well as at political organizations. Even when this is to the detriment of all involved actors it is nevertheless rational, i.e. from a systemic view it is „contextual rational". Contextual rationality takes into account that, from the perspective of an organisation (or cooperations), it has to be accepted, that many, even conflicting, goals have to be considered and reached (Organ and Bateman, 1991). The resulting overall behaviour could be also characterised as "negative coordination". This means that, when several actors have to work together, cooperation and joint actions (or common policy) are controlled by this negative coordination. It only allows policy changes that are pareto-superior to the status quo, i.e. there will be no losers. If disadvantages occur, the existence of negative coordination impedes new policies as long as there are still parties who are better off without the changes

(Scharpf, 1993). This leads to egoistic behaviour and finally might block new approaches that otherwise could lead to improved health care.

A very interesting attempt is integrated care. 'Integrated care' is a term that reflects a concern to improve patient experience and achieve greater efficiency and value from health delivery systems (Shaw et al., 2011). The aim is to address fragmentation in patient services, and enable better coordinated and more continuous care, frequently for an ageing population which has increasing incidence of chronic disease. Actually, it is not easy to overcome fragmentation in care delivery (Shaw, 2014, Simmons and Wenzel, 2011). In some countries accompanying measures like bundling payments are introduced - a single payment for all services related to a specific treatment or condition (for example, *coronary artery bypass graft* surgery), possibly spanning multiple providers in multiple settings (Bertko and Effros, 2010).

Exercises

Topics for small work group discussions:

- Principles of budgeting processes
- How react the different countries?
- What measures have been taken?
- E.g. successful adaptation strategies. Are the BRICS countries a blueprint for successful response?
- How to stabilize the health sector?
- How to become more independent?
- Describe the measures, the preconditions of the respective country and analyze its policies.
- How to increase the efficient use of budgets
- What is managed care?
- Can managed care approaches be useful?
- How to show correlations between the economic situation and health outcomes?

Links

Integrated Care: http://www.euro.who.int/en/about-us/partners/observatory/policy-briefs-and-summaries/what-is-the-evidence-on-the-economic-impacts-of-integrated-care

Public Health Workforce:
http://www.euro.who.int/__data/assets/pdf_file/0003/248304/Addressing-needs-in-the-public-health-workforce-in-Europe.pdf?ua=1

Experiences from NHS: http://www.nuffieldtrust.org.uk/publications/towards-integrated-care-trafford

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Title	**R 3.1 GLOBAL GOVERNANCE OF POPULATION HEALTH AND WELL-BEING***
Module information	The module may be structured according to the European Credit Transfer System (ECTS), corresponding per ECTS to 25-30 hours student workload (thereof up to 10 contact hours of lecturing/supervision). As part of an academic degree program, the module may be worked into a Masters Curriculum in Global Health with corresponding admission and course completion requirements. Equally the module may also be incorporated into a DrPH (Doctoral program in Public Health) curriculum in which course specifics remain constant but where perspectives are broadened through increased emphasis on relevant readings and calls for ground breaking, context-specific case studies. *Note: Entrance requirements are to be determined by the institution offering the module.*
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Address for correspondence	Consultant in Higher and Medical Education Southampton, Hampshire United Kingdom SO40 4XG E-mail: glueddeke@aol.com, glueddeke1@gmail.com
Key words	Governance, Health Systems Policy Framework, World Bank Governance Indicators, UN Sustainable Development Goals, New Worldview, One World One Health, World Governance.
Aims	(1) To raise awareness about the role of governance in strengthening health systems and public health and its overall contribution to policy development in progressing three major UN agreements reached in 2015. (2) To consider the adoption of a new mindset in meeting global challenges to planet health and well-being, applying, where appropriate and feasible, the 'One World, One Health' concept. (3) To examine the need for a new form of global governance that is 'fit for the 21st century' and is able to effectively respond to unprecedented environmental, societal, economic and geopolitical hurdles and lead the way to a safer, fairer and equitable future for all.
Topics	• Governance and governance for health and well-being • Public health governance within a health systems policy framework • Policy-making in the 21st century • Limitations of addressing contemporary population and well-being issues • Good governance and World Bank governance indicators • Major UN agreements in 2015 • Toward a new worldview • The One World, One Health concept and global impact • Safeguarding the planet and people in the 21st century: toward a new form of world governance?

Learning objectives	On completion, students should be able to: 1. define *governance* and *governance for health and well-being*; 2. position public health governance within a health policy framework; 3. optimise policy-making in the 21st century; 4. identify limitations of addressing health and well-being issues in early decades of the 21st century; 5. define 'good' governance and apply World Bank governance indicators; 6. consider the impact of major UN agreements reached in 2015 on governance at global and national levels; 7. articulate rationales for developing a new world view and identify key future governance policy criteria; 8. synthesise the essence of the 'One World, One Health' concept and describe strategies required to strengthen its role in policy and practice; 9. evaluate the need for a new form of world governance and its potential role in safeguarding the planet and people.
Teaching methods	Facilitated small group learning, on and off-line (independent study)
Who should apply	Those who pursue an international career in public health management, policy development, or advocacy.
Career opportunities	Policy administration of public institutions, non-governmental organizations and in consulting companies, management in global institutions.
Assessment of students	Research on topics and written responses to summative questions and contributions to group discussions. Papers on key themes after section 3, 6 and 9.
COMMENTS on the module by lecturers and students	*Please comment*

Global governance of population health and well-being

1) Governance for health and well-being

Governance has been defined as 'the process through which governments and other social organizations interact, relate to citizens and take decisions in an increasingly complex and interdependent world. It differs across political systems, with many ways in which individuals and institutions, public and private, manage their common affairs' (Commission on Global Governance, 1995).

The World Bank, while agreeing essentially with the Commission on Global Governance definition, narrows governance decision-making processes to include the process by which governments are selected, monitored and replaced, specifically mentioning government's capacity to effectively formulate and implement sound policies;

and the respect of citizens and the state for the institutions that govern economic and social interactions among them (The World Bank Group, 2015b).

The overall message seems to be that governments may become vulnerable or unhinged when socioeconomic policies cause unrest among the electorate in democratic systems, especially when legislation, policy and strategy are deemed to be faulty when applied to macro government planning systems, especially social services, education, and health.

The WHO report, 'Governance for health in the 21st century - a study conducted for the WHO Regional Office for Europe' (Kickbusch, 2013), drafted in preparation for the European policy for health, Health 2020 (WHO - Regional Office for Europe, 2015) and adopted by the 53 Member States of the Region in September 2012 - defined *governance for health* as:

...the attempts of governments or other actors to steer communities, countries or groups of countries in the pursuit of health as integral to wellbeing through both a 'whole-of-government' and a 'whole-of-society' approach… Governance for health promotes joint action of health and non-health sectors, of public and private actors and of citizens for a common interest. *It requires a synergistic set of policies, many of which reside in sectors other than health as well as sectors outside of government, which must be supported by structures and mechanisms that enable collaboration.* It gives strong legitimacy to health ministers and ministries and to public health agencies, to help them reach out and perform new roles in shaping policies to promote health and wellbeing.

Led by Ilona Kickbusch - director, Global Health Programme, Graduate Institute of International and Development Studies, Geneva, Switzerland - the study reached several conclusions on governance and its contexts, including

- The governance challenges faced by the health sector are not unique: all sectors are experiencing major shifts.
- The contextual drivers of change are interdependence, complexity, co-production and Europe's transition from industrial to knowledge-driven societies.
- 'Wicked problems' require systems approaches that involve a wide range of society and multiple levels of governance, from local to global, with increasing relevance of regional and local levels.
- The new context leads to the new governance dynamics of diffusion, democratization and shared value.
- Health is a major macroeconomic factor and, increasingly, a critical component of business models and strategies. Businesses must reorient themselves towards strategies built on shared value, which can enhance their competitiveness while also advancing social agendas.
- The role of government in governance remains critical and is expanding in many areas of modern life.

In terms of governance for health and well-being, the report highlights:

- Governance for health and well-being is a central building block of good governance; it is guided by a value frame that includes *health as a human right,a global public good, a component of well-being and a matter of social justice.*

- The expanded understanding of health includes consideration of health as an emerging property of many societal systems; it therefore requires action in many systems, sometimes with and sometimes without the involvement of the health sector.
- Whole-of-government and whole-of-society approaches reflect this reality and are grounded in strategies that enhance 'joined-up' government, improved coordination and integration and diffusion of responsibility for health throughout government and society.
- Governance for health builds on experiences gained in the health arena with intersectoral action, healthy public policy and health in all policies (Kickbusch, 2013).

The study underscores that 'Smart governance for health and well-being is already being practised in Europe and in many other parts of the world', as 'Governments are already approaching such governance in new and innovative ways'. *More specifically, 'smart governance' is about how governments address health challenges strategically, the choices they make about the mixture of 'hard' and 'soft' instruments to use, the angle from which they approach a challenge and the partners, and which partners, at which levels of government and society they choose to engage and when.*'

Moreover, the report summarises new approaches to governance for health, noting in particular five types of smart governance for health, 'which should be combined in whole-of-government and whole-of-society approaches':

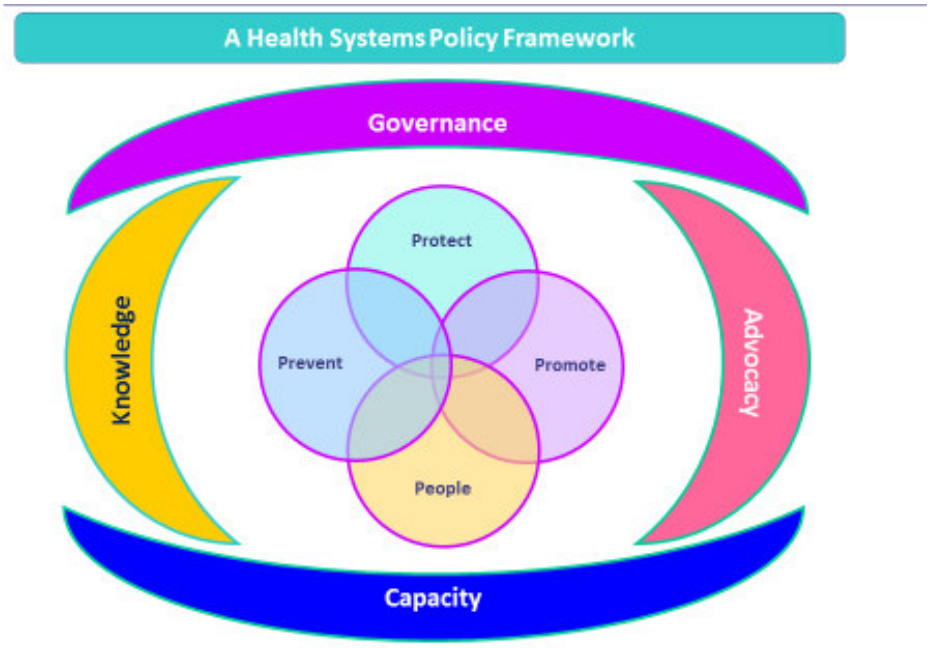
- Governing by collaboration
- Governing through citizen engagement
- Governing by a mix of regulation and persuasion
- Governing through independent agencies and expert bodies
- Governing by adaptive policies, resilient structures and foresight.

2) Public health governance within a health policy framework

Sir Donald Acheson coined 1988 the most often cited definition of public health: "Public health is the science and art of preventing disease, prolonging life and promoting health through organised efforts of society". These ends are optimised, according to the Commonwealth Secretariat (CS) (The Commonwealth, 2015), when they are founded *'upon evidence based **knowledge** and enabled by good **governance, advocacy** and the **capacity** to ensure fair, secure and sustainable health and well-being for all'.*

In the cited paper titled 'A Health Systems Policy Framework – to support the sustainable delivery of Universal Health Coverage' the Commonwealth adopts the definition of 'governance' outlined in the first section and confirms that governance refers to 'the actions of governments and other actors to steer communities, whole countries or even groups of countries in the pursuit of health as integral to well-being through both whole-of-government and whole-of-society approaches**'.** In figure 1a, the key components of a health systems policy framework are grouped.

Figure 1a: Key components of a health systems policy framework
(taken with permission from (The Commonwealth, 2015))



An overview – *the Headings and Sub-headings for the Health Policy Framework:*

1. **Governance:** public health legislation; policy; strategy; financing; organisation; quality assurance: transparency, accountability and audit.

2. **Knowledge:** surveillance, monitoring and evaluation; research and evidence; risk and innovation; dissemination and uptake.

3. **Protection:** International Health Regulation (IHR) and co-ordination; communicable disease control; emergency preparedness; environmental health; climate change and sustainability.

4. **Promotion:** inequalities; environmental determinants; social and economic determinants; resilience; behaviour and health literacy; life-course; healthy settings.

5. **Prevention:** primary prevention: vaccination; secondary prevention: screening; healthcare management and planning.

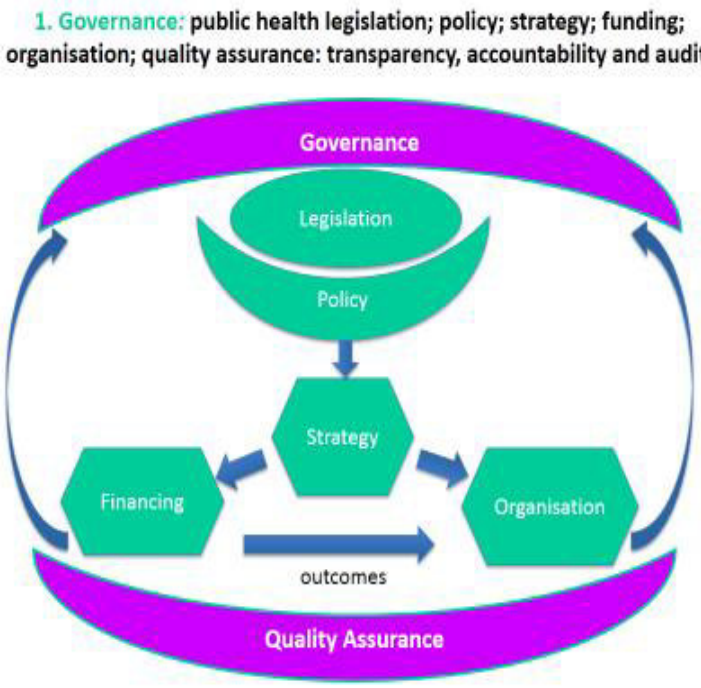
6. **People:** primary health care; secondary health care; tertiary health care and rehabilitation.

7. **Advocacy:** leadership and ethics; community engagement and empowerment; communications; sustainable development.

8. **Capacity:** workforce development for public health, health workers and wider workforce; workforce planning: numbers, resources, infrastructure; standards, curriculum, accreditation; capabilities, teaching and training.

Summarised in Figure 1b, *governance* – 'the actions of governments and other actors to steer communities, whole countries or even groups of countries in the pursuit of health as integral to well-being through both whole-of-government and whole of society approaches' has been further delineated.

Figure 1b: A health governance framework
(taken with permission from (The Commonwealth, 2015))



These six components have been further defined as follows:

Legislation -
Public health law including designation of public health functions, roles and responsibilities; includes cross-cutting legislation, and for specific topics like tobacco and alcohol control, salt reduction or food fortification;
- International, national, regional and local leadership roles;
- International health regulations and human rights agreements;
- Regulations for environmental health and work, and for non-communicable diseases;
- Public accountability and enforcement of legislation, including policing, and reporting systems.

Policy -
- Senior cross-governmental ministerial public health committees and working groups and health advisors to embed public health across policy;
- Health diplomacy and foreign policy for health security and to benefit health;

- Development of cross-sector policy that benefits health, (health in all policies);
- Development of health policy for public health;
- Cross- sector Health Impact Assessments.

Strategy -

- Whole of society approaches, skills for strategy development;
- Stakeholder engagement;
- Public health information and health needs assessment with priority setting, using evidence based and cost-effective interventions;
- Service delivery and monitoring of outcomes.

Financing -

- Appropriate funding sources assigned for the public health functions;
- Ensure sustainable financing systems that protects public health services;
- Public Health financing includes raising funds, pooling and channelling of resources, and incentives to maximise efficiency, effectiveness and equity.

Organisation -

- Clarify roles, responsibilities, outcomes and accountability of organisations delivering public health functions;
- Ensure sufficient capacity to deliver services, functions and operations.

Quality assurance -

- Transparent and accountable processes are in place to improve outcomes and monitor processes to ensure effective, efficient, equitable, accessible, acceptable, safe and sustainable services;
- Undertake audits for quality improvement.

3) Policy-making in the 21st century

Strengthening of public health capacity requires 'the ability of a system to solve new problems and respond to unfamiliar situations' (Kickbusch, 2013). The main levers for DOIng so are identified in Figure 1. The priority for many governments involves the fact that 'Policy interventions that promote health and prevent disease are a means of reducing costs and building capacity within the health system and society as a whole'.

One of the key problems 'in policy-making in the 21st century is dealing with uncertainty' and that the process 'has become more complex as it attempts to address "wicked problems" and systemic risks, confronting multiple possible futures'. Nowadays decision-making includes 'many players and stakeholders' to reach agreement on courses of action. Exacerbating policy-making in the 21st century is the fact 'that the amount of evidence is always increasing and it is rarely final'. Further, the report by Ilona Kickbusch notes that 'these uncertainties constitute a major problem for traditional bureaucracies: first, they are averse to risk and unlikely to act when they cannot be sure of the result; secondly, they have no incentive to take initiatives beyond their own sector.' Addressing 'the major social challenges by a sectoral division of labour and with a short-term perspective when the challenges themselves interact, are interconnected and have long-term impacts' is no longer viable nor is linear thinking as "part of the wickedness of an issue lies in the interactions between causal factors, conflicting policy objectives and disagreement over the appropriate solution.

Nine features distinguish policy-making in the 21st century (Kickbusch, 2013):

- *Forward looking*: a long-term view based on statistical trends and informed predictions of the probable impact of the policy
- *Outward looking*: taking account of the national, European and international situation and communicating policy effectively
- *Innovative and creative*: questioning established methods and encouraging new ideas; open to the comments and suggestions of others
- *Using evidence*: using the best available evidence from a range of sources and involving stakeholders at an early stage
- *Inclusive:* taking account of the impact of the policy on the needs of everyone directly or indirectly affected
- *Joined-up*: looking beyond institutional boundaries to the government's strategic objectives; establishing the ethical and legal basis for policy
- *Evaluative*: including systematic evaluation of early outcomes into policy-making
- *Reviewing*: keeping established policy under review to ensure that it continues to address the problems for which it was designed, taking into account associated effects
- *Learning lessons*: learning from experience of what works and what doesn't

4) Limitations of addressing contemporary health and well-being issues

While projects such as the European Health 2020 (WHO - Regional Office for Europe, 2015) and the US Healthy People 2020 (Centres for Disease Control and Prevention, 2015), are commendable - generally involving assessment, strategy development, pooled budgets for implementation and evaluation - what is becoming clear is that conventional approaches to addressing complex health and well-being issues at national and global levels are having limited success (Lueddeke, 2016). As two examples, obesity rates are rising exponentially and mental health is emerging as a key issue affecting all ages.

In terms of global wars and conflicts, many rooted in 'economic inequalities, social conflicts, religious sectarianism, territorial disputes, and fighting for control of basic resources such as water or land,' Germà Pelayo, a founding member of the Forum for a New World Governance (Forum for a New World Governance, n.d.), observes that:

The spread of tensions to many areas of the planet and the difficulties in solving them, as well as the unprecedented ecological deterioration due to the interaction of human activities with the biosphere have reached levels that are threatening the very survival of humankind.

While not wishing to sound 'Apocalyptic,' he traces the causes of many of today's unsettling developments to 'an almost permanent demonstration of exclusion and of economic and social inequalities in the low-income districts of towns, both large and small, in every continent'. Equally disturbing are 'the rising power of the networks of organized crime, trafficking drugs and human beings and taking advantage of the absence of strong institutions at every level'.

Feelings of alienation are also manifested at national and local levels where 'The disaffected voter is fed up with the status quo and yearns for somebody authentic and

uncompromised' and someone who has 'the ability to speak to people in plain language' (Meyer, 2016).

5) 'Good' governance and world bank governance indicators

The Office of the United Nations High Commissioner for Human Rights (OHCHR) reminds us that 'There is no single and exhaustive definition of "good governance," nor is there a delimitation of its scope, that commands universal acceptance' (Office of the United Nations High Commissioner for Human Rights (OHCHR), 2015). However, although use of the term presents some difficulty, OHCRH encompasses at least 13 key characteristics:

- full respect of human rights
- the rule of law
- effective participation
- multi-actor partnerships
- political pluralism
- transparent and accountable processes and institutions
- an efficient and effective public sector
- legitimacy
- access to knowledge, information and education
- political empowerment of people
- equity
- sustainability, and
- attitudes and values that foster responsibility, solidarity and tolerance

Overall, for the OHCRH, 'The true test of "good" governance is the degree to which it delivers on the promise of human rights: civil, cultural, economic, political and social rights. The key question is: are the institutions of governance effectively guaranteeing the right to health, adequate housing, sufficient food, quality education, fair justice and personal security?' Key attributes of good governance, therefore, include:

- transparency
- responsibility
- accountability
- participation
- responsiveness (to the needs of the people)

An important link exists between good governance and human rights, which 'are mutually reinforcing.' On the one hand, 'Human rights principles provide a set of values to guide the work of governments and other political and social actors,' while, on the other, ' they also provide a set of performance standards against which these actors can be held accountable'. One of the eight features of modern policy-making (section 3) 'Accountability' is crucial and is about:

Engaging with, and being responsive to, stakeholders. It means taking into consideration their needs and views in decision-making, and providing an explanation of why they were or were not taken on board. In this way, accountability is less a mechanism of control and more a process for learning. Being accountable is about being

open with stakeholders, engaging with them in an ongoing dialogue and learning from the interaction. Accountability can generate ownership of decisions and projects and enhance the sustainability of activities. Ultimately it provides a pathway to better performance.

Key Links between good governance and human rights:

- Democratic institutions: participating 'in policymaking either through formal institutions or informal consultations' and establishing 'mechanisms for the inclusion of multiple social groups in decision-making processes, especially locally'.
- Service delivery: providing 'public goods which are essential for the protection of a number of human rights, such as the right to education, health and food'.
- Rule of law: reforming 'legislation' and assisting 'institutions ranging from penal systems to courts and parliaments to better implement that legislation'.
- Anti-Corruption*:* relying 'on principles such as accountability, transparency and participation to shape anti-corruption measures'.

World Bank Governance Indicators

Capturing key characteristics of the OHCHR, the indicators measure the quality of governance in around 200 countries, based on surveys and other country assessments of governance' (The World Bank Group, 2015a). These 'indicators combine the views of a large number of enterprise, citizen and expert survey respondents in industrial and developing countries,' and 'are based on over 30 individual data sources produced by a variety of survey institutes, think tanks, non-governmental organizations, international organizations, and private sector firms. They are updated annually since 2002 and identify six key dimensions of governance:

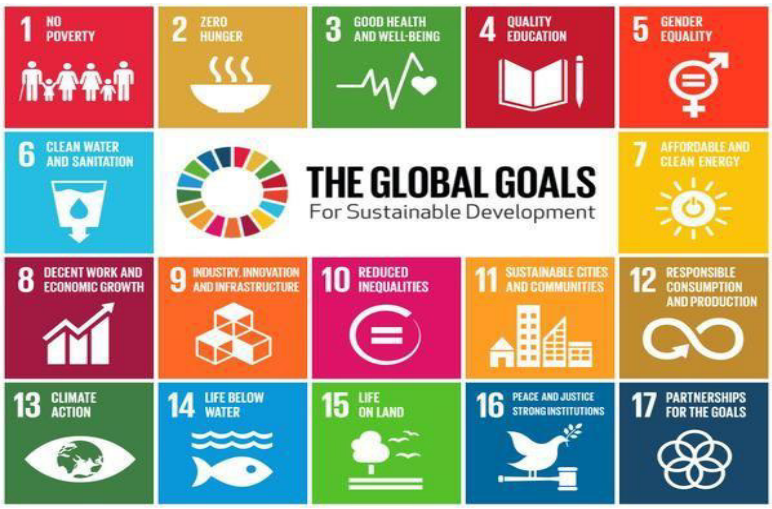
- Voice and Accountability
- Political Stability and Absence of Violence
- Government Effectiveness
- Regulatory Quality
- Rule of Law
- Control of Corruption

An interactive data access tool allows users to select different views of the data, including (e.g, graph and table views) and combining / comparing different data sets across nations (e.g., accountability, rule of law and corruption). For example, figure 2 combines and compares three indicators - Political Stability and Absence of Violence, Rule of Law, and Control of Corruption across Low Income, Lower Middle Income and Upper Middle Income countries. The data has remained relatively stable overall.

Figure 2: World Bank governance indicators applied to Political Stability, Rule of Law and Control of Corruption in Low Income, Lower Middle Income and Upper Middle Income Countries.

The Addis Ababa Action Agenda meeting in Ethiopia (United Nations, 2015b) was highly significant as it provided the funding levers – while controversial - required to enact the 2030 Agenda for Sustainable Development, including the Sustainable Development Goals (Figure 4) (United Nations, 2015c), which has been described as the 'biggest decision in history' as it asks humans to reconnect with their planet.'

Figure 4: The UN sustainable development goals



Key UN Councils, Divisions, and Fora that played a signifcant role leading to the adoption of the 2030 Agenda for Sustainable Development include:

The Economic and Social Council (ECOSOC), first convened in January 1946 in London, with Sir Ramaswami Mudaliar of India chairing as its first President. Since then, the 54-member body has served as the central platform of the UN to address global economic, social and related issues (United Nations Economic and Social Council (ECOSOC), n.d.). It plays a key role in convening development actors to address a broad range of themes that contributed to preparations for a unified and universal post-2015 development agenda, by conducting cutting-edge analysis, agreeing on global norms and advocating for progress towards collective solutions to advance sustainable development. An interesting view differentiating the roles of the Security Council and ECOSOC is that while the Security Council exists primarily for settling conflicts […] the Economic and Social Council exists primarily to eliminate the causes of conflicts.

The United Nations Office for Sustainable Development (UNOSD) provides leadership in promoting and coordinating implementation of the sustainable development agenda of the United Nations and serves as the primary UN office responsible for supporting intergovernmental processes in the area of sustainable development (United Nations - Office for Sustainable Development (UNOSD), n.d.). The work of the Division translates into five core functions:

(1) Support to UN intergovernmental processes on sustainable development;
(2) Analysis and policy development;
(3) Capacity development at the country level;
(4) Inter-agency coordination; and
(5) Knowledge management, communication and outreach.

The High-level Political Forum (HLPF) is the central UN platform for the follow-up and review of the 2030 Agenda for Sustainable Development adopted at the United Nations Sustainable Development Summit on 25 September 2015 (High-Level Political Forum

(HLPF), n.d.). Its main remit is to 'provide political leadership, guidance and recommendations on the Agenda's implementation and follow-up; keep track of progress; spur coherent policies informed by evidence, science and country experiences; as well as address new and emerging issues'. One of its main roles is 'to conduct national reviews and thematic reviews of the implementation of the Agenda, with inputs from other intergovernmental bodies and forums, relevant UN entities, regional processes, major groups and other stakeholders'.

The United Nations Framework Convention on Climate Change (UNFCCC) entered into force on 21 March 1994 (United Nations, 2015a). Today, it has near-universal membership. The 195 countries that have ratified the Convention are called Parties to the Convention, as shown in Figure 6. The Conference of the Parties (COP) is the supreme decision-making body of the Convention. All States that are Parties to the Convention are represented at the COP, at which they review the implementation of the Convention and any other legal instruments that the COP adopts and take decisions necessary to promote the effective implementation of the Convention, including institutional and administrative arrangements.

Figure 5: Conference of the parties (COP)

7) Rationales for a new worldview

Introductory comments for a Commonwealth Secretariat Health Systems Framework (The Commonwealth, 2015) summarised 'the challenges facing the nations that recently agreed the UN 2030 Agenda for Sustainable Development' and underscore that they are 'complex, urgent, and multidimensional'. More particularly, the observations highlight that these key issues stem from two main interconnected and interdependent sources or determinants: environmental and socioeconomic, and are highly sensitive to and reliant on political commitment and action. Issues that call for global responses include, *inter alia*, population growth and urbanization; war and conflicts, prompted largely by territorial ambitions and violent jihadism; climate change and fragile ecosystems; renewed nationalism; social intolerances; corruption and continuing market uncertainties, to name several issues (Lueddeke, 2016). Many of the poorer nations are 'encountering a quadruple burden: not only do these countries have to tackle communicable diseases (e.g. HIV/AIDS, malaria, tuberculosis, Ebola) they are also confronting an increasing number of non-communicable diseases, many of which can be traced to problems of modernity, where there appears to be considerable incongruence between our lifestyle today and our genetic make-up evolved over millions of years. In addition, poverty illnesses (e.g., perinatal/maternal), violence, and injury continue to undermine health and well-being' (Lueddeke, 2014).

Sir Christopher Meyer, former U.K. ambassador to the U.S., in an article lamented that he could not recall in his lifetime 'a more uncertain and dangerous international situation - and that includes the almost 50 years of Cold War between America and the Soviet Union, when at least twice the tensions almost boiled over into nuclear war' (Meyer, 2016). It was, however, also a time when ' under US leadership, there was a clear international order resting on great alliances and institutions created from the rubble of the Second World War – Nato, the UN, the International Monetary Fund, the European Community (today's European Union, EU) and the like.' The situation, however, tense, 'reduced to a minimum the risks of war by accident or misunderstanding'. 'Today,' he contends, 'Anarchy stalks the globe, demonstrated by Putin's Russia…; China's territorial ambitions…, IS…rolling up the map of the Middle East, while taking its brand of violent jihadism into the heart of Europe and Muslim capitals around the world; and the EU, relapsing into a dog-eat-dog nationalism…'.

The argument for second-order transformational change (not only DOIng things better but also *DOIng better things*) is clear. In terms of global health and well-being the early decades of the 21st century must pave the way for a new way of thinking about the planet and each other. Edward Lucas (senior editor at *The Economist*, probably came closest to the heart of what ails the planet and where fundamental change must begin, saying 'For a start, we need to accept that business and finance are the servants of our civilization, not its masters' (20). This concern was certainly not lost on Pope Francis at the opening session of the UN SDGs on Sept 25 2015 in New York, when he traced the major cause of global unrest and turbulence on 'a selfish and boundless thirst for power and material prosperity (which) leads both to the misuse of available natural resources and to the exclusion of the weak and disadvantaged (Sengupta and Yardley, 2015).

While these observations cut through much of the global rhetoric on what needs to be done, emphasis on profit over planet and people well-being continues unabated. As one example, the Group of 20 (G20) Finance Ministers recently endorsed a set of

G20/Organization for Economic Cooperation and Development (OECD) corporate governance principles, which 'provide recommendations for national policymakers on shareholder rights, executive remuneration, financial disclosure, the behaviour of institutional investors and how stock markets should function' (OECD, 2015). Principles and values on the impact of these on society as a whole are not readily apparent, and we might well ask whether principles related to humanitarian issues, such as the Middle East crises, where, as one example, people of all ages are being displaced at an unprecedented rate, do not merit at least the same, if not more, attention and consideration.

Journalist Matthew Parris reinforces the latter view (Parris, 2016), posing the fundamental question 'Is the free market distributing its spoils in a morally defensively way?' He cites the Oxfam study (Oxfam, 2015) in 2015 that 'just 62 people owned as much as 3.6 billion people' and that 'The typical FTSE CEO makes 183 times more than their average employee,' while 'The high-end sees chief executives taking home more than 810 times the wages of their average employee'. In terms of allocating salaries, Parris observes, 'Something has gone seriously wrong with the process' that he labels 'a circular hiring squad'. Like others who have tried to find a more equitable approach to reward corporatism, aside from several outlandish or 'crackpot' suggestions, the columnist is stymied and 'to asking how else we can do it'.

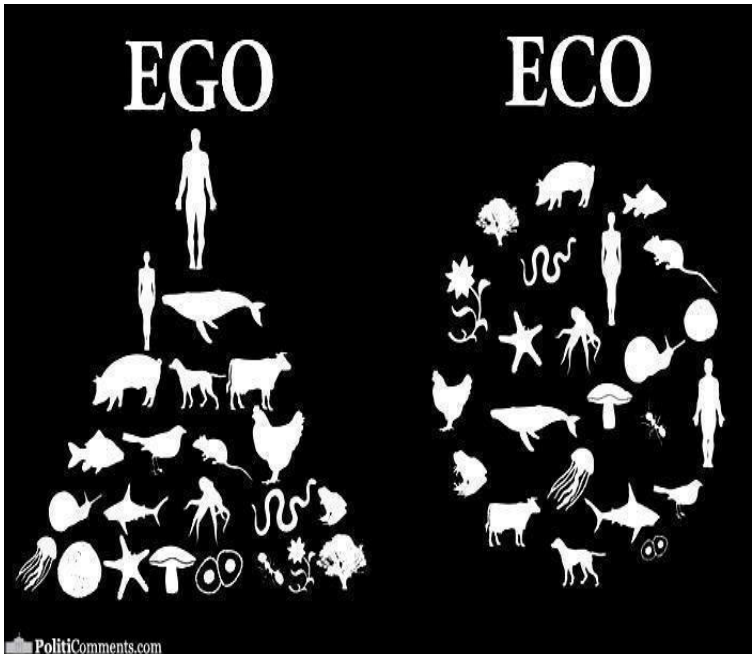
Part of the issue may be that we have taken a much too narrow approach to well-being and development, in particular equating growth, material wealth and consumerism with material living standards, argued in 'A vision for human well-being: transition to social sustainability' (Oxfam, 2015). Rogers' et al. see 'human well-being' as a multidimensional concept: objective ('material wealth and physical health') and subjective ('such as quality of social relationships or feelings of happiness'). Sustainability 'of the communities most in need', the authors assert, 'will necessitate a more equitable global distribution of resources and empowerment and a move way from 'throw away goods, consumption, and individualism to services, recycling and social relationships, thereby freeing up 'resources, while maintaining (or improving) life satisfaction'. An interim step could be for more corporations to take on board principles, values and practices espoused in the conscious capitalism (CC) movement (Lueddeke, 2014).

The UN SDGs have succeeded in encouraging policy makers to think 'beyond health and embrace a broad notion of sustainable development'. But, in light of the OECD and others' corporate governance principles, whose focus is generally on helping business 'access equity capital for long-term investment and generate economic growth', the inequitable distribution of wealth, and paradoxes, such as, excessive oil production - even though there is an overabundance on world markets, and although the link to climate destabilisation is clear, we must question global resolve or commitment to saving the world from potential disastrous consequences.

Generally speaking and despite the positive outcomes of the UN SDGs and the Paris Climate Change Accord, we appear to cling to the mindset that *'*the world is *'a place made especially for humans and a place without limits,'* (EGO-centric), rather than one that recognises the need for a planet that is *'compatible with our needs as human beings but also an outer world that is compatible with the needs of our ecosystem'* (Rogers et al., 2012), ECO-centric, highlighted in Figure 6 (Hanlon et al., 2012). The need to reconceptualise global priorities, policy and practice, government and corporate – and needed societal

transitions in terms of human behavioural change (e.g., consumption vs. social relationships) could not be greater.

Figure 6: Perceived relationships of humans to other species – EGO-centred vs ECO-focused



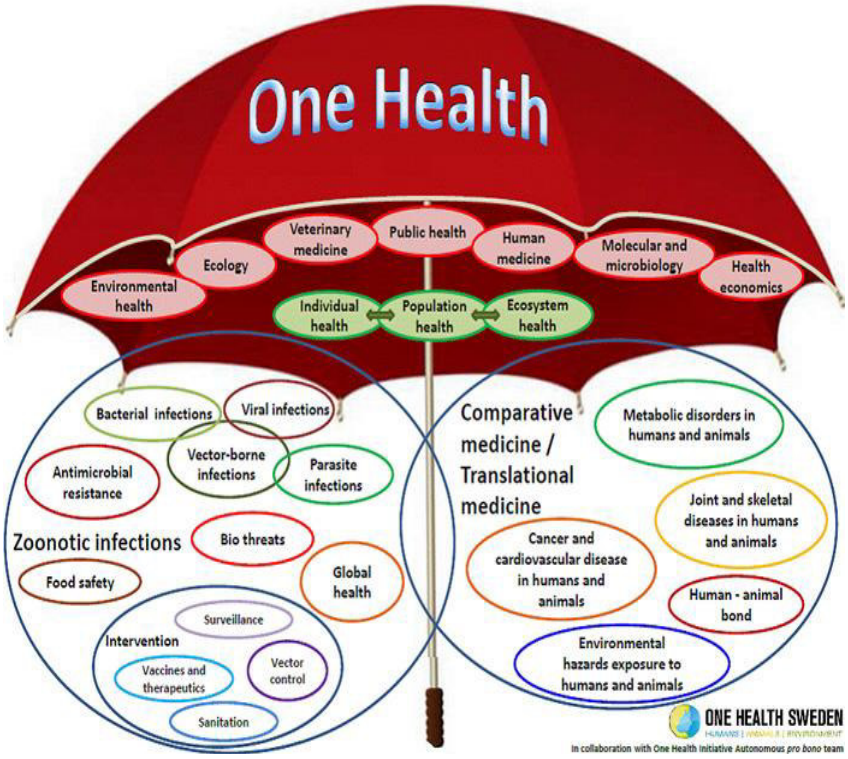
8) The 'One World, One Health' concept and global impact

The meaning of One World, One Health

The French novelist, poet, playwright and historian, Victor Hugo is credited with the observation in the 1800s, that "There is nothing more powerful than an idea whose time has come." The 'One World, One Health' concept may fall into this realm and provide the impetus for taking forward the essential steps necessary to underpin and implement the 2030 Agenda For Sustainable Development, which in the final analysis, is the means for 'our survival as a species' which depends on sustaining the health and well-being of the planet and people.

According to the One Health Initiative (One Health Commission, 2016), the One Health concept, as shown in Figure 7, highlights that most human illnesses in history are caused by zoonotic (lower animal infections) along with environmental factors.

Figure 7: The One Health concept



Addressing threats to human health and well-being requires 'expanding interdisciplinary collaborations and communications in *all* aspects of health care for humans, animals and the environment' at all levels – local, national, regional, global. The US One Health Initiative (One Health Initiative, n.d.) reinforces this observation as

- worldwide, nearly 75 percent of all emerging human infectious diseases in the past three decades originated in animals.
- environmental health may affect human and animal health through contamination, pollution and poor conditions that may lead to new infectious agents.
- the world population is projected to grow from 7 billion in 2011 to 9 billion by 2050 and in order 'to provide adequate healthcare, food, and water for the growing lobal population, the health professions, and their related disciplines and institutions, must work together.

The concept is not new. As one example, Rudolf Virchow (1821-1902), a physician, social reformer, politician, and anthropologist in the19th century Berlin asserted that "Between animal and human medicine there is no dividing line – nor should there be. The object is different but the experience obtained constitutes the basis of all medicine" (Politicomments, 2016).

Regrettably, however, according to Professor Waltner-Toews at Guelph University in Canada, 'Much of this integrative thinking was pushed into the background in the mid-twentieth century as many leaders and scholars were lured by the vision that infectious disease had been conquered, and that through basic scientific understanding, advanced technology and unlimited electrical power, humanity had somehow been freed from the

bonds of nature. In the late 20th century, this vision was clearly demonstrated to be an illusion (Lueddeke, 2016).

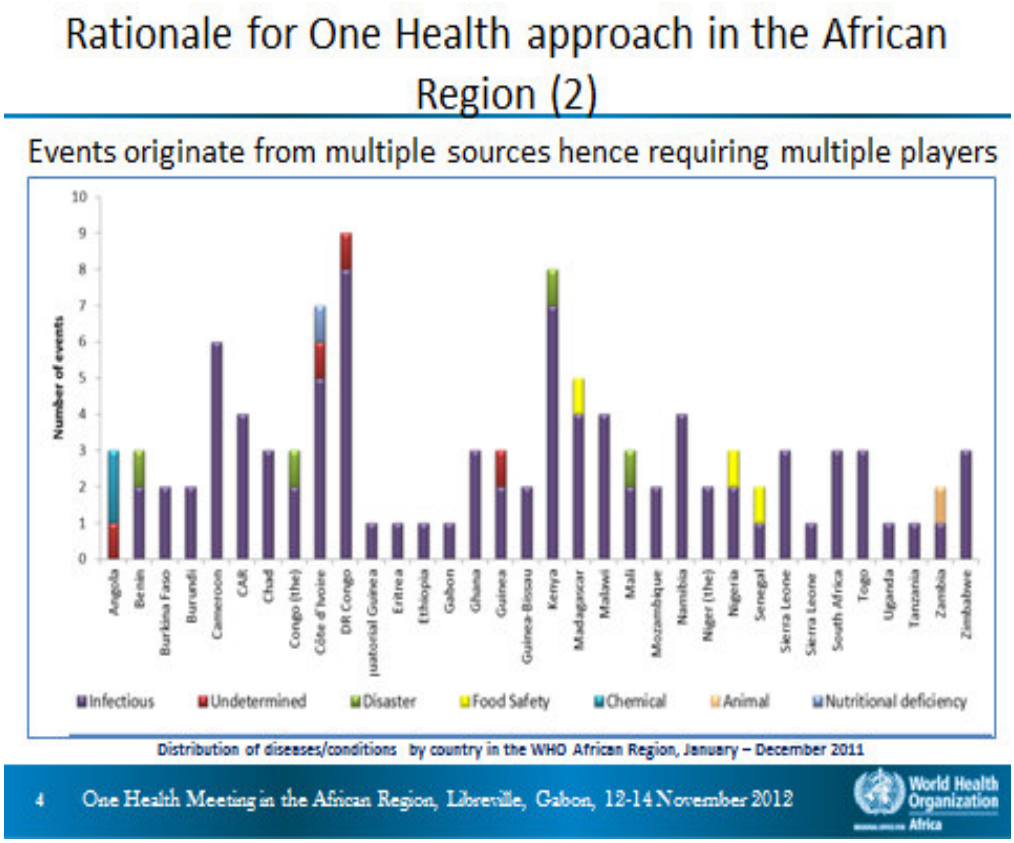
African region: a case example

Affirmed a few years ago (Yoti, 2013), Dr Zabulon Yoti, country team advisor on disease control at WHO, the African region is a case in point (WHO - Regional Office for Africa, 2013). His analysis points to the urgency of making a comprehensive paradigm shift to encompass *all* public health threats (figure 8) rather than simply identifying diseases and responding to immediate needs only to return when the immediate threats have been reduced (e.g., Ebola in Sierra Leone).

Figure 8: From vertical to horizontal public health initiatives

As figure 9 illustrates, there are multiple causes – infections, disasters, food safety, chemical, animal and nutritional deficiencies – that undermine the health of African people, many of which stem from a weak infrastructure and increasing regional conflicts, many now grounded in terrorist ambitions. Added to these burdens are an increase in non-communicable diseases (e.g., cancers, cardiovascular) and domestic violence often stemming from factors such as unemployment and substance abuse (Forum for a New World Governance, n.d.).

Figure 9: Multiple sources of disease and conditions in the African region



Drivers of environment and health conditions

Along with these factors undermining the health and well-being of millions are environmental threats to health, causing, such as 'Poor environmental conditions' that 'cause a large proportion of the global burden of disease'. It is estimated that 'Some 60% of the world's vital ecosystems are degraded or being subjected to unsustainable pressures' (Yoti, 2013). It is also noteworthy that 'Many of the ultimate drivers of environment and health conditions lie outside the direct jurisdiction of the relevant sectors. Rogers et al (Rogers et al., 2012) emphasise that: Socioeconomic inequality is not just an ethical issue: research shows that it also is a factor in many of the problems of the world. A positive association between lower socioeconomic status and higher mortality has been well documented in contemporary populations. Inequality may promote conflict within and between ethnic groups, classes and societies, and drive international immigration. It appears to raise prevalence of poor health, mental illness, crime, violence, and other societal ills. Inequality reduces cultural diversity through the disempowerment of local minority communities. It may inhibit economic growth in developing countries, reduce sustainability, promote corruption, and play a role in destabilizing economies.

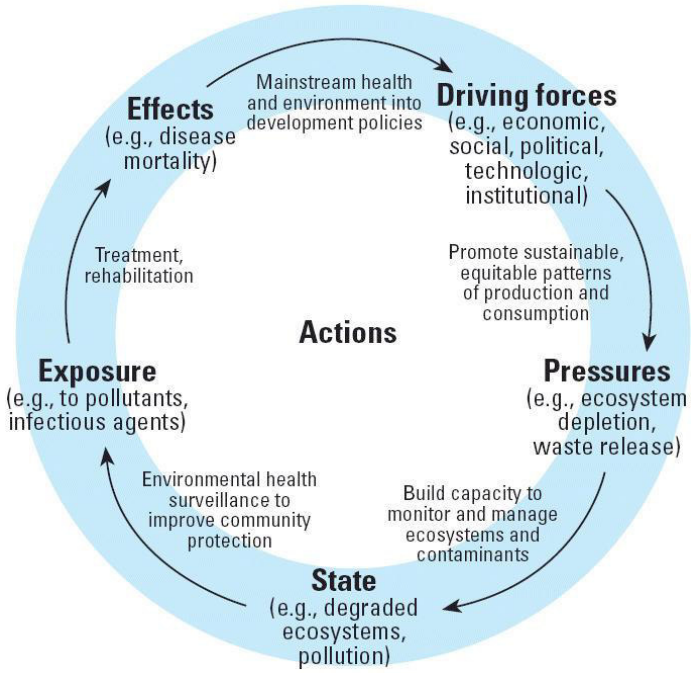
Toward multi-sectoral and integrated policies underpinned by One Health principles and practice

Three major findings of the seminal Millennium 'Ecosystems and Human Well-Being' synthesis report (WHO, 2005) include, among others, first, that 'The goals of

ecological sustainability and human health are mutually reinforcing'; secondly, that 'Choices made about the management of ecosystems can have important consequences for health, and vice versa'; and, thirdly, while, 'The health sector can make an important contribution to reducing the damage caused by environmental disruptions', research shows that 'the greatest gains would be made by interventions that are partly or wholly placed in other sectors'.

Achieving 'the goal of enhancing human well-being while conserving ecosystems' - the authors affirm - 'wide-ranging reforms of governance, institutions, laws and policies are required'. In addition, they highlight that 'Effective management cannot focus on a single approach (markets, local control, government control etc.)', and that 'Response strategies must be tailored to the specific social and environmental context. The overall conclusion is that while 'some of the threats can be addressed by the health or environment sectors acting alone', many cannot and, ideally informed by the One Health concept 'require the development of integrated policies that address health, environment and development goals coherently', as illustrated in Figure 10 (Health Gains, n.d.).

Figure 10: Driving Force-Pressure-State-Exposure-Effect-Action (DFPSEEA) framework



'Each time the sun rises, we should be reminded of the strength that we get from working together'

Building capacity to tackle these issues remains a key challenge and necessitates greatly improving collaboration and coordination mechanisms, multi-sector engagement, the sharing of information, laboratory capacity and increasing knowledge on emerging health threats (WHO - Regional Office for Africa, 2013).

UN 2030 Sustainable Development Goals and tools for building education capacity

SDG 4, 'Ensure inclusive and equitable quality education and promote lifelong learning,' affirms that education is one of the main ways for building capacity to improve health and well-being for planet and people alongside prosperity. In this regard two targets may be particularly noteworthy as nations are tasked, among others, by 2030 to

- substantially increase the number of youths and adults who have relevant skills, including technical and vocational skills, for employment, decent jobs and entrepreneurships; and
- ensure that all learners acquire the knowledge and skills needed to promote sustainable development, including, among others, through education for sustainable development and sustainable lifestyles, human rights, gender equality, promotion of a culture of peace and non-violence, global citizenship and appreciation of cultural diversity and of culture's contribution to sustainable development.

OneHealth curriculum resources could be helpful - ideally, through multi-sector training which might take place at 'community, district and national levels (WHO - Regional Office for Africa, 2013):

The OneHealth Tool

In this regard, the OneHealth Tool, 'a software tool designed to inform national strategic health planning in Low- and Middle-Income Countries' may be particularly useful as it 'attempts to link strategic objectives and targets of disease control and prevention programmes to the required investments in health systems' rather than 'costing tools take a narrow disease-specific approach' (WHO, n.d.). Outputs from an application will help planners answer the following questions:

- What would be the health system resources needed to implement the strategic health plan (e.g., number of nurses and doctors required over the next 5-10 years)?
- How much would the strategic plan cost, by year and by input?
- What is the estimated health impact?
- How do costs compare with estimated available financing?

The OneHealth Tool is overseen by the UN InterAgency Working Group on Costing (IAWG-Costing) with WHO technical support and has been applied in more than 25 countries to date, most of which in sub-Saharan Africa (updated versions of the software are regularly released.)

Health and Environment Decision-making in Developing Countries (HELI)

HELI encourages countries to address health and environment linkages as integral to economic development. HELI activities include country-level pilot projects and refinement of assessment tools to support decision-making (WHO, 2016). Two types of tools are available through a 'one stop- shop:

- Policy Relevant Tools, for example, 'Case-studies of impact assessment' (located through Impact Assessment - directory of references/resources)
- Priority Risks to Environment and Health, for example, 'Climate change and Guidance, training, and capacity building (located through directory of references/resources)

Tailoring the UN 2030 agenda for sustainable development to national contexts

The document, *Mainstreaming the 2030 Agenda for Sustainable Development Interim Reference Guide to UN Country Teams* (UN Development Group, 2015), 'is designed as a reference guide for UN Country Teams (UNCTs), under the leadership of the UN Resident Coordinators, that wish to support Member States and national stakeholders in tailoring The 2030 Agenda for Sustainable Development to national contexts ("mainstreaming") while protecting its integrity'.

As shown in Figure 11, the guide 'features an array of approaches and tools that UNCTs can discuss with Member States to adapt the Agenda to national, sub-national and local conditions and realities, incorporating regional perspectives where appropriate. These approaches and tools should be treated by UNCTs as a menu of options, with the case studies providing examples of how some countries have begun to develop and use relevant tools'.

Though this reference guide was primarily prepared for UNCTs, the steps it describes, the case studies it highlights, and the publicly available tools that it refers to, might also be of direct use to a broader audience of government officials and development practitioners.

Figure 11: Guide for implementing the 2030 agenda for sustainable development at national levels

9) Safeguarding the planet and people health and well-being: toward a new form of world governance?

The adopted main theme for the 46th Annual Meeting of the World Economic Forum in Davos-Klosters, Switzerland, in 2016, attended by over 2,500 leaders from business, government, international organizations, civil society, academia, media and the arts was

‘Mastering the Fourth Industrial Revolution’ (World Economic Forum, 2016). While the aims are timely and compelling, especially their focus on ‘transforming the economic, social, ecological and cultural contexts in which we live’, it is debateable whether the lectures and discussions came close to resolving central issues relating to global socioeconomic and geopolitical challenges, including ‘economic inequalities, social conflicts, religious sectarianism, territorial disputes, and fighting for control of basic resources such as water or land’ (Forum for a New World Governance, n.d.). The probability of addressing and upholding the principles of international law and justice seem even more remote, including the ‘appalling practices’ of patriarchal cultures which have seen discrimination against women and girls flourish (Pearson, 2016).

Serious crimes against the natural world are also being committed. In this respect Marco Lambertini, director general of WWF International, writing in the WWF *Living Planet Report 2014* emphasises that “In less than two human generations, population sizes of vertebrate species have dropped by half. These are the living forms that constitute the fabric of the ecosystems which sustain life on Earth - and the barometer of what we are DOIng to our own planet, our only home. We ignore their decline at our peril (WWF International, 2014)”.

Exacerbating these growing concerns, William White, the Swiss-based chairman of the OECD committee and former economist of the Bank for International Settlements adds another which give us cause for concern: ‘The global financial system has become dangerously unstable and faces an avalanche of bankruptcies that will test social and political stability…The situation is worse than it was in 2007’.

The huge socioeconomic and geopolitical challenges facing us seem almost insurmountable and piecemeal attempts at resolving these at regional and global levels are proving unsatisfactory. ‘In 1945, the world responded to the deadliest conflict in human history by establishing the United Nations’ (Clark and Grandi, 2016), and it seems timely to re-think how best to address a wide range of intractable problems we face, many of which have been captured by the 2030 Sustainable Development Goals.

However, while planning for the SDGs was well executed, the probability of achieving most of the 17 goals, including affirmation of the UN pledge to “leave no one behind” in the fight against poverty and inequality, despite detailed plans, seems remote. There are simply too many obstacles in the way, including Big Business and Big Politics. However, as the Paris Climate deal confirmed, it is possible to get 195 nations to agree to and work toward a common goal that threatens the planet and its inhabitants.

For these reasons - and of course there are many more - conscientious and future-oriented world leaders - many of whom attended the opening day of the Paris Climate Conference - might now need to consider the establishment of a new global mechanism (figure 12) that is beyond national self-interests - socioeconomic and geopolitical - and beyond ‘a relatively weak system of multilateral institutions built on the shaky foundations of the consent of sovereign states’ (Ottersen et al., 2014), which were established in a much different world.

Figure 12: Toward a global sustainability council

A new global governance structure might build on the 'power asymmetries', identified by *The Lancet*-University of the Oslo Commission of Global Governance for Health. Their report, 'The political origins of health inequity: prospects for Change (Frenk et al., 2014)', identified five main dysfunctions of global governance that allow adverse effects of global political determinants of health to persist, and which, arguably, could apply to other SDG areas; namely,

- lack of participation of key groups in decision-making processes;
- inability to constrain power;
- norms, rules and decision-making processes that undermine change;
- inadequate policy-making arenas; and
- absence of international institutions to protect and promote health.

The overarching aim of a revitalised 'global socioeconomic and geopolitical sustainability' body could be to ensure the health and well-being of the planet and its people. According to the 2016 World Economic Forum (World Economic Forum, 2016), initial priorities in the next 18 months and over the next 10 years involve such issues as:

- Involuntary migration
- State collapse or crisis
- Interstate conflicts
- Unemployment and underemployment
- National governance
- Water crises
- Climate change
- Extreme weather
- Food crises
- Social instability

Others that could be added include

- Pandemics and epidemics
- Consequences of modernity
- Cybercrime
- Cultural inertia
- Investment and conscious capitalism
- Corruption
- Re-building national trust …
- Growth in well-being (vs. consumption) …

In the longer term, according to the authors of *The Lancet* paper, 'From sovereignty to solidarity: a renewed concept of global health for an era of complex interdependence' (Ottersen et al., 2014) a fundamental change is required: 'the gradual construction of a global society…based on the principles of human rights and the logic of health interdependence' whereby all stakeholders '...accept to share the risks, rights, and duties related to protection and promotion of the health of every member of this society'. We have to move from sovereignty to solidarity (Frenk et al., 2014).

"As human beings, our greatness
lies not so much in being able to remake the world
– that is the myth of the atomic age –
as in being able to remake ourselves."
Gandhi

Exercises

1) Governance for health and well-being

The report, 'Governance for health in the 21st century: a study conducted for the WHO Regional Office for Europe', highlights that 'Health is a major macroeconomic factor and, increasingly, a critical component of business models and strategies. Businesses must reorient themselves towards strategies built on shared values, which can enhance their competitiveness while also advancing social agendas'.

- *What kind of initiatives (at least 3) might 'business' need to consider to ensure that corporate priorities also advance social priorities?*
- *To what extent have these initiatives been demonstrated and achieved in your country?*

2) Public health governance within a health policy framework

'Governance' is defined as 'the actions of governments and other actors to steer communities, whole countries or even groups of countries in the pursuit of health as integral to well-being through both whole-of-government and whole-of-society approaches**'.**

- *What is meant by 'whole-of-government and whole-of-society approaches'?*
- *What past developments in public health have led to the current approach?*
- *To what extent is this approach apparent in your country (three examples)?*
- *If not widely used, what are the main obstacles blocking these approaches and what are realistic solutions for DOIng so?*

3) Policy-making in the 21st century

A key constraint in terms of developing policy in an uncertain world is that 'the amount of evidence is always increasing and it is rarely final'.

- *What specific examples are there (at least 3) in public health that demonstrate the validity behind this observation?*
- *As more information is accumulated each day in a networked world, how can policy-makers address these issues now and in the future (at least 3)?*

4) Limitations of addressing contemporary health and well-being issues

Germà Pelayo observes that 'the causes of many of today's unsettling developments' relate to 'an almost permanent demonstration of exclusion and of economic and social inequalities in the low-income districts of towns, both large and small, in every continent'.

- *Do you agree with his conclusion? If so, please provide specific examples from your personal experience where 'inequality is at the root of unsustainable behaviours'.*
- *What are some of the socioeconomic and geopolitical circumstances that create major challenges?*
- *Identify four common mechanisms or drivers that can initiate major change and societal transitions.*

5) 'Good' governance and World Bank governance indicators

According to The Office of the United Nations High Commissioner for Human Rights (OHCHR) 'The true test of "good" governance is the degree to which it delivers on the promise of human rights: civil, cultural, economic, political and social rights. The key

question is: are the institutions of governance effectively guaranteeing the right to health, adequate housing, sufficient food, quality education, fair justice, and personal security'?

- *To what extent are these criteria being met globally and in your country at this point in time?*
- *What are the major stumbling blocks - worldwide and nationally?*
- *What fundamental policies in each of the key components of the Health Systems Policy Framework (Governance, Knowledge, Advocacy, Capacity) might need to be developed and enacted in order to strengthen the government's ability to 'protect, prevent ,and promote' people health and well-being?*

The World Bank Governance Indicators include Voice and Accountability, Political Stability and Absence of Violence, Government Effectiveness, Regulatory Quality, Rule of Law, and Control of Corruption.

- *Select and compare three indicators from five different countries in terms of governance scores (-2.5 to +2.5) as well as percentile rank and account for the different scores.*
- *Which indicators remain most consistent over time and what are some of the implications for governance generally and health systems policy in particular?*

6) Major UN agreements in 2015 and impact on governance

The UN 2030 Agenda for Sustainable Development has been described as the 'biggest decision in history' as it 'asks humans to reconnect with their planet'.

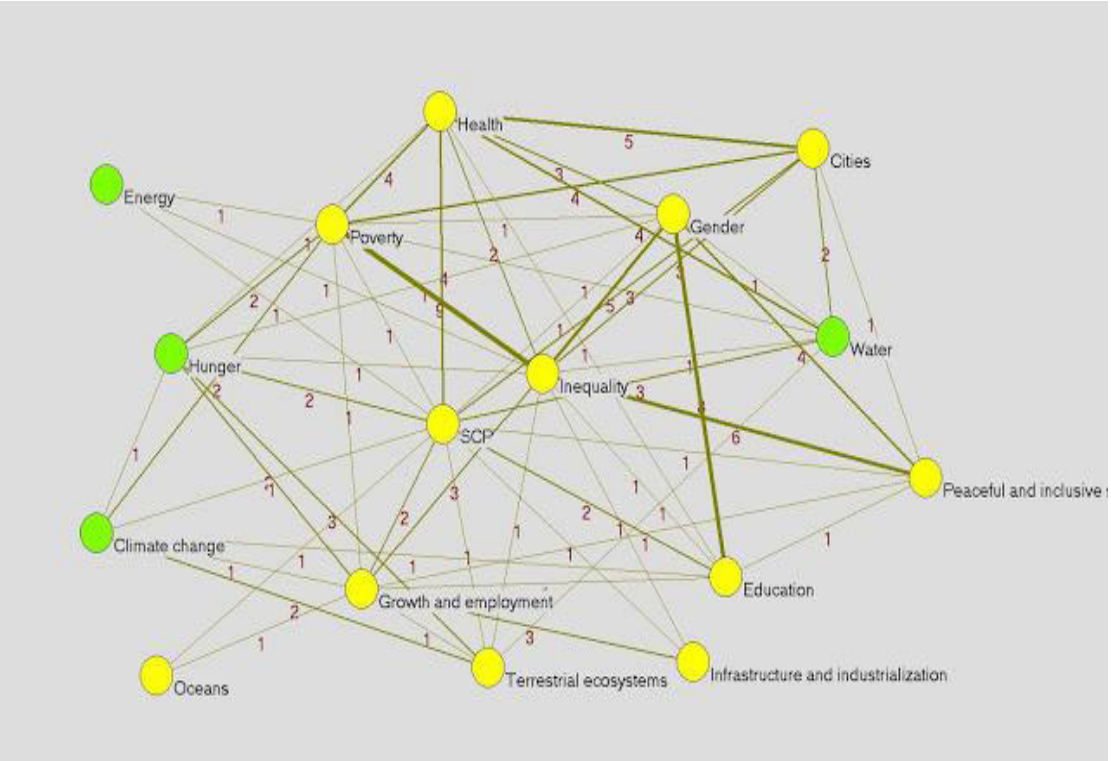
- *What were the main outcomes of the Millennium Development Goals (2000-2015) c. 750 words)?*
- *For one of the three major UN agreements reached in 2015, provide information (c. 1000 words) in terms of:*

**Background and purpose*
**Key Factors leading up to the agreement*
**Summary of decisions reached, including key actors*
**Implications for planners and implementation at global and national levels*
**Possible developments or outcome scenarios by 2020, 2025, 2030*

A crucial challenge facing the UN Secretary General and the UN General Assembly is 'how to put in place a coherent, efficient and inclusive follow-up and review system at the global level, within the mandates outlined in the Agenda' (United Nations, 2016). Exacerbating the difficulties of SDG reviews may be consideration of progress set against SDG indicators (45) developed for each of the 17 SDGs but that cross and intersect with each other, as illustrated in figure 13 (Dodds and Bartram, forthcoming 2016).

How might reviews along these lines be coordinated and technically facilitated?

Figure 13: Impact of selected global SDGs on health and well-being



7) Rationales for a new worldview

One of the key themes in the book, *Global Population Health and Well-Being in the 21st Century: Toward New Paradigms, Policy and Practice* (7), is that **'**In terms of global health and well-being the early decades of the 21st century must pave the way for a new way of thinking about the planet and each other'.

- *What socioeconomic and geopolitical changes would be needed to adopting the view 'that business and finance are the servants of our civilization, not its masters'?*
- *A concluding comment above is that 'The need to reconceptualise global priorities, policy and practice - government and corporate - and needed societal transitions in terms of human behavioural change (e.g., consumption vs. social relationships) could not be greater'.*

**Do you agree with this observation? If not, why not?*
**If so, with reference to specific examples, how might these changes translate into policy outcomes, criteria and strategies?*
**What are some of the main obstacles in gaining support at local, national and regional levels?*

With specific reference to the Epilogue (Laaser et al., 2016) in Global Population Health and Well-Being in the 21st Century: Toward New Paradigms, Policy and Practice, how might these be addressed?

8) The 'One World, One Health' concept and global impact

Professor Waltner-Toews observed that the 20th century 'vision that infectious disease had been conquered, and that through basic scientific understanding, advanced technology and unlimited electrical power, humanity had somehow been freed from the bonds of nature…was clearly demonstrated to be an illusion'.

- *What are specific examples of this 'illusion' in developing, underdeveloped and developed nations?*
- *To what extent could policy-makers be making identical faulty assumptions with regard to non-communicable diseases and conditions and the development of multi-sectoral and integrated policies?*
- *Based on lessons learned from 20th and 21st century approaches so far, how might the 'One World, One Health' concept act as a transformative, potentially epoch-defining, approach to ensure the future sustainability of life on the planet?*
- *How might the concept become more embedded into public consciousness?*

9) Safeguarding planet and people health and well-being

The authors of 'Transforming our world: the 2030 Agenda for Sustainable Development' set out a 'supremely ambitious and transformational vision'. By 2030, their aims include, among others:

'A world free of poverty, hunger, disease and want, where all life can thrive….,' where 'democracy, good governance and the rule of law as well as an enabling environment at national and international levels, are essential for sustainable development, including sustained and inclusive economic growth, social development, environmental protection and the eradication of poverty and hunger.' And, 'One in which development and the application of technology are climate-sensitive, respect biodiversity and are resilient; one in which humanity lives in harmony with nature and in which wildlife and other living species are protected'.

According to a conclusion of the review of Health and Environment Decision-making in Developing Countries, involving surveys of over 100 decision-makers globally and a wide-ranging literature review, **'**the primary barriers to more effective policy are neither a lack of evidence nor a lack of knowledge. They are most often economic, institutional, political and social'.

- *What are some of the main barriers that must be overcome by 2030 to make significant progress toward the SDGs in each of these areas*?
- *Are the governance structures in place capable of nurturing major societal paradigm shifts and progress the SDGs at global, regional, national and local levels?*
- *Guided by a Health Systems Policy Framework, in which ways might a 'new people, planet and prosperity' structure tackle the 'power asymmetries', mentioned before, such as social and economic inequalities?*

Social sciences 'research does make clear the need to replace the consumer culture with something more supportive of human social and emotional needs, diminish inequalities within and between societies, and develop economic and political policies and institutions that serve human well-being in all its dimensions'.

• *How can the significant paradigm shift required to move in these directions be brought about in order to ensure human health and well-being 'without exceeding sustainability limits and planetary boundaries'?*
• *What might be the consequences of failing to meet these global mind shifts?*

On-line Discussion (Sections 7-9)
'We are Syrians, Russians, Iraqis, Kurds, French, Malians, Tunisians, Palestinians, Nigerians, Yemenites, Libyans, Lebanese, Turks, Afghans, Mexicans, Kenyans, Somalians… we are Muslims, Christians, atheists, Hindus, Buddhists… we are workers, housewives, jobless, students, children, grandparents… we are persons. We are citizens of this world. And we are at war. But we do not know who the enemy is; because a very important battle in this war is the battle of narratives. And at the moment, the battle of narratives is being won by others'.

Germà Pelayo: Forum for New World Governance (Forum for a New World Governance, n.d.)

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Title:	**R 3.2 DESIGNING AND IMPLEMENTING POLICY REFORMS AND EFFECTIVE AID INTERVENTIONS IN THE HEALTH SECTOR**
Module information	The module may be structured according to the European Credit Transfer System (ECTS), corresponding per ECTS to 25-30 hours student workload (thereof up to 10 contact hours of lecturing/supervision). As part of an academic degree program, the module may be worked into a Masters Curriculum in Global Health with corresponding admission and course completion requirements. Equally the module may also be incorporated into a DrPH (Doctoral program in Public Health) curriculum in which course specifics remain constant but where perspectives are broadened through increased emphasis on relevant readings and calls for ground breaking, context-specific case studies. *Note: Entrance requirements are to be determined by the institution offering the module.*
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Key words	Health development interventions, health projects implementation, health programme design, health systems reform.
Topics	Health development interventions are described as falling under four modalities: personnel, projects, programmes and policy reform initiatives underpinned by new financial support mechanisms, particularly sector-wide approaches (SWAps). These modalities are briefly analysed to provide an introduction to readers about how and why such interventions are used, and their strengths and weaknesses. It is emphasised that the modalities are not hard and fast entities but frequently overlap. Indeed one of the problems facing those designing and implementing interventions is the fuzzy nature of many management terms. Such issues as vertical and horizontal programme design and the transaction costs to governments who have to deal with many donors in an often relatively short-term and fragmentary manner are considered. SWAps are considered as one way of dealing with some of these issues but it is noted that as many other non-state stakeholders, including industrial and commercial interests, have

[6] **Declaration of interests:** The author has no current links with any of the agencies referred to in this paper although he has worked previously as a consultant for some of them, including leading the EC's technical assistance programme in India from 1998- 2002. He manages the Global Health module on Cardiff University's MPH Programme, and at the time of writing is Interim Director of Health Protection for Avon, Gloucestshire & Wiltshire. The views in this paper represent the author's alone, and not those of University of Cardiff, Public Health England, or any agency referred to.

	entered the health development arena, the possible, although contended advantages, of SWAps have been compromised. Finally, it is recognised that the public health challenges and their socio-political and economic contexts facing poorer countries are ever changing, so finding effective ways to deliver health development to the world's most needy will also be an on-going challenge.
Learning objectives	To appreciate a range of interventions to promote public health improvements in disadvantaged countries. To understand the use of the terms project and programme in the context of public health interventions. To understand how skills/tools such as project management and log-frames can be used to improve the effectiveness of interventions. To better understand the role sector wide approaches can play in improving public health interventions. To begin to develop skills of project design and implementation.
Teaching methods	Lectures, interactive small group discussions, case study analysis, presentations, and practical exercises.
Who should apply	Those who pursue an international career in public health management and policy development; entrance requirements are to be determined by the institution offering the modules.
Career opportunities	Working in international development agencies, non-governmental organizations and consulting companies. Teaching and research.
Assessment of students	Tests, writing analytical and briefing documents, presentations, role play.
COMMENTS on the module by lecturers and students	*Please comment*

Designing and implementing policy reforms and effective aid interventions in the health sector

Introduction

Financed interventions agreed between donors or development partners and recipient governments can broadly be encompassed by four broad modalities transforming the huge range of development activities into a manageable framework.

- Personnel
- Projects
- Programmes
- Policy support or reform

These modalities are not hard and fast distinctions. They overlap and a project, for example may include some project aspects, personnel support and attention to better policy definition and implementation. Not only are definitions far from precise but the different modalities are often interlinked and interdependent. Most people who end up working in overseas health development will spend much of their time designing, working in,

evaluating or writing about programmes and projects, and will themselves be evaluated on how well they perform while so engaged. Yet there is surprisingly little literature to advise the practitioner. Most of the skills and knowledge has derived from experience or from the more general management and organisational literature. This may be because the field does not lend itself to research (or more precisely research funding) and, therefore, to publication. This section will seek to give an introduction to the issues.

It will be noted that the opening word used above is "financed". There is an assumption that the intervention is being funded somehow and that, therefore, there are least two stakeholders: funder and recipient. In practice the stakeholders are considerably more, with the Ministry of Health (or its equivalent), the Ministry of Finance and Comptroller and Auditor General, State/ regional/ municipal/governments and NGOs, etc, on one side and the bilateral development agency and the foreign office/ embassy of the donor country on the other. Where several donor countries are collaborating, or where multilateral agencies are involved the relationships escalate – and not infrequently the WHO, the World Bank and possibly the IMF may have an advisory role to the government. Similarly, the type of financing may vary between simple financing of an intervention, to a loan, and with or without conditions e.g. money released in stages according to performance achievement or policy changes being introduced. In recent years there has been a growth of foundations, partnerships and initiatives intended to introduce more private stakeholders and industrial style efficiency into development activities and this has also greatly increased the range and type of stakeholders who will need to work together. Examples include the Global Fund, the Global Alliance for Vaccines and Immunisation (GAVI) but there are over 100 global initiatives of one sort or another related to health development. The history and implications of these changes are explored in Rushton & Williams (2011). These different approaches and some of their implications and consequences will be described below.

Personnel

Much health development aid is provided through providing additional expert support to the recipient country or region (region in this context, a state, district, city or area smaller than a sovereign nation is meant, rather than a region in the WHO sense of a part of the world covering a number of such nations). Apart from attempts to supplement actual clinical hands-on skills because of the "global crisis in the health work force, expressed in acute shortages and maldistribution of health workers, geographically and professionally" (Shrikant et al., 2010) specific more strategic level technical skills may be absent or in short supply locally and a development partner will fund the employment of such specialists for periods of time to assist in the design of services, buildings, clinical or management training staff, experts in health informatics, clinical waste management, and so on. The list of types of specialists is endless. Their employment may be direct or indirect in two senses. Firstly, that the development agency provides its own staff, either long term employees or specially hired short term consultants; or it may fund the recipient country to employ additional specialists – either international staff, or local hires. Secondly, staff may be very hands on providing actual managerial, clinical or teaching inputs, or writing proposed legislation and so on; or they may be used to assist with better commissioning/contracting, better human resources practice or research by building greater capacity. Employment may last from a few weeks to several years. The recruitment, deployment and management of such expertise is a complex topic in its own right, and in this section the intention is merely to draw attention to it as a significant way in which health development aid is offered.

Specialist staffs are not just hired by the funding agency or within the recipient county's ministries. A considerable amount of the money allocated to overseas development through multilateral and bilateral agencies is accounted for the employment of international experts via management companies which tender for projects and programmes (see below) which are put out for tender. Typically, a project or programme will be contracted out after tendering processes, and much will depend on the perceived quality and experience of staff that will be recruited for a team to be based in the focal country or region. They will be responsible for writing some sort of inception report, probably within 2-4 months depending on the complexity of the proposed intervention or context, prior diagnosis. This inception report will set out how they intend working and how the initial specification will be translated in action. Some of the team mobilised, such as the Team Leader, will almost certainly have to be an international figure with at least 10 years experience. Others may be local experts or secondees from the government, and others again may be brought in for quite specific and short term activities. The wages of international staff can be high, but additional costs may include their airfares, local accommodation, hotels while on field trips, possibly family travel, accommodation and education fees for children, insurances and local transport, as well as translators and interpreters in many instances. To win such contracts and demonstrate their commitment to quality, the companies bidding will also need to maintain offices for "back-stopping" and organising the logistics of mobilising teams and liaising with the funding agency in the home country. These offices are often sited near the major aid agencies e.g. in Washington DC (where they are often referred to as "Beltway Bandits"), Brussels, London, Frankfurt, and so on. To ensure expertise is available overseas aid contracts must factor in the expenses incurred by such companies, and a profit margin (or surplus for not-for-profits organisations and NGOs, which even without shareholders need to consider sustainability issues).

Of the many thousands of such development experts who work abroad each year most are dedicated, expert and hardworking, and have developed resilience to work under adverse conditions. Cross cultural work needs diplomacy (Fairman et al., 2012; WHO, 2012; Kickbusch, 2007). Dealing with bureaucracies can be frustrating and time absorbing. The risks of road traffic accidents and disease are significant. Security may be an issue. Power outages may be common, consumables for office or clinical equipment may be in short supply. However, there are risks that people's core professional skills may deteriorate after working too long abroad. There is a tendency to act as a vector for the same "solutions" in different parts of the world even though contexts can vary widely. (Potter & Harries, 2006). Agencies and employers may look at years of experience on a CV without looking to see how well that person has performed in previous jobs. Contracting organisations are under pressure to mobilise a team often at short notice, maybe months after they submitted a bid because the agency and/or recipient country have been slow reaching a conclusion. So they may not look too closely at the match of skills, experience and performance if they have someone ready and willing to go at the right price. Agencies can have quite short organisational memory because their staff move around frequently, and it would be unusual for an agency funding work in one country to check with an agency with an activity in another about how well someone had done their job.

For these sorts of reasons and to reduce perceptions of neo-colonialism and paternalism in the development of aid packages agencies are increasingly careful in the design of personnel-heavy interventions. The UK's Department for International Development (DfID), for example, stresses that technical cooperation (TC) "consultants facilitate the sharing of expertise and know-how. They should not be used to fill gaps in the

public service apart from short term crisis response…In all contexts, we should only fund TC consultants to an organisation where there is clear demand and political ownership for them."(DfID, 2006).

Projects

After the simple enabling of additional or specialist staff, the project is perhaps the most traditional type of intervention embarked on by development agencies. Ideally a project is agreed, designed and implemented after careful analysis of the health requirements in a particular situation. This seems rational but the reality can be very different. The author worked on one project that arose after the premier and president of two countries went for a walk and agreed between them that it would be a nice gesture if the donor country built a children's' hospital in a particular location. The fact that the epidemiology didn't support this, there were few staff available and it further undermined precarious existing services never entered their minds. In other situations services or buildings are introduced because a politician or their spouse comes from a particular place, the agency wants to eradicate a disease or a project was agreed in locality A but recent security concerns means it is relocated to locality B.

Ideally, projects are agreed because epidemiological data shows that a certain disease needs attention, a flood has knocked out a hospital, a community's health is being neglected because of geographical isolation, or some other factor has created an acknowledged problem. In response experts and planners from the donor agency and the government agree the scope of the intervention, the donor country agrees to finance some or all of the intervention (they may require "matching funds", say 20% in cash or kind from local sources as "buy in" or a demonstration of commitment by the national or local stakeholders). As well as financing the initial analysis and a baseline survey (to enable later evaluation) the donor may agree to assist not just the construction, equipping and staff training costs required, but may include on-going operational support for a period of time with financing and/or foreign expertise.

The time period is important as this is one of the ways we can define a "project". It is an activity which is fairly well defined in terms of outcomes or products, and which is time bounded. It is these characteristics which enable the skills and disciplines of project management to be applied. Project management is a widely practised structured way of addressing building construction, the manufacture of complex items such as submarines and space craft, organisational relocation, and so on. Although some form of project management must have been used thousands of years ago by pyramid and temple builders, it developed as a system in the mid-1950s with the emergence of Programme Evaluation Review Technique (PERT) and closely allied techniques such as Critical Path Analysis/ Management, CPA/M. Many books and web sites will give the details of how project management can be handled, including techniques such as mapping timelines with Gantt Charts - developed just before World War 1 by Henry Gantt these are now ubiquitous - and identifying stakeholders (Young, 2007). Various guides have been published specifically relating to development work including health development. Some are specific to development projects such as an early approach by Asian Development Bank (ADB, 1988). Others are more general management tools which are applied to health. Such as one developed and used widely within the UK's public sector called PRINCE ***(Pr****ojects* ***IN C****ontrolled* ***E****nvironments*), which became PRINCE 2 in 1996.(Office of Government Commerce, 2002). It has 8 stages running from starting a project through managing stage

boundaries to the planning and exception stage (dealing with what comes next or sorting out remaining issues). It involves the creation of things like Project Initiation Documents (PIDs) and is available as a computerised process that automatically creates prompts and progress reports. More recently agencies have developed their own project management guides and manuals e.g.:

- https://ec.europa.eu/europeaid/sites/devco/files/methodology-aid-delivery-methods-project-cycle-management-200403_en_2.pdf
- http://ec.europa.eu/chafea/management/manage.html
- http://www.ircwash.org/resources/project-implementation-manual
- http://www.enpicbcmed.eu/projects/project-management

For many projects such sophistication can seem like overkill, and become overly bureaucratic, but the essential elements are useful even if used only as checklists.(Gawande, 2010). As more private sector players have been drawn in to global health development activities industrial or commercial approaches have become more dominant (Rushton & Williams, 2011).

There are many advantages of the project approach; especially where there is a clear problem and which can be tackled with an equally clear intervention. Project management techniques with clearly defined outcomes and time frames can be implemented and evaluated fairly easily. Funding can be released as various pre-determined phases have been successfully achieved. However, given the range of stakeholders referred to above, and the complexity of many situations, it is not surprising that agreeing on what a problem is, why it is occurring and what the response should be is often a matter of dispute. Furthermore, there are risks with the project approach which have led to the search for alternative approaches.

At least three problems occur with projects. Firstly, it can lead to projects that are not necessarily going to deliver long term improvement. An old medical adage states "No treatment without diagnosis". Unfortunately, in the world of health development diagnosis often highlights systems problems which require long term solutions and approaches that require action outside the purview of the Ministry of Health e.g. health workers may be civil servants covered by rules and regulations which are unhelpful in the rational deployment of staff, or there are Treasury rules about contracting for drugs or about how budgets may be re-allocated between headings. Policy makers within the national ministry, as well as desk officers in development agencies, need to allocate funds when they are available, need to disburse those funds within a certain time frame, and need to give an account of their use. Successful disbursement and achievement of precise results within the planned time frame looks good for all concerned. So despite evidence that new buildings, training for traditional birth attendants, provision of extra vehicles and surgical equipment, or trips abroad, have been repeatedly shown to have no effect they will be implemented over and over again.

Linked to this, bilateral development agencies may want visible success for the politicians in the donor country, multi-lateral agencies want it for turf wars with competing agencies, NGOs want it for their supporters, so there is a temptation to work in isolation. It can lead to wanting to identify certain initiatives or geographical areas as belonging to that donor ("flags" on maps). At best this is often wasteful, losing the opportunity costs of synergy, requiring recipients to write a variety of different reports and dance attendance at the visits of foreign dignitaries to different project sites, and to collect different sorts of data for evaluation and audit reports. At worst it leads to agencies criticizing one another,

confusing recipient countries about the change agenda and its priorities. Thirdly, as agendas change (maybe different governments are elected in the donor country, there is a personality change in the recipient Ministry of Health or the WHO or World Bank changes priorities and approaches) old projects are neglected in favour of new ones. Funding dries up, staff may be laid off, lessons are forgotten.

Programmes

Given these sorts of problems, even when projects have been designed and implemented well, emphasis may shift towards *programmes* i.e. more co-ordinated activities, either in terms of one agency introducing several different types of intervention to create greater likelihood of success and synergy, or several agencies working together. Successful programmes are able to tackle deep seated issues such as systems change requirements or changes in health behaviour which need many years to achieve; they can address a wider range of inter-related problems which together increase the likelihood of successfully improving a population's wellbeing; they can be more realistic and less superficial in analysing situations and determining what interventions are likely to effective. An example might be trying to eradicate a disease by training clinical staff with the latest knowledge and skills, providing new equipment once the training has occurred, developing a behaviour change campaign aimed at community opinion leaders, supplying foreign experts as trainers for a period, providing clinic refurbishment and outreach vehicles, introducing bio-medical maintenance capacity, and developing a computerised reporting system. In many ways a programme can be understood, therefore, as a set of projects. At one level these may form what the current author CCP calls a "string of beads" programme, with the various projects loosely linked by a connecting thread (the same funding source, the same geographic area, the same target group) or a more sophisticated programme such as that described above where different elements are supposed to support the ultimate expected outcome. In practice, the equipment may arrive before the training and gets broken or stolen, the bio-medical engineers make more money repairing fridges and TVs for the public, the staff trained are selected on the basis of favouritism not need or function, trips abroad become "jollies" for shopping and CV enhancement, the foreign experts come across as arrogant and unrealistic, and the evaluation reports are abandoned. But at least some thought went into designing a coherent "treatment plan" to address problems identified through system diagnosis.

A second common meaning of "programme" is an unending stream of activity focussed on, say, men's health or malaria. Programmes are frequently described as *vertical* or *horizontal.* A vertical programme typically addresses a disease which is creating particular problems in a country or region, and may have been neglected previously because of, perhaps, cultural reasons or traditional acceptance of the disease as just the way things are. It may be introduced because a multilateral agency such as the WHO has persuaded the world that smallpox or polio should be eradicated; or an agency focuses on a disease (the Jimmy Carter Foundation, for example, has done much to tackle Guinea Worm eradication, and there are long-standing NGOs that have advanced the treatment of leprosy); or epidemiological studies show that river blindness in children is neglected and is not only a tragedy for the victims and their immediate families, but represents a disproportionate burden of disease when measured in DALYs or QALYs. Vertical programmes recognise that attention is probably required at national level to prioritise action, ring-fence budgets, and sponsor specific training. Cadres of staff can be quickly trained in a limited range of skills, maybe utilising syndromic diagnosis techniques, or collecting samples for lab testing,

provided with bicycles or other vehicles, taught how to record essential data in dedicated registers, and probably supplied with distinctive uniforms. There will be regional organisers and supervisors, and local arrangements for visiting homesteads and villages with a restricted range of medications. The staff will ignore other diseases or health issues and focus single-mindedly on the one condition, giving health advice, encouraging (or even carrying out) spraying against vectors, performing surveillance, and will become very expert in managing the disease in their locality.

By contrast, *horizontal* programmes take a broader approach, seeking to address any and every disease or health problem which patients may present with. The Alma Ata approach with its primary care emphasis is the ultimate example of a horizontal approach. Typically horizontal approaches depend on primary care of family doctors who carry out a differential diagnosis and order tests or prescribe treatment accordingly, including referral to specialists. A modified version of this may utilise bare-foot doctors or *feldshers* who are also generalists but whose expertise lies across a narrower range of diseases and whose legal authority to prescribe and treat will be more restricted.

Many observers of the Indian health system, for example, have been critical of the stress given by the WHO to polio eradication (a vertical approach) because it has often undermined the pre-existing child immunisation systems (horizontal emphasis) and in a drive to eradicate the last few cases in India (and Pakistan, Nigeria, and Nepal's Terai region bordering India) have compromised the safety of countless tens of thousands of other children in regards to other child killers such as measles. See for example Vashisht & Puliye (2012). The current author (CCP) has seen a doctor ignoring a baby's obvious distress and diarrhoea while immunising it against polio because "today is Polio Campaign Day." There is an argument that the world would be better off without polio, but it is hard to justify forcing countries to prioritise their scarce resources for a handful of cases to meet the West's concerns for its own offspring, or to satisfy the personal ambition of a foreign policy maker to go down in history as having eradicated something.

This example highlights perhaps the main problem of vertical programmes when considered from a public health ethics perspective. However, vertical programmes create other difficulties. Because they are often very successful at tackling the problem they address it is easy for policy makers and development agencies to automatically reach for the same tool to deal with other priorities – and as with projects there is a temptation for officials wanting fast results to use tried a tested methods. It is very easy for vertical policies to proliferate, and once this happens diminishing returns can set in because national and regional officials have to share their attention between many competing demands for their time. Opportunity costs are wasted e.g. vehicles which could be used to take several health workers to a village will be scheduled independently for different days, or if a breakdown occurs to one programme's vehicle another programme will be reluctant to share. Locally, there may be little need for the programme. This author has seen officials dutifully filling in reports about malaria in mountainous areas too high for mosquitoes to be a problem, and in one district in Rajasthan there was a full time doctor with vehicle and staff under a leprosy programme, with only one patient. But there was a national requirement for a programme to be in place so…).

Another major difficulty occurs when a programme has been successful and the facilities, and especially the staff, are no longer required. Because they were so focussed on a narrow range of issues they are not readily absorbed into the wider (horizontal) system

which requires generically trained doctors, nurses, pharmacists, etc. They may have accrued pensions which are not yet payable, may have established employment security or redundancy entitlements, all of which are a burden on scarce health resources, but without considerable re-training these experts in TB, leprosy or whatever, are no longer productive and can be an active nuisance in the system.

As has been outlined health projects and programmes are fraught with problems, but it would be a mistake to assume all are doomed to failure and underperformance. There are many examples of good practice and simply being aware of the practical difficulties which arise can help to avoid them. One way of planning and structuring programmes that has been popular with many development agencies has been the "logical-framework" or *log-frame*. As with project management, to which it is closely related, this short section cannot hope to describe it in detail. It attempts to link "diagnosis" and "treatment" by showing how the different elements interact in a logical way to achieve a stated goal. It is explicit about risks and assumptions, and makes the case for the strategy being adopted as well as inviting an inherent way of evaluating what takes place.

Essentially, a log-frame analysis sets out a goal and then using an "if-then" logical approach indicates project objectives, components and activities (the last two may be referred to as outputs and inputs). *If* these inputs are provided (100 training courses per year for five years, 5 train-the trainer expat tutors for two years, 5000 packs of X kit including drug Y, 20 new clinics, sponsorship of two health education masters students to a European university, etc) *then* we expect these outputs (10 new national trainers within 12 months, 100 health staff with enhanced skills and the equipment and drugs, 2 national experts in health education, with 20 dedicated clinics including health education facilities at the end of year three). *If* these outputs or components occur *then* we will be able to achieve the project objectives which are to have immunised 5000 children in 5 years, raise awareness of disease Z in the region, reduce IMR from this cause by 150 cases a year, or whatever. *If* these objectives are met we can expect to accomplish the programme goal of rates of disease Z decreasing to the national rate.

The other axis of the matrix asks what assumptions are built in. That we can find two candidates with language skills to do the course and commit to returning to the roles envisaged. That trained staff of one caste or religion will be acceptable to, and willing to engage with, people of a different community. Similarly, what are the risks? That at the election in year two local politicians will continue to support the proposal and not demand that new sites for clinics are identified so construction time is lost or impact is lessened. That customs and excise will expedite the import of the kits without them deteriorating in the tropical sunshine as corrupt officials argue over paperwork. That expat workers will come to an area with little natural beauty and a high security risk. That families will accept the new immunisation proposals for their children. Finally, how will we measure achievement? Numbers of staff trained and clinics built against time scales is easy. But what of the objective or raising awareness? How will that be measured? Can we use existing surveillance and epidemiological data collection or do we need new registers and skills? Do we need a baseline survey before we start in order to measure results? Such questions may require us to add new components to the activities and define new outputs and objectives in order to come up with a coherent and robust intervention that contains adequate attention to inter-related requirements and facilitates effective project management, including early detection of problems so that corrective action can be taken. Quarterly and annual reports will enable monitoring.

It should be stressed again that there are no strict definitions between programmes and projects. The definition of management expressions within the global health context has long been a problem. (De Geyndt,1990). A logframe analysis could well be used for a complex project, for example. Personnel will be a part of projects and programmes. But the logframe is particularly good at demonstrating the linkages between the elements of a complex intervention and how they articulate. Finally, a variety of programmes are described by Manton in a very useful way which can be used in teaching students. (Manton, 2011).

Policies, SIPs and SWAps

While carrying out the analysis needed to produce an effective log-frame it may become clear that an intervention will not be effective in the current policy environment (Potter & Harries 2006) or that new policies may be needed to reinforce the activities being introduced. This section will not attempt to address the large literature on global health policy which is much greater than that dedicated to projects and programmes. It is appropriate, though to briefly consider two other modalities development agencies have adopted to try and overcome the problems discussed above, and which also reflect greater congruency with agreements such as the Paris-Dakkar agreements which seek to reduce patronising and neo-colonial imposition of interventions on recipient countries and that show greater respect for those countries' sovereignty and own understanding of their problems. These two modalities focus less on the physical interventions and more on the sustainable financing of a country's health system within an appropriate policy environment: the Sector Investment Programme (SIP) and the Sector Wide Approach (SWAp).

The World Bank developed the concept of the SIP as part of its concern that countries have strong macro-economic structures in place, and that assistance (grants or loans) to specific sectors such as health should make sense from a macro-economic perspective[7]. The idea was adopted more widely by bilaterals and multilaterals such as the European Commission's development agency. Essentially, assistance was being offered as financial support to the country's health sector budget to increase the total amount available, or to ensure regular flow of funds, so that more comprehensive plans and policies could be implemented and sustained. Because it was untried, or because of financial constraints, a country might not be able to introduce, say, demand-side mechanisms such as voucher distribution for pregnant women to receive antenatal care and institutional births. So a donor partner might offer to supplement the budget for some years to come in order to introduce vouchers, or hospital accreditation, or better quality control for medications, or improved on-the-job-training (See Ensor & Cooper 2004, for a review of demand side approaches).

[7] Health system here means the organisational arrangements managed by the Ministry of Health, or its equivalent, to deliver primary, secondary and tertiary health care to its people, including health promotion activities, and health associated teaching and research. It mainly refers to the public services although there may be contracts with other providers, and there may be inputs from cognate ministries such as education. The health sector includes the wider private and not-for-profit agencies, traditional and complementary medicine practices. It is recognised that health is also impacted by activities in other sectors such as employment, housing, environment, etc, and that health services may be offered through other ministries such as defence. These would all be part of the health sector. When talking about SIPs and SWAps, however, it is usually the health system which is the focus and "sector" is used more loosely as a synonym.

An inevitable aspect of this would be discussion about the types of policies and practices which the partner was anticipating to see implemented, but rather than a fully designed project or programme identified specifically with that agency, there was scope to allow things to develop as part of the general development of the system at a steady pace through the recipient country's own structures. The SIP does not preclude projects and programmes but they would be elements within a broader agenda of policy and system reforms. One downside of the SIP is that any one agency's financial contribution is so small compared to the recipient country's own health budget that it is barely an incentive for significant change. Another is that an agency's SIP may not reflect policy changes other agencies are advocating (more private sector involvement, more attention to women's health needs, better health information systems to improve priority setting, more taxes on alcohol, or whatever) and can even confuse the recipient country's policy makers with different messages about action needed to improve health in the country.

So the SWAp takes the logic further. "Sector-wide approaches (SWAps), organised around a negotiated programme of work, offer a better prospect for success than the piecemeal pursuit of separately financed projects." (Cassells, 1997). Hutton & Tanner (2004) have also described succinctly the potential benefits of SWAps for public health. The SWAp proposes that the donor agency community dialogues with the host country about the policy reforms and investments which the health sector requires to be more effective and sustainable, and the resources they bring are pooled with the country's health budget. (It should be noted that SWAps can and have been used in sectors other than health, and sometimes have covered several sectors not just one (Nordheim-Larsen, 2007)).

Imagine that each donor brings a bucket along and pours it into a swimming pool. Some may have bigger buckets than others but once in the pool the individual contributions are no longer distinguishable. Instead of each donor having its own projects and programmes and wanting separate performance and audit reports they all receive previously and jointly agreed reports on the progress of the whole sector. They have a joint approach to policy priorities, to modalities of working, to performance indicators, and timetables. There is a coherent framework within which projects and programmes may still take place but there are no longer the transaction costs of dealing with a multiplicity of donors each with their own expectations and timetables. There is a common understanding which may strengthen the Ministry in its dealings with its own government or new players who want to join in the action. It is harder to play donors off against each other or to gain funding for pet projects which are not evidence based, but the benefits should outweigh the losses.

Perhaps the most important value to the recipient country is that it offers a longer policy time horizon with guaranteed funds to back reforms. "The reform of viable health systems takes time, persistence, flexibility and circumspect advice." (Schwefel, 2010). It is all very well encouraging policy makers to take what may well be unpopular reforms (remember that current system will always have those whose self-interest is heavily invested in the current situation) but they need not only to be convinced that the reforms are technically correct but will have the resource support over an extended period, not anchored to changing fashions or agendas within the donor country or international development community.

What benefits are there for the donors? The main one is that all the agencies can compete less and pool their energies into a more rational approach to improvements and influence policy. The problems are also easy to spot. Development agencies are answerable

to their own foreign ministries, politicians, auditors and press. The county's own policies may be quite explicit about not funding abortion, or requiring funds to be allocated and reported on by a certain month, or focussing on women's literacy or poverty eradication. It may be very hard or even impossible to "sell" the collective policy approach "back home." Once it is done it may help to prevent the traditional see-sawing of priorities as Conservatives follow Socialists, Democrats follow Republicans, Greens follow Christian Democrats, and so on, but governments may see development, like war, as an extension of foreign policy and promoting influence for trade, and not wish to lose identity in the collective. A socialist oriented country may not want to be seen advocating more private sector involvement. A country selling high levels of branded drugs may not want to see an essential drugs policy introduced. There may be a feeling that the agency providing the "biggest bucket" should have greater say in the policy direction taken, and antagonise others with more experience but smaller resources. Another problem is reaching agreement with the host country both about what is meant by policy and about dialogue. A sovereign country will not want to be seen being pushed around by a group of non-elected foreign policy advisers. Its idea of dialogue may be a once a year briefing to the assembled representatives, whilst their expectation was regular and frequent meeting to discuss jointly sponsored data collection and analysis and review of the global evidence base for this or that approach.

One of the first SWAps was developed in Ghana, and since then it has been used widely round the world. The first ex-USSR state to introduce a SWAp was Kyrgyzstan (Ibraimova et al., 2011). The SWAp, however, is no panacea and there is a considerable critical literature around it, including the review by Hill where he examines the rhetoric of sector-wide approaches (Hill 2002).

More recent developments have emphasised through a series of international agreements such as the Paris/Accra Declaration the values and principles behind such criticism (Horton 2009; Asian Development Bank 2009). The international health development world has also become far more complex. It is no longer just bilateral and multilateral aid agencies representing countries or the UN which are involved. "Since the mid1980s… there has been recognition of the greater significance, both quantitatively and qualitatively, of non-state actors…private companies…NGOs…consultancy firms, research institutions, charitable foundations, religious and other social movements…and organised crime…The increased importance of non-state actors in health has led to the development of analytical approaches that seek to understand health policy in a more pluralist environment…Importantly, these approaches also support a recognition of the porous nature of national-level policy making, and the importance of actors and forces that cross over state boundaries." (Lee & Goodman, 2002). Since that was written we have also seen with many more partnerships such as the Global Fund, attempting to achieve the Millennium Development Goals, for example, with commercial stakeholders involved. (Rushton & Williams, 2011).

Conclusion

Although health development projects and programmes have been around for decades the dissatisfaction with such interventions is widespread. Curiously despite their ubiquity project and programme design and management in health development receives little attention in the academic literature, compared to, say, policy analysis. The author consulted a wide range of text books on global health issues and few even included the

words in their index (although this is true also of "corruption" and "culture" despite their importance in holding back health development). The short-termism encapsulated in many projects and the organisational memory loss encountered leads to many interventions that have not been sustainable, leaving in their wake wasted opportunities, wasted human resources and wasted hopes. In an attempt to tackle the lost learning opportunities the EC's Technical Cooperation Programme in India began working with the Government of India to capture many of the project and programme essentials from all over India for several years, to provide a data base of what had been tried, what lessons were learned, and so on. The GoI adopted this work for a while and during its lifetime it highlighted just how much effort had been expended trying to bring health to poorer communities (Government of India, 2007). The work also emphasised the fragmentation of efforts as different donors and development partners all tried to tackle different problems in different ways.

Nor should the transaction costs for recipient governments of having to deal with a myriad of potential development partners in this disjointed way be underestimated. In 2003 the Indian Government became so fed-up with these transactional costs they told the smaller donors they could deal directly with states but at national level they restricted the number of partners they would deal with directly. Lee has noted that the flow of people, goods, capital, ideas and values which constitute globalization "has posed three major challenges for the public health community: How can the evidence base on globalization and health be strengthened; what effective policy responses are needed to optimize the benefits, and minimize the costs to public health, arising from globalization; and how can these policy options be practically and effectively implemented?" (Lee, 2011). These challenges remain and all the major agencies are constantly seeking new and better ways to help societies disadvantaged by location, economic status, corruption, natural disasters, over-population or whatever, to improve their health standards.

While senior officials in agencies and host governments posture and talk and play games, looking all the time for quick fixes that can play well in reports to headquarters or facilitate promotion, easily resolvable problems like malarial and diarrhoeal deaths still kill far too many people, while daily countless families go into inter-generational debt for relatively straightforward or even unnecessary hospital treatments. So the search for better ways to channel expertise and finances to needy communities, to improve the quality of health services, and to better train and equip the armies of dedicated health professionals around the world must continue. This author believes that ultimately all global health interventions should be about building the capacity for all countries, regions and local communities to manage and sustain their own health systems. Capacity building means far more than just training (Potter & Brough 2004). Simply providing buildings, equipment and training is important but insufficient. Attention is needed to address systems capacity development issues and SWAps certainly provide one way to encourage better analysis, planning, implementation and reduced transactional costs and inertia. The commercially oriented emphasis on disciplines like project management is another way forward, although there are understandable concerns about the including commercial interests such as pharmaceutical industry representatives or non-accountable figures like Bill Gates, into the policy shaping boards of the various global alliances, and a fear that decision making in the headquarters of the various global initiatives is obviating the type of policy dialogue and local prioritising that SWAps could achieve (Rushton & Williams, 2011).

If resolving the problems was easy, solutions would be clearer than they are. As it is, we have to keep struggling to find the most effective ways of helping those who have the

most to gain from more effective interventions to provide better health care and achieve better health outcomes. This section has given a short over-view of modalities widely used over the past several decades but it is an ever changing field responding to ever new challenges.

Exercises:

Note: For the questions below a, b and c are suggested as different levels of difficulty: (a) could be used for introductory work or ice-breaking early in the module; (b) would be a more challenging assignment; and (c) could be a serious term paper or assessed assignment.

1. Imagine you have been appointed as a public health adviser to a selected country or region, as a two year secondment from an allocated aid agency or NGO. You will be based in the capital city and will be the lead PH adviser expected to help shape the next 5 years of assistance.

    a. Describe how you would go about assessing the public health needs of the country in order to write a briefing paper for your headquarters and the host MoH at the end of the first month, and difficulties you would anticipate[8].(
    b. Review any real projects or programmes that the agency has been running and consider any performance reports on them. Using this material write a briefing paper on how such projects/ programmes could be developed or re-directed to improve their efficiency and effectiveness.
    c. In the context of a country's reported public health situation[9] write a report setting out a programme of policy reforms and practical interventions for the next 5 years with which your agency could assist the host country, within a total budget of €25 million and no more than €5 million in any one year (could include an implementation plan).

2. Review any available material on the web about the public health status of a selected country or region (e.g. World Bank Sector Report, WHO sector review, that country's Ministry of Health annual report, etc.):

    a. Think of an appropriate intervention and write a briefing paper advocating why this intervention should be adopted (this can be role played, taking the view point of an MoH official, agency or NGO desk officer);
    b. As for (a) but develop a log frame which could be used to demonstrate the coherence of the intervention, and to identify strengths and weaknesses.
    c. As for (b) but also show how project management skills could be used to improve the efficiency and effectiveness of the intervention.

3. Access the ODI reference describing SWAps in Mozambique, Cambodia, Vietnam, Uganda, and Tanzania.

[8] The point is to get the student thinking. Plenty of critical analysis for them to do this can be found in the main body of this module.
[9] The lecturer can find these on line in the country reports produced by major agencies or Ministries of Health.

a. Taking any one country prepare a presentation for fellow students on the SWAp as applied that country, describing the main features, strengths weaknesses and recommendations from the ODI report.
b. Review whatever information you can find about the country in question and reflecting back on the ODI report assess in what ways the SWAp was successful, and how it fell short of expectations, particularly in achieving MDGs 4,5 and 6.
c. Take any disadvantaged country and after assessing the status of that country's current public health status use the ODI to write a briefing on what benefits and drawbacks would be likely from adopting a SWAp.

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Title:	R 3.3 THE ROLE OF THE CIVIL SOCIETY IN HEALTH
Module information	The module may be structured according to the European Credit Transfer System (ECTS), corresponding per ECTS to 25-30 hours student workload (thereof up to 10 contact hours of lecturing/supervision). As part of an academic degree program, the module may be worked into a Masters Curriculum in Global Health with corresponding admission and course completion requirements. Equally the module may also be incorporated into a DrPH (Doctoral program in Public Health) curriculum in which course specifics remain constant but where perspectives are broadened through increased emphasis on relevant readings and calls for ground breaking, context-specific case studies. *Note: Entrance requirements are to be determined by the institution offering the module.*
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Key words	Civil society organisation, non-governmental organisation, public health, global health, coordination.
Topics	The topic of the module will include these issues: • Definitions and terminology (CSOs, NGOs etc.) • Types The historical development of NGOs • , features, foundations of NGOs • Roles of NGOs in health and social development • International NGOs and role in global health • Impact of NGOs on health and health care sector • Regulating and coordinating work of NGOs, code of conduct of NGOs work • Discussions and case studies.
Learning objectives	• To acquire knowledge about the history, foundations, types, features, and funding of the NGOs; • To develop a wider understanding of the role of the NGOs in health and health system development; • To understand the positive and negative impact of NGOs on health and health care sectors; • To recognize the challenges regulating, integrating and coordinating of NGOs activities in health settings.
Teaching methods	Short lectures, interactive small group discussions, case studies, and field practice reports and case studies provided by students.
Who should apply	Those who pursue an international career in public health management, policy development, research or advocacy.
Career opportunities	Teaching and/or research careers in academic environments; leadership positions in the health care sector, non-governmental organizations, in consulting companies.
Assessment of students	Test and case studies as well as project/ field visit and reports.

COMMENTS on the module by lecturers and students	*Please comment*

The role of the civil society in health

Civil Society Organizations

The concept of civil society goes back many centuries in Western thinking with its roots in Ancient Greece. The modern idea of civil society emerged in the 18th Century, influenced by political theorists from Thomas Paine to George Hegel, who developed the notion of civil society as a domain parallel to but separate from the states (Cerothers, 1999). The 90s brought about renewed interest in civil society, as the trend towards democracy opened up space for civil society and the need to cover increasing gaps in social services created by structural adjustment and other reforms in developing countries (Ghaus-Pasha, 2004).

Individuals and groups organize themselves into civil society organizations (CSOs) to pursue their collective interests and engage in activities of public importance (WHO, 2011). Civil society is a broader concept, encompassing all organizations and associations that exist outside the state and the market (Ghaus-Pasha, 2004). Non-governmental organizations (NGOs) are considered part of civil society and the term is often used interchangeably with the term CSOs, particularly in the health sector (WHO, 2001). Usually, NGOs are defined as organizations that pursue a public interest agenda, rather than commercial interests (Hall-Jones, 2006). The World Bank define NGOs as private organizations that pursue activities to relieve suffering, promote the interests of the poor, protect the environment, provide basic social services, or undertake community development. NGOs includes different categories of organizations that are not-for-profit, voluntary organizations entities and also do not belong to the government sector.

Compared with governmental organizations, NGOs have the advantages of being autonomous, being able to influence both community and governmental institutions, having knowledge and understanding of local circumstances, and having the flexibility to adapt to local situations (WHO, 2002).

NGOs are important health system stakeholders as they provide numerous, often highly valued programs and services to the members of their community (Wilson et al., 2012). They often provide services and support to the most marginalized, disadvantaged and stigmatized sections of society (Wilson et al. 2012). Furthermore, these organizations play crucial role in health and social development. In 2006, for example, almost 25% of the total development assistance for health was channeled through NGOs (Laaser & Brand, 2014).

NGOs have contributed to the development of communities around the world and are important partners of many governments. According to the UNDP Human Development Report (2002), there were in 2002 over 37,000 NGOs in the world, a growth of 19.3% from 1990. The dominant purposes of these are: economic development and infrastructure (26%) and research (23%) (Delisle et al., 2005).

Types and features of NGOs

There are many different classifications of NGOs. NGOs are diverse in terms of their size, the scope of their missions, geographical coverage, and areas of work and interest. The most common focus is on the type of activity they perform such as social, health, human rights, environmental, development work. Moreover, NGOs by level of activities can be local, national, or international. NGOs types can be understood by their orientation and level of operation (Adapted from Wikipedia):

By orientation

- Charitable orientation often involves a top-down paternalistic effort with little participation by the "beneficiaries". It includes NGOs with activities directed toward meeting the needs of the poor.
- Service orientation includes NGOs with activities such as the provision of health, family planning or education services in which the programme is designed by the NGO and people are expected to participate in its implementation and in receiving the service.
- Participatory orientation is characterized by self-help projects where local people are involved particularly in the implementation of a project by contributing cash, tools, land, materials, labour etc.
- Empowering orientation aims to help poor people develop a clearer understanding of the social, political and economic factors affecting their lives, and to strengthen their awareness of their own potential power to control their lives. There is maximum involvement of the beneficiaries with NGOs acting as facilitators.

By level of operation

- Community-based organizations (CBOs) arise out of people's own initiatives. They can be responsible for raising the consciousness of the urban poor, helping them to understand their rights in accessing needed services, and providing such services.
- City-wide organizations include organizations such as chambers of commerce and industry, coalitions of business, ethnic or educational groups, and associations of community organizations.
- National NGOs include national organizations such as the YMCAs/YWCAs, professional associations.
- International NGOs (INGOs) range from secular agencies such as Save the Children, OXFAM, CARE, Ford Foundation, and Rockefeller Foundation to religiously motivated groups. They can be responsible for funding local NGOs, institutions and projects and implementing projects.

NGOs funding

One of the key challenges for NGOs functioning is ensuring adequate financing as well as achieving the sustainability of funding. Experiences shows that funding models of NGOs shows that financial sustainability is crucial for the long-term survival and effectiveness of all types of NGOs. Hailey (2014) defines the financial sustainability of the NGO as that the organisation can continue to fulfil its mission over time and, in DOIng so, meets the needs of its key stakeholders, particularly its beneficiaries and supporters. It worth to note that NGOs different funding models and strategy has implication on the financial sustainability of the organisation and its independence. Sometimes short-term and uncertainty of funding of NGOs can lead to difficulties for long-term planning of activities and also to an unhealthy focus on competition rather than collaboration in the sector. Hailey (2014) provided a useful typology for NGOs funding models and strategies. Here we discuss those models that are most relevant to NGO working in the social sector including and health care:

- Gift-based funding: NGOs financed by a range of gifts and voluntary donations such as personal donations and legacies, community collections or special events, humanitarian appeals at the time of emergencies or events (earthquake, outbreak, conflict crises etc), web- based giving. Faith-based NGOs may also raise funds through a range of personal pledges, church collections, or zakat funding. Gift-based funding strategies, if successful and embedded in the work of the organisation, can be effective and sustainable in terms of ensuring predictable unrestricted income.
- Direct official aid: High number of NGOs get funded through receiving a portion of official aid such a DFID, Danida, USAID or AusAid. Some of INGOs raise funds from other aided institutions such as UN agencies, the World Bank and other development banks. For example in the UK, it is estimated that about 400 UK-based INGOs receive significant official aid funds through DFID's Programme Partnership Arrangements or those which receive dedicated humanitarian funding through the EU's ECHO funding mechanism.
- Enterprise supported: Some INGOs generate a proportion of their income from enterprises or commercial ventures that they own and run. These can either be self-standing commercial enterprises with clear profit-based business goals, or complementary for-profit enterprises that also have developmental goals such as Oxfam.
- Evolving Social Enterprises: A small, but significant trend, is where an NGO evolves an autonomous social enterprise; or where a business, donor, and NGO work together to form new collaborative enterprises. The growth of new social enterprises and social franchises and the support they have received from governments and donors has been one of the defining characteristics of service provision over the last ten years. Increasingly, social services, health and education are being offered by such providers.

Role of Civil Society Organisations

NGOs plays an essential role throughout the world in addressing disease burden and the disparities in access to and quality of health care (Azenha et al., 2011). Particularly, they are in a better position to develop, tailor, and deliver primary health care services to communities because they understand their local communities and are connected to the

groups they serve (Wilson et al., 2012). NGOs have contributed to the provision of essential primary healthcare for marginalized groups such as the poor, women, children, and patients in low resources countries. NGOs can raise public awareness and educate patients, as well as mobilize resources to serve local needs and provide services not available through government services (Azenha et al., 2011). For example, community-based organizations in the HIV/AIDS sector often directly provide services, care and resources to many marginalized and/or stigmatized populations (Wilson et al., 2012). Also civil society organisations, worldwide play crucial role in addressing the growing breast cancer burden and the disparities in access to and quality of care. Breast cancer NGOs can raise public awareness and educate patients, as well as mobilize resources to serve local needs and provide services not available through government services.

NGOs can assist in national health policy development. They can also help shape public policies and services to be more responsive to patient and community needs (Azenha et al., 2011). They often play important advocacy roles in the development of policy, programmes and services, and are increasingly involved in the development and production of research to inform the development of policy, programs and services (Wilson et al., 2012). They can ensure that their existing programs and new initiatives promote full participation by individuals and communities in the planning, implementation, and control of these programs (WFPHA, 1978).

NGOs can also establish means for greater collaboration and coordination of primary health care activities (WFPHA, 1978). This can be done among NGOs and between them and governments, locally, nationally, and internationally.

Moreover, according to Delisle and colleagues (2005), one of the strengths of NGOs has been as advocates for the populations they serve. Through conducting and disseminating health research NGOs can become more effective health advocates. Governments depend on health research for needs assessments, formulation of policy options, implementation of interventions, and evaluation of action plans. Empowered citizens and NGOs can demand accountability of the government. They can also encourage international donors to focus on the health priorities of countries and thus facilitate a check and balance mechanism for good governance (Delisle et al., 2005).

Impact of CSOs on health and national health care systems

The major advantages of NGOs work in development are “flexibility, ability to innovate, grass-roots orientation, humanitarian versus commercial goal orientation, non-profit status, dedication and commitment, and recruitment philosophy” (Asamoah, 2003).

NGOs have been contributing to public health for centuries. In more recent years, however, they have grown in scale and influence and are having profound impacts on health and national health care systems (WHO, 2011). Pfeiffer and colleagues (2008) have summarised the positive and negative impact of NGOs on national health systems in three categories: managment of services, operation/ services delivery and human resources (Table.1). In his review of the NGOs Pfeiffer (2003) reported that the involvement of NGOs in primary health care in Mozambique had undermined the local efforts and governments' ability to maintain control over their own health care system (Pfeiffer, 2003). Wheras, the international NGOs, led to the fragmentation of the local health system, uncoordinated work, creating parallel projects among different organizations, vertical programs with no

plans for expansion or sustainability and little integration with local health systems, and brain drain of health service workers from public services (Pfeiffer, 2003; Pfeiffer et al., 2008).

Table 1: Nongovernmental Organization (NGO) Impact on National Health Systems

Area	Negative Impact	Positive Impact
Management	***Burden***	***Support***
	• Multiple projects to oversee	• Support for management capacity building
	• Divergent financial and program reporting requirements	• Support for financial coordination and harmonized program reporting
	• Diversion of planning to meet NGO needs	• Support for integrated planning
Operations	• Fragmentation of services, vertical technical assistance	• Technical assistance, innovation, pilot projects
	• Showcase projects with limited sustainability	• New, innovative programs to meet MOH priorities
	• Imbalances in geographic and programmatic resource allocation	• Contribution of resources to MOH technical assistance priorities
	• Vertical programs that undermine service integration	• Innovative methods to channel vertical funds into integrated services
	• Concentration of scarce MOH human resources within NGO-related projects	• Allocation of human resources to MOH for innovative projects
Human resources	• Shortages	• Capacity building
	• "Brain drain" to NGOs	• On-the-job training for MOH staff
	• Lack of sustainability for new programs	• Funding for additional MOH workforce for new program needs
	• Lower morale among health workers	• Advocacy to improve work conditions, capacity, and workloads
	• Weakened management through loss of skilled staff	• Provision of management training and funding for new management tools

Source: (Pfeiffer et al., 2008)

Role of NGOs in health research

In addition to developmental and services provision, NGOs have contributions to global health research. Generally there is a lack of adequate information on NGOs involvement in health research. Usually research conducted by NGOs is classified as operations/ programmatic research that involve identifying and solving problems encountered in the design and implementation of programs (CORE Group, 2008). NGOs have a key role in stewardship (promoting and advocating for relevant global health research), resource mobilization for research, the generation, utilization and management of knowledge, and capacity development (Delisle et al., 2005). The involvement of NGOs in research is downstream from knowledge production and it usually takes the form of a partnership with universities or dedicated research agencies. While services or action oriented NGOs in resource-poor settings are rarely involved in research activities, there are NGOs involved in actually conducting research, for most the focus is usually evaluation (Delisle et al., 2005).

Regulating NGOs work

Due to the possible negative impact of NGOs on national health systems, there has been is growing need and pressure to regulate the work of NGOs and to establish standards of work and codes of conduct to ensure quality of service delivery, harmonize activities with national health strategies and priorities (Pfeiffer et al., 2008).

In any context, accountability – the means by which individuals and organizations report to a recognized authority (or authorities) and are held responsible for their actions (Edwards & Hulme, 1995) – is a key issue in NGOs–state relationships. All NGOs are accountable under the relevant laws of a particular country where they operate, and states have legal powers to intervene if NGOs transgress laws relating to accounting, rules of bureaucratic procedure and registration obligations. NGOs are normally accountable to a voluntary body (such as a board of trustees or governors) which derives no financial gain from the organization and has no ostensible financial interest. NGOs which are membership organizations are directly accountable to their members, who elect a governing body (Lewis & Kanji, 2009).

There have been many efforts to improve NGOs accountability through self-regulation using ‘codes of conduct’, with varying levels of success. Most initiatives of this kind have come from the humanitarian action field, such as the Code of Conduct for International Red Cross and Red Crescent Movement and NGOs in Disaster Relief (IFRC, 1997), the People in Aid Code of Best Practice in the Management and Support of Aid Personnel (ODI, 1997). These codes are regarded by many governments, donors and NGOs as a valuable step forward, but their enforcement without the availability of clear or appropriate sanctions remains a problem (Lewis and Kanji, 2009).

Following is an example of code of conduct that the UK’s Commission on the Future of the Voluntary Sector in 1997 developed for the UK voluntary sector. Its main points included the following (Lewis and Kanji, 2009):

- stating an organization’s purpose clearly and keeping it relevant to current conditions;

- being explicit about the needs an organization intends to meet, and the ways this will be achieved;
- managing and targeting resources effectively and 'DOIng what we say we will do';
- evaluating effectiveness of work, tackling poor performance and responding to complaints fairly and promptly;
- agreeing and setting out all those to whom an organization is accountable and how it will respond to those responsibilities;
- being clear about the standards to which work is undertaken;
- being open and transparent about arrangements for involving clients/ users;
- having an open and systematic process for appointing to the governing body;
- setting out the role and responsibilities of the governing body;
- having clear arrangements for involving, supporting and training volunteers;
- ensuring policies and practices do not discriminate unfairly;
- recruiting staff openly and remunerating them fairly.

Case studies

Participants will work on the case studies in groups of 4-7 students. The groups can have up to one hour to work on each case, followed by plenary session for presenting the conclusions and discussion. Groups should choose a rapporteur to present this work in the plenary.

Case 1.
Role of NGOs: Azenha G et al. The role of breast cancer civil society in different resource settings. 2011 Apr;20 Suppl 2:S81-7. DOI: 10.1016/j.breast.2011.02.005. Available at: http://www.cancer.org/acs/groups/content/@internationalaffairs/documents/webform/acspc-028415.pdf (accessed 18.03.2016).

Learning Objective: This case offers students an opportunity to undertsand the role that NGOs play in health development- the example of cancer control- in both poor and high income countries.

Discussion questions:

- What is the role of different civil society organizations in health and health care sector development?
- What are the strengths and weaknesses of NGOs work in local and global health development?

Case 2.
Regulating NGOs work: Pfeiffer J. 2003. International NGOs and primary health care in Mozambique: the need for a new model of collaboration. Social Science & Medicine 56 (4):725-738.

Learning Objective: It provides the students with and understands the effect of NGOs on primary health care and local health care systems. Also the case shows the need for NGOs to adopt a code of conduct that establishes standards and best practices for NGO relationships with public sector health systems.

Discussion questions:

- How does NGOs work impact on health care and national health care system?
- How far the implementation of civil society organizations activities aligned with national priority needs?
- What actions need to be taken to enhance accountability, regulate, coordinate, and harmonize the work of the civil society organizations to national health priorities?

Field visit/ work

Students do filed work where they spend some time at one of the NGO working in the health field (local or international) and meet workers and managers. The aim is to familiarize themselves with the area and scope of work of the NGOs, beneficiaries, funding model, and the established partnerships and collaborations with other organisation e.g. public, private or other CSOs. Moreover they examine the impact of the NGOs work on the served community, as well as the health care and health care system. They also investigate the involvement of the NGOs in the formulation of health policy agenda, policy formulation and the political process. In addition, they learn how the work of the NGOs is regulated, the code of ethics or practice adhered to, and the monitoring and evaluation systems. Also the involvement of NGOs in health research activities e.g. type of research, role in research, dissemination of evidence, and use of evidence in policy and practice. Students should prepare field report with lessons learned, reflections and conclusions to be discussed in a general session with the participation of all students.

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Title:	**R 3.4 UNIVERSAL HEALTH COVERAGE including the private sector and traditional medicine**
Module information	The module may be structured according to the European Credit Transfer System (ECTS), corresponding per ECTS to 25-30 hours student workload (thereof up to 10 contact hours of lecturing/supervision). As part of an academic degree program, the module may be worked into a Masters Curriculum in Global Health with corresponding admission and course completion requirements. Equally the module may also be incorporated into a DrPH (Doctoral program in Public Health) curriculum in which course specifics remain constant but where perspectives are broadened through increased emphasis on relevant readings and calls for ground breaking, context-specific case studies. *Note: Entrance requirements are to be determined by the institution offering the module.*
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Key words	Universal Health Coverage, health financing transition, pooled financing, financial risk protection, public healthcare, Public-Private Partnership (PPP) for health
Topics	Nearly half of all countries worldwide are pursuing policies to achieve Universal Health Coverage. This undertaking has the potential to improve health indicators dramatically, contributing to human development and more generally to global equity. However, the path towards UHC is often rocky, and every country must work to channel resources, adapt existing institutions and build health system capacity in order to accomplish its goals. Global health advocates must understand what elements contribute to the success of UHC strategies, as well as how to measure real progress, so that they will be prepared to substantially contribute to policies in their own country or worldwide.
Learning objectives	At the end of the module, students should be able to: Advocate in favour of UHC strategies in health policies and programmes at global, regional and national levels. Specific learning objectives: - To understand the concepts and the rationale of Universal Health Coverage (UHC); and its linkage with Health financing and Public-Private Partnership for health; - To analyze the roles and contributions of the private sector, communities and the traditional medicine in promoting and sustaining UHC; - To characterise the political, social, economic and technical aspects of the health financing transition; - To develop skills in assessing progress towards UHC; - To advance critical and strategic thinking when designing a UHC

	programme, both in a national context and as part of an external development strategy.
Teaching methods	Lectures, interactive small group discussions, case studies and mock group exercises.
Who should apply	Those who pursue an international career in public health management, policy development, research or advocacy.
Career opportunities	Teaching and/or research careers in academic environments; Policy administration of public institutions, non-governmental organizations, development and aid organizations, and in consulting companies.
Assessment of students	Test and case problem presentations.
COMMENTS on the module by lecturers and students	*Please comment*

Universal health coverage, including the private sector and traditional medicine

Introduction and key concepts

Universal health coverage (UHC), also known as Universal Health Care, basically refers to a system by which all members of a society have access to basic healthcare without assuming undue financial burden. The appeal of this concept, which implies reduced financial risk for individuals, improved health indicators across all population segments and increased efficiency of services, has resonated strongly throughout the world, and some have likened it to the dramatic public health improvements in hygiene and sanitation in the 19th century and epidemiological control of communicable diseases in the 20th (Rodin, 2012). Indeed, the United Nations General Assembly has called on all Member States to work towards this goal (2012), and WHO Director General Margaret Chan, reflecting on global progress towards UHC, called it "the single most powerful concept that public health has to offer" (2012). However, the concept of UHC is deceptively simple, masking a wide array of national models, practices, legal arrangements and funding mechanisms, which have evolved along variant pathways, albeit in the same general direction. Funding models are often negotiated, rather than designed, according to the existing roles of public and private financing; partnerships often develop as a way to make use of the potential advantages that each side has to offer. Likewise, traditional medical practices, such as Ayurveda or Chinese herbal medicine, must often co-exist with conventional medicine under a common system with common standards. Understanding these complexities is necessary for any health policy analyst interested in advancing—or preserving—UHC in their own country or in others.

Health financing, one of the six pillars of health systems strengthening

UHC is generally achieved by means of two different financing systems: Tax-based financing (also known as the Beveridge model (Musgrove, 2000) – a system in which healthcare is paid for through government revenue, whether from a single source (general tax revenue) or from a variety of different taxes (income tax, payroll tax, etc.).

Compulsory insurance (also known as the Bismarck model) – a system whereby all

members of a society are required to purchase insurance, either from a single government fund (social health insurance or national health insurance) or from an array of private insurance companies. Vulnerable populations may be offered subsidies or be covered by special funds.

These two financing models should not be considered the only options, but rather two extremes on a wide spectrum of health financing arrangements. In designing their own programmes, countries have adapted and combined them in a variety of ways, depending on which structures were already in place, with diverse roles for public and private healthcare providers, private insurers, out-of-pocket contributions, and government administrations.

Public-private partnerships in the pursuit of UHC

Public-private partnerships (PPPs) are one mechanism that has developed as a way to increase access, improve quality or ensure more external accountability. For example, public funders may partner with private hospitals as a way to temporarily absorb a rise in demand for health services or to increase access to existing services (e.g., where there is no existing public hospital). On the other hand, international funders from private foundations may seek to build capacity within the public system by directly financing public services. While PPPs can be quite effective in achieving mutual goals, they also require appropriate ground rules, clear objectives, effective regulatory schemes and fixed time periods for action and assessment.

The path towards UHC

Although the first sickness funds were first officially regulated in 1851 in Belgium, it is usually Otto von Bismarck of Germany who is credited with creating the first social health insurance system (a model which still bears his name) in 1883. Initially covering only 5%–10% of the population through mandatory insurance for certain blue-collar workers, it was not until 1988 that all socio-professional groups were formally included in the insurance schemes (Carrin, 2004). This period—between the first public regulations on pooled financing of healthcare costs and the achievement of UHC—is called the health financing transition. It is usually associated with considerable increases in total public health expenditure, with the noteworthy exception of the USA (CBO, 2014).

Although every country must forge its own path, a few political and economic trends are common. First, there must be considerable, persistent domestic pressure, coming from a number of different stakeholders, to provide equitable access to healthcare. Second, the government must be willing and capable of assuming a prominent and effective role in regulation and financing. Third, institutions must be negotiated according to the care structures already in place, whether that means standardising and integrating traditional medicine into modern practice (WHO 2013), or introducing new legislation to regulate existing providers and insurers (Jha 2013). Finally, the implementation of a scheme to provide UHC is invariably incremental, often lasting several decades (Savedoff, 2012).

During the health financing transition, countries must also grapple with a number of difficult decisions. Who should initially be eligible for coverage? What should be included in the portfolio of covered services? Should population-based public health services be financed from the same funds? What fraction of the cost should be borne by citizens, enterprises and the government? Should there be a copayment for services, and if so, which

ones, how much, and who should pay? How can existing health providers and structures be integrated into the reforms? What efficiency measures should be put into place to optimise expenditure? How should the government regulate standards, quality and coverage? How should health system performance and progress towards UHC be monitored? How can system sustainability be ensured?

The answers to these questions will have an important impact on the ultimate effectiveness and inherent equity of the health system. Although the relationship between pooled health expenditure and universal coverage is usually positive, empirical evidence reveals some important caveats. Particularly important elements include governance and planning, to ensure that increased funding is aligned with population needs, that quality controls and accountability are built into the system, and that explicit measures are implemented to extend coverage to remove financial and geographical barriers to access. In countries that receive considerable external aid to prop up their health system, the way this money is channelled is also important. Although this question has not been examined in-depth, some studies suggest that aid channelled to government sources may simply replace—rather than complement—domestic spending, while funds directed towards non-governmental sources can have the opposite effect (Lu 2010, Moreno-Serra, 2012).

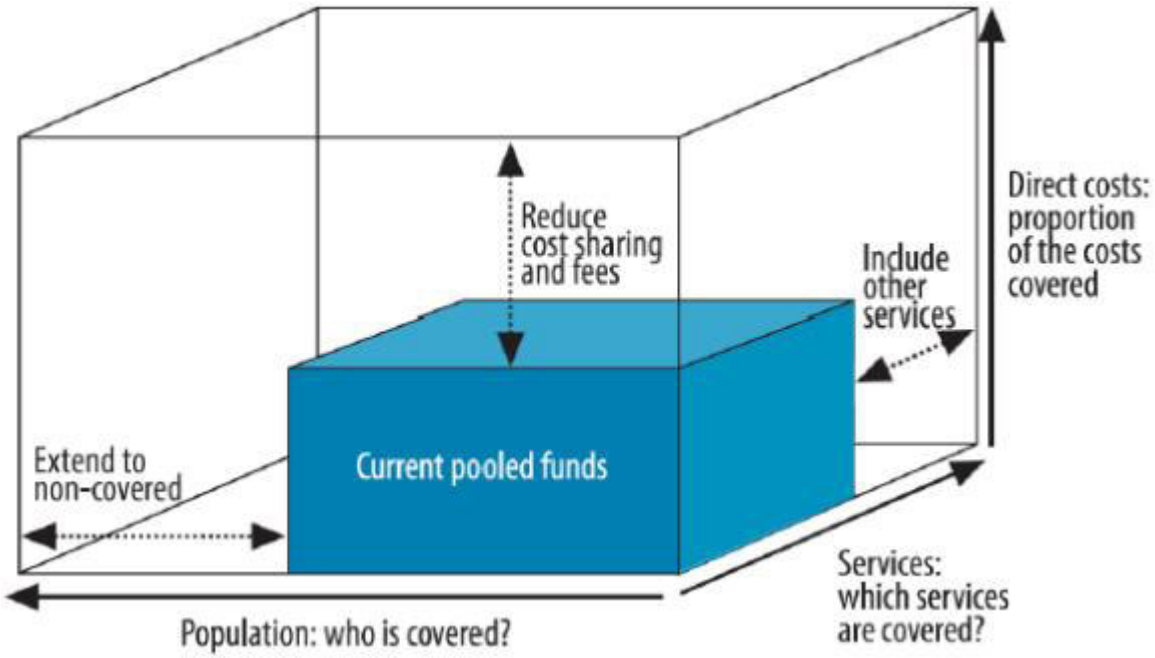
Today, nearly half of all countries worldwide, and across all income levels, are undergoing a health financing transition. Lower-income countries may be using UHC as a means to meet Millennium Development Goals; middle-income countries may wish to extend coverage or scale up service availability, and higher-income countries wishing to maintain UHC are usually more concerned with efficiency gains and adaptations of the service portfolio to the changing demographics of their populations (Boerma, 2014).

Assessing progress towards UHC

The diversity of health system models as well as their heterogeneous levels of effectiveness, make it difficult to precisely measure progress towards UHC; all major assessment methods have certain drawbacks when examined in isolation (Savedoff, 2012). Examining the legal right to healthcare, for example, overlooks the practical implications of implementation, which may lag behind political aims. Studying insurance coverage is also useful, but this method may ignore unequal geographical access, copayment requirements or a generally inadequate level of healthcare provision. Analysing health care utilisation is a third approach, but this does not take into account differences rooted in system efficiency, nor does it consider whether citizens are financially protected.

The World Health Organization and the World Bank Group have recently developed a global framework for monitoring progress towards UHC, dually examining both population coverage with essential health services and financial protection against catastrophic out-of-pocket health payments (figure 1) (Boerma, 2014). This method, already tested on 13 countries (see list of case studies under reference list) represents the most current and rigorous attempt to establish a basis for international comparison of progress.

Figure 1: WHO-World Bank UHC Monitoring Framework: measuring progress towards Universal Health Coverage (Source: Boerm,a 2014).



Promoting UHC in global health

Advocacy for advancement of UHC is closely intertwined with overall efforts to strengthen health systems, including the important dimensions of service delivery; the health workforce; health information systems; medical products, vaccines and technologies; financing; and leadership and governance (WHO, 2007). In generating and allocating resources at a national level, there will be constant trade-offs, and the balance between competing demands and interests must be constantly reassessed. Measures intended to enhance coverage may actually do the opposite if too much pressure is put on the system at once, so it is important to take an incremental approach and negotiate the system goals with all stakeholders, including those whose interests' conflict. In a report presented at a global conference on UHC, the Government of Japan and the World Bank (2013) highlighted a number of important lessons to keep in mind when working to advance UHC as a key pillar of global health:

Due consideration of the political economy and policy process

Varied interest groups may be well-entrenched in the political and economic culture of the country, and effective negotiation with them in making decisions on institutional and technological investments is crucial. Leveraging social pressure, societal upheaval and government power can erode opposition from some of these interests, but strategic planning and careful political manoeuvring will be necessary to engage the cooperation of all key stakeholders, so that health system reform has a broad base of ownership.

Tailored strategies to increase health financing capability

Given that UHC is generally associated with increased government expenditure, countries must work to expand the fiscal space that permits increased generation of resources; this is especially important when a movement towards UHC is not accompanied by economic growth. For countries that rely on external funding to buttress the national health system, a key question is how to channel aid in a way that stimulates additional domestic expenditures rather than undermining it. Developed countries such as France and Japan, on the other hand, have seen their resource availability shrink and are thus pursuing policies that diversify their revenue base, for example through consumption taxes or "sin" taxes. At the same time, expenditure management measures, such as Health Technology Assessment (HTA) and capitation systems (replacing fee-for-service arrangements), must be incorporated into the system early on so that costs do not escalate. In scaling up UHC programmes, risks must also be diversified through cross-subsidisation and risk pooling, not only across economic ranges (rich and poor), but also according to general health status (young and old; healthy and sick).

Capacity-building in human resources for health

Worldwide, there are acute shortages in qualified health professionals, so all countries must exert major efforts towards human resource recruitment and planning. Understanding the current skills mix is just as important as projecting the future disease burden, so that the health workforce meets population needs. Creating strategies to incentivise health workers to serve remote and rural regions is a special challenge, as is creating human resource training and management structures that raise performance and accreditation standards, especially when there are few qualified instructors to fill teaching positions and staff educational institutions.

Support for primary care and public health

Most countries that have achieved UHC have done so by directing resources first towards an expansion of primary care, often with a strong reliance on community health workers. Population-based public health programmes, such as tobacco control, occupational health protection and communicable disease control, also play a key role in reducing the overall burden of disease, even if investments are not directly incorporated into health service delivery schemes. This emphasis on primary care and population-based public health policies, rather than specialized and hospital care, embeds system savings into UHC development, helping to ensure its sustainability.

At the same time, policymakers must also work to incorporate healthcare practices and structures that people are already using, including traditional medicine. In some low- and middle-income countries (LMICs), traditional healers are the main providers of healthcare, especially in rural areas. Providing formal training to informal practitioners while regulating safety and quality emerges as an important pathway to increase access to health services (WHO, 2013).

Adaptive leadership

Because the transition to UHC can take decades, many potential pitfalls must be averted or mitigated. Increasing health system capacity has both interdependent links (e.g., human resource training and quality assurance) as well as competing interests (e.g., the pharmaceutical industry and government agencies responsible for financing health technology). Therefore, strategic compromises must be made without endangering the ultimate goals of sustainability and equitable coverage.

Exercises

Group discussion questions:

Consider the role of each of the WHO building blocks for health systems (service delivery; health workforce; health information systems; medical products, vaccines and technologies; financing; and leadership and governance) in advancing Universal Health Coverage. What risks are entailed in neglecting any of these areas when developing a strategy for UHC? Are there any other key areas of the health system that should be considered?

What place does public health have in expanding access to healthcare?
Turkey's negotiations with pharmaceutical companies and global spending caps in 2008 led to lowered costs and increased access, but it has also eroded incentives to invest in health technology R&D. How could these interests be better balanced?

What population groups should be prioritised when expanding coverage? Does that measure need to be offset by cross-subsidising risk with another group?

What criteria should be followed when developing or revising the portfolio of services and medicines offered within the public healthcare system?

What type of payments (direct or copayment) are in use in participants' countries?
What are the advantages and disadvantages of imposing copayments on services, medicines or medical products? Is there a place for them in a context of resource constraints, or should all healthcare costs be pooled?

Mock group work

As a class, identify the major stakeholders in your country's health system, including health professional associations, academic institutions, patients, industry, government, private insurance companies and healthcare providers, and others. Check the existence of UHC strategies or guidelines in participants' country health policies.

As a class, make a list of gaps in UHC which may exist.
Divide the class into small groups according to interest groups, and formulate proposals to close gaps in coverage according to your group's perspective.
In a roundtable, discuss policy options, and if possible, come to a consensus.

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Title:	**R 3.5 PUBLIC HEALTH LEADERSHIP IN A GLOBALISED WORLD**
Module information	The module may be structured according to the European Credit Transfer System (ECTS), corresponding per ECTS to 25-30 hours student workload (thereof up to 10 contact hours of lecturing/supervision). As part of an academic degree program, the module may be worked into a Masters Curriculum in Global Health with corresponding admission and course completion requirements. Equally the module may also be incorporated into a DrPH (Doctoral program in Public Health) curriculum in which course specifics remain constant but where perspectives are broadened through increased emphasis on relevant readings and calls for ground breaking, context-specific case studies. *Note: Entrance requirements are to be determined by the institution offering the module.*
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Key words	Public Health, leadership, systems thinking, leading change, communication in globalised world, political leadership, leadership theories and global leadership values.
Topics	Leadership is a well-known concept within organisational science, public health leadership has still not been well-defined. A recent WHO report acknowledges that contemporary health improvement is more complex than ever before and requires leadership that is *"more fluid, multilevel, multi-stakeholder and adaptive"* rather than of a traditional command and control management variety. Today's public health professionals therefore need to be able to lead in contexts where there is considerable uncertainty and ambiguity, and where there is often imperfect evidence and an absence of agreement about both the precise nature of the problem and the solutions to it. The impact of the evolving growth of the EU and its impact on the potential mobility of healthcare professionals to re-locate across many geographic regions has left, in some communities, a gap in the resouces of seasoned healthcare leaders. While this trend opens new opportunities for emerging young healthcare professionals to take on greater roles guiding their healthcare systems, it has also produced a significant need for high quality leadersship development educational needs. There is a need to discuss and provide professional development with a concentration on the vital role of leadership and

	governance play in public health globally . Indeed, the presence of competent leaders is crucial to achieve progress in the field. A number of studies have identified the capability of effective leaders in dealing with the complexity of introducing new innovations or evidence-based practice more successfully. In summary, this curriculum will be presented and taught with its primary application to be effective in any international healthcare setting. The principles and tools of leadership development taught in this course are universal tools for effective healthcare leadership for now and the future.
Learning objectives	This Course aims to: 1. Introduce leadership theories to and help participants to develop leadership competencies. 2. Introduce the concept of professional development from a situational leadership perspective emphasizing the need for leaders to be adaptive to local and regional settings coupled with the dynamics of an ever-changing healthcare landscape. 3. Examine the key debates around Leadership in Public Health in relationship to modernism, postmodernism, technological change and their implications for leaders within organisations. 4. Introduce key theoretical frameworks that underpin leadership learning, and enable the critical use of this knowledge and understanding by applying theory to actual practice within the context of Public Health. 5. Develop your ability to reflect on the Public Health leadership role and development needs of individuals, so that personal and professional development planning for a leadership role is built upon sound analysis of self in context. 6. Stimulate self-assessment of leadership competencies by the participants to help identify knowledge gaps and further training needs in leadership. 7. Using an applied case study approach with a variety of localised real life examples from across the spectrum of all of Europe of the challenges for dynamic healthcare leaders to stimulate new ways of solving old and emerging problems.
Teaching methods	Blended learning, using online and face to face environment, interactive lectures, PBL (Problem Based Learning) case studies and discussion.
Who should apply	Public health or health professionals from any healthcare setting holding a master degree or an equivalent, aspiring for a leadership position or currently in a leadership position but aiming at improving their leadership attributes representing C1 –C2 level of English.
Career opportunities	Work for an organisation that advocates for health, insures health or supports stakeholders in the area of health (e.g. NGOs, associations), work for the local government, health

	department, authorities at local or international level, work for European or global institutions that deal with health issues, public health or health service provider working in international environment, in the educational field in the area of management and administration, teaching and research, health industry, pharmaceuticals, health insurance, medical devices and other related areas, which work on the global market and finally policy, administration of public institutions, non-governmental organizations and consulting firms.
Assessment of students	Two final assessment tasks are proposed: Written: A leadership development project that a participant would like to introduce in his/her professional practice and be aligned with the personal development goals. The level of detail that can be attained in the project description depends on e.g. the participants' views, goals, expectations…etc. Oral: A 15-minute presentation based on the content of the project and leadership development plan for the future public health career vision including global dimension. Selecting one theory of leadership and discuss how this might be applied to successfully implement change in one area of public health practice having global impact.
COMMENTS on the module by lecturers and students	*Please comment*

Public Health Leadership in a Globalised World

The Rationale

Given the challenges facing public health professionals such as globalization, health threats, an ageing society, and social and health inequalities which result in the increased level of unpredictability, a multidisciplinary public health workforce needs to be supported by new skills and expertise. Developed countries face complex issues of ageing populations, a rising burden of chronic disease and the challenge of cost-containment, while confronted with rising expectations and new technologies. On the other hand the developing countries are still struggling with the control of infectious diseases, efficient delivery of vital health care services and adequate education. One of the functions of public health is to assure a competent and adequately trained public health workforce. A function that is also in line with WHO New European policy for health, Health 2020, where investing in capacity for public health, change, innovation and leadership constitute key actions principles. Therefore it is of crucial importance that educational needs of public health professionals are met with the adequate educational offerings targeting the deficit competencies.

The development of leadership skills is pivotal to delivering effective public health services. The rationale is that leadership skills are key to both the implementation of organisational changes necessary to improve the performance of healthcare systems, and to working successfully across traditional departmental, organisational, intersectoral and national boundaries to develop productive partnerships with a range of stakeholders,

including service users and healthcare professionals, in order to develop impactful public health interventions. Professional development of public health leaders therefore requires the instruction which is competency-based to help them develop the abilities to address complex and evolving demands of health care systems in order to improve the health of served populations and understand unique cultural diversity and varied approaches to public health world wide. The development, acquisition and assessment of new skills should be supported by adequately tailored educational programs in order to improve health and tackle health inequalities, which are becoming a key priority for public health professionals and leaders.

Objectives of the module

The importance of understanding leadership as part of achieving Public Health goals is critical to reducing inequality and improving health. However the rapidly changing environment and huge variations in available health resources makes leadership in Public Health a complex and constantly evolving issue. It is important for those of us in public health, or entering public health roles for the first time, to have some understanding of leadership as it relates to our chosen field of work.

This Module aims to introduce you to and help you to develop leadership competencies through the following:

1. Examining the key debates around Leadership in Public Health in relationship to modernism, postmodernism, technological change and their implications for leaders within organisations.
2. Introducing key theoretical frameworks that underpin leadership learning, and enable the critical use of this knowledge and understanding by applying theory to actual practice within the context of Public Health.
3. Developing the ability to reflect on the Public Health leadership role and development needs of individuals, so that personal and professional development planning for a leadership role is built upon sound analysis of self in context.
4. Stimulating self-assessment of leadership competencies by the participants to help identify knowledge gaps and further training needs in leadership.

Theoretical Approaches

The course builds upon the Leadership for European Public Health Programme (Lephie) and is adapted to reflect the global public health leadership perspective through adequately tailored cases/problems. The proposed sessions in the course are built around the domains constituting public health leadership competency framework. *Systems Thinking, Political Leadership, Collaborative leadership: Building and Leading Interdisciplinary Teams, Leadership and Communication, Leading Change, Emotional Intelligence and Leadership in Team-based Organizations, Leadership, Organizational Learning and Development.*

It is proposed to include only several elements of the Framework such as:
Leadership theories,
Systems thinking
Collaborative leadership
Global Leadership values

Political Leadership
Leading change

Educational Approach

PBL is used as the instructional model in the development and implementation of the leadership curriculum. Students work on tasks in small groups attempting to solve real problems. They are viewed as active participants in learning, rather than passive recipients of knowledge and take responsibility for and plan their own learning as they construct or reconstruct their knowledge networks. Learning in PBL is also a collaborative process in which students have a common goal, share responsibilities, are mutually dependent on each other for their learning needs, and are able to reach agreement through open interaction. Knowledge transfer can be facilitated by learning in meaningful contexts, and problem-based learning nurtures the ability of learners to solve real-life problems whilst fostering communication and cooperation among students. PBL is also seen as highly impactful as an approach to LLL. Learning is contextual, collaborative, and constructive and the students can regulate their own learning. During small group discussions online, the participants collaborate to come up with possible explanations for the problem. Learners are required to use skills from different competency domains in order to solve any given problem. Understanding, in this context, develops knowledge of domains in a way that can be used frequently to assist in further problem solving.

Interactive lectures, tutorial group meetings and other collaborative session are offered to participants at a distance via a virtual learning environment such as Blackboard or Moodle, via which course material can be directly downloaded from the intranet (internal internet network). The combination of BL and PBL enables the participants to explore the main leadership theories in the context of public health by including a range of activities for self-development and assessment, face to face contact, e-learning, project work, problem solving and self-directed learning, supervised by international content experts as tutors.

Required Reading

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Title:	**R 3.6 PUBLIC HEALTH ETHICS**
Module information	The module may be structured according to the European Credit Transfer System (ECTS), corresponding per ECTS to 25-30 hours student workload (thereof up to 10 contact hours of lecturing/supervision). As part of an academic degree program, the module may be worked into a Masters Curriculum in Global Health with corresponding admission and course completion requirements. Equally the module may also be incorporated into a DrPH (Doctoral program in Public Health) curriculum in which course specifics remain constant but where perspectives are broadened through increased emphasis on relevant readings and calls for ground breaking, context-specific case studies. *Note: Entrance requirements are to be determined by the institution offering the module.*
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Key words	Ethics, Public health ethics, Public Health Code of Ethics
Topics	This module will introduce basic concept of public health ethics: • principles and values that support an ethical approach to public health practice and provide examples of some of the complex areas which those practicing, analyzing and planning the health of populations have to navigate; • the code of ethics which is the first explicit statement of ethical principles inherent to public health; and • key principles of the ethical practice of public health.
Learning objectives	After completing this module students should: • distinguish public health ethics from medical ethics • understand public health code of ethics • use principles of the ethical practice of public health • recognize an public health ethical issues in everyday practice • understand why and how globalization perspective is important for public health ethics
Teaching methods	Teaching methods include presentations and discussions, working groups, case studies, problem solving sessions, and round table discussion.
Who should apply	Those who pursue career in public health, law or policy development, research or advocacy; entrance requirements are to be determined by the institution offering the modules
Career opportunities	Teaching and/or research careers in academic environments; positions in the health care sector, and Non-Governmental Organizations; free lance consulting
Assessment of students	Written report on analysis of a given public health ethics problem

COMMENTS on the module by lecturers and students	*Please comment*

Public health ethics

Introduction

Ethics, as moral philosophy, is a branch of philosophy that involves systematizing, defending and recommending concepts of right and wrong conduct.

In general, ethics is concerned with the norms of "ought" and "ought not" in respect to values and behaviors between persons. Our ethical decisions involve reasoning, feelings, and emotions. When we take ethical decisions, we take into account not only what is important, but also how our choice will affect the lives those around us (Richard, Elder 2006; Bulger et al., 1995).

There is no standard way of organizing the ethics of clinical practice, public health, and biomedical science. Although these distinctive concerns are often captured under the umbrella term of bioethics, sometimes bioethics is presented as the equivalent of medical ethics or in contrast to public health or population-level bioethics. Biomedical ethics has often stressed the importance of individual interests of patients, notably the right to autonomy, privacy, and liberty. Ethicists, however, at least until recently, have given insufficient attention to the equally strong values of partnership, citizenship, and community. As members of a society in which we all share a common bond, we also have an obligation to protect and defend the community against threats to health, safety, and security. There remains much work to do in public health ethics (Gostin, 2002).

What are Public Health Ethics?

Public health ethics may be defined as the principles and values that help guide actions designed to promote health and prevent injury and disease in the population. It involves a systematic process to clarify, prioritize, and justify possible courses of public health action based on ethical principles, values, and beliefs of stakeholders, and scientific and other information.

Public health ethics can be subdivided into a field of study and a field of practice. As a field of study, public health ethics seeks to understand and clarify principles and values which guide public health actions. Principles and values provide a framework for decision making and a means of justifying decisions.

As a field of practice, public health ethics is the application of relevant principles and values to public health decision making. In applying an ethics framework, public health ethics inquiry carries out three core functions, 1) identifying and clarifying the ethical dilemma posed, 2) analyzing it in terms of alternative courses of action and their consequences, and 3) resolving the dilemma by deciding which course of action best incorporates and balances the guiding principles and values (Faden et al., 2015; Childress et al., 2002).

Public health has four characteristics that provide much of the subject matter for public health ethics: (1) it is a public or collective good; (2) its promotion involves a particular focus on prevention; (3) its promotion often entails government action; and (4) it involves an intrinsic outcome-orientation (Childress et al., 2002).

As with the concept of public health, there is no settled account of the moral concepts and methods of public health ethics. Systematic efforts to articulate ethical principles and frameworks to guide ethical inquiry in public health identify a number of general moral considerations that include (Blacksher, 2015; Nuffield Council on Bioethics, 2007):

- Producing benefits, often but not exclusively health benefits, and often interpreted in health policy as a utilitarian commitment to maximizing aggregate health benefits
- Preventing harms, often health harms, such as preventable morbidity and premature death
- Distributing health benefits fairly, or distributive justice (fair distribution of social goods)
- Procedural justice (fair process), participation, and transparency
- Respecting individual autonomy and liberty of action
- Respecting and fulfilling universal human rights
- Respecting privacy and confidentiality
- Protecting non-dominant subgroups from marginalization and stigmatization
- Building and maintaining trust.

The importance of public-health ethics

The important ethical dilemma in public health is to balance respect for individual freedom and liberty with the responsibility of governments and stakeholders to provide their citizens with some degree of protection in relation to health. But nowadays in developed countries, many of the important questions of public-health policy relate to so-called "lifestyle factors" that influence the risks of well known killers such as heart disease or cancer. People often refer to "lifestyle choices", but the notion of "choice" can be troublesome, as choices are often constrained by the actions of others, such as industry and government, and by socioeconomic, environmental, and genetic factors (Krebs, 2008).

"Stewardship model" model for public-health ethics provide a framework that specifies the responsibilities that liberal governments have in terms of addressing the needs of the population as a whole. Stewardship model recognizes that governments should not coerce people or restrict their freedom unnecessarily. It also stresses that governments have a responsibility to provide the conditions under which people can lead healthy lives. In addition to protecting its citizens from harm caused by others, the "stewardship state" has a particular responsibility for reducing health inequalities and protecting the health of vulnerable groups. Stewardship model can also be applied at the global level. In this context it means that developed countries have obligations to assist developing ones, for example in terms of enhancing surveillance capacity. At the same

time, developing countries have obligations to cooperate with international surveillance and control efforts, although clearly the terms of cooperation require close scrutiny (Nuffield Council on Bioethics, 2007).

An intervention ladder can be used as a practical tool to think through a range of options available to government and policy makers about how to approach the regulation of different public health issues. The intervention ladder would outline progressive steps regulation might take, where at the bottom of the ladder, the steward (i.e., the state) would regulate public health with an emphasis on individual freedom and responsibility, then gradually moving up the ladder the steward would employ more interventionist or coercive measures (Nuffield Council on Bioethics, 2007).

Public Health Code of Ethics

The code of ethics is the first explicit statement of ethical principles inherent to public health. This code states key principles of the ethical practice of public health. An accompanying statement lists the key values and beliefs inherent to a public health perspective upon which the Ethical Principles are based.

A code of ethics for public health clarifies the distinctive elements of public health and the ethical principles that follow from or respond to those distinct aspects (Laaser et al. 2016). It makes clear to populations and communities the ideals of the public health institutions that serve them. A code of ethics thus serves as a goal to guide public health institutions and practitioners and as a standard to which they can be held accountable.

The code demonstrates public health's belief in the interconnectedness and interdependence of individuals and their communities. It supports the need for public participation in the formation of health policy and the development and implementation of interventions. The code emphasizes the role of public health in the pursuit of social justice. The code also mandates that public health agencies seek out information and share it with the communities. The code stresses the responsibility of public health agencies to respond quickly to the needs of communities and to make the best use of information and resources available to them. The code stresses the need to plan for and be respectful of diversity. It recognizes the importance of the physical environment to health. Finally, the code emphasizes the need to protect the confidentiality of sensitive information about individuals or communities, to ensure professional competence, and to work in collaboration (Thomas et al., 2002; Public Health Leadership Society, 2002).

Case studies

Case study1:
(Blacksher, accessed 25 March 2015):

Forced Treatment for Multidrug-Resistant Tuberculosis

"SJ is a 33-year-old man with multidrug-resistant tuberculosis (MDR-TB). He is homeless, and has a pattern of missing many of his scheduled clinic visits. Upon starting a multi-drug regimen for his condition, SJ initially comes to his scheduled clinic visits, but after a few weeks begins missing them. The provider contacts the social work case manager, who arranges supervised drug administration (also known as "directly observed therapy"). Nevertheless, SJ often cannot be found and this approach is deemed to be failing."

Should SJ be forced into treatment against his will?

Discussion:
"This is a case in which the health of the public is clearly and seriously threatened. Multidrug-resistant tuberculosis has the potential of causing substantial morbidity and mortality for the population, particularly in large urban areas. Thus the need for the individual patient to be treated for the good of the public is high.
Similarly, the patient himself stands to benefit from the treatment. Ordinarily, patients have the right to refuse potentially beneficial treatment, provided they are competent and make an informed decision to do so. The tension created in this case is that the patient's refusal to follow the medication regimen puts others at substantial risk of harm. Hence it may be justifiable to compromise his autonomy to protect the health of others.
In such cases, every effort should be exhausted to enlist the patient's cooperation with the medical regimen. Interventions such as directly observed therapy are often effective ways to achieve the desired result without compromising the patient's autonomy. Failing this, it would be justifiable to seek court permission to confine and treat the patient against his will. In the legal process that ensues, considerations will include the magnitude of harm, the degree to which specific individuals are exposed to harm, and the probability of harm."

Case Study 2:
(Blacksher, accessed 25 March 2015):

Sexually Transmitted Diseases and Contact Tracing
"MG is a 27-year-old graduate student, recently married, who comes into the student health clinic for a routine pelvic exam and Pap smear. During the course of the exam, the gynecology resident performing the exam obtains the Pap smear, but also obtains cervical cultures for gonorrhea and chlamydia. The examination concludes uneventfully. Several weeks later, MG receives a postcard indicating that the Pap smear was normal, with no evidence of dysplasia, but that the cervical culture for gonorrhea was positive. The card instructs her to come into the clinic to discuss treatment, and that "public health authorities" have been notified for contact tracing, which refers to the identification and diagnosis of sexual partners, as required by law. The young woman is terrified that her husband will be contacted."

Is contact tracing ethically justified?

Discussion

"Yes. Her sexual partners have a right to know that they were exposed to gonorrhea. Notification has positive public health benefits that outweigh the young woman's concerns about violation of privacy. First, those notified can be tested and treated. Second, they can take precautions to protect others from contracting gonorrhea (like using condoms). Third, their sexual partners can be notified to further reduce the spread of infection. To address the young woman's concerns, she can seek advice from her doctor and public health officials and may choose to tell her husband herself. Should she fail to inform her husband, public health officials will be obligated to do so."

Ethical questions for individual practitioners

- When should communicable diseases be reported to public health authorities?
- Can medical treatment ever be provided against a patient's will?
- Can patients refuse to undergo routine preventive health measures?

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Title:	**R 3.7 THE GLOBAL PUBLIC HEALTH WORKFORCE**
Module information	The module may be structured according to the European Credit Transfer System (ECTS), corresponding per ECTS to 25-30 hours student workload (thereof up to 10 contact hours of lecturing/supervision). As part of an academic degree program, the module may be worked into a Masters Curriculum in Global Health with corresponding admission and course completion requirements. Equally the module may also be incorporated into a DrPH (Doctoral program in Public Health) curriculum in which course specifics remain constant but where perspectives are broadened through increased emphasis on relevant readings and calls for ground breaking, context-specific case studies. *Note: Entrance requirements are to be determined by the institution offering the module.*
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Key words	Public health workforce, needs assessment, planning, employment.
Topics	The progress of health sciences and technological innovations including modern medicine and health care technologies has increased our expectations for quality of life and health care. That has influenced the public health vision, the scope of public health interventions, and the composition of public health workforce. The outline the text includes description of the current situation of the public health workforce globally; future needs assessment; public health workforce challenges and mitigation globally. It underscores the demand for valid, reliable data sources and tools for mobilization of capacities of skilled public health staff in order to appropriately address global health challenges.
Learning objectives	• To improve students capacity to rehash definitions and facts about public health workforce; • To upgrade /develop skills needed for undertaking a situation analysis of the public health workforce; • To upgrade /develop skills for needs assessment; • To understand the concepts and the rationale of workforce planning approaches and tools;

	• To advance strategic thinking for public health workforce development in a specific context.
Teaching methods	Lectures, interactive small group discussions, case studies and field practice.
Who should apply	Those who pursue an international career in public health management, policy development, research or advocacy; entrance requirements are to be determined by the institution offering the modules.
Career opportunities	Teaching and/or research careers in academic environments; Policy administration of public institutions, non-governmental organizations and in consulting companies.
Assessment of students	Test and case problem presentations.
COMMENTS on the module by lecturers and students	*Please comment*

The Global Public Health Workforce

Current situation of the public health workforce and needs assessment (MSM & VBM)

Contemporary public health faces many challenges such as natural disasters, overuse of natural resources, human trafficking, wars, bioterrorism, advancement of health technologies, risk behavior, infection diseases outbreaks, trends in aging and chronic diseases, unequal distribution of health care resources, inequity in access and quality of health care and so forth. The progress of health sciences and innovations including modern medicine, health care technologies and good governance has increased our expectations for quality of life and health care. In order to address them, current public health workforce has to strengthen its capacity and resources, and to make powerful partnerships for well-built public health activism.

That has influenced the public health vision, the scope of public health interventions and the composition of public health workforce. The broader public health workforce can be seen as the combination of public health specialists (or professionals), people who are indirectly involved in public health activities through their work and people who should be aware of public health implications in their professional life (Whitfield, 2004). The combined efforts of public health professionals and other human resources for health are required to achieve the objectives of population health envisaged in the government' public policies.

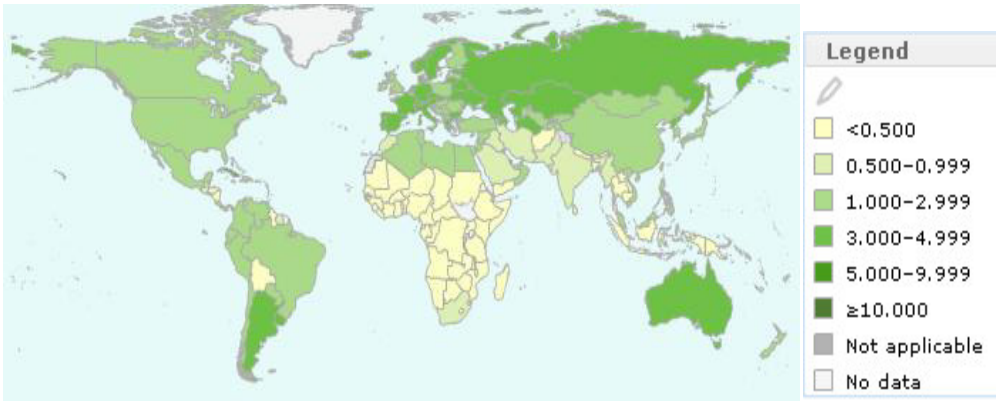
A comprehensive health situation analysis will provide insight in particular needs and priorities for future public health workforce. It includes at least the assessment of the global health situation, external and internal context of the global public health workforce, stakeholder analysis and economic assessment of public health services and products. As the revision of International Health Regulations is under preparation it would be useful to provide some insights how the more exhaustive and austere instructions may influence the need for personnel. The Ebola virus outbreak has demonstrated the perils of not investing in

human resources and other components of health systems. In Liberia and Guinea, there was only one doctor for every 100.000 people.

Based on the mixed methods of the workforce data in the WHO Global Health Observatory in 36 countries and horizon-scanning of the immediate future, Campbell J and associates (2013) have identified that more health workers will be required than previously thought, implying the importance of rethinking the usefulness of traditional models of health workers' education, deployment and management. More frequent public health emergencies (Ebola, MERS, heatwaves, etc.) definitely demand increased capacities of skilled public health staff and mobility preparedness.

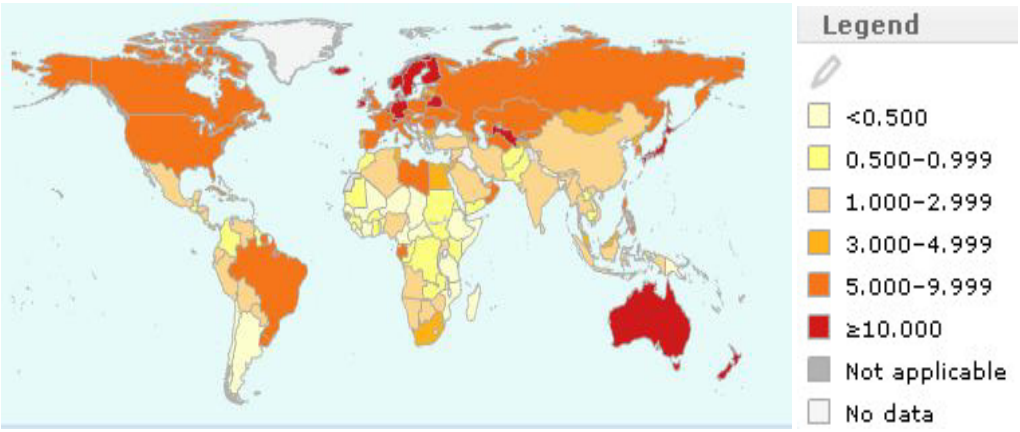
According to the WHO estimates (WHO, 2013a), globally needed are 4.3 million health workers out of which are 2.4 million doctors, nurses, and midwives and among the remaining 1.9 million, large share is of public health workers (WHO, 2013a). Majority of them are required in African countries (figures 1 and 2).

Figure 1: Density of physicians (total number per 1 000 population), latest available data (2014).



Source: WHO (2013). The 2013 update, Global Health Workforce Statistics, Geneva: WHO, (http://www.who.int/hrh/statistics/hwfstats/).

Figure 2: Density of nursing and midwifery personnel (total number per 1000 population), latest available data (2014).



Source: WHO (2013). The 2013 update, Global Health Workforce Statistics, Geneva: WHO, (http://www.who.int/hrh/statistics/hwfstats/).

However, clinicians, primary care doctors are more mobile than health policy experts or staff of microbiological laboratories. Bailey and Dal Poz (2010) emphasized that many of the health professionals in shortage are those who perform essential public health functions and support and manage health programmes and services. Furthermore, they have identified the deficiency of critical skills in public health, health policy and management across both clinicians and managers. However, that situation is not new. At the end of the 20th century, "*many senior public health positions, especially those at the leadership level may be filled by those with no training in public health. Public health agencies may not have a majority of their staff with any public health training at all*" (Lloyd, 2000).

It is worth to emphasize that "*everyone can play a role in promoting health and wellbeing*" but public health professionals are skilled and competent to achieve necessary changes for protecting and improving health and wellbeing. Their skills include information and skills intelligence for evidence-based prioritization and planning, motivating on action and collaboration, advocacy, strategic communication and strong leadership.

Global statistics on current professional public health workers offer a limited picture of their density, as a result of many differences that exists among countries and most importantly regarding:

- legislative and regulative frameworks for competencies and roles of public health professionals,
- information sources and databases, their level of development and coherence
- definitions and methodologies used to collect data
- quality of the original data.

For instance, the density of environmental and public health workers globally is in the range from 1.3 (at Cook Islands 2009) to 0.001 (Peru 2012) per 1000 population (Table 1). The density of community and traditional health workers ranges from 2.2 (Maldives in 2010) to 0.001 (Yemen in 2010) per 1000 population, whilst total number of health

management & support workers per 1000 population is the highest in Kuwait 2009 (4.1) and the lowest in Cameroon 2009 (0.001). Therefore, applying this right approximation, certain trends could be misleading. „*Some figures may be underestimated or overestimated when it is not possible to distinguish whether the data include health workers in the private sector, double counts of health workers holding two or more jobs at different locations, workers who are unpaid or unregulated but performing health care tasks, or people with education in health studies working outside the health care sector (e.g. at a research or teaching institution) or who are not currently engaged in the national health labour market (e.g. unemployed, migrated, retired or withdrawn from the labor force for personal reasons)*" (WHO, 2013a).

There is a belief (Bjegovic-Mikanovic et al., 2013) that many European countries have insufficient institutional and professional capacity for public health compared to the United States of America (USA) and other industrialized countries. On the other hand, the estimates of USA Department of Health and Human Services & Health Resources and Services Administration & Bureau of Health Professions acknowledged that "only 20% of the nation's 400,000-500,000 public health professionals have the education and training needed to do their job effectively" (Kennedy and Baker, 2005).

It is reasonable to critically approach to policy of overproduction of public health graduates (in relation to the population) whilst the current public health professionals are not competent to practice in the field (Kennedy and Baker, 2005). Furthermore, it is essential to balance the demand with the supply of public health professionals, meaning that employers' requirements are the key issue, in particular when there are confirmative scientific evidences regarding the population needs and service demands. Otherwise, the surplus of public health professionals will have lower salaries than other health professionals with equivalent qualifications or unemployed, and both will deteriorate the image of the profession and scientific workers. The need for detailed planning of public health workforce capacity building and of public health professionals in particular, is apparent and should not be ignored for the sake of population health and well-being.

Table 1: Density of environmental and public health workers, community and traditional health workers density and health management & support workers (per 1000 population)[10]

Country data, year	Environmental and public health workers[11]	Community and traditional health workers[12]	Health management & support workers
Bangladesh 2011	0.037	0.334	
Belize 2009	0.206	0.543	
Bhutan 2012		0.854	2.408
Bolivia 2011	0.008		0.919
Burkina Faso 2010		0.129	0.004
Cabo Verde 2009			0.004
Cameroon 2009			0.001
Central African Republic 2009	0.053	0.401	0.009
China 2010		0.806	0.701
Cook Islands 2009	1.278	0.5	1
Costa Rica 2013			0.131
Cuba 2010	0.246		0.189
Ecuador 2009			1.419
Ethiopia 2009	0.015	0.364	
Fiji 2009	0.135		0.302
Guinea-Bissau 2009	0.004		
Guyana 2010		0.326	
Iceland 2011	0.166		
Indonesia 2012	0.181		0.513
Kuwait 2009			4.133
Lao People's Democratic Republic 2012	0.132		0.672
Malawi 2009	0.031		
Malaysia 2010	0.117	0.444	
Maldives 2010		2.17	
Mali 2010	0.03	0.007	0.256
Mauritania 2009	0.057	0.284	0.193
Mozambique 2012			0.014
Myanmar 2012	0.052	0.21	
Nauru 2009	0.714	0.214	1.071
Pakistan 2010		0.066	
Peru 2012	0.001		3.496

[10] Notes extracted from WHO Indicator and Measurement Registry version 1.7.0: The classification of health workers is based on criteria for vocational education and training, regulation of health occupations, and the activities and tasks involved in carrying out a job, i.e. a framework for categorizing key workforce variables according to shared characteristics.

[11] Environment and public health workers refer to environmental and public health officers, environmental and public health technicians, sanitarians, hygienists and related occupations.

[12] Community health workers refer to community health officers, community health-education workers, community health aides, family health workers and associated occupations.

Rwanda 2010	0.012		0.103
Saudi Arabia 2009			2.647
Sierra Leone 2010	0.026	0.022	
South Africa 2013	0.064		
Swaziland 2009	0.114		0.25
Thailand 2010	0.566		
The former Yugoslav republic of Macedonia 2009			2.472
Timor-Leste 2011	0.079		0.537
Tonga 2009	0.359		0.485
Yemen 2010	0.024	0.001	0.432
Zambia 2010	0.089		0.036
Zimbabwe 2009	0.088		0.5

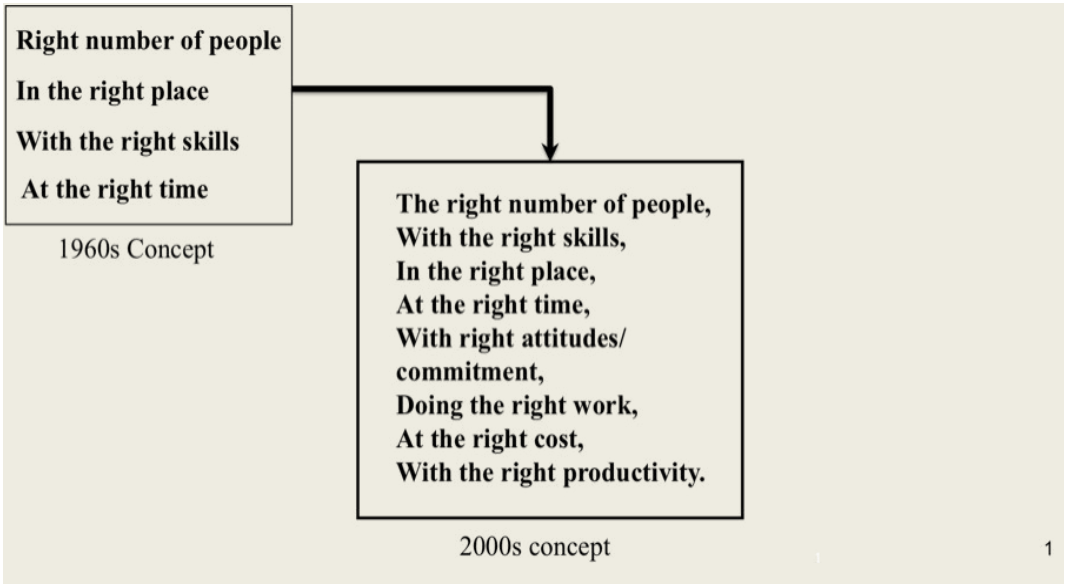
Source: Global Health Observatory Data Repository

Estimating public health professionals needs and methods and tools for planning (MSM & VBM)

Estimating requirements for public health professionals is complex process and is not single-person project. It requires a diversity of knowledge, skills and adequate technical, technological and information support as well as financials. If led by clear vision of the authorities regarding public health outcomes, and good quality of up-to date information it may yield estimates of high probability (Malgieri et al., 2015). Planning may comprise many relevant assumptions; therefore, it requires time and very informed teammates. Therefore, public health workforce planning needs the buy-in from the top level and should be undertaken by the governmental task force.

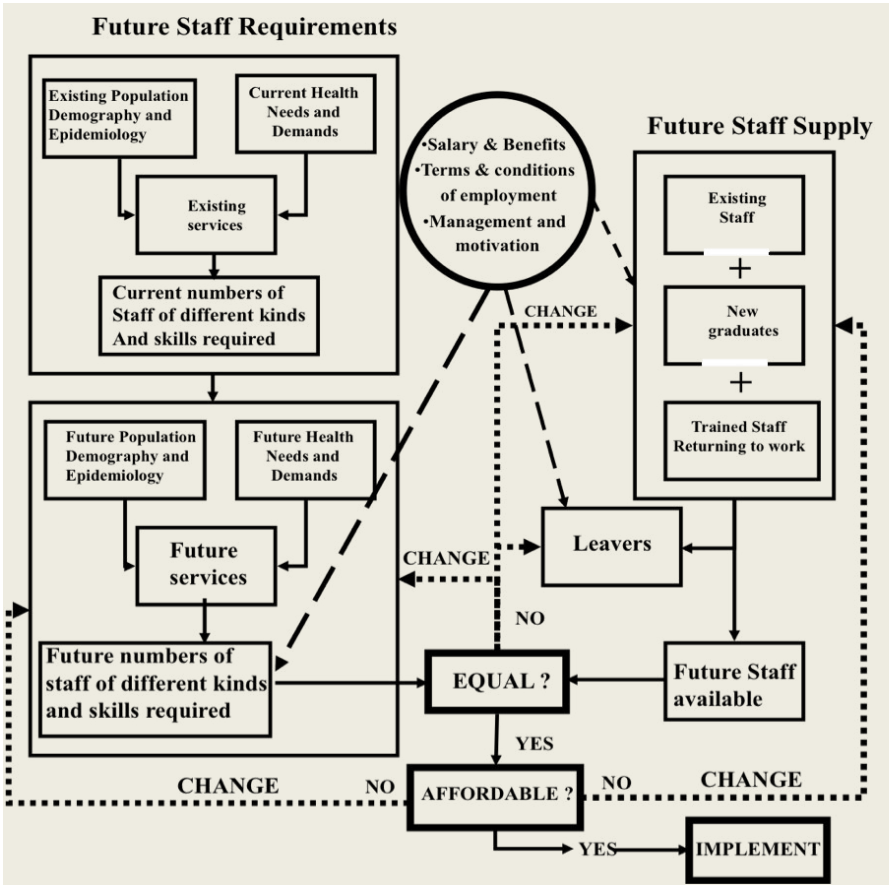
The concept of the contemporary workforce planning purpose and the modern framework for workforce planning process are illustrated in the figures 3 and 4.

Figure 3: The changing concept of the workforce planning



Source: Hornby, Santric Milicevic, 2011

Figure 4: The modern framework for workforce planning process



Source: Hornby, Santric Milicevic, 2011

The baseline of workforce planning and projecting comprises the clear situation analysis and assessment. That means finding the relevant answers (by means of variety of research and analyses, data collection, collation and validation) on the following questions: Who are public health professionals, what is their skill mix, competencies and their purpose – scope of practice? What is the stock of the public health professionals and what are the training capacities in the selected territory (region/country)? How valid are data that quantify their entrance in and exit from the labor market and workplaces? What is the performance of the public health professionals in relation to their competences and in relation to the reality demand? Are there any professional, occupational standards and norms, or the like proposals and how well they correspond to the reality? What are the correlations between the stock number, skill-mix, performance, and labor costs with the labor and health care legislation, demographic and epidemiology profile of the population, terms of working conditions including technologies and wages, management and motivation, and other governance politics and policies? Those and many other questions purpose is to describe and explain where public health professionals are now in the public health practice and how well they are DOIng (Figure 4. Analyses of the staff supply on the right side of the figure and services requirements on the left side of the figure, and the items in the circle - salary, benefits etc).

Further step is to clarify the objectives / expected outputs related to the vision, goals and mission of the effective and efficient public health professionals in the future dynamics. That means also the identification how far we are from the desirable future (forecasting and projections of the health and well-being of the population based on the epidemiology data, demography profile and other information). Then, the decision should be made how to approach the objectives and expected outputs at the best and the most realistic way. Simplistic division of methods for approaching them is the supply-side planning of the public health professional, the demand-side planning (or requirements-side) and on both sides planning. A balanced planning approaches with likely combine some of the techniques for supply-side planning method (for instance the numerous clauses or the cohort estimation) and some of the techniques on the demand-side planning method (for example, the workforce-to-population ratio, the health needs based requirements, the service demands, the service targets) (Hall, 2000). Laying scenarios usually incorporate assumptions at least about macro and microeconomic progression / limitations, advancements in technology accessibility and applicability, epidemiological, demographical, and environmental developments and econometrics analyses. The planning will produce several scenarios for changing the future staff supply and demand (i.e. via legislation, education, management, finance and other policy regarding availability, accessibility, competence, skill-mix, performance, payment of public health professionals, etc.) in order to comply with financial limitations and broader policy of a health system. In this part of the planning process, the task force should address and resolve possible ethical dilemmas with regard likely consequences of the scenarios.

The computation of the scenarios (with links or without to econometrics analyses) is the technical side of the planning, than. For that, today at our disposal are both simple and sophisticated tools and software (WHO, 2010), such as the WHO Western Pacific Regional Office, Regional Training Centre health workforce planning model (Dewdney, 2001), the United Nations Development Programme's integrated health mode (UN Millennium Project, 2007), Western Pacific Workforce Projection Tool (WHO, 2008) and the iHRIS Plan

software package (Capacity Project, 2008), the Workload Indicators of Staffing Needs (WHO, 1998), etc.

Current assessements related to public health workforce (MSM & VBM)

Many countries, in particular those with developing economies, has being undertaking health sector structural reforms in order to meet contemporary and future challenges. A number of them were disorganized and vague, therefore resulting in failure (Laaser et al., 2006). Since „*little is known about the size, structure, performance, and training needs of the public health workforce... little is known about the real contribution of this workforce to the achievement of essential public health functions*" (Baily et al., 2010). Recently, Bjegovic-Mikanovic et al. (2014) have provided a rough estimate of needs: *"The public health services, comprising qualified and certified public health professionals, have to address the four main deficits of: information*[13]*, prevention*[14]*, social equity*[15] *and a weak regulatory framework*[16]*...For a projected population of 325 million in 2010, a total of 715,000 professionals working in the area of public health are required corresponding to 220 health professionals per100,000 population. Recalculated for the population of the 27 EU Member States of 501 million (January 2010), this results in a workforce of 1.1 million public health workers using the same ratio. Given an average attrition rate of around 2% per year, up to 22,000 professionals would have to finish some education in public health each year in order to fulfil these needs… Almost three times the present educational capacity is needed to provide these numbers."*

As of the beginning of the 20th Century, health economists have being placing a definite responsibility upon public health authorities for efficient administration of allocated funds, thus implying the competency requirements for personnel that undertake public health procedures of proven, scientific methods (Sydenstricker, 1936). What has been observed then was the global need of modern tools and competencies in public health as well as commitment, networking, collaboration among public health workforce.

The new millennium commenced with the general agreement was that time has arrived for credentialing process of for public health workforce, for enhancement of public health practitioners status in the community and for establishing public health competencies (Lloyd, 2000). Precisely, the key needs were recognition of the importance of the public health practice and creation of skilled professionals for community work. Increasing

[13] „*The information deficit:* Public health professionals can provide health surveillance by promoting the development of indicator-based comprehensive health monitoring systems, published as reports to the general public".

[14] "*The prevention deficit:* Public health professionals can promote healthy behaviour and lifestyles, and reducing risk factors; for example, smoking, alcohol and drug use, sedentary behaviour, unhealthy diet and overeating are examples of poor lifestyle choices that directly affect health".

[15] „*The social deficit:* Public health professionals can work to help reduce inequity in health. Two objectives have been set for interventions: (1) mortality and morbidity should decline particularly for those causes of death and age groups in which a defi ned population is lagging behind other populations (*level objective*); and (2) socioeconomic differences in mortality and morbidity should shrink, which requires reductions faster than average among less fortunate groups (*distribution objective*) (Valkonen, Sihvonen & Lahelma, 1997)".

[16] „*The regulatory deficit:* Public health professionals can help to coordinate care among many different players. The decision-making in health care is organized by a regulatory framework, which in most countries is characterized by a continuous shift from the old vertical model to a more horizontal one, with a moderating instead of a directive role for governmental agencies. A number of decision-making centres, acting more or less in parallel, have to be coordinated, but cannot be directed (Laaser, 2001) ".

diversity of public health graduates, including minorities, was seen as positive feature that will help the discipline better alignment with the array of local needs (Kennedy & Baker, 2005; Frenk et al., 2010). Still the analysis of the job market for public health workers is important step for achieving the desired impact on population health and wellbeing.

The profile of public health professionals in a region / country and public heath workforce future largely depends on the vision of the public health services and capacities, whether is shared and adopted among key partners, how well is legitimized their mission and resourcefulness, and how prominent supportive arrangements have public health professionals in the environment. Experts' efforts to rationalize the complex role, services and performance of public health, as well as to contribute formulation of compelling evidences of its impact to society' health and wellbeing, has resulted in defining the essential public health functions/operations (Table 2). Realisation of essential public health functions will require the fullest possible commitment of health stakeholders, authority dedication and wise leadership by the public health professionals.

Table 2: Comparison of select regional public health functions / operations

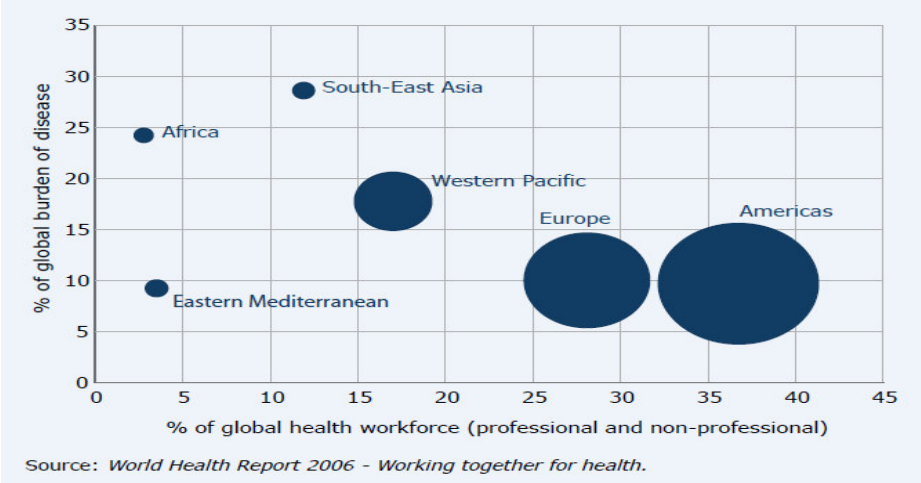
WHO Europe's Essential Public Health Operations (EPHO)	Western Pacific Essential Public Health Functions (EPHF)	CDC's Essential Public Health Services (EPHS)	PAHO's Essential Public Health Functions (EPHF)
1. Surveillance of diseases and assessment of the population's health	1. Health situation monitoring and analysis	1. Monitor health status to identify community health problems	1. Monitoring, evaluation and analysis of health status
2. Identification of priority health problems and health hazards in the community	2. Epidemiological surveillance/ disease prevention and control	2. Diagnose and investigate health problems and health hazards in the community	2. Public health surveillance, research and control of risks and threats to public health
3. Preparedness and planning for public health emergencies	n.a.	n.a.	11. Decreasing emergencies and disasters in health including prevention, mitigation, preparedness, response and rehabilitation
4. Health protection operations (environmental, occupational, food safety and others)	5. Regulation and enforcement to protect public health	6. Enforce laws and regulations that protect health and ensure safety	n.a.
5. Disease prevention	As part of function 2	n.a.	As part of function 11
6. Health promotion	7. Health promotion, social participation and empowerment	4. Mobilize community partnerships to identify and solve health problems 5. Develop policies and plans that support individual and community health efforts	3. Health promotion
7. Assuring a competent public health and personal health care workforce	6. Human resources development and planning i n public health	8. Assure a competent public and personal health care workforce	8. Human resource development and training in public health
8. Core governance, financing and quality assurance for public health	8. Ensuring the quality of personal and population-based health services 3. Development of policies and planning in public health 4. Strategic management of health systems and services for population health gain	9. Evaluate effectiveness, accessibility and quality of personal and population-based health services 7. Link people to needed personal health services and assure the provision of health care when otherwise unavailable	9. Quality assurance in personal and population-based health services 5. Development of policies and institutional capacity for planning and managing public health 6. Strengthening of institutional capacity for planning and management in public health 7. Evaluation and promotion of equitable access to necessary health services
9. Core communication for public health	n.a.	3. Inform, educate and empower people about health issues	4. Social participation in health
10. Health-related research	9. Research, development and implementation of innovative public health solutions	10. Research for new insights and innovative solutions to health problems	10. Research on public health

Source: Bjegovic Mikanovic et al., 2014.

Public health workforce challenges: The case of the Middle East (MWA)

Scaling up educational programs to produce more doctors, nurses, midwives and other health professionals is clearly urgent and essential. However, increasing the number of graduates will not be enough. The shortage of professional health workers is compounded by the fact that their skills, competencies, clinical experience, and expectations are often poorly suited to the health needs of much of the population they serve. The figure 5 below depicts that in Africa the % of global burden of disease is 25% whereas it has only 4% of the global health workforce. Similarly, in the Middle East if we compare the distribution of health workforce with Americas and Europe we see a huge inequality in the distribution of global health workforce in spite of an equal percentage of global burden of disease.

Figure 5: Distribution of the health workforce relative to the global burden of disease



In the Middle East in particular, the educational methods are static and fragmented and shortages of teaching staff severe. Post-graduate education is inadequate or non-existent in some of the Arab countries. Regulatory mechanisms designed to ensure the quality of education, such as accreditation, are rarely standardised, and are often weak and inconsistently applied, especially in the case of private sector institutions. The mix of skills they have acquired during their professional education is often not well oriented to their eventual workplace. The scientific content of their education may be poorly matched to the epidemiology of the communities in which they work.

As there is considerable variation in the disease burden across national and intra-national income levels, reforms will need to address increased retention and better distribution of the public health workforce across underserved areas through innovative student selection, recruitment, and preparation for public health professional education. At the institutional level, reforms will need to address: the production capacity of educational institutions, including the need for teaching staff; adequate equipment and teaching methodologies; enabling learning environments; curricula that address the realities of local epidemiology and service delivery; and the need to promote a culture of social accountability among public health professionals. Appropriate regulation, including

certification and licensing of graduates and accreditation systems to ensure the quality of educational programs, will need to match and support such changes.

Some of the items of the 59th World Health Assembly (WHO, 2006), which urges Member States to affirm their commitment to the training of more health workers, are especially relevant:

> (1) giving consideration to the establishment of mechanisms to mitigate the adverse impact on developing countries of the loss of health personnel through migration, including means for the receiving developed countries to support the strengthening of health systems, in particular human resources development, in the countries of origin;
> (2) promoting training in accredited institutions of a full spectrum of quality professionals, and also community health workers, public health workers and paraprofessionals;
> (4) promoting the concept of training partnerships between schools in industrialized and developing countries involving exchanges of faculty and students;
> (6) using innovative approaches to teaching in developed and developing countries with state-of-the-art teaching materials and continuing education through the innovative use of information and communications technology.

Migration and opportunities (MWA)

Common for many countries are shortages of some categories of health workers, the ageing of health workforce and replacement is a challenge. In order to highlight the scope of future challenges in the post-2015 context WHO analyzed the workforce implications of new global health targets of the agenda. It is estimated a global deficit of about 12.9 million skilled health professionals (midwives, nurses and physicians) by 2035. While this estimate was produced for illustrative purposes and should not be seen as a planning target, it implies the need to rethink the traditional models of education, deployment, and remuneration of the health workforce.

If the country's health goal is to reduce the burden of communicable and non-communicable diseases and minimize injuries and accidents then emphasis has to be given in recruiting Public Health and Preventive Medicine professionals and not building more and more hospitals and trauma centres. The burden of disease may never be significantly decreased by curative health care professionals like clinicians and pathologists and radiologist. Nevertheless, it may be reduced by public health and preventive medicine trained professional. Public Health educational institutions need to increase capacity and reform recruitment, teaching methods and curricula in order to improve the quality and the social accountability of graduates. The international community has an important role to play by partnering to support country-led efforts.

Despite changes in the way care is provided, people are always central in the provision of care whether it is preventive, promotional, diagnostic, curative, or rehabilitative. Therefore health services mission, strategies, initiatives are useless unless there is appropriate policies and procedures for managing health labor market. To an extent, The Kampala declaration and agenda for global action (GHWA, 2008), and the WHO Global Code of Practice on the International Recruitment of Health Personnel (WHO,

2013b) offer existing global benchmarks. The accountability report from the meeting of the G8 (2013), provides evidence that some countries are monitoring their recommended actions. However, the international community has yet to fully grasp the inherent value of these documents in fostering accountability. The 2013 progress report on the Global Code of Practice (Amani et al., 2013), for example, is a sober reminder that existing health workforce recommendations are not being implemented at scale in all WHO regions.

Health care depends on human resources more than any other sector. Globally 35 million persons are employed in the health sector (ILO, 2015). Occupational health is an essential part of industrial and economic development. The ILO Convention No. 161 (1985) defines "Occupational Health Services" as essentially preventive functions, responsible for establishing and maintaining a safe and healthy working environment which will facilitate optimal physical and mental health. According to ILO "The prime responsibility for health and safety of workers rests with the employers"... "all member states to provide Occupational Health services & all workers shall be informed of health hazards involved in their work".

The developing and newly industrialized countries make up for approximately 80% of the world's workers hence the need of Occupational Health in a Public Health setting. The global plan of action on workers' health 2008-2017 (WHO, 2013c) urges member states to "work towards full coverage of all workers, including small- and medium-sized enterprises, agriculture, and migrant and contractual workers, with essential interventions and basic occupational health services for primary prevention of occupational and work-related diseases and injuries". The Harvard University study (Baicker et al., 2010) found that for every $1.00 spent on workplace prevention and wellness programmes medical costs fall by $3.27 and absenteeism costs fall by $2.73 (table 3).

Table 3: Key functions of occupational health in a public health setting vs. occupational health services

Key functions	**Occupational health in a public health setting**	**Occupational health in the ministerial labour department**
Expertise of	Doctors, epidemiologists, nurses, industrial hygienist and research scientists	Managers, regulators, engineers and safety officers
Implementing laws and regulations	Advisory (NIOSH like)	Authority (OSHA like)
Regulation/enforcement of laws	No	Yes
Health and safety surveillance/Risk assessment	Yes	Yes
Injuries notifications	Supplements	Yes
Disease notification	Yes	Supplements

Injury incident investigation	Supplements	Responsible
Pre-employment medical	Yes	No
Advisory role: Education/training	Much	less
Periodic medical exam and Exit medical exam	Yes	No
Injury management and return to work	Yes	No
OHS research	Yes	No

Occupational Health services are unevenly distributed in the world (WHO, 2006), even in the European Region, variation of coverage is wide (between 5% and 90% of the required workforce). Only a few countries (United States, Canada, Japan, and Australia) show about 50% coverage, developing regions 5 to 10% at best. WHO (1994) warns against the combined effect of workers lifestyles and their occupational safety.

Box 1. Challenges for occupational health in public health of Middle East (MWA)

Most notably, Qatar, UAE and Kuwait are the largest per capita recipients in the world of labor immigration. Expatriates in the labor force is estimated at 83% for Kuwait and 80% for the UAE and averaging 35.7% of total population for the member countries of the Gulf Cooperation Council overall. Over the past few decades, UAE has become a popular Westerner's destination for temporary labor migrants seeking employment opportunities and higher standards of living. However, most are nontechnical, unprofessional labor force. Some of the challenges of Arab World are effects of war and conflict: population movements, uncontrolled migration to cities, institutional paralysis, and discontinuity of care, pressure on social services, health and economics, and the paucity of premier public health educational and training institutes in the Middle East.

The availability of Occupational Health (OH) services in the Middle East has numerous challenges along with its high demand. Much of this is due to the scarcity of OH Physicians and personnel. The question is: What is the need of occupational health bodies for public health knowledge? What is the future of OH globally and what is it in the Arab World? Public health professionals, physicians, nurses, radiologists, laboratory personnel and paramedics account smaller portion of the total immigrants. Mismatch and imbalances exist between

Moving forward in the international practice of public health personnel

Great public health achievements of the last decade of the 20th century (CDC, 2011) highlighted the success of the multi-sector efforts and the importance of research and

evidence-based interventions invested for protecting health and human rights. The variety of public health challenges in the 21st century is acknowledged at the new UN agenda "Transforming our world: the 2030 Agenda for Sustainable Development" (UN, 2015). Public health professionals are primarily concerned with efforts to "ensure healthy lives and promotion of wellbeing for all at all age" - the third goal and its targets. To strengthen its efforts and outcomes success, the limitation of knowledge on public health workforce including public health specialists, due to no valid, reliable single source of data or no systematic data collection should be tackled. One of the objectives is to „substantially increase health financing and the recruitment, development, training and retention of the health workforce in developing countries, especially in least developed countries and small island developing States". It relates to a country capability for self-sustainment of the health workforce. Among many tools to support planning of investments into health workforce capacity, the International Code for Ethical Recruitment (hereinafter the Code) is particularly important. It is a tool for health workforce development and health systems sustainability; it comprises the mechanisms that support countries for self-sustainment regarding public health workforce and the architecture of information for effective health workforce planning, education and retention strategies. It also guides countries for ethical international recruitment of required health workers (WHO, 2013b). From such platform for cooperation, if widely and wisely implemented, all interested parties should have benefits for development and sustainability of human resources for health.

The influence of this "critical milestone in international public health" (WHO, 2013b) has not been as high as some would expect for five years of its endorsement. The expert agree, and available evidence support that the Code is relevant tool to address accelerated global and regional health workforce demand due to "population growth, ageing populations, ageing health workforce, urbanization, and the increasing liberalization of rules related to skilled migration and constrained fiscal capacity and poor working environments, especially prevalent in some low and middle income states" (WHO, 2015). The effectiveness of the Code provision is not supported with enough evidence.

The Code responsiveness to emerging and dynamic drivers depends on the level of awareness, political commitment, engagement by all stakeholders and technical and financial resources to support its implementation. Worldwide, it faced implementation gap as many voluntary instruments before. The first results point to the facts that less than 1/3 of WHO member states have provided national reports as requested, number of physicians from sub-Saharan Africa recruited into the US physician workforce continues to increase substantially. An inherent time lag between the Code adoption and the accumulation of concrete evidence of its effectiveness, outcomes, and impacts may partially explain the lack of scientifically-defensible evidences supporting Code implementation. Therefore, the lack of accurate information on public health workforce stock and mobility dimensions (including for permanent, temporary, cross-border and transits workers) undermines the high-quality planning and efficiency of global and local public health stakeholders and good governance of public health resources.

The setback of the Code implementation should be corrected primarily in the countries with "HRH crises" by rising the awareness, advocacy and dissemination of the Code among all stakeholders and through improving stakeholders' political, technical and financial capacity to implement its provisions and obligations.

Exercises

Exercise 1: Public Health Workforce strategic Thinking
Instruction to facilitator:
Select a region; Prepare short description of public health situation of the selected region, including some data, indicators, links to databases and relevant documents and reports. Divide participants in four small groups. Introduce participants with the tasks and expected output of the exercise (5 min).

Instruction for small group task (40 min):
- The first group: Analyse the strengths of public health workforce capacity in a defined (selected) region and rank them according to the relevance/importance, i.e. from the 1 (the most) to 10 (the least)
- The second group: Analyse the weaknesses of public health workforce capacity in a defined (selected) region and rank them according to the relevance/importance, i.e. from the 1 (the most) to 10 (the least)
- The third group: Analyse opportunities from the external context for public health workforce in a defined (selected) region and rank them according to the relevance/importance, i.e. from the 1 (the most) to 10 (the least)
- The fourth group: Analyse threats from the external context for public health workforce in a defined (selected) region and rank them according to the relevance/importance, i.e. from the 1 (the most) to 10 (the least)

Instruction for whole group discussion (45 min):
Answer the following four questions and facilitate the discussion in order to define the final output of a strategy:
- What strategy will maximize the strengths of public health workforce capacity in a defined (selected) region and maximize opportunities of the external context?
- What strategy will minimize the weaknesses of public health workforce capacity in a defined (selected) region and maximize opportunities of the external context?
- What strategy will maximize the strengths of public health workforce capacity in a defined (selected) region and minimize threats of the external context?
- What strategy will minimize the weaknesses of public health workforce capacity in a defined (selected) region and minimize threats of the external context?

Exercise 2:
Migration of Public Health Professionals - What are the Issues?
•Is lack of qualified personnel the main issue regarding healthcare quality in the MENA region?
•What are some of the other issues relating to quality of healthcare and how may migration trends impact on these issues?
•Is effective migration management of Public Health Professionals addressing the cause or only the symptoms?

Case studies
(all links accessed 12 March 2016)

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2. *CDC Summit Report (2013). Modernizing the Public's Health Workforce* http://www.cdc.gov/ophss/csels/dsepd/documents/ph-workforce-summit-report.pdf
3. *Czabanowska K, Otok R, Foldspang A (2014). System of shaping the professional public health workforce in Europe – shapePH initiative. In: Bjegovic-Mikanovic V, Czabanowska K, Flahault A, Otok R, Shortell S, Wisbaum W, Laaser U. Addressing needs in the public health workforce in Europe. Policy summary 10. Available at:* http://www.euro.who.int/__data/assets/pdf_file/0003/248304/Addressing-needs-in-the-public-health-workforce-in-Europe.pdf.
4. *Bjegovic-Mikanovic V (2014). Regional cooperation: the development of a regional public health strategy in South Eastern Europe In: Bjegovic-Mikanovic V, Czabanowska K, Flahault A, Otok R, Shortell S, Wisbaum W, Laaser U. Addressing needs in the public health workforce in Europe. Policy summary 10.* http://www.euro.who.int/__data/assets/pdf_file/0003/248304/Addressing-needs-in-the-public-health-workforce-in-Europe.pdf.
5. *U.S. Department of Health and Human Services Health Resources and Services Administration Bureau of Health Professions. Public Health Workforce Study (2005).* http://bhpr.hrsa.gov/healthworkforce/reports/publichealthstudy2005.pdf
6. Health & Safety Developments, Public Health Workforce Development New Zealand, www.publichealthworkforce.org.nz.

Links

- World Federation of Public Health Associations www.wfpha.org
- Association of Schools of Public Health United States of America http://www.aspph.org/
- Association of Schools of Public Health in European Region http://aspher.org/
- *CDC's Public Health Workforce Development Initiative* http://www.cdc.gov/ophss/csels/dsepd/documents/ph-workforce-initiative-factsheet.pdf
- Canadian Public Health Association
- WHO / Europe, Public health services EPHO Essential Public Health Operations http://www.euro.who.int/
- European Programme of Public Health Core Competences www.ecdc.europa.eu/.../publications/Publications/training-core-competencies-EU-public-health-epidemiologists.pdf
- EPHA European Public Health Alliance www.epha.org
- Pan American Health organization, EPHF Essential Public Health Functions http://www.paho.org/hq/index.php?option=com_content&view=category&layout=blog&id=3175&Itemid=3617
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Title:	**R 3.8 EDUCATION AND TRAINING OF PROFESSIONALS WITHIN GLOBAL HEALTH**
Module information	The module may be structured according to the European Credit Transfer System (ECTS), corresponding per ECTS to 25-30 hours student workload (thereof up to 10 contact hours of lecturing/supervision). As part of an academic degree program, the module may be worked into a Masters Curriculum in Global Health with corresponding admission and course completion requirements. Equally the module may also be incorporated into a DrPH (Doctoral program in Public Health) curriculum in which course specifics remain constant but where perspectives are broadened through increased emphasis on relevant readings and calls for ground breaking, context-specific case studies. *Note: Entrance requirements are to be determined by the institution offering the module.*
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Key words	Global health, public health, governance, finance and development assistance, stakeholders, health professions, education, training.
Topics	By addressing the critical need for public health education and training within the global health workforce, we have in this program an opportunity to contribute substantially to efforts to improve the health of people worldwide through improved project management and resource application. Topics introduced and discussed address the complexities of working with country specific agents, organizational representatives and formal and informal stakeholders who may influence the outcome of global health operations.
Learning objectives	1) Understand how political, organizational and socio-economic conditions affect critical operational premises in the governance of global health. 2) Understand the makeup and workings of context specific forces as these impact global health initiatives; e.g. (i) identify key stakeholders and their impacts on health governance and leadership; (ii) evaluate culture-specific traits relevant for the professions, teams and organizational processes; (iii) analyze institutional governance as it applies to fieldwork planning and program execution; and (iv) recognize the dynamics of the global health field and how this needs be incorporated in operational strategies and actions. 3) Become familiar with international standards for health

	program performance evaluation. 4) Understand how global health initiatives are financed through international aid programs separate and in conjunction with public health governance.
Teaching methods	Lectures, interactive small group discussions, case studies and field observations. To meet the challenges of time and distance, the student – teacher dialogue will use a flexible, hybrid approach that incorporates online learning in addition to face-to-face sessions such as at fieldwork site locations. Resources include relevant and updated textbook readings, relevant reports, research documentation and other publications addressing issues in global health. Classroom teaching, whether online or face-to-face, will emphasize highly interactive, experiential approaches to learning such as PBL (Problem Based Learning), discussion, debate, and case analyses. Teaching approaches will foster: a) Recognition of major challenges and opportunities to good global health policies, programs and practices; b) Identification of concepts and approaches for developing education and training programs for global health practitioners/representatives; c) Establishment of best practices.
Who should apply	In the format of an executive seminar, participants may be academic leaders, higher education instructors, educators in other settings including public health agencies, NGOs' private grant-making foundations, the private sector, health systems, and any setting in which training and education takes place for the global health workforce. Within an academic setting (Executive Master or Dr.PH), general admission prerequisites apply, favoring applicants with relevant experience and an expressed interest in global health work, exhibiting maturity and a commitment to a value-driven career.
Career opportunities	Teaching and/or practice-oriented careers in academic environments; practice-based positions in NGO´s and government settings within global health.
Assessment of students	Case presentations, peer evaluations, team projects, and modalities relevant to the academic settings.
COMMENTS on the module by lecturers and students	*Please comment*

Education and Training of Professionals within Global Health

Background

The majority of the global health workforce has had no formal education or training directly relevant to its field. An understanding of the population perspective on health and key concepts in leading change are vital to establishing priorities for public health policies, programs, and practices with the potential to improve health. By addressing the critical need for education and training within the global health workforce, one has an opportunity to contribute substantially to efforts to improve the health of people worldwide.

Special attention has to be paid to introduce participants to the importance of the political, organizational and socio-economic conditions that comprise the work environment for global health professionals. Key global health stakeholders will be identified and evaluated as to their impact on health governance and leadership. The significance of culture relevant for individual health professionals, teams, institutions and their governance will be analyzed and discussed relevant to fieldwork planning and execution. Recognizing the dynamics of the global health field is important.

Traditional and Emerging Competencies

Core content for public health has long been defined as including five main disciplinary areas: epidemiology, biostatistics, health behavior, health policy and management, and environmental health. Advanced education in public health integrates content across these disciplinary areas to simulate real-world practice in which complex problems require equally sophisticated solutions that take into consideration multiple and varied factors.

Core competencies

Defined core content areas in public health education and training largely have been replaced by competencies that precisely describe key knowledge, abilities, and skills needed by professionals. Competencies describe what a health professional should know or be able to do upon mastery of the competency. In academic settings, competencies are also described by expected level of attainment. A number of competency models have emerged. A global health competency model recently was developed by the Association of Schools and Programs in Public Health (Ablah et al., 2014) for master's level education. New approaches to designing global health curricula address these competencies through integration of course material through cases, team projects and complex problem-solving activities that simulate real-world practice settings and require professionals to work effectively in teams to find solutions to complex health challenges.

Millennial development goals (MDG) and Sustainable Development Goals (SDG), chronic diseases (CD) and non-communicable diseases (NCD)

The definition of "global health" has been discussed and debated, and consensus has not yet been reached with regards to the exact domain and how it may – or may not – differ from "public health." Discussions about global health, however, typically reference the WHO Millennium Development Goals (MDG) updated in 2015 to the Sustainable Development Goals (SDG). The MDG and SDG are sets of health priorities for the world that give special emphasis to communicable diseases (CD) and the needs of low- and middle-income countries. Criticism of the MDG included insufficient attention to the

increasing burden of non-communicable diseases (NCD), an issue now addressed in the SDG.

Challenges to comprehending what constitutes good global health practice in a conceptual sense include the need for international consensus on terminology and key concepts.. Building on this may be a core curriculum for education and training of health professionals, staying current with core knowledge and the rapidly evolving environmental conditions surrounding global health (Hobbs et al., 2011). Insufficient mobility of the global health workforce and lack of investment in public health infrastructure are additional challenges. This is particularly true in low- and middle-income countries often poorly equipped to respond when epidemic crises emerge. Opportunities for good global heath practice require progressive approaches to designing and implementing relevant education and training programs..

Addressing competencies in education and training programs

Effective education and training programs for global health must apply sound principles of teaching and learning conducive to learning outcomes.. This includes greater use of online education technology thereby improving access to education and training programs for health professionals. who are unable to attend a full-time, residential program as well as those who live in areas not conveniently located near bricks-and-mortar schools or universities (Anderson et al., 2013).

Innovative uses of technology and methods of teaching that emphasize an integrative and applied approach to program curricula are best suited to preparing health professionals to work in real-world practice settings. A variety of new programs targeting working public health professionals are in use around the world (Bjegovic-Mikanovic et al., 2013). Many use blended learning or hybrid (online and residential) approaches to teaching as well as problem-based learning and other techniques that emphasize a high level of interaction among students and opportunities to apply learning objectives in practice settings (Sherlaw et al., 2011).

Program Learning Focus

The majority of the global public health workforce today has little or no formal education or training in public health content and leadership. Building and disseminating such knowledge holds significant potential for improving global health, resource consumption, and effectiveness in the provision of health services and needed systems support.

An understanding of a given location's cultural peculiarities, organizational complexities, and political governance over and above awareness of a location's epidemiology is vital to securing timely and adequate public health services. Only from such a knowledge base can one hope to establish priorities for programs and practices with the potential to improve global and public health. *By addressing the critical need for health education and training within the global and public health workforce, we have an opportunity to contribute substantially to efforts improving the health for people worldwide.*

In the course/program outlined, participants/students get a comprehensive introduction to the (i) political, (ii) organizational, and (iii) socio-economic conditions comprising the most important knowledge prerequisites for a global health professional.

Global and public health governance initiatives and private fund-providing institutions will be analyzed and discussed as they apply to global health fieldwork.. Organizational characteristics will be brought forward and discussed as to mandates, interplay of decision-making processes, formal and informal communication, authority, and supervisory practices. The significance of culture relevant for supervising individual health professionals and teams will be studied, as will the socio-economic patterns expressed through nations' values, politics and practices as evident in public health services.

The relevancy of political economy as it relates to institutions, both domestic and international, as well as policies and practices in financing global health initiatives will be studied. There is also a focus on the private sector influence on both public health and global health initiatives. Recognizing these dynamics of the global health field is paramount to participant/student comprehension and later success in global health leadership.

Content Specifics

Within the framework of political, organizational, and socio-economic conditions, students will examine the working mechanics unique to a locale, i.e. its specific context. They will particularly focus on (i) stakeholder interests, (ii) the relevancy of culture, (iii) institutional frameworks, and (iv) dynamics of change in global health

(i) Stakeholder interests

The ability to identify and recognize the impact of stakeholders on health governance and leadership is central to understanding the environmental context of global public health policies, programs and practices. Stakeholder or interest group theory is a broad topic within the domain of political science, organizational behavior, and strategic management. Concern over stakeholder management overlaps in many ways with awareness of culture-specific conditions. Expectations of stakeholder groups need to be recognized in a decision-making setting in which impact and effect of chosen priorities are evaluated. Maintaining a dialogue with key stakeholders, public and private, is critical to the success of any global health effort. Mastering the practical application of this knowledge can be accomplished in many ways in education and training programs and is especially well-suited to higher-level learning activities such as case analyses and in-depth discussions and debates.

(ii) The relevancy of culture

Culture is a reflection of the thoughts, beliefs, values and practices of different ethnic, religious or social groups and it has profound implications for the way health information is received and acted upon (or not), how health problems are perceived, how the symptoms or problems are expressed, and how decisions are made about whom should receive treatment and what kind of treatment should be given. Within the context of education and training for health professionals, cultural competency refers to a set of behaviors, attitudes, policies, and practices of organizations or individuals that enable them to be effective when working in cross-cultural circumstances. Never has this been more dramatically expressed than through the current-day migration drama unfolding in Europe fueled by geopolitical crises in Africa and the Middle East.

Cultural competency should be viewed as a crosscutting theme to be integrated into all aspects of education and training programs for global health professionals. Similar to

stakeholder considerations, practical application of concepts in cultural competency can be accomplished best through higher-order teaching and learning approaches such as case analyses and in-depth discussions and debates.

(iii) Institutional frameworks

Global health provisions extend across national boundaries and regions. Within each locale some form of institutional structure or framework governs issues at stake to the global health provider. The program addresses how to identify and approach representatives with a mandate to govern/decide on issues vital to public health provisions. Commonly the law of the land will be the best guide to interpreting questions of importance where the goal is to deliver effective and efficient health services by an outside provider. The transparency of institutions and their governance may vary between locations. Being cognizant of the structural features, infrastructure and procedures are of vital importance to the global health provider. Often this calls for an ability to read signs evident in cultural traits, religion, language and/or ethnicity. A realistic assessment is necessary of the time requirements and procedures associated with seeking institutional acceptance, approval, and necessary support. The program will share evidence for building appreciation for and general knowledge of the significance of institutional frameworks and their governance in the field of global health.

(iv) The dynamics of change in global health

Global health professionals need to be cognizant of a location´s history and development. Past inventions and innovations have brought continuously new knowledge and experiences that have influenced the way we look at the world and how we relate to people, places, and events. As the pace of change has increased so has the urgency of the call for everyone to adapt. Both time and distance have been largely removed as barriers to change. Consequently we all act in real time worldwide as major issues governing health and quality of life have become global in nature. We all are experiencing the challenges created by political decisions impacting the way global health works. Public health is perceived and acted upon differently in different parts of the world. Evidenced in the growing interaction of nations and regions there is a call for continuous revisions of laws, policies and regulations. Global health concepts, organizations, and operations need to change accordingly. This program will examine the most common change agents and resulting outcomes. Aside from relevant changes in international law, one will look at how new networks evolve, the changing nature of professions, international institutions, NGOs, and other key industries and actors.

Summary

There is a critical need to increase access to high quality health education and training among the global and public health workforce. Underserved sectors include working professionals and those living and working in areas where they do not have ready access to traditional, residential programs. Development of curricula in global public health should include recognition of the importance of the political, organizational, and socio-economic conditions that comprise the context for educating and training global public health professionals. Key global health stakeholders should be identified and discussed as to their impact on health governance and leadership. The significance of culture relevant for health professionals, institutions and their governance should be analyzed and discussed as they apply to fieldwork planning and execution. Curricula should be designed to leverage

advantages of technologies, including online learning, and approaches to teaching that best prepare global health professionals for optimal performance in practice settings.

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Title:	**R 3.9 BLENDED LEARNING**
Module information	The module may be structured according to the European Credit Transfer System (ECTS), corresponding per ECTS to 25-30 hours student workload (thereof up to 10 contact hours of lecturing/supervision). As part of an academic degree program, the module may be worked into a Masters Curriculum in Global Health with corresponding admission and course completion requirements. Equally the module may also be incorporated into a DrPH (Doctoral program in Public Health) curriculum in which course specifics remain constant but where perspectives are broadened through increased emphasis on relevant readings and calls for ground breaking, context-specific case studies. *Note: Entrance requirements are to be determined by the institution offering the module.*
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Key words	Blended learning, online environment, face-to-face, blended learning models, education
Topics	Blended learning is an educational model with great potential to increase student learning outcomes and to create new roles for teachers. In this course you will learn about and then develop tools to build your own blended learning programme.
Learning objectives	(i) To understand the concept of blended learning and different blended learning models (ii) To upgrade /develop skills for creating a blended learning program. To understand the impact of blended learning on the way schools are designed including staffing models and use of time
Teaching methods	Lectures, interactive small group discussions, case studies and field practice
Who should apply	Educators as well as members of the education technology sector, non-profits, NGOs, health systems, etc.
Career opportunities	Teaching and/or research careers in academic environments; non-governmental organizations and other settings
Assessment of students	Applied exams, case presentations, peer evaluations, team projects, and other modalities.
COMMENTS on the module by lecturers and students	*Please comment*

Blended learning

The definition of blended learning and basic blended learning models

Plenty of buzz exists about blended learning and its transformational potential. But what does blended learning really mean?

Blended learning (BL) is a relatively new educational model with huge potential to increase student outcomes and create exciting new roles for teachers. In its basic and simplest definition, blended learning is an instructional methodology, a teaching and learning approach that combines face-to-face classroom methods with online activities (Graham et al. 2004). It was created as a cost-effective way to overcome the issue of overcrowded classrooms, add flexibility for students and offer a convenient alternative for learning. But it has quickly become much more than that. Institutions with blended learning models may also choose to reallocate resources to boost student achievement outcomes (Jacob, 2011; Dowlin et al., 2003).

Blended learning entails more than simply replacing class time with online course elements or supplementing an online course with face-to-face meetings (Jones, 2013). Depending on one's starting point, a blended course may be viewed as either a face-to-face course with online enhancement or an online course with face-to-face enhancement. To be successful, the computer mediated activities and face-to-face modes need to be integrated, considering and planning very carefully learning objectives and the affordances of each mode and deliberately linking what occurs in each mode (Friesen, 2012; Staker and Horn, 2012).

Blended Learning is a big concept, an umbrella term that contains several other sub-methods. Corporate and higher education settings have adopted blended learning for a variety of reasons. Some of those reasons are: (1) pedagogical richness, (2) access to knowledge, (3) social interaction, (4) personal agency, (5) cost effectiveness, and (6) ease of revision. (Osguthorpe and Graham 2003; Bonk et al. 2002) In the BL literature, the most common reason provided is that BL combines "the best of both worlds". Beyond this general statement, Graham et al. found that overwhelmingly people chose BL for three reasons: (1) improved pedagogy, (2) increased access/flexibility, and (3) increased cost effectiveness. (Graham et al., 2003)

The majority of blended-learning programs resemble one of four models: Rotation, Flex, A La Carte, and Enriched Virtual (Staker and Horn, 2012; Friesen, 2012; Freeland, 2014).

1. Rotation Model

In this form of blended learning, within a given course or subject, students rotate on a schedule or at the teacher's discretion between a period of face-to-face interaction and a period of online study. In some cases, online study may be done remotely (at home, for example). The results have shown that students became more active learners and often challenged themselves to work harder and learn material that had not yet been introduced in their math classroom. The Rotation Model includes four sub-models: Station Rotation, Lab Rotation, Flipped Classroom, and Individual Rotation.

Station Rotation - In the Rotation Model, students rotate on a schedule or at the teacher's discretion among classroom-based learning modalities, of which at least one is for online learning. Activities like small groups, group projects, or pencil and paper assignments are based in other classrooms. The Station-Rotation Model differs from the Individual-Rotation Model because students rotate through all of the stations, not only those on their custom schedules.

Lab Rotation - In the Lab Rotation-model, students rotate on a schedule or at the teacher's discretion among locations on the bricks-and-mortar campus, of which at least one is a learning lab provided for online learning. The Lab-Rotation Model differs from the Station-Rotation Model because students rotate among locations on the campus instead of staying in one classroom for the blended course or subject.

Flipped Classroom - In the Flipped Rotation-model, students rotate on a schedule between face-to-face teacher-guided practice on campus during the standard school day and online delivery of content and instruction of the same subject from a remote location (often home) after school.

Individual Rotation - In the Individual Rotation-model, it is not necessary for students to rotate between each available station and modality. Every student has its own individually customized, fixed schedule set by a teacher or an algorithm. Among learning modalities, at least one has to be online learning.

2. Flex Model

The Flex Model is usually used in schools that support students who are open for non-traditional ways of learning. With this approach, material is primarily delivered online. Teachers are in the classroom ready to provide on-site support as needed, but learning is primarily self-guided. This model provides independence and new concepts in a digital environment. (Face-to-face teaching is still available, but for small groups or individuals on an as-needed basis through activities such as small-group instruction, group projects, and individual tutoring).

Although this model directs students to office activities at times, students are able to move flexibly through different learning modalities with the goal of optimizing their learning experiences based on their specific needs. Each student in essence has a customized, fluid schedule among learning modalities.

3. A La Carte Model (formerly known as self-blend model)

The A La Carte Model of blended learning is a fully individualized approach where students have the possibility to take classes beyond what is already offered at their school. However, this is not necessarily the model followed by all students in the school. Students attend regular face-to-face classes, but they also chose to improve their knowledge through online courses offered remotely. High self-motivation is a predictor for successfully completing courses in the A La Carte Model.

4. Enriched Virtual model

The Enriched Virtual Model is a form of blended learning in which students have required face-to-face learning sessions with their teacher of record and then are free to complete their remaining work remote from the face-to-face teacher. Material is primarily delivered via an online platform and students have total freedom and flexibility in their daily schedules. Although face-to-face check-in is optional, students seldom meet face-to-face with their teachers every day.

Blended learning – how to integrate face-to-face and online modes

As blended learning means more than simply replacing class time with online course elements or supplementing an online course with face-to-face meetings, there is a need for integrating the online and face-to-face modes by taking into account the learning objectives and the affordances of each mode and deliberately linking what occurs in each mode. (Graham, 2005; Kelly, 2012). In order to achieve success in blended learning it is important to focus on the following key points:

- *Determine the learning goals*
- *Make careful modality decisions*

There are several factors to take into account when making modality decisions, including:

- The affordances of each modality. For example, a case study assignment that has students make decisions about using reading assessments works better online or there is an ability to hear from every student, while limited time in the classroom makes this unlikely).
- Workload/logistics. Since the goal with modality decisions is to maximize the effectiveness of the learning experience, consideration should be given to the amount of work required to create each learning activity versus the benefits to the learners, and then put in the extra effort where the biggest difference can be made.

- *Be deliberate in providing opportunities for interaction*

> "In terms of integration, communication is the key, and I think if students are allowed to communicate in meaningful ways - both online and face to face - that will help bridge the gap" (Kelly, 2012).

- *Reinforce one modality in the other*

> For example, using something that occurs in a face-to-face session to begin an online discussion makes these connections go a long way toward using student-to-student interaction so as to support integration of the online and face-to-face modes of a blended course (Kelly, 2012).

Carman (2005) identified five key ingredients that emerge as important elements for successfully accomplished blended learning process:

- *Live Events*: Synchronous, instructor-led learning events in which all learners participate at the same time, such as in an online or virtual classroom;
- *Self-Paced Learning*: Learning experience that the learner completes individually, at his own and in his own time, such as interactive, Internet-based or CD-ROM training;
- *Collaboration*: Environments in which learners communicate with others, for example, e-mail, threaded discussions or online chat;
- *Assessment*: A measure of learners' knowledge. Pre-assessments can come before live or self-paced events, to determine prior knowledge, and post-assessments can occur following live or self-paced learning events, to measure learning transfer;
- *Performance Support Materials*: On-the-job reference materials that enhance learning retention and transfer, including downloads, and printable references, summaries, and job aids.

Implementing blended learning often entails a significant learning curve, particularly for teachers who are new to teaching online. (Thorne, 2003) Opportunities for acquiring skills in blended learning include self-paced learning (e.g. completing a self-paced online assessment of presentation strengths, weaknesses and opportunities), multi-media learning formats (e.g. learner assessments of teachers' recorded presentations), live/in classroom (e.g. hosting an instructor-led session to deliver material about effective presentations, and during which participants have practical application opportunities to stand up and speak) or in direct observation (e.g. evaluating the program via online assessment, and observation of actual participant presentations). (Thorne, 2003)

The Benefits of Blended Learning

Blended learning offers many opportunities for both the teacher and the student that a traditional bricks and mortar classroom may not. With the increasing demands of state standards and busy school days, blended learning permits students to learn a portion of the academic content at home and gives teachers the ability to engage students in a richer, deeper, and more meaningful context in the classroom. (U.S. Department of Education, Office of Planning, Evaluation, and Policy Development, 2010)

Results of a survey distributed among students who took part in blended learning have showed that students prefer and enjoy the blended course format. Here are collected some of the main reasons why students prefer blended rather than traditional learning (adapted from: UW-Milwaukee Learning Technology Center, 2009; Bonk and Graham, 2005):

- Time flexibility, freedom, and convenience of working part of the time online from home due to decreased commuting and parking hassles.
- Asynchronous online courses allow students to work around job schedules and other activities. Many students must work in order to afford school.
- More interaction with the teacher and colleagues by using plenty of opportunities to do so both in class and online.
- Access to unlimited and 24/7 up-to-date online resources available via the Web.

- Developing skills related to time management, critical thinking, and problem solving.
- More participation during the discussion in class since the student can choose the environment in which they feel most comfortable.
- More time to reflect and refer to relevant course materials when working online.
- More frequent feedback from their teacher.
- Acquiring useful skills via PC technology.

On the other hand, blended learning has different benefits for teachers, enabling them to become greater participants in student learning. Teachers may find that blended learning facilitates student mastery of content by enriching learning activities when the class meets face to face. (U.S. Department of Education, Office of Planning, Evaluation, and Policy Development, 2010) At the same time teachers' roles are changing as they evolve from "lecturer" to instructional guide who uses appropriate technology. Independent student work and mentoring are becoming more common instructional strategies as teachers assess student progress and use a variety of tools and resources to address students' needs. (Eduviews, 2009)

Teachers find the advantages to be:

- *New teaching opportunities* by using a variety of different digital formats online such as HTML5 based interactive content, Flash movies, traditional interactive technologies such as wikis/wikipedia and in-class techniques to achieve course goals and to develop solutions to course problems (Bonk and Graham, 2005)
- *Greater student engagement* that results in building connections between instructor and student even more than in traditional or online courses. (Dziuban, 2004) Discussions started in class are continued online and online interaction often carries over into traditional face-to-face classes. Students who rarely take part in class discussions are more likely to participate online. (Garnham and Kaleta, 2002)
- *Increased student learning* assessed through better written papers, high scores on exams, more meaningful discussions on course material and far more often applying what they have learned. At the same time students develop higher-order skills of critical thinking, problem-solving, and the ability to apply theoretical models to real-world data. (Donoghue, 2011)
- *New pedagogical approaches* that leads to using more participatory and student-centered learning activities. This transforms the teacher-student relationship to be more centered on student learning. Instead of being the "sage on the stage," teachers become more facilitative and learner-centered. (Bonk and Graham, 2005)
- *Documentation* of the process as well as the product of learning provides easy and clear organization of the course with improvement in efficiency through automation of some basic activities such as quizzes, grading, and surveys. (Bersin, 2004)

Does blended learning model really cost less than traditional school model?

Data from the Thomas B. Fordham Institute suggest five essential cost drivers in different models of education (traditional, blended, virtual). They are: labor, content acquisition and development, technology and infrastructure, school operations and student-support services. (Battaglino, 2012) Time spent by students in computer-facilitated learning, the type of staff employed to supervise learning, and instructional staffing models for the remainder of the day are basics which determine labor costs of blended learning. Professional development and IT are often overlooked but they significantly increase the labour cost in a blended learning model. While in traditional school setting content typically refers to the supporting materials used by teachers for face-to-face instruction: textbooks, workbooks, videos, instructional games, and more, in blended learning a focus is on open-source/teacher-created content (e.g., web videos or free content-management systems). Although schools can minimize or reduce expenditures on content through this option, they may invest more in labor to manage and maintain these home-grown systems.

Also, for online content, a major consideration is whether or not the course comes with a virtual instructor to assist students. While the price of courses without instructors continues to decline, the developed courses appear to have more stable (and recurrent) costs. One of the key points affecting the cost of transitioning from traditional to blended learning is what infrastructure (i.e., hardware, software, connectivity) already exists. School operations include transportation, custodians and food services, where traditional schools spend significant amounts of money. In some cases, blended schools have managed to reduce these costs to almost nothing; in other examples, they actually pay more within these categories. Student-support services that include guidance counselors and special-education teachers are likely to be in line with traditional support costs. (Battaglino, 2012)

So, many people assume that online teaching and learning costs less compared with traditional models. However, the cost of blended learning programs varies widely due to varying levels of quality and efficiency.

Insights / Advantages of digital media

When it comes to digital content, it is important to note that it is very useful for handling. Appropriate use of technology can increase time on task and thus improve learning. Everyone has the same content to learn by reading, watching tutorials, DOIng quizzes or listening to the teacher online. Online materials can easily be copied, transferred, and distributed. Regardless of illness or other reasons for absence, no one misses out on a lecture. A very positive approach of blended learning also implies that for people with special needs or for those with different learning styles, digital media are far more accommodating. Learning online is often considered to be isolating, however digital media, in fact, can be made interactive. They can be incorporated into learning activities that are shared with a peer-learning network. (Chickering and Ehrmann, 1996; Eduviews, 2009)

The Benefits of Blended Learning *in Public Health*

A number of institutions offer blended learning courses in public health education, including Manchester Metropolitan University (UK), Tufts University (US), University at Buffalo (US), University of North Carolina at Chapel Hill's (US), University of Texas (US), London School of Hygiene and Tropical Medicine (UK), Education for Health (UK),

University of Massachusetts Amherst (US) etc. The evidence so far has confirmed that this mode of learning suits PH education well. Student evaluations of the blended approach in public health were very highly rated and the majority of students would recommend blended learning. The key point of the success of this approach was the association between face-to-face interaction and meaningful collaborative learning, the integration of technology components, and the course instructors. (Kiviniemi, 2014; So 2009).

Glossary

MOOC – Massive open online course. A MOOC is an online course that typically gives the option of free and open registration, a publicly-shared curriculum, and open-ended outcomes. In addition to traditional course materials such as videos, readings, and problem sets, MOOCs often integrate social networking features that build a community for the students, professors, and teaching assistants. Most significantly, MOOCs build on the engagement of learners who self-organize their participation according to learning goals, prior knowledge and skills, and common interests. Examples of major MOOC platforms include Coursera (https://www.coursera.org), EdX (https://www.edx.org), and Udacity (https://www.udacity.com).

SPOC – SPOC is a Small Private Online Course and refers to a version of a MOOC used locally with on-campus students. In contrast to MOOCs, SPOCs support blended learning and flipped classroom learning, which variously combine online resources and technology with personal engagement between faculty and students. When a SPOC is implemented at an institution, faculty determines which features and course content to use. This can include video lectures, assessments (with immediate feedback), interactive labs (with immediate feedback) and discussion forums like those used in MOOCs. SPOCs have been called "next generation textbooks." Faculty can decide how much or how little to use.

Khan Academy - The Khan Academy is a non-profit educational organization that provides free video tutorials and interactive exercises. The lessons are conceived primarily for self-education but are also suitable for use in the classroom. The tutorials are informal in style and organized for building knowledge one concept or lesson at a time. Many lessons are delivered as electronic blackboard talks by someone with an apparent enthusiasm for the topic. Through the website, teachers can monitor the progress of students who are using the site. The Khan Academy is one of the most familiar and promising examples of the power of the Internet to educate and to transform traditional education. (https://www.khanacademy.org/)

TED - TED is a nonprofit organization devoted to diffusing ideas, usually in the form of short, powerful talks (18 minutes or less). TED began in 1984 as a conference where Technology, Entertainment and Design converged, and today covers almost all topics — from science to business to global issues — in more than 100 languages. Meanwhile, independently run TEDx events help share ideas in communities around the world. TED's mission of "Ideas Worth Spreading" reaches far beyond the conference and video series, encompassing a variety of projects and initiatives that leverage the power of ideas. Some examples of programs and initiatives within TED are: TED talks, TED.com, TED Conferences, TEDx Program, TED fellows program, TED books, TED Ed, TED Talks Educations. (https://www.ted.com/)

The Public Health Leadership Programme at Sheffield Hallam University is one representative example of a blended learning programme. It began as a pilot course using Elluminate and Blackboard to bring students and instructors together from across Europe. Plainly blended learning as a mode of PH learning has already developed, has become established, and is respectable. The program is based on a product of the ERASMUS Multilateral Curriculum Development Project and now the faculty of the course consists of international public health and leadership experts and educationalists with various educational backgrounds. Schools of Public Health have to consider the current trends in designing blended learning programmes. (LEPHIE, 2014)

Directions for the Future / A Step Forward

Modern technology and globalization has brought rapid changes in all aspects of human life. Digital technologies are increasingly an integral part of our day-to-day lives. It is almost impossible to imagine learning without the Internet. Online learning allows users to participate in high-quality teaching, even if physical attendance is not possible. We can choose the time that we devote to learning and the place where we observe the learning materials. Whether we are primarily interested in creating more effective learning experiences, increasing access and flexibility, or reducing the cost of learning, a blend of both face-to-face and online experiences is the way of the future.

Ross and Gage (2005) have summarized the essence of BL's future when they stated: "Future learning systems will be differentiated not based on *whether* they blend but rather by *how* they blend. This question of how to blend face-to-face and online instruction effectively is one of the most important we can consider as we move into the future. Like any design problem, this challenge is highly context dependent with a practically infinite number of possible solutions.

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Title:	**R 3.10 GLOBAL HEALTH LAW**
Module information	The module may be structured according to the European Credit Transfer System (ECTS), corresponding per ECTS to 25-30 hours student workload (thereof up to 10 contact hours of lecturing/supervision). As part of an academic degree program, the module may be worked into a Masters Curriculum in Global Health with corresponding admission and course completion requirements. Equally the module may also be incorporated into a DrPH (Doctoral program in Public Health) curriculum in which course specifics remain constant but where perspectives are broadened through increased emphasis on relevant readings and calls for ground breaking, context-specific case studies. *Note: Entrance requirements are to be determined by the institution offering the module.*
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Key words	International law, Global Health Law, binding rules, human rights, Global Health Diplomacy, interdisciplinary approach, governance, challenges.
Topics	Transnational public health problems have been traditionally addressed through international health law whose proper implementation faces two important handicaps: the absence of an international authority that can enforce it, and the absence of a comprehensive concept. Despite this, international agreements and treaties are among the most important intermediate public health goods because they provide a legal foundation for many other intermediate products with global public health benefits. Nowadays, according to the emergence of the idea of global public health, a new concept -"Global Health Law"- has been born. There is an important distinction between international health law and Global Health Law. International health law connotes a more traditional approach derived from rules governing relations among states. On the other hand, Global Health Law is developing an international structure based on the world as a community, not just a collection of nations. There is also an important international trend leaded by some prestigious scholars who have urged adoption of a legally binding global health treaty: a framework convention on global health grounded in the right to health. In this context, an interdisciplinary approach to global public health inevitably requires the study of Global Health Law for any healthcare professional. It is undoubtedly necessary to study and analyze the emergence and development of Global Health Law just because it arises as an important tool to address the phenomenon of globalization of health. In this regard, the future of global public health is directly dependent on the strength of Global Health Law understood in a

	comprehensive way.
Learning objectives	-To understand the concept and the rationale of studying Global Health Law; -To acquire knowledge and skills needed for undertaking the study of the relationship between Law and Public Health -To upgrade and develop skills for critical analysis of legal data and health information in an interdisciplinary approach. -**To** train critical thinking skills and explore critically a legal-normative perspective. - To advance strategic thinking for setting a new global health diplomacy.
Teaching methods	Lectures, interactive small group discussions, case studies and field practice.
Who should apply	Those who pursue an international career in public health management, policy development, research, diplomacy or advocacy; entrance requirements are to be determined by the institution offering the modules.
Career opportunities	Teaching and/or research careers in academic environments; leadership positions in the health care sector, policy makers; non-governmental organizations, freelance consulting; consulting companies; professionals of health care systems.
Assessment of students	Test and case problem presentations.
Comments on the module by lecturers and students	*Please comment*

Global Health Law

Rationale, Purpose and Future of Global Health Law

Globalization of Health and Health Law

Globalization implies a growing interdependence of the world's people. In this regard, globalization has been defined as "the process of increasing economic, political and social interdependence, and global integration that occurs as capital, traded goods, people, concepts, images, ideas and values diffuse across national boundaries" (Ruggie, 1995). Obviously, globalization impacts the health systems and the social determinants of health. In fact, globalization of health shows that alongside the national health problems, there are other important issues that affect the humanity as a whole. Actually, contemporary globalization encompasses many "interconnected risks and opportunities that affect the sustainability of health systems worldwide" (Yach & Bettcher, 1998).

If the national states do not coordinate their measures, internal health problems can affect the rest of the world. In the light of this consideration, global health involves mutual vulnerability (Aginam, 2001) just because national borders can distribute health responsibilities but can not avoid risks (Lederberg 1996). At the beginning of the 21st century there is widespread recognition that national and international health are inseparable (Taylor & Bettcher, 2002).

Historically the health sector had been closed and nationally focused, but this approach began to change in the 90s. The globalization at the public health level includes the following issues: trade, travel, migration, changes in individual behavior, urbanization, environmental degradation, war, civil conflict and instability, poverty, and the evolutionary powers of pathogenic microbes (Fidler, 1999). In this regard, WHO Global Health Promotion conferences and their agendas are directly and indirectly linked with the evolution of policies and priorities of the "Health in All Policies" approach (Sihto et al., 2006), defined as "an approach to public policies across sectors that systematically takes into account the health implications of decisions, seeks synergies, and avoids harmful health impacts, in order to improve population health and health equity". All these changing processes and emerging approaches will have a significant influence in the birth of a new Global Health Law.

International Law, Global Health Law, and Global Health Jurisprudence

Transnational public health problems have been traditionally addressed through international law. We must make a distinction between two different levels in international law. Firstly, the binding international rules, also called "hard law", closely related to the concept of sovereignty of states: they are binding just because states consent that they should be. This consent appears in different ways: from the current practice of states in the case of customary international law and from ratifications in the case of treaties. Therefore treaties are binding on the parties to them and must be executed in good faith. International law related to public health date back to the 1850s, when the first treaties on the control of infectious diseases were signed. A specific body of law on communicable disease control has emerged since then. According to that regulation, the concept of international health law emerged and was defined as set of rules whose main or subsidiary purpose is to protect human health (Bélanger, 1989).

Nevertheless there are two important handicaps for proper implementation of international health law. Firstly, it is limited by the absence of an international authority that can enforce it, so compliance is voluntary. Secondly, there is not a comprehensive concept of international health law, which is a scattered and fragmentary body. In fact, no international treaty of general application is dedicated to regulate the international protection of health. Certainly the WHO Constitution is an international treaty with a general outreach but is mainly engaged in the regulation of the organization and not a kind of framework for the protection and promotion of global health. However, the absence of an international reference in the field of public health should not be surprising because that deficiency also occurs in the internal law, where sanitary regulation commonly is disperse (Grad, 1998).

More recently, it has been suggested that the sources of international law may not be confined to those defined by the statute. "Soft law", for instance non-binding resolutions of international organizations, is also mentioned as credible source because it consists of rules that are not actually binding, but that are expected to be and usually are complied with, and that may gradually harden into binding law.

Accordingly we can mention the two most remarkable examples of the importance of international conventions to public health: the revised International Health Regulations (IHR, 2005) focused on infectious diseases and the WHO Framework Convention on Tobacco Control (FCTC, 2003) focused on chronic diseases. In fact FCTC is the first treaty negotiated under the auspices of the WHO and represents a paradigm shift in developing a regulatory strategy to address addictive substances.

It is also important to take into account that the WHO Constitution grants the agency extensive normative powers to adopt conventions (article 19), promulgate binding regulations (article 21), make recommendations (article 23), and monitor national health legislation (article 63) and these powers are noteworthy (Gostin, 2008a). Nevertheless, important authors have strongly chastened the WHO for its reluctance to create binding rules, despite the bold mission and important powers granted in its Constitution (Fidler, 1998). In any case, international agreements and treaties are among the most important intermediate public health goods because they provide a legal foundation for many other intermediate products with global public health benefits, including research, surveillance, technical assistance programmes, and information clearing-houses (Taylor & Bettcher, 2000). In addition, institutional mechanisms often established in international agreements -such as compulsory meetings of the parties, monitoring or supervising compliance and international infrastructure- contribute towards the provision of final global public goods (Kaul et al., 1999).

Nowadays, according to the emergence of the idea of global public health, a new concept -"Global Health Law"- has been born. In this regard, Global Health Law is developing quite different from the thin body of international treaties and agreements which minimally regulated interstate health matters. It is penetrating into national law so that the global approach is present in the domestic health policies (Harrington, 2004).

There is an important distinction between international health law and Global Health Law. International health law connotes a more traditional approach derived from rules governing relations among states. On the other hand, Global Health Law is developing an international structure based on the world as a community, not just a collection of nations.

This structure is inclusive of individuals and nongovernmental organizations, especially where health problems are seen as truly global. Globalization has heightened the need for worldwide public health cooperation (Ruger, 2008). Nevertheless, we should asume that Global Health Law is not an organized legal system, with a unified treaty-monitoring body (Gostin & Sridhar, 2014).

The idea of Global Health Law has been criticized by prominent scholars who note how definitions of this concept are ethereal. In fact, no definition of international health law has been accepted worldwide just because public health law does not come in a single, tidy legislative package marked "public health law". It consists of many different types of legislation which have little in common except for the benign purpose of advancing public health (Grad, 1998, Taylor et al., 2002, Fidler, 2008).

This is why Fidler has proposed a broader concept called "global health jurisprudence". In the light of this consideration, this concept attempts to capture how the increased use of law in public health reveals a deeper importance for law in public health endeavors within and between countries. Implicit in the idea of global health jurisprudence is the principle that national and international public health activities should, wherever possible, be subject to the rule of law. Terms such as "Global Health Law" only partially would illuminate the relationship between law and public health. The diverse ways in which "Global Health Law" is used make finding analytical clarity in this idea difficult. In this context, Fidler proposes a more helpful concept to think about the transformed relationship between law and public health through the lens of *jurisprudence*, in three possible meanings: as knowledge or skill in law; as a legal system; and as the philosophy of law (Fidler, 2008). Central to the concept of global health jurisprudence as legal framework for public health in a globalized world is the need to think about law and public health holistically. Global health jurisprudence cannot only be about improving WHO's international legal capacities because the efficacy of international law in the public health context often depends on national law (Fidler, 1999). In this way there is a strong connection between international and national law so that international instruments are useless without the national capacity to implement them (L'hirondel & Yach, 1998).

The Challenge of a New Binding Global Health Convention

There is an important international trend leaded by some prestigious scholars who have urged adoption of a legally binding global health treaty: a framework convention on global health grounded in the right to health. Guided by principles underlying the right to health and mutual responsibility, a framework convention would universally ensure three conditions that are essential for a healthy life: a well-functioning health system providing quality health care; a full range of public health services, such as nutritious food, clean water, and a healthy environment; and broader economic and social conditions conducive to good health, such as employment, housing, income support and gender equality. In this way, several legal pathways towards a framework convention could be available: a) Placing WHO at the centre of the convention regime could be achieved through its constitutional mandate to negotiate conventions; b) the United Nations (UN) General Assembly could lead the treaty process; c) the UN Human Rights Council could spearhead the framework convention; or d) the treaty could be even developed outside the UN system. For this proposal, a framework convention would establish a health financing framework with clear obligations, and would create an accountability regime with robust standards, monitoring, and enforcement. It would advance health justice through engaging marginalized and underserved populations in making and evaluating policies and through comprehensive

strategies and targeted interventions designed to overcome the barriers that prevent these populations from enjoying the conditions required for good health. Governments would be held to high standards of good governance, namely inclusive participation, transparency, honesty, accountability and stewardship and the framework convention would empower people to claim their right to health (Gostin et al., 2013). Shortly afterwards, the interest of a framework convention on global health at the WHO level has been focused on one particular purpose: achieving universal health coverage (Ooms et al., 2014).

In this context, the need for fresh thinking about international law in global public health is an important message now being delivered by legal and public health experts (Fidler, 1999). In fact, there are three important reasons for studying Global Health Law at the present time. First, the current globalization of public health problems provides a context in which the development of global norms and standards becomes increasingly necessary. Second, the experience of elaborating international agreements in other areas closely related to international health, particularly environmental matters, demonstrates how international agreements can make an impact and how scientific evidence has been employed to support the development of international law. Finally, the experience in negotiating the WHO Convention provides a case study of how transnational public health problems can be addressed by an international approach, and also how scientific evidence in both public health and economics provided a foundation for the development of binding global agreements (Taylor & Bettcher, 2000).

The development of binding global public health rules is becoming increasingly important as global interdependence accelerates and nations increasingly feel the need to co-operate to solve essential problems. Although international health law is still in a rudimentary stage of development relative to other fields of international concern, the impact of globalization in public health, both positive and negative, has become key global policy issue. Accordingly health development in the 21st century is likely to include expanded use of international rules. As the world becomes more interdependent, innovative global health development strategies are needed to address the increasingly complex and interrelated health problems (Taylor et al., 2002).

An interdisciplinary approach to global public health inevitably requires the study of Global Health Law for any health care professional. It is undoubtedly necessary to study and analyze the emergence and development of Global Health Law just because it arises as an important tool to address the phenomenon of globalization of health. Therefore, binding or not, legal standards of public health are an excellent opportunity for the new context that must be addressed, just because the future of global public health is directly dependent on the strength of Global Health Law understood in a comprehensive way.

Global Health Law and Global Health Diplomacy

In order to set the scope of Global Health Law, we must take into account the concept of "Global Health Diplomacy" which is a very close notion but not exactly the same. In this sense, international health diplomacy began in 1851, when European states gathered for the first International Sanitary Conference to discuss cooperation on cholera, plague, and yellow fever. National policies not only failed to prevent the spread of the disease but also created discontent among merchants, who bore the brunt of quarantine measures and urged their governments to take international action (Fidler, 2001). Nowadays, Global Health Diplomacy brings together the disciplines of public health, international law and economics and focuses on negotiations that shape and manage the

global policy environment for health. The relationship between different disciplines is at the cutting edge of global health diplomacy. In this regard, this new interdisciplinary approach promotes the development of a more systematic and pro-active design to identify and understand key current and future changes impacting global public health. Another important task of global health diplomacy consists on building capacity among all the states for the necessary collective action to take advantage of opportunities and mitigate the risks for health.

The academic response for those goals must be the design of specific programs across different and complementary disciplines to train health professionals through cross-disciplinary didactic and experiential learning. There is an additional need for training that brings health and foreign policy professionals together to define the field of health diplomacy within global health (Kickbusch et al., 2007). Of course, Global Health Law must play an important role in this training program.

Configuration and Content of Global Health Law

Overview

Although Global Health Law and Global Health Jurisprudence are the most advanced academic concepts in this field, nowadays the international law approach remains predominant because most of public health agreements have been made under the traditional state´s perspective. Therefore, Global Health Law must be explained taking into consideration the current content of International Health Law which includes many different issues. Different authors have mentioned topics as ageing; HIV/AIDS; biomedical science; blood safety; chemical safety; child health; communicable disease control; disabled people; environmental protection; food safety; health services; human experimentation; infant feeding and nutrition; mental health; narcotics and psychotropic substances; nuclear safety and radiation protection; occupational health; organ transplantation; patients' rights; pharmaceuticals, medical devices, and cosmetics; refugees, detainees, and internally displaced people; reproductive health; right to health; tobacco control; trade and health; weapons systems; or women's health (Taylor et al. 2002). Most of these issues can been systematized in six branches of international law: a) international law in global communicable disease control; b) international trade law; c) international human rights law; d) international environmental law; e) international humanitarian law; and f) international labour law.

International Law in Global Communicable Disease Control

International law played a prominent role in the infectious disease diplomacy of the 19th century. In the modern era, constitutions, charters and legal framework of most international organizations (WHO, WTO-World Trade Organization, FAO-Food and Agriculture Organization) provide international legal mechanisms in forging consensus on a range of issues related to transboundary spread of communicable diseases (Aginam, 2002).

Globalization creates challenges for infectious disease policy. These challenges can be horizontal and vertical. Horizontal challenges constitute problems that arise between states from global traffic. Vertical challenges, such as inadequate surveillance capacity, are problems that countries face inside their territories that require responses within states. States cannot handle horizontal or vertical challenges without cooperating with each other. Unilateral efforts have limited impact when the source of the problem is beyond national jurisdiction. Similarly, unindustrialized countries need assistance to improve domestic

public health. International cooperation mechanisms, including international law, are crucial to respond to both types of challenges.

In 1995 WHO recognized that old IHR did not achieve their twin goals of maximum protection from the spread of international diseases while incurring minimum interference with world traffic. WHO launched an effort to revise regulations to update the classical regime for new globalization challenges. Furthermore, the WTO became the central horizontal regime for international law on infectious diseases after its implementation in 1995. The Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS), the Agreement on the Application of Sanitary and Phytosanitary Measures (SPS Agreement), and the WTO's powerful dispute settlement mechanism made WTO more important for infectious disease control policy than the old and discredited IHR (Fidler, 2003).

In the last decades, the world has undergone rapid changes including demographic explosions and massive urbanization, population movement, increase in international trade and travel, emergence of new pathogens, use of techniques which induce new risks, chemical and nuclear accidents, environmental disasters, and introduction of the threat of criminal acts and bioterrorism. To respond to this changing environment, IHR were revised by World Health Assembly of WHO in 2005 (WHO 2014). This binding agreement significantly contributes to global public health security by providing a new framework for the coordination of the management of events that may constitute a public health emergency of international concern, and improves the capacity of all countries to detect, assess, notify, and respond to public health threats. These regulations also contain a broad range of binding provisions to address risks of international disease spread in international travel, trade and transportation. Important elements include multiple provisions, whether denominated in terms of human rights or other terminology that are protective of interests of individuals who may be subject to public health measures in this international context (Plotkin, 2007).

The purpose and scope of the 2005 IHR, according to article 2, are "to prevent, protect against, control and provide a public health response to the international spread of disease in ways that are commensurate with and restricted to public health risks, and which avoid unnecessary interference with international traffic and trade". Moreover, IHR contain a range of innovations, including: (a) a scope not limited to any specific disease or manner of transmission, but covering "illness or medical condition, irrespective of origin or source, that presents or could present significant harm to humans"; (b) state party obligations to develop certain minimum core public health capacities; (c) obligations on states parties to notify WHO of events that may constitute a public health emergency of international concern according to defined criteria; (d) provisions authorizing WHO to take into consideration unofficial reports of public health events and to obtain verification from states parties concerning such events; (e) procedures for the determination by the Director-General of a "public health emergency of international concern" and issuance of corresponding temporary recommendations, after taking into account the views of an Emergency Committee; (f) protection of the human rights of persons and travellers; (g) the establishment of National IHR Focal Points and WHO IHR Contact Points for urgent communications between states parties and WHO (Foreword of IHR). However, revised IHR do not create a new enforcement mechanism for addressing compliance failure (Ruger, 2008).

Since 15 June 2007 the world has been implementing the IHR. States parties had until 15 June 2012 to meet their IHR core surveillance and response requirements, including at designated airports, ports and certain ground crossings. A majority of states parties, however, have requested and obtained a two-year extension to this deadline and, in exceptional circumstances, may be granted an additional extension, not exceeding two years. As shown, the complete and universal implementation of IHR seems to be an important task but not without difficulties.

International Trade Law

International trade agreements that liberalize trade between countries usually recognize that states may restrict trade to protect public health. Article XX (b) of the General Agreement on Tariffs and Trade (GATT) only allows each state party to set its measures for protecting human, animal or plant life or health if these restrictions do not represent an 'unjustifiable discrimination or a disguised restriction on international trade'. Similar provisions exist in other multilateral trade agreements, such as the Treaty on the Functioning of the European Union (TFUE, 2012 -consolidated version) and the 1992 North American Free Trade Agreement (NAFTA). The conclusion of the Uruguay Round, marked by the 1994 Final Act of GATT signed in Marrakesh, established a permanent organization: the WTO which entered into force in 1995.

Multilateral agreements establishing the WTO have been explained with the metaphor of a tricycle: a driver (WTO), two large wheels (the multilateral agreements on trade in goods and the General Agreement on Trade in Services), and a smaller one, the TRIPS (Berrod & Gippini, 1995).

It should be noted that there have been several health controversies in international trade law about the legitimacy of some trade restrictions. This is the reason why the doctrine holds that "their existence at least demonstrates that health affects the dynamics of international trade law and vice versa. It should come as no surprise, then, that scholars have urged WHO to pay more attention to international trade law as part of its mission to protect and promote human health" (Fidler, 1999).

In the context of WTO, we must also mention some specific international agreements relevant to public health, included as annexes of the mentioned 1994 GATT Marrakesh Agreement, which serves as an umbrella treaty:

a) The 1994 Agreement on Sanitary and Phytosanitary Measures (SPS): It sets forth standards for testing a health measure. In this regard, measures must meet both science-based standards and "least restrictive" trade rules, so that this provision is more specific than article XX (b) of GATT. SPS Agreement also recognizes standards of the FAO/WHO *Codex Alimentarius*.

b) The 1994 Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS): it establishes minimum levels of intellectual property protection that each state must afford to creators. In this way, TRIPS attempts to harmonize protection of intellectual property rights among WTO members using norms developed in industrialized countries. According to article 33, patents for inventions must last for at least 20 years. Some experts had raised concerns that the TRIPS heightened protection of pharmaceutical patents will adversely affect access to patented drugs in low-income countries by raising prices (Fielder, 1999). This is why the Doha Declaration on the TRIPS agreement and public health, adopted on 14 November 2001, sets that the TRIPS Agreement does not and should not

prevent members from taking measures to protect public health. Accordingly, while reiterating its commitment to the TRIPS Agreement, the Declaration affirms that the Agreement can and should be interpreted and implemented in a manner supportive of WTO members' right to protect public health and, in particular, to promote access to medicines for all. For this purpose, the Declaration recognizes that each member has the right to determine what constitutes a national emergency or other circumstances of extreme urgency, it being understood that public health crises, including those relating to HIV/AIDS, tuberculosis, malaria and other epidemics, can represent a national emergency or other circumstances of extreme urgency.

c) The 1994 Agreement on Technical Barriers to Trade (TBT): it sets different rules regarding for the preparation, adoption, and application of standards. According to article 2.1, members shall ensure that in respect of technical regulations, products imported from the territory of any member shall be accorded treatment no less favourable than that accorded to like products of national origin and to like products originating in any other country.

In addition, we should take into consideration the future impact on public health of the 2015 Trans-Pacific Partnership (TPP), a trade agreement among twelve Pacific Rim countries. This treaty contains troubling provisions such as the Investor-State Dispute Settlement (ISDS) mechanism, which involves that investors can claim compensation from a State Party if its decisions are judged to have been commercially harmful to them. Instead of national courts, these claims will be solved by specific arbitration tribunals made up of legal experts chosen from an approved list, without possibility of appeal. Another important aspect concerns the extension of monopoly drug patents that could allow pharmaceutical companies to raise prices for medicines, limiting patients' access to cheaper generic drugs and increasing the financial burden on health services. In a similar way, the proposed Transatlantic Trade and Investment Partnership (TTIP), currently under negotiation between the European Union and the USA, could constitute a relevant threat for public health for the same reasons. Anyway, the public health impact of both agreements must be studied from a Global Health Law approach.

International Human Rights Law

The human rights approach constitutes an important tool for challenging globalization's effects. As well known, human rights belong to the universal and indivisible core values and principles of the UN. The right to health as a fundamental right of every human being has been enshrined numerous international and regional human rights treaties as well as national constitutions. Although the interdependence and interrelatedness of all human rights- civil, cultural, economic, political and social- has been endorsed by all UN Member States, it is only in recent years that health is gaining prominence on the international human rights agenda. Increased efforts are required to ensure that health is addressed as a human right on the same footing, and with the same emphasis, as other human rights in foreign policy processes of UN Member States (WHO, 2009).

We have several examples of human rights treaties at the UN level. In this regard, we must mention not only the 1948 Universal Declaration of Human Rigths, that cited health as part of the right to an adequate standard of living (article 25), but the 1966 International Covenant on Economic, Social and Cultural Rights (ICESCR) as well. Article 12 of this covenant explicitly sets out a right to health and defines steps that states should take to "realise progressively... to the maximum available resources...(the) highest attainable standard of health...(including) the reduction of the stillbirth-rate and of infant mortality and

for the healthy development of the child...the improvement of all aspects of environmental and industrial hygiene...the prevention, treatment and control of epidemic, endemic, occupational and other diseases...(and) the creation of conditions which would assure to all medical service and medical attention in the event of sickness".

In the other hand, the Constitution of WHO was the first international instrument to enshrine the enjoyment of the highest attainable standard of health as a fundamental right of every human being ("the right to health"). The right to health in international human rights law requires a set of social arrangements - norms, institutions, laws, and an enabling environment - that can best secure the enjoyment of this right. It is an inclusive right extending not only to timely and appropriate health care but also to the underlying determinants of health. In this way, the right to health is subject to progressive realization and acknowledges resource constraints. However, it also imposes on states various obligations which are of immediate effect, such as the guarantee that the right will be exercised without discrimination of any kind and the obligation to take deliberate, concrete and targeted steps towards its full realization. According to WHO, the right to health includes access to timely, acceptable, and affordable health care of appropriate quality and means that states must generate conditions in which everyone can be as healthy as posible (WHO 2013).

In addition to the ICESCR, several regional treaties, such as the 1948 American Declaration of the Rights and Duties of Man; the 1950 European Convention for the Protection of Human Rights and Fundamental Freedoms, or the 1981 African Charter on Human and Peoples' Rights, recognize health as a rights´ issue reflecting a broad consensus on the content of the norms. A review of the international instruments and interpretive documents makes it clear that the right to health as it is enshrined in international law extends well beyond health care to include basic preconditions for health, such as potable water and adequate sanitation and nutrition (Yamin, 2005).

The human rights strategy adopted by recent international legal instruments relating to biomedicine seems to be the most appropriate way to manage bioethical issues from a global perspective. Certainly, the search for a global consensus in this area is not free from difficulties, especially because it would be impossible, and indeed unfair, to impose a monolithic, detailed legal framework on societies with different social, cultural and religious backgrounds. This is why the harmonization of principles about biomedical activities must focus on some basic rules (Andorno, 2002). The best current example of how to promote the protection of human rights in the biomedical field at a transnational level is the 1997 Oviedo Convention (Convention for the Protection of Human Rights and Dignity of the Human Being with regard to the Application of Biology and Medicine) which is the first comprehensive multilateral treaty addressing biomedical human rights issue. Some of the principles it contains were already included in more general terms in previous international human rights treaties. However this is the first time that patients´ rights have been developed in one single, multilateral, and binding instrument (Andorno, 2005).

International Environmental Law

The vast field of international environmental law is not typically thought of as part of international public health law. But it should not be forgotten that the first objective of the protection of the environment is the safeguard of nature (Kiss 1998). The conceptual link between the human health and environmental protection has been strengthened by the gradual recognition and integration of "sustainable development" within the global

environmental agenda. In 1987, the World Commission on Environment and Development defined 'sustainable development' as development that meets the needs of the present without compromising the ability of future generations to meet their own needs (Taylor, 2002). In this regard, there is an important link between the prevention principle to sustainable development and international legal obligations regarding transboundary pollution. The principle's prescriptions range from mere due diligence obligations to obligations to limit emissions or the setting of exposure standards, but unfortunately the core legal status of the principle remains uncertain and it does not amount to an obligation under general international law (De Sadeleer, 2002).

It is possible to mention a non exhaustive list of treaties or agreements on enviromental protection: the International Convention for the Prevention of Pollution from Ships (1973); the Convention for the Prevention of Marine Pollution from Land-Based Sources (1974); the Convention on the Law of the Sea (1982); the Convention for the Protection of the Ozone Layer (1985); the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal (1989); the Convention on Nuclear Safety (1994; the UN Framework Convention on Climate Change (1992) developed by the Kyoto Protocol (1997); the Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters (1998); the Convention on Persistent Organic Pollutants (2001); the Copenhage Accord (2009); the Cancun Agreements (2010); the Durban Platform for Enhanced Action (2011) and the Paris Agreement on Climate Change (2015).

In this regard, international organizations should seek to strengthen capacities to facilitate more fully and effectively the integration of environmental law into efforts to promote global health. A more robust approach to facilitating the development and implementation of international environmental law in the interest of health can be expected to result in significant gains in this area (Von Schirnding et al., 2002). For these purposes, it must be enphasized the importance of promoting the conclusion of a global convention on access to environmental information, one of the main tools regarding enviromental protection (Krämer, 2012).

International Humanitarian Law

This body of international law imposes health-related obligations on belligerents and grants health-related rights to individuals (Fidler 1999). Therefore international humanitarian law includes rules regarding: (a) refugees, detainees, and internally displaced people; and (b) control of weapons, prohibiting the use of any weapon that causes superfluous injury or unnecessary suffering .

It is interesting to bring up the advisory opinion of the International Court of Justice (ICJ) on "Legality of the Use by a State of Nuclear Weapons in Armed Conflict", adopted on 8 julio 1996, that raised some controversial issues in the relationship between public health and nuclear arms control. WHO asked the ICJ for an advisory opinion on whether the use of nuclear weapons by a state could be lawful under international law given the adverse health and environmental consequences of the use of a nuclear weapon. Although the ICJ rejected the claim that WHO had competence under its Constitution to raise the question, the court finally held that international law did not directly prohibit the use of nuclear weapons but required that any use of a nuclear weapon had to comply with all requirements in international humanitarian law (Fidler, 1999).

International Labour Law

The working conditions have been typically recognized as determinants of health. The Constitution of International Labour Organization (ILO) sets forth the principle that workers should be protected from sickness, disease and injury arising from their employment. The ILO has adopted more than 40 standards specifically dealing with occupational safety and health, as well as over 40 Codes of Practice. Nearly half of ILO instruments deal directly or indirectly with occupational safety and health issues. These are part of the selected ILO instruments:

a) The 1981 Occupational Safety and Health Convention (No. 155) and its 2002 **Protocol**. The convention provides for the adoption of a coherent national occupational safety and health policy, as well as action to be taken by governments and within enterprises to promote occupational safety and health and to improve working conditions. This policy shall be developed by taking into consideration national conditions and practice. The Protocol calls for the establishment and the periodic review of requirements and procedures for the recording and notification of occupational accidents and diseases, and for the publication of related annual statistics.

b) The 1985 Occupational Health Services Convention (No. 161). It provides for the establishment of enterprise-level occupational health services which are entrusted with essentially preventive functions and which are responsible for advising the employer, the workers and their representatives in the enterprise on maintaining a safe and healthy working environment.

c) The 2006 Promotional Framework for Occupational Safety and Health Convention (No. 187). It aims at promoting a preventative safety and health culture and progressively achieving a safe and healthy working environment. It requires ratifying states to develop, in consultation with the most representative organizations of employers and workers, a national policy, national system, and national programme on occupational safety and health.

Other ILO specific instruments for protection against specific risks are the 1960 Radiation Protection Convention (No. 115); the 1974 Occupational Cancer Convention (No. 139); the 1997 Working Environment (Air Pollution, Noise and Vibration) Convention (No. 148); the 1986 Asbestos Convention (No. 162); and the 1990 Chemicals Convention (No. 170).

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Links

University of Georgetown: Global Health Law Research Guide
http://www.law.georgetown.edu/library/research/guides/globalhealthlaw.cfm

University of London: international programmes.

http://www.londoninternational.ac.uk/courses/queen-mary-ucl/specialisation-public-international-law

University Queen Mary University of London: global health, law and governance.
http://www.qmul.ac.uk/postgraduate/coursefinder/courses/121432.html

World Health Organization (WHO): Global school health initiative
http://www.who.int/school_youth_health/gshi/en/

World Health Organization (WHO): fact sheets
http://www.who.int/mediacentre/factsheets/en/

World Trade Organization (WTO): Documents and resources
http://www.wto.org/english/res_e/res_e.htm

International Labour Organization (ILO): Labour standards
http://www.ilo.org/global/standards/lang--en/index.htm

Title:	**R 3.11 HUMAN RIGHTS AND HEALTH**
Module information	The module may be structured according to the European Credit Transfer System (ECTS), corresponding per ECTS to 25-30 hours student workload (thereof up to 10 contact hours of lecturing/supervision). As part of an academic degree program, the module may be worked into a Masters Curriculum in Global Health with corresponding admission and course completion requirements. Equally the module may also be incorporated into a DrPH (Doctoral program in Public Health) curriculum in which course specifics remain constant but where perspectives are broadened through increased emphasis on relevant readings and calls for ground breaking, context-specific case studies. *Note: Entrance requirements are to be determined by the institution offering the module.*
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Key words	Human rights, human rights based approaches, right to health.
Topics	Human Rights and Health are intrinsically linked. Health policies and practice can impact positively or negatively on rights and in turn human rights infringements and enhancements can influence health. Increasingly human rights based approaches are being used to strengthen public health policies and programs and as a powerful tool to advocate for the action on the social determinants of health.
Learning objectives	Gain an overview of key human rights concepts and the UN treaty system; Learn about the relationship between human rights and health; Understand the rationale for using human rights based approaches to health; Understanding the relevance of human rights to global public health.
Teaching methods	Lectures, interactive small group discussions, case studies, and international field practice.
Who should apply	Those who pursue an international career in public health management, policy development, research or advocacy.
Career opportunities	Teaching and/or research careers in academic environments; leadership positions in the health care sector, policy makers, private industry and Non-Governmental Organisations; free

	lance consulting.
Assessment of students	Case study
COMMENTS on the module by lecturers and students	*Please comment*

Human Rights and Health

Background

Human rights are about the way we live our lives. They set out entitlements that all people possess and corresponding obligations that governments have to respect, protect, and fulfil these rights. The promotion and protection of human rights and the promotion and protection of health are fundamentally linked. The relationship between human rights and health began to gain attention during the HIV/AIDS pandemic in the 80s (Mann et al., 2013). Since then human rights approaches have been adopted by a number international bodies such as the World Health Organisation and UNICEF and health related NGOs such as Amnesty International and the People's Health Movement. There has been growing awareness of the relevance of human rights to global health issues such as HIV/AIDS, tuberculosis and inequalities in access to basic health services and the determinants of health (e.g.Mann et al., 2013). There is a journal dedicated to Health and Human Rights (http://www.hhrjournal.org/), conferences on the topic and a breadth of academic literature available. The links between health and human rights are now well accepted. A systematic review of health and human rights scientific literature spanning 1999-2008 reviewed 928 articles and noted an increase in publications over the time period (Mpinga & Verloo, 2011). Some characteristics of human rights are:

- Human rights approaches have both normative and procedural aspects (ways of thinking and ways of DOIng).
- Universal - inherent to all human beings, regardless of race, sex, nationality, ethnicity, language, religion, or any other status.
- Focus on the inherent dignity and equal worth of all human beings
- Are equal, indivisible and interdependent
- Cannot be waived or taken away
- Impose obligations of action and omission, particularly on States and State actors
- Have been internationally guaranteed
- Are legally protected
- Protect individuals and, to some extent, groups

Human Rights Law

International human rights legal obligations arise when a State voluntarily endorses a human rights treaty. All countries have signed up to at least one human rights treaty. To comply with its international human rights obligations, a State must ensure, before it adopts any proposed law, policy, programme or project, that it is consistent with its human rights, as well as other, legal obligations. The main source of human rights law

is the Universal Declaration of Human Rights (UDHR) adopted at the United Nations General Assembly 1948, which contains a list of basic rights and proclaiming "a common standard of achievement for all people and all nations". These rights have been implemented through the human rights treaties (United Nations, 1948).

Every human is a rights holder and human rights have corresponding duty bearers. All individuals are rights holders. Rights holders have rights, are entitled to claim these rights and are entitled to hold duty bearers accountable. Duty bearers have threefold obligation:

- Respect - don't take actions to interfere with someone's rights. E.g. cannot prevent children from a group from attending school
- Protect - ensure that third parties do not interfere with people's rights. E.g. Regulations to protect people from harmful pollution
- Fulfil - actively take steps to ensure people can enjoy their rights. E.g. access to food, health care, and education.

There are ten human rights treaty bodies composed of committees of independent experts of recognized competence in human rights that monitor implementation of the core international human rights treaties. In addition to the treaty-based bodies (committees), the UN system also has charter-based bodies. Charter bodies include the Human Rights Council and Special Procedures (and also the former Commission on Human Rights, which has been replaced by the Human Rights Council (HRC)). The HRC is an intergovernmental body, which is composed of 47 elected United Nations Member States who serve for a period of 3 years. The HCR is a forum for discussing human rights. The universal periodic review is one the key elements of the HRC. It involves a review of the human rights records of all 192 UN Member States once every four years. Special Procedures address either specific country situations or thematic issues in all parts of the world. Special Procedures are either an individual –a special rapporteur or independent expert—or a working group. They work on a voluntary basis, appointed by the Human Rights Council. They examine, advice, and publicly report on human rights situations (the current Special Rapporteur – 2016 - on the Right to Health is Anand Grover).

Human rights and public health ethics

Although public health ethics and human rights have different backgrounds and mechanisms for action there are linkages in that they are both concerned with informing decision making and providing normative guidance on 'what to do'. "Traditionally, human rights norms are meant to guide the actions of governments, whereas ethics in health care much more broadly encompass concern for the specific actions, inspirations, and relationships of individual health workers, researchers, and organizations." (Gruskin & Dickens, 2006).

The Right to Health

The right to health has been enshrined in international human rights law since the Universal Declaration of Human Rights in 1948. The International Covenant on Economic, Social and Cultural Rights (ICESCR) gave it legal force recognising the "right of everyone to the enjoyment of the highest attainable standard of physical and

mental health" (United Nations General Assembly, 1966). The right is also found in numerous regional and national human rights legislation. All countries are party to at least one human rights covenant that includes the right to health.

The right to health is NOT the right to be healthy. It is rather a right to have the conditions necessary to enable health. In 2000 the Committee on Economic, Social, and Cultural Rights (CESCR) produced a general comment clarifying the content of the right to health (United Nations Committee on Economic, Social and Cultural Rights, 2000). The General Comment states that the right to health extends not only to timely and appropriate health care but also to the underlying determinants of health, such as access to safe and potable water and adequate sanitation, an adequate supply of safe food, nutrition and housing, healthy occupational and environmental conditions, and access to health-related education and information, including on sexual and reproductive health (Hunt & Leader 2010; United Nations Committee on Economic, Social and Cultural Rights 2000). The general comment introduced the concept of Availability, Accessibility, Acceptability, and Quality (AAAQ) (see Table 1).

Table 1: AAAQ

Availability - is there enough?
Accessibility - is it affordable? is it physically accessible? is it geographically accessible? is it non discriminatory?
Quality - Is it of adequate quality?
Acceptability - Is it acceptable?

The Relationship between Health and Human Rights

Health policies and practice can impact positively or negatively on rights and human rights infringements and enhancements can influence health. For example: mandatory testing and vaccination can infringe on an individual's right to liberty and security; compulsory isolation and restriction of movement can infringe one's right to liberty of movement and/or right to peaceful assembly; prioritisation of health needs based on existing discrimination rather than actual needs can infringe peoples' right to be free of discrimination; or if the government refuses to disclose on what basis it has reached a health policy decision, peoples' right to "seek, receive, and impart information and ideas" and "to take part in the government... directly or through freely chosen representatives" may be violated.

Conversely, human rights infringements can also affect individual's health. Some health effects are obvious, such as when people are tortured or imprisoned under inhumane conditions. However, there are also less obvious effects, which are at times more far-reaching. They include a) the long-term effects of torture on victims and family; b) the impact on women's and children's health due to discrimination against women; and c) the inability of people to protect themselves against unwanted pregnancy and sexually transmitted diseases, including human immunodeficiency virus (HIV) infection and acquired immunodeficiency syndrome (AIDS), because their right to information is infringed by laws that forbid the provision of contraception information (Haigh, 2002).

Human Rights and global public health

Human rights have obvious relevance to global public health. Human rights are concerned with international agreements and all countries have signed up to at least one human rights treaty or convention. This means that all countries have agreed to the idea of human rights and core related concepts such as – universality and inalienability, equality and non-discrimination, interdependence and indivisibility, rights, obligations and accountability. Universality of human rights means that rights are not related to citizenship. The concept of progressive realisation of rights allows for taking account of the different resources available and levels of development. This is balanced by the concept of non-retrogression – countries are not allowed to worsen human rights conditions.

Human Rights Based Approaches

Traditionally the main approaches to addressing rights violations consist of: litigation; 'naming and shaming'; and campaigning (Friedman & Gostin, 2012; Hunt, 2007). These focus on addressing past and current violations. Recently there has been a move towards broadening the traditional approaches to include tools to incorporate the consideration of rights into policy-making processes. These tools can be used for monitoring the progressive realisation of rights and also to consider potential impacts on human rights before they happen. There are now a number of Human Rights Impact Assessment tools, a few of which focus on the right to health (Bakker et al., 2010; Lor, 2011; People's Health Movement, 2006).

Rights Based Approaches (RBA) are being used by UN organisations, governments, academics and civil society organisations as a way of integrating or mainstreaming human rights into their activities. Alongside this is a growing body of literature (e.g. Aberese Ako et al., 2013; Boesen & Martin, 2007; Campese et al., 2009; Gready, 2009; Gruskin et al., 2010; London, 2008; United Nation,s 2006; Seuba, 2006; Tadesse, 2012; Yamin, 2008). The UN has identified three core components of RBA:

- The main objective of policies and programmes should be the fulfilment of human rights;
- Rights holders and duty bearers are identified and the capacities of rights holders to make claims on duty bearers to meet their obligations should be strengthened;
- Principles and standards from international human rights treaties should guide all development cooperation and programming in all sectors and all phases of the programming process. (United Nations, 2006).

As well as calls for new methodologies and tools there has also been a development in the spaces within which human rights are understood to operate. There is movement of human rights fields beyond the traditional spaces of judiciary and governments providing new avenues for the realisation of rights: "although state officials often intend only lip service to human rights ideals, "global civil society", by which they mean NGOs, then use these legal documents as a basis for calling them to account, with important effects for human rights" (Nash, 2011). An increasing number of international and civil society organisations have developed right to health campaigns (e.g. People's Health Movement and Amnesty International) and organisations have adopted rights

based approaches (e.g. UNICEF, Medecins Sans Frontieres, OXFAM, WHO, Save the Children, World Vision).

Why Human Rights?

Human rights change how we conceptualise problems and people. By applying a human rights framework to health, health is placed in the context of social justice and linked with principles of equity and non-discrimination. Human rights contribute a legally binding and morally compelling framework that allows duty bearers to be held accountable drawing attention to the legal and policy context within which interventions occur (Friedman & Gostin, 2012; Gruskin & Tarantola, 2013; MacNaughton & Hunt, 2009; Scott-Samuel & O'Keefe, 2007; Tarantola et al., 2008). Utilising human rights language reconstructs social problems and failures of the poor as rights violations and failures of macro-economic policy (Pemberton et al. 2013). It has been proposed that human rights provide "the appropriate conceptual structure within which to advance towards health equity through action on the Social Determinants of Health" (Solar & Irwin, 2007). The United Nations Committee on Economic, Social and Cultural Rights (2000) describes how:

"The real potential of human rights lies in its ability change the way people perceive themselves vis-à-vis the government and other actors. A (human) rights framework provides a mechanism for reanalyzing and renaming 'problems' like contaminated water or malnutrition as 'violations' and, as such, something that need not and should not be tolerated….Rights make it clear that violations are neither inevitable nor natural, but arise from deliberate decisions and policies. By demanding explanations and accountability, human rights expose the hidden priorities and structures behind violations and challenge the conditions that create and tolerate poverty."

Additional Material (see the following pages):

Figure 1: Key health rights concepts (Haigh, unpublished)

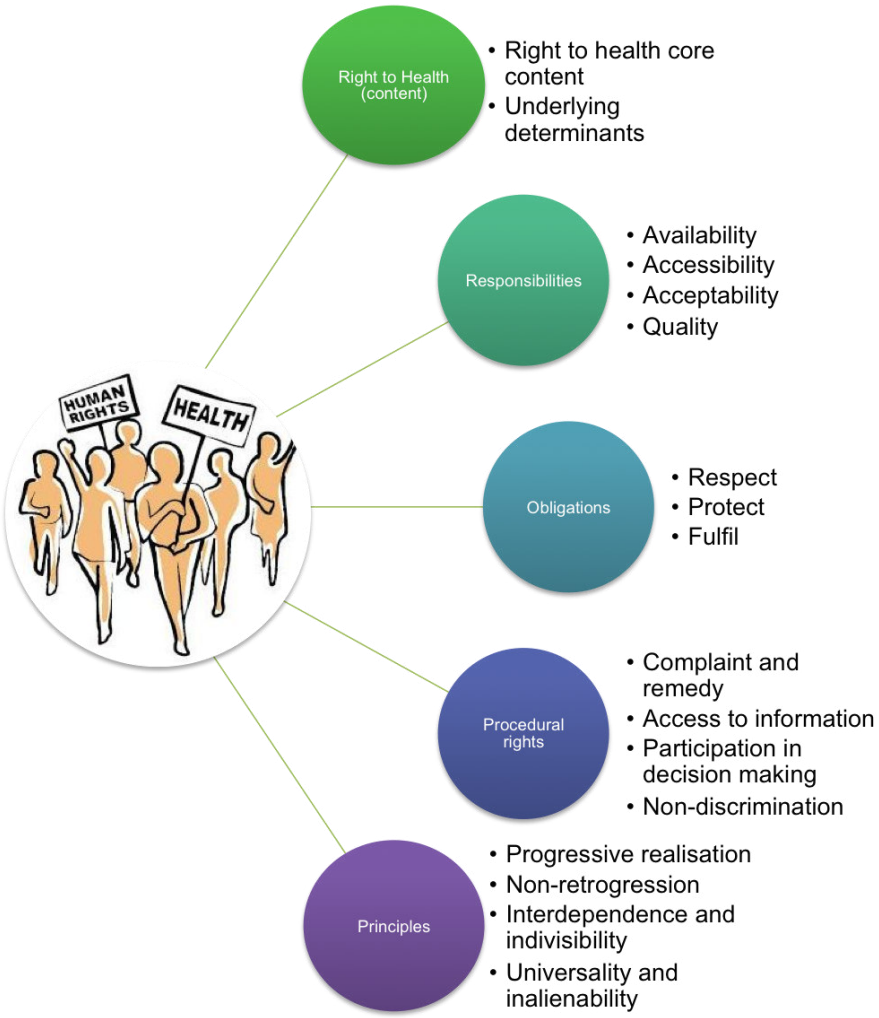

Figure 2: The UN Treaty System
(The United Nations Human Rights Treaty System: Fact Sheet No. 30/Rev.1. New York and Geneva: United Nations.)

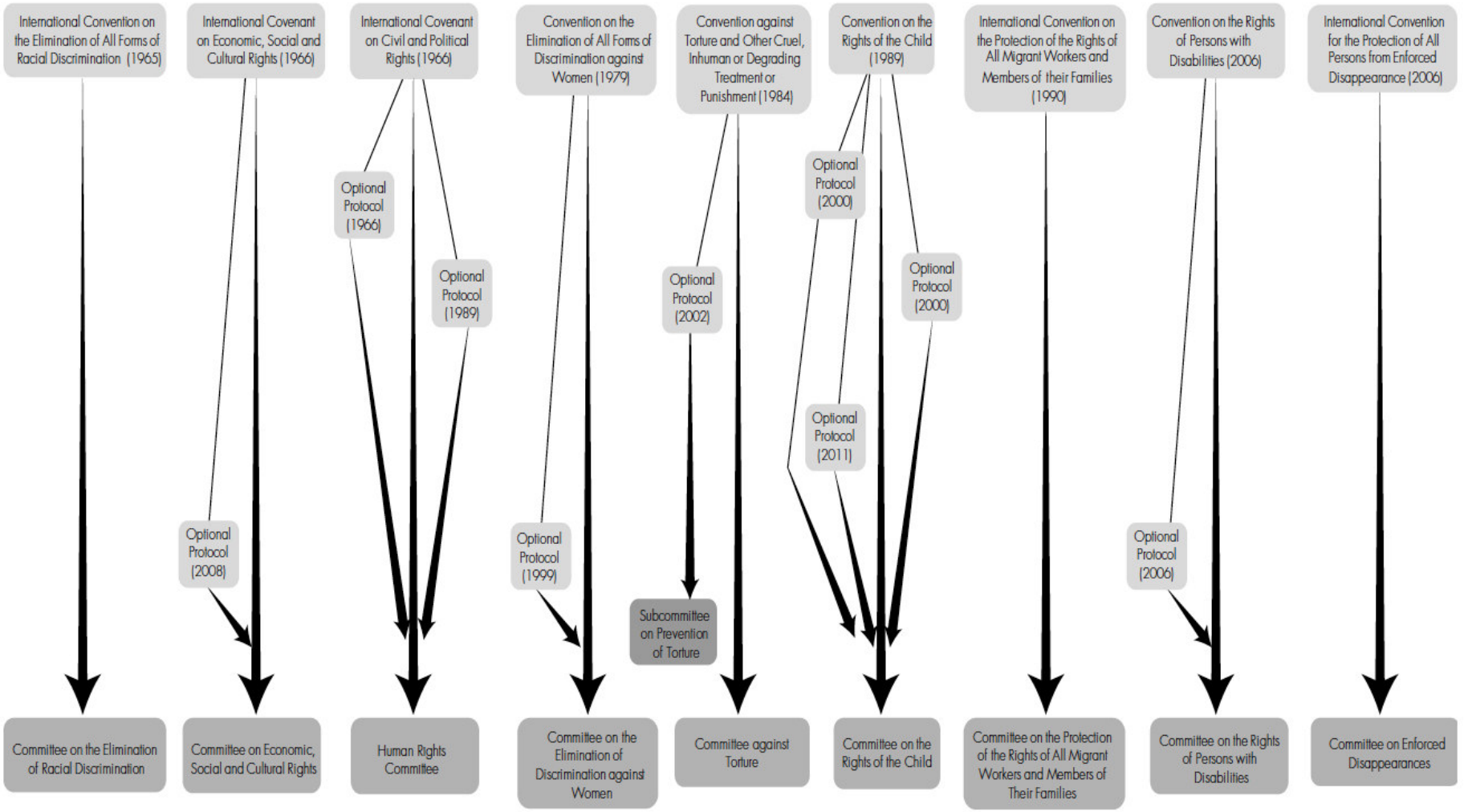

Table 2 Universal Declaration of Human Rights Articles

Article 1	Right to Equality	Article 16	Right to Marriage and Family
Article 2	Freedom from Discrimination	Article 17	Right to Own Property
Article 3	Right to Life, Liberty, Personal Security	Article 18	Freedom of Belief and Religion
Article 4	Freedom from Slavery	Article 19	Freedom of Opinion and Information
Article 5	Freedom from Torture and Degrading Treatment	Article 20	Right of Peaceful Assembly and Association
Article 6	Right to Recognition as a Person before the Law	Article 21	Right to Participate in Government and in Free Elections
Article 7	Right to Equality before the Law	Article 22	Right to Social Security
Article 8	Right to Remedy by Competent Tribunal	Article 23	Right to Desirable Work and to Join Trade Unions
Article 9	Freedom from Arbitrary Arrest and Exile	Article 24	Right to Rest and Leisure
Article 10	Right to Fair Public Hearing	Article 25	Right to Adequate Living Standard
Article 11	Right to be Considered Innocent until Proven Guilty	Article 26	Right to Education
Article 12	Freedom from Interference with Privacy, Family, Home and Correspondence	Article 27	Right to Participate in the Cultural Life of Community
Article 13	Right to Free Movement in and out of the Country	Article 28	Right to a Social Order that Articulates this Document
Article 14	Right to Asylum in other Countries from Persecution	Article 29	Community Duties Essential to Free and Full Development
Article 15	Right to a Nationality and the Freedom to Change It	Article 30	Freedom from State or Personal Interference in the above Rights

Table 3: The AAAQ Plus Six Concepts Framework (Hunt & Macnaughton 2006)

AAAQ	Four essential elements of the right to health.
Available	Health goods, facilities and services must be available in sufficient quantity everywhere in the country.
Accessible	Health goods, facilities and services must be accessible to everyone without discrimination.
Acceptable	Health goods, facilities and services must be culturally acceptable to all people.
Quality	Health goods, facilities and services must be scientifically and medically appropriate and of good quality.
Six concepts	Six concepts crucial to the right to health.
Progressive Realization	The right to health is subject to progressive realization. This means that states must take clear steps toward realizing the right to health for all.
Core Obligation	States have a core obligation for the right to health that applies now. It requires, at least, essential primary health care, and a national health strategy and plan.
Equality and Non-Discrimination	The right to health prohibits discrimination in access to or provision of health care.
Participation	The right to health requires participation by the population in all health-related decision-making at the community, national and international levels.
Information	Access to health information is also essential to the right to health. States must ensure that health information is available and accessible to all.
Accountability	The right to health demands access to effective mechanisms of accountability. This includes judicial remedies at national and international levels.

Exercise

A total of 14 413 confirmed, probable, and suspected cases of Ebola virus disease (EVD) have been reported in six affected countries (Guinea, Liberia, Mali, Sierra Leone, Spain, and the United States of America) and two previously affected countries (Nigeria, Senegal) up to the end of 11 November 2014. There have been 5177 reported deaths (as of November 2014). Following the WHO Ebola Response Roadmap structure, country reports fall into two categories: 1) those with widespread and intense transmission (Guinea, Liberia, and Sierra Leone); and 2) those with or that have had an initial case or cases, or with localized transmission (Mali, Nigeria, Senegal, Spain, and the United States of America). A total of 570 health-care workers are known to have been infected with EVD: 93 in Guinea; 332 in Liberia; 2 in Mali; 11 in Nigeria; 128 in Sierra Leone; 1 in Spain; and 3 in the United States of America (2 were infected in the USA and 1 in Guinea). A total of 324 HCWs have died.

1. What are some of the human rights issues are involved in the Ebola outbreak?
2. What are the links between the human rights issues and health? Think about how human rights issues are impacting on health and how measures taken to deal with Ebola are potentially impacting on human rights.
3. What steps could you take to help deal with these issues using a human rights based approach?

Case study

Students identify and develop a case study of a human rights based approach.

Describe:
How a human rights based approach was used?
What outcomes did it lead to?
What contextual factors influenced the success (or not) of using human rights based approach?

Additional Human Rights and Health Case Studies that could be used within module or for assignments

The Vermont Workers Centre Campaign for Universal Health Care
MacNaughton, G., F. Haigh, M. McGill, C. Sprague and K. Koutsioumpas (2015). "The Impact of Human Rights in Universalizing Health Care in Vermont, USA." Health and Human Rights Journal 17(2).

Six case studies from UNFPA
https://www.unfpa.org/sites/default/files/resource-pdf/6human_rights_cases_0.pdf

Health and Human Rights Case studies – University of Toronto
Case studies in health and human rights

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Title:	**R 3.12 GLOBAL FINANCIAL MANAGEMENT FOR HEALTH**
Module information	The module may be structured according to the European Credit Transfer System (ECTS), corresponding per ECTS to 25-30 hours student workload (thereof up to 10 contact hours of lecturing/supervision). As part of an academic degree program, the module may be worked into a Masters Curriculum in Global Health with corresponding admission and course completion requirements. Equally the module may also be incorporated into a DrPH (Doctoral program in Public Health) curriculum in which course specifics remain constant but where perspectives are broadened through increased emphasis on relevant readings and calls for ground breaking, context-specific case studies. *Note: Entrance requirements are to be determined by the institution offering the module.*
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Key words	Global health, global finance, global structures and management, monitoring aid effectiveness, Good Global Governance.
Topics	World population growth takes place predominantly in the poor countries of the South whereas most of the resources are available in the North. The economic inequalities are related to key health indicators. Although Official Development Assistance (ODA) and Development Assistance for Health (DHA) grew considerable during the last decade the objective of 0.7% of the Northern GDP to be transferred to the South has not been reached by far. In order to correct the main weaknesses the international community agreed on the so-called Paris indicators but failed the set objectives. The underlying reasons may be sought in the fragmentation and incoherence of international financial assistance.
Learning objectives	(i) To understand international financial management in the health sector, (ii) To initiate first international contacts in related areas of interest.
Teaching methods	Lectures, interactive small group discussions, case studies, and field practice.
Who should apply	Managers in global organisations or NGOs, economists, public health specialists etc.
Career opportunities	Management careers in global organisational or academic environments and NGOs.
Assessment of students	Written or oral exams, case studies, peer evaluations, team projects.

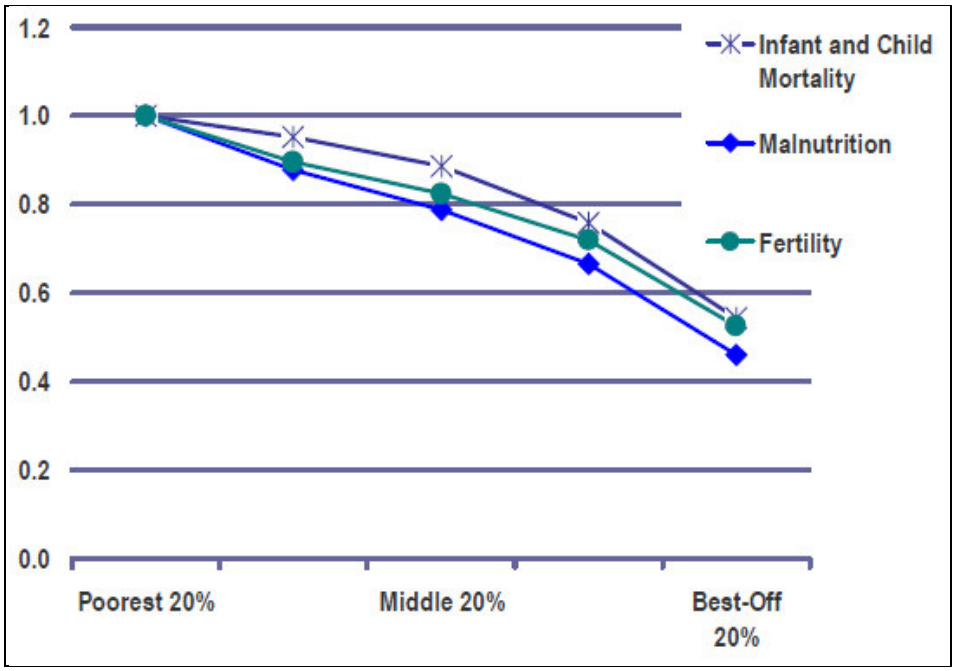
COMMENTS on the module by lecturers and students	*Please comment*

Global financial management for health

Background

We live in a rapidly globalising world, already Horten et al. (2014) speak of a planetary health to underline that we all are passengers of a spaceship earth (Laaser, 2015) a still growing world population, growing too fast, presently with around 1.5% per year (IDB, 2013; Kent and Haub, 2005), however this growth takes place mainly in the South whereas the Northern and Western countries have small or even negative growth rates, partly compensated by in-migration from the South. The gap in growth corresponds to vast disparities in wealth, health, and opportunities. Figure 1 (Gwatkin et al., 2007) demonstrates the close link of key health parameters expressed in quintiles which reach a factor around 2 relating highest to lowest quintiles.

Figure 1: Economic Inequalities with Respect to Selected Indicators of Health, Nutrition, and Population Status (The findings are expressed in relative terms, with the level prevailing in the poorest quintile set at 1.0)



Similarly with few exceptions a low Gross Domestic Product per capita (GDP) goes hand in hand with limited access to food and water, low housing standards, incomplete educational coverage, high levels of (hidden) unemployment and high emigration. Not surprisingly also limited access to and low quality of health care services

and population health measured as (healthy) life expectancy are running in parallel (Laaser and Epstein, 2010).

Key global strategies to reduce the North-South gap include the primary health care strategy inaugurated by the World Health Organisation (WHO) in Alma Ata 1978 (WHO, 1978), and the Millennium Development Goals (MDGs) agreed on by the United Nations in 2000 (UN, 2009) as well as the recent attention to social determinants of health (Rio de Janeiro: WHO, 2011) and health in all policies (Helsinki: WHO, 2013). The MDGs will be followed by the Sustainable Development Goals (SDGs) adopted September 2015 by the UN General Assembly (UN, 2015). The World Health Organisation (WHO) is the lead global health actor together with other global and regional organisations (Lueddeke, 2015), although not always effectively executing this role (Martin-Moreno et al., 2014).

Global financial assistance

In order to realize better the declared objectives a financial framework has been initiated in the years after World War II and decolonization, originally termed "Foreign Aid", replaced meanwhile by a terminology favouring more equal relationships i.e. cooperation and global solidarity. Assistance to developing countries is increasingly considered a moral obligation, however, more often declared in resolutions than in deeds.

For Official Development Assistance (ODA) a target of 0.7% of the GDP of economically developed countries has been set 35 years ago in paragraph 43 of the 1970 UN General Assembly Resolution, since affirmed repeatedly, e.g. in Monterrey, Mexico in 2002 (UN, 2002): "We urge developed countries that have not done so to make concrete efforts towards the target of 0.7% of gross national product (GNP) as ODA to developing countries." The reality, however, is as follows: The largest national donors are the US, followed by Germany, Britain and France. However, as percent of their GDPs the US does not even reach 0.2 percent and the other three leading ODA donors are only close to 0.4 percent which corresponds also to the general EU average.

Nevertheless, in absolute terms ODA has over the years increased considerably together with Development Assistance for Health (DAH). DAH nearly doubled from $5.7 billion in 1990 to $10.8 billion in 2001, (again almost tripling to $28.1 billion by 2011). In 1990 NGOs and private foundations accounted for 11.2% but increased their share up to 30.6% in 2011 with continuing trend. Though, bilateral aid including the European Union (EU, 2014) still accounts for 46.6% (IHME, 2012). Another main trend indicates that DAH is channelled increasingly by-passing governments (Jordan et al. 2006) due to an ever more important role of Non Governmental Organisations (NGOs) (Laaser and Brand, 2014). Furthermore, in spite of the declarations serious imbalances of DAH can be observed,i.e. the resources are not allocated according to the highest disease burdens, which are found in South Asia and Sub-Saharan Africa (Mathers et al., 2001), but according to e.g. political and economic interests (Ravishankar et al. 2009). The Institute for Health Metrics and Evaluation (IHME, 2012) revealed that out of 20 countries with the highest all-cause disability adjusted life years (DALYs) only 12 are among the top 20 recipients of DAH. Many scholars consider the General Agreement on Trade in Services (GATS) an even more important determinant of global economic imbalances (GATS, 2009; Shaffer, 2007) especially with regard to dept management. For every $1 US dollar that Northern countries provide in aid, over $3 comes back in the form of debt servicing.

Debt relief would be an important step towards addressing the massive inequalities that currently deform our global relationships and enable debtor countries to make a fresh start towards genuine social and economic development (WFPHA, 1999).

Moon & Omole (2013) summarised deficits in a most scholarly way (see also Ottersen et al. 2013):

a. Existing financial resources dedicated to health fall short of needs.
b. Aid disbursement is irregular and information on future financial flows is uncertain.
c. External financing may displace rather than augment domestic financing for health.
d. Donors continue to drive decision-making at the cost of meeting recipients' greatest needs, which also undermines country ownership.
e) Spending is not rationally allocated on the basis of objective indicators such as recipient income or disease burden.
f) The proliferation of actors involved in DAH has exacerbated the problem of coordination among them, with the predictable consequences of system fragmentation, inefficiencies, confusion, gaps and transaction costs.
g) The existing DAH system has weak mechanisms of accountability.

Monitoring aid effectiveness

Conferences in Paris 2005 (OECD, 2012) and Accra 2008 (OECD, 2008) and then in Pusan end of 2011 (OECD, 2011) agreed on so-called Paris indicators of Aid Effectiveness in order to remedy the system's weaknesses. The Paris Declaration on Aid Effectiveness was signed by more than 100 countries and international organizations and confirmed the five principles of ownership, alignment, harmonization, results and mutual accountability. The indicators set for the receiving countries referred to good national development strategies, reliable country systems for procurement and public financial management systems, development and use of results based frameworks, and mutual assessment of progress. On the side of donors, the indicators cover: alignment with country priorities, joint analytic work, use of common arrangements and strengthened country systems, harmonised support for capacity building, and more predictable aid (World Bank, 2006).

Table 1 Indicators for Monitoring the Paris Declaration:
Note: Whereas in 2005 32 countries participated in the OECD survey, 47 did so in 2007 and 76 in 2010. Some indicator values are based on lower participation.

INDICATORS		**PROGRESS**			**TARGET BY 2010**	**STATUS**
		2005	**2007**	**2010**		
1	Operational Development Strategies % of countries having a national development strategy rated "A" or "B" on a five-points scale	19%	17%	37%	75%	Not met
2a	Reliable public financial management (PFM) system % of countries moving up at least one measure on the PFM/CPIA scale since 2005	0%	--	38%	50%	Not met
2b	Reliable Procurement systems % of countries moving up at least one measure on the four-points scale since 2005	--	--	--	--	Too low sample of countries with data to allow for meaningful analysis
3	Aid flows are aligned on national priorities % of aid for the government sector reported on the government's budget	44%	48%	41%	85%	Not met
4	Strengthen capacity by coordinated support % of technical cooperation implemented through coordinated programmes consistent with national development strategies	49%	60%	57%	50%	Met
5a	Use of country PFM systems % of aid for the government sector using partner countries' PFM systems.	40%	--	48%	55%	Not met
5b	Use of country procurement systems % of aid for the government	40%	43%	44%	No target	--

INDICATORS		PROGRESS			TARGET BY 2010	STATUS
		2005	2007	2010		
	sector using partner countries' procurement systems					
6	Strengthen capacity by avoiding parallel Project Implementing Units (PIUs) Total number of parallel PIUs	1,696	1,525	1,158	565	Not met
7	Aid is more predictable % of aid for the government sector disbursed within the fiscal year for which it was scheduled and recorded in government accounting systems	42%	47%	43%	71%	Not met
8	Aid is untied % of aid that is fully untied	89%	85%	86%	>89%	Not met
9	Use of common arrangements or procedures % of aid provided in the context of programme-based approaches	43%	47%	45%	66%	Not met
10a	Joint missions % of donor missions to the field undertaken jointly	20%	24%	19%	40%	Not met
10b	Joint country analytic work % of country analytic work undertaken jointly	41%	44%	43%	66%	Not met
11	Results oriented frameworks % of countries with transparent and monitorable performance assessment frameworks	7%	--	20%	36%	Not met
12	Mutual accountability % of countries with mutual assessment reviews in place	44%	--	38%	100%	Not met

Progress has been made, but globally, donors and developing countries have fallen short of the goals that they set themselves for 2010 (OECD, 2011). Therefore a Global Partnership for Effective Development Cooperation has been mandated to regularly monitor progress (OECD, 2012), in 2014 its first report was released (OECD and UNDP, 2014). Tracking systems certainly have to be improved, as outlined by Vassal et al. (2014).

The underlying reasons

Nevertheless, there are deeper underlying reasons for the failures in efficiently organizing international assistance as identified in the following overview (Laaser and Epstein 2010):

"*One of the obvious reasons for imbalances is the extreme fragmentation and therefore ineffectiveness of international aid. Globally 280 agencies, 242 multilateral funds, 24 Development Banks, 40 UN Organisations, and thousands of NGOs can be identified. Thus, for example, in East Timor (ca. 1 million population) there are more than 1200 donor initiated studies or 1 study on average for less than 1000 inhabitants. That is a better coverage than the number of physicians in many rural regions in the world (in East Timor 1 physician statistically had to serve a population of 10,000 in 2004. In 2007, donors made more than 15,000 visits to 55 partner countries. Vietnam alone received 782 missions in 2007, more than two per working day. In the 1990s, Tanzania was grappling with over 1,500 projects in the health sector - each with its own reporting and oversight mechanisms. For under-resourced ministries in developing countries, these transaction costs can be unbearably high and reduce the value of the aid they receive to almost none. The sheer number of activities creates the need for greater harmonization between donors and alignment with partner country priorities. Especially in developing and transitional societies coordinating capacities and competences are limited when they are facing a complicated and time consuming process of implementing international and bilateral aid efficiently. In addition international and even more bilateral aid very often is disrupting coherent national development plans and priorities.*

The temptation for beneficiary countries to accept international aid without conditions often disrupts national priorities, as is the case if money comes too easily as in some EU funded programs. For example, loans from the World Bank – though at low interest rates – often create an underestimated burden in later years. Loans have two sides: Money is available now but has to be repaid later (especially if by others, i.e., taxpayers in the next generation). In addition, the money mainly returns, via expert fees and purchase of equipment, back to the crediting countries. The resulting question is rarely asked: Is the long-term outcome worth the (national) investment? The answer depends on the structural sustainability of projects, which is often impaired by the limited funding perspective of 2 or 3 years and disconnection of potential follow-up projects."

The deficits in the coordinating capacity of receiving countries became obvious at the turn of the century. A promising though rarely implemented remedy is the Sector-Wide Approach (SWAp) (Cassels, 1995), an arrangement whereby donors and government implement an agreed health strategy and try to reduce transaction costs by channelling resources through government systems (not parallel ones of donors) i.e. a Project Implementation Unit (PIU) with the objective of overall budgetary support (HLSP, 2005). If all activities will be under one common sector-wide programme, fully costed,

and integrated into a Medium Term Expenditure Framework (MTEF) the Ministry of Health becomes accountable to the population and not just to donors (Laaser and Epstein, 2010).

Outlook

The root cause of the weakness of the international system is the lack of a strengthened 'Good Global Governance' (Laaser, 2015): *'In conclusion: What to do? An effective global government will be there – one day. Hopefully not too late! An interim step could be to further strengthen regional collaboration; examples of a successful regionalization of transnational governance including the health sector are the European Union and ASEAN. Beyond that some key areas for advancing global governance can be identified:*

1) The mandate of the World Health Organization needs to be reconsidered in terms of an umbrella to include and coordinate all actions necessary to deal with global health threats.
2) An enlarged mandate of WHO needs to be based on the inclusion of all stakeholders, private or public, beyond the present restriction to national governments.
3) A systematic follow-up on the Monterrey and the Paris/Accra/Busan criteria, making development cooperation more effective.
4) Consider proposals to improve national coordination by Sector-Wide Approaches (SWAp).
5) Transform innovative health and social care practices to education and training. Achieving a transformation of health systems that impact directly and effectively on the health and well-being globally depends on broadening opportunities for learning at all societal levels and across all nations.

Many questions wait for an answer from the global community especially on a more democratic, effective and efficient global governance for health or in other words: What global, regional, national and local structures, organisational principles and mechanisms should ideally evolve in the early decades of this century to improve and sustain global health and well-being, including universal health coverage.'

Exercises

1) Follow up on the SDGs via the UN websites
2) Follow up on the latest evaluation of the Paris indicators
3) Discuss the underlying causes as outlined in this module by 2 student groups, one from Developing Countries, the other one from Developed Countries.

Case studies

1) Compare 2 or 3 developing countries regarding the health indicators of their population.
2) Develop a draft network of international health professionals for your future work.

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Title:	**R 4.0 GOING GLOBAL**
Module information	The module may be structured according to the European Credit Transfer System (ECTS), corresponding per ECTS to 25-30 hours student workload (thereof up to 10 contact hours of lecturing/supervision). As part of an academic degree program, the module may be worked into a Masters Curriculum in Global Health with corresponding admission and course completion requirements. Equally the module may also be incorporated into a DrPH (Doctoral program in Public Health) curriculum in which course specifics remain constant but where perspectives are broadened through increased emphasis on relevant readings and calls for ground breaking, context-specific case studies. *Note: Entrance requirements are to be determined by the institution offering the module.*
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Key words	Education and research for global health practice
Topics	A regionalized even fragmented world – as it was – is converging rapidly in our days at the beginning of the 21st century. Countries embark increasingly on global arrangements (like e.g. the World Trade Organisation) and a globalizing civil society – supported by mobile technologies – connects across borders. At the same time unprecedented waves of migration diversify the Northern societies and deplete the qualified workforce in the South. Social disruption, military conflict, and climate change create increasingly a 90/10 situation where 90% of the global disease burden affects the South but only 10% of the world's resources are available there. The module should complement the global health studies/modules offered in the student's teaching and training institution (School of Public Health, Faculty of Medicine, Social Sciences, Economics etc.) by **field/practice experience.** The format is oriented towards a 2nd Bologna Cycle Master of Public Health but can in a modified version also be applied to the 1st or 3rd cycle. There are 4 elements relevant for the field study: 4.1 Evaluate the impact of globalisation on health locally 4.2 Explore and analyse the reactivity of local/regional governance on the impact of globalisation 4.3 Analyse the status of local/regional/transnational collaboration between stakeholders 4.4 Suggest operational solutions for identified deficits and evidence based interventions.

Learning objectives	• Understand the mutual impact of globalization on local/regional health settings and vice versa • Focus on interventions where the competence acquired during the studies can be used either for planning, managing, or evaluation.
Teaching methods	The lecturers should help the students to identify and successfully act in a selected field setting and provide them with supportive supervision throughout the entire process of designing their practice project, collecting and analyzing data, and thesis writing.
Who should apply	All students who are interested in global health and plan for a corresponding career.
Career opportunities	Teaching and/or research careers in academic environments; leadership positions in regional and global organisations, policy makers, private industry and Non-Governmental Organisations; free lance consulting.
Assessment of students	Assessment of project report according to thesis requirements at the hosting institution.
COMMENTS on the module by lecturers and students	*Please comment*

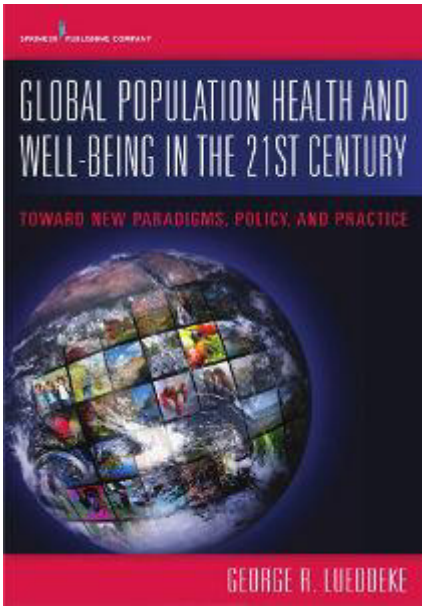
Going global

As the possibilities and requirements in each study programme are different, be it 1st or 2nd cycle education or Continuing Professional Development, it is recommended here to make sure that the student has the necessary knowledge to execute his field study successfully and to amend the student's skills where necessary. Therefore the up to 25 contact hours recommended should mainly be devoted to personal counselling and revising. Only sometimes it may be possible to group students together. Most of the student's time (up to 125 hours) is required to travel to the site of study and stay there, to collect data 'sur place' and to analyse and summarise the results. In some instances field studies may be replaced by analysis of readily available databases, however, this is not recommended where other options are possible as the student is missing then the essential contact with the field, especially in third world countries. Likewise the field studies should always be arranged outside of the training institution's national environment. A general overview of organisations potentially being helpful in providing opportunities for international studies is given in module 3.1 on Global Structures by Dr. George Lueddeke as cited below ((see also: Lueddeke G (ed.) Global Population Health and Well-Being in the 21st Century – Towards New Paradigms, Policy, and Practice. Springer, New York: 2015):

Leading Global, Regional and National Health Organisations

The numbers of leading health organizations worldwide are many and varied. They function at global, regional, and national levels, and differ in terms of scope as well as remits: public health, clinical care, education/research, regulatory, and so forth. A more comprehensive account of public health organisations worldwide can be found in:

Global Population Health and Well-Being in the 21st Century: Toward New Paradigms, Policy and Practice by George R Lueddeke, 476 p., 2016, Springer Publishing, New York, ISBN 978-082612767-9
http://www.springerpub.com/global-population-health-and-well-being-in-the-21st-century-toward-new-paradigms-policy-and-practice.html



Global Health Organisations

The World Health Organisation

Globally, the World Health Assembly is the supreme decision-making body for WHO.It generally meets in Geneva in May each year, and is attended by delegations from all 194 Member States. Its main function is to determine the policies of the Organization. The Organization is headed by the Director-General, who is appointed by the Health Assembly on the nomination of the Executive Board In addition to medical doctors, public health specialists, scientists and epidemiologists, WHO staff include people trained to manage administrative, financial, and information systems, as well as experts in the fields of health statistics, economics and emergency relief. WHO is represented in five regions of the world: Africa, Americas, South-East Asia, Europe, Eastern Mediterranean, and Western Pacific.

WHO fulfils its public health objectives through its core functions:

- providing leadership on matters critical to health and engaging in partnerships where joint action is needed;
- shaping the research agenda and stimulating the generation, translation, and dissemination of valuable knowledge;
- setting norms and standards and promoting and monitoring their implementation;
- articulating ethical and evidence-based policy options;
- providing technical support, catalysing change, and building sustainable institutional capacity; and
- monitoring the health situation and assessing health trends."

The World Federation of Public Health Associations (WFPHA)

'Launched in 1967, WFPHA is an international, nongovernmental organization composed of multidisciplinary national public health associations. It is the only worldwide professional society representing and serving the broad field of public health. WFPHA's mission is to promote and protect global public health. It does this throughout the world by supporting the establishment and organizational development of public health associations and societies of public health, through facilitating and supporting the exchange of information, knowledge and the transfer of skills and resources, and through promoting and undertaking advocacy for public policies, programmes and practices that will result in a healthy and productive world'.

The World Health Summit

'Following the inaugural World Health Summit (WHS), organized in 2009 on the occasion of the 300th anniversary of the Charité – Universitätsmedizin Berlin, the WHS is being held annually and became the pre-eminent international forum for global health. Underpinned by the M8 Alliance of Academic Health Centres, Universities and National Academies, the World Health Summit is organized in collaboration with the National Academies of Sciences of more than 67 countries and their InterAcademy Medical Panel (IAMP). The World Health Summit's mission is to bring together representatives from academia, politics, the private sector, and civil society to address the most pressing issues facing medicine and healthcare over the next decade and beyond'.

Regional Health Organisations

The Association of Schools of Public Health in the European Region (ASPHER)

'ASPHER the key independent European organization dedicated to strengthening the role of public health by improving education and training of public health professionals for both practice and research. Founded in 1966, ASPHER has over 100 institutional members located throughout the European Region of WHO. It is represented in 42 countries in Europe, with more than 5000 academics employed in its member institutions'.

The European Public Health Association (EUPHA)

'EUPHA is an umbrella organization for public health associations and institutes in Europe. Founded in 1992 by 15 members (12 countries), EUPHA now has 68 members from 40 countries. It is an international, multidisciplinary, scientific organization, bringing together around 14,000 public health experts for professional exchange and collaboration throughout Europe'.

The African Federation of Public Health Associations (AFPHA)

'Established in 2011, AFPHA is a nonprofit association composed of national associations of public health in Africa whose activities contribute to the strengthening of public health in the continent. The Federation will serve as a platform to collectively advocate for and voice Africa's health concerns and required actions needed to achieve the highest standard of health of its people. Furthermore, the AFPHA will also serve as a forum

for knowledge, experiences and information exchange among public health professionals towards Africa's contribution to the Region's and to Global public health'.

National Health Organizations

The American Public Health Association (APHA)

'APHA is a community of people and organizations interested in public health. Founded in 1872 by Dr. Stephen Smith, the Association champions the health of all people and all communities; strengthens the profession of public health; creates understanding, engagement and support for key public health issues; and is the only organization that is influencing directly federal policy to improve public health. As the nation's leading public health organization, APHA is evidence-based and speaks out for public health issues and policies backed by science. In addition to APHA's 25,000 individual members, the organization represents another 25,000 individuals and organizations who are members of affiliated state and regional public health associations'.

The Chinese Preventive Medicine Association (CPMA)

'CPMA, established 1987, is a non-profit national academic institution, comprised of voluntary scientific and technological workers in the fields of public health and preventive medicine in its membership. Under the direct administration of the Ministry of Health and legally registered with the Ministry of Civil Affairs, CPMA is also a member of the China Association for Science and Technology (CAST). As such, it serves as an important social agent in promoting the development of public health and preventive medicine within China'.

The Public Health Foundation of India (PHFI)

'PHFI is a public- private initiative formed to redress the limited institutional capacity in India for strengthening training, research and policy development in the area of public health. Structured as an independent foundation, PHFI adopts a broad, integrative approach to public health, tailoring its endeavors to Indian conditions and bearing relevance to countries facing similar challenges and concerns. The Prime Minister of India, Dr. Manmohan Singh, launched PHFI on March 28, 2006 at New Delhi. Under the governance structure adopted by the Society, the Foundation is governed by a fully empowered, independent, General Body (comprising of all the members of the Society) that has representatives from multiple constituencies - government, Indian and international academia and scientific community, civil society and private sector'.

Schools and Institutes of Public Health

BRAC University James P Grant School of Public Health (JPGSPH)

'JPGSPH was founded in 2004 as a collaborative effort between BRAC University, BRAC and icddr,b (the International Center for Diarrhoeal Disease Research, Bangladesh - an international health research institution located in Dhaka). The School was named after former Executive Director of UNICEF the late James P. Grant whose energy and vision was a major force behind the child survival and development revolution. In January 2005, JPGSPH initiated its flagship Masters of Public Health (MPH) program with the aim of developing

public health leaders. Grant's legacy is one that inspires the School's mission in the 21st century - to harness knowledge and know-how in pursuit of health equity'.

Maastricht University School for Public Health and Primary Care (CAPHRI)

'CAPHRI is the largest of six Maastricht Graduate Schools. Maastricht is well known for its expertise in the prevention of diseases, diagnostic and prognostic research in primary care and public health, the promotion of healthy behaviour, and the redesign of healthcare services. CAPHRI plays a pivotal role in the Maastricht, as it finds itself at the forefront of scientific, innovative, applied, ethical, and policy-related research in public health and primary care. CAPHRI coordinates research, PhD training and Master's education'.

Recommended literature

A general overview on Global Health is provided by Laaser U, Brand H: Global Health in the 21st Century. Global Health Action 7/2014 at:
http://www.globalhealthaction.net/index.php/gha/issue/current.

For instruction of students in order to qualify them for a successful high quality field work, the most relevant chapters of the 2 handbooks published by the Forum for Public Health in Southeastern Europe (2nd edition 2013) are marked green in their tables of content (tables 1 & 2):

1) A Handbook for Teachers, Researchers and Health Professionals: Health: Systems – Lifestyle – Policies. Editors: Burazeri G, Zaletel Kragelj L; Assistant editor: Petrela K. Volume I, 2nd edition; Jacobs Publisher, Lage 2013, 455 p., ISBN: 978-3-89918-806-6; free of charge. Available at: http://www.seejph.com/public/books/Health-Systems-Lifestyle-Policies.pdf

Table 1: Table of contents: Health: Systems – Lifestyle – Policies

MODULE	AUTHOR/S
A. THE HEALTH CARE SYSTEM	
1. The role and organization of health systems	D. Donev, L. Kovacic, U. Laaser
2. The management cycle: from planning to evaluation	L. Kovacic, Z. Jaksic
3. Hospitals as part of cultural and social development	Z. Jaksic
4. Integration of hospitals with other health services	Z. Jaksic
5. Hospital management coping with crisis	Z. Jaksic
6. Primary health care	Z. Jaksic, L. Kovacic
7. Mental health care	V. Svab, L. Zaletel-Kragelj
8. Education and training as part of health practice	Z. Jaksic, H.R. Folmer, L. Kovacic
9. E-health	I. Erzen
10. Health care: levels and limits	L. Kovacic, Z. Jaksic
11. Reorientation of health services	I. Erzen, L. Zaletel Kragelj, J. Farkas
B. PUBLIC HEALTH	

12. The framework of public health	V. Bjegovic-Mikanovic, G. Burazeri, U. Laaser
13. Public health services – organization and challenges	I. Erzen, L. Zaletel Kragelj
14. Disability-adjusted life years as a key tool for the analysis of the burden of disease	A. Galan, A. Cucu
15. Advertising public health services	D. Sidjimova, M. Sidjimov, M. Dyakova
16. Introduction to occupational health	P. Bulat
17. The public health strategy of the European Union	T. Hofmann
C. LIFESTYLES AND HEALTH	
18. Food and human health	J. Hyska, G. Burazeri, E. Mersini, G. Qirjako
19. Healthy nutrition	G. Sbutega Milosevic, J. Ilic Živojinovic, M. Maksimovic
20. Unhealthy nutrition and physical inactivity	L. Georgieva, K. Lazarova, G. Burazeri
21. Harmful alcohol consumption	L. Georgieva, G. Burazeri, K. Lazarova, G. Genchev
22. The public health significance of smoking	L. Georgieva, B. Borisova, K. Lazarova
23. Stress as a determinant of health	D. Sidjimova, M. Dyakova, T. Vodenicharov
24. Unemployment as a determinant of health	T. Elkeles, W. Kirschner
D. ENVIRONMENTAL HEALTH	
25. Weather and climate: concept and assessment	V. Kendrovski
26. Air pollution and health effects	G. Qirjako, J. Hyska, G. Burazeri, E. Roshi, L. Georgieva
27. Public health aspects of non-ionizing radiation	E. Stikova
E. HEALTH PROMOTION	
28. “Health needs” concept	L. Zaletel-Kragelj, I. Erzen, M. Premik
29. Priority setting for community health	M. Santric-Milićevic
30. Health promotion and community capacity development	M. Santric-Milićevic, V. Bjegovic-Mikanovic, S. Matovic-Miljanovic
31. Oral health promotion and oral diseases prevention	B. Artnik
32. Functional assessment of elderly people	B. Matejic, Z. Terzic
33. Health literacy	A. Jovic-Vranes, V. Bjegovic-Mikanovic
34. Inequalities in health	B. Artnik
F. HEALTH POLICY	

35. Health services management	Z. Terzic, V. Bjegovic-Mikanovic, Z. Nikolic
36. Economic appraisal as a basis for decision making in health systems	H. Wenzel, B. Hysa
37. Payment methods and regulation of providers	D. Donev, L. Kovacic
38. Components of a public health strategy	A. Galan, O. Lozan, N. Jelamschi
39. Health legislation: procedures towards adoption	L. Zaletel-Kragelj, M. Kragelj
40. Socio-economic factors – key determinants of health	G. Burazeri, I. Mone, L. Georgieva, U. Laaser
41. Health policy analysis and development	N. Milevska-Kostova, E. Stikova, D. Donev
42. Politics, policies and health	C. Bambra, D. Fox, Scott-Samuel
G. GLOBAL HEALTH	
43. Violence - a global public health problem and universal challenge	F. Tozija, A. Butchart
44. Global public health treats and disaster management	E. Stikova, P. Lazarevski, I. Gligorov

2) A Handbook for Teachers, Researchers and Health Professionals: Health Investigation: Analysis – Planning – Evaluation. Editors: Burazeri G and Zaletel Kragelj L; Assistant editors: Petrela K and Muja H. Volume II, 2nd edition; Jacobs Publisher: Lage 2013, 579 p., ISBN 978- 3-89918-807-3, free of charge. Available at: http://www.seejph.com/public/books/Health-Investigation.pdf

Table 2: Health Investigation: Analysis – Planning – Evaluation

MODULE	AUTHOR/S
A. STUDYING POPULATION HEALTH	
1. Introduction to the measurement of health and disease	T. Pekemezovic, T. Gazibara
2. Organizing and describing data	L. Zaletel-Kragelj
3. Frequency measures: prevalence and incidence	L. Zaletel-Kragelj
4. Age standardization: the direct method	J.Bozikov, L. Zaletel-Kragelj, D.Bardehle
5. Measures of central tendency and dispersion	G. Grancharova, S. Aleksandrova
6. Measures of location: quantiles	G. Grancharova, S. Aleksandrova

7. Frequency measures: estimating risk	L. Zaletel-Kragelj, J. Bozikov
8. Measures of association and potential impact	L. Zaletel-Kragelj
9. Absolute risk assessment: from theory to practice	M. Dyakova E.Karaslavova E. Shipkovenska
10. Introduction to epidemiological studies	E. Roshi, G. Burazeri, E. Toci
11. Features of epidemiological studies	L. Zaletel-Kragelj, I. Erzen, D. Donev
12. Ecological studies	L. Zaletel-Kragelj, I. Erzen
13. Cross-sectional studies	L. Zaletel-Kragelj, I. Erzen
14. Health surveys as a powerful tool in planning public health interventions	L. Zaletel-Kragelj, I. Erzen
15. Cluster analysis	A.Vitcu
16. Introduction to intervention studies	T. Pekemezovic, L. Zaletel-Kragelj, T. Gazibara
17. Public health intervention programmes and their evaluation	L. Zaletel-Kragelj, J. Maucec Zakotnik, Z. Fras
B. SPECIAL METHODS AND APPLICATIONS	
18. Surveillance	I. Klavs
19. Delphi analysis	N. Milevska-Kostova, W.N. Dunn
20. The Geographic Information System (GIS): the example of traffic air pollution	A. Kukec, R. Fink, S. Erlih, I. Erzen
21. Basic occupational health indicators of sick leave	M. Bilban, L. Zaletel-Kragelj
22. Oral health indicators in Europe	B. Artnik
23. Outbreak investigation	M. Socan
24. Evaluation in health promotion	A. Cucu,
25. Violence against women: measurement and indicators	B. Djikanovic
26. Quality of life: measurement and cultural adaption	Z. Terzic, B. Matejic
27. Distance learning in health education	I. Masic
28. Human resource management	S.G. Scintee
C. PLANNING AND EVALUATION	
29. Health databases, health indicators and health reporting	D. Bardehle
30. Measuring burden of disease: Disability-adjusted life years (DALY)	D. Donev, L. Zaletel-Kragelj, V. Bjegovic, G. Burazeri
31. Tests validity measures and analysis of the Receiver Operating Characteristic (ROC)	J. Bozikov, L. Zaletel-Kragelj
32. Screening	M. Krajc
33. Rapid assessment and response	E. Imamovic, D. Niksic
34. Introduction to health technology	J. Marinkovic

assessment	
35. SWOT analysis	A. Plesnicar, L. Zaletel-Kragelj
36. Community health – Public health research methods and practice	S. Sogoric, A. Dzakula
37. Economic evaluation in healthcare: practical approach	Pia Vracko, Lijana Zaletel-Kragelj
38. Strengthening public health services: evaluation pof essential public health operations	F. Tozija, D. Gjorgjev, D. Gudeva Nikovska
39. Public health capacity building: adult education	G. Pavlekovic, L. Zaletel-Kragelj, A. Kragelj
40. Designing and planning educational programmes in public health	G. Pavlekovic L. Zaletel-Kragelj, A. Kragelj N. Skerget
41. Public health planning: from recommendation to implementation	V. Sava, H. Wenzel
42. Team building	A. Galan, S.G. Scintee
43. Project management	S.G. Scintee, A. Galan

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