EDITORIAL

The population's health: Could South Eastern Europe do better?

Jadranka Božikov[1]

[1] Andrija Štampar School of Public Health, School of Medicine, University of Zagreb, Croatia (retired)

Corresponding author: Prof. Dr. Jadranka Božikov
Address: University of Zagreb, School of Medicine, Andrija Štampar School of Public Health Rockefeller St. 4, Zagreb, Croatia
ORCID: 0000-0002-1159-9675
Email: jadranka.bozikov@snz.hr
Skype: jadranka.bozikov

The South Eastern European Journal of Public Health (SEEJPH) was launched in 2014 with a welcome address by Professor Vesna Bjegović-Mikanović, then President of the Association of Schools of Public Health in the European Region (ASPHER), and an introductory editorial by the founding editors with Professor Genc Burazeri, then and since then Executive Editor, as first author (1,2). In eight years, seventeen regular volumes have been published, accompanied by half a dozen special volumes and many more books available in digital form free of charge on the journal's website (https://seejph.com/index.php/seejph). The establishment and successful development of SEEJPH is primarily the result of its editors' enthusiastic efforts and dedication. It is also an achievement of the long-standing collaboration of scholars from academic institutions in South Eastern European (SEE) countries gathered together in the network "Forum for Public Health in South Eastern Europe" under the able leadership of Professor Ulrich Laaser from the School of Public Health, Faculty of Health Sciences, University of Bielefeld (Germany). The collaboration started in the early 2000s and involved faculty and public health professionals from eleven SEE countries, namely Albania, Bosnia and Herzegovina, Bulgaria, Croatia, Kosovo, Macedonia (now North Macedonia), Moldova, Montenegro, Romania, Serbia, and Slovenia. The National School of Public Health from Athens (Greece) also participated, at the time, as the only institution from the European Union (EU) besides the Bielefeld School of Public Health. The results can be seen mainly in numerous book volumes with thousands of pages and hundreds of Public Health teaching modules. Dozens of conferences have been organized as well, along with other activities that brought a wealth of unforgettable shared moments, priceless experiences, and lifelong friendships. I am very proud to have been part of this network, together with my colleagues from the Andrija Štampar School of Public Health, School of Medicine, University of Zagreb (Croatia). SEEJPH has grown into a respectable academic journal, indexed on Scopus and attracting a wider international audience thanks to the efforts and contributions of its editorial board and the broader support of regional and advisory editors. It is my honour and pleasure to serve as guest editor of this particular volume. I want to thank Professors Ulrich Laaser and Genc Burazeri for their trust. My sincere thanks also go to Jeffrey Levett, Professor Emeritus of the National School of Public Health, Athens (Greece), for his support in soliciting contributions. I hope that the result will justify the confidence of the editors and also arouse the interest of readers, who will find here excellent reviews and position papers on global issues and challenges of interest to the SEE region, as well as reports of original research conducted in the region.

Over the past three decades, health systems in SEE countries have undergone many reforms triggered by the search for more efficient management of health care and new sources of revenues able to answer cost pressures related to new technologies. All this took place with the transition from a socialist to a market economy in the background. The economic collapse triggered by the transition in the early 1990s led to a deterioration in the population health with a decline in life expectancy in several SEE countries and was accompanied by the effects of conflicts and war in the Yugoslav successor states, which led to a failure in basic health services (3).

The health system of the former Yugoslavia was established in the 1920s together with health insurance organisations under the progressive leadership of Andrija Štampar. It was based on a network of community health centres staffed by mixed teams of general practitioners and nurses, including community nurses, and linked to other socio-medical institutions focusing on common health problems of the time (e.g.

dispensaries for tuberculosis, venereal diseases, and mother and child care), as well as hygiene institutes. The role of specialists in these community health centres increased in the socialist period after the Second World War when primary health care was provided by seven different functions (general medicine, occupational medicine, pre-school paediatrics, school medicine, gynaecology and obstetrics, and hygiene and epidemiology). Nevertheless, general practitioners continued to play the most crucial role, including the gate-keeping one, and a specialisation in family medicine was also introduced in 1960, the first in the world. The specialists became more important over time, and by the 1980s, they prevailed over the general practitioners. Gradually, the orientation of health centres towards preventive and social medicine weakened, while curative medicine became more and more important (3).

At the same time, health care systems in the countries behind the Iron Curtain (Albania, Bulgaria, Moldova, and Romania) developed differently according to the Soviet-style "Semashko model" based on central planning and state ownership and command. Health care was provided in hospitals, polyclinics, outpatient clinics for primary care, and, in rural areas, by individual physicians or *feldshers* (medical assistants). The systems were generally dominated by specialists and hospital-based care, with no clear role for district physicians as gatekeepers. Health care was provided on the basis of a general entitlement to care but was characterised by bottlenecks and queues. Resource allocation was based on planned services, such as beds or staff, rather than patients and community needs (3).

The turbulent beginning of the 1990s and the disintegration of the former multinational state of Yugoslavia was followed not only by a terrible and bloody war, but also by a political and social transition from a one-party socialist system to democracy and a free-market economy, which also took place in other SEE countries, from Albania to countries that up to 1991 used to be part of the Warsaw Pact (Bulgaria and Romania) or part of USSR (Moldova). As already mentioned above, the collapse of the health system started a decade earlier, at least as far as the former Yugoslavia is concerned, as excellently described by Stephen Kunitz (4) in his article "The making and breaking of Yugoslavia and its impact on health", which also provides a brief and concise historical background. As a result, the health status of the population deteriorated, which was reflected in a sharp decline in health indicators and even in a further divergent development. The same was observed in some, but not all, independent states established after the collapse of the USSR (e.g. the Baltic States, which used to be Soviet socialist republics.

Kunitz argued that the individual and social modernisation processes of the early 1980s did not lead to irreversible improvements in health and well-being, but the impact of the transition on population health was profound. Despite huge differences between the republics and autonomous provinces in the former Yugoslavia, the improved and converging mortality and morbidity rates that existed before the collapse gave way to increasing disparities afterward (4).

Today, 30 years after the collapse of communism/socialism and twenty years after public health researchers and professionals from 11 SEE countries started their collaboration in the Forum for Public Health in South Eastern Europe, four of these countries are European Union (EU) Member States (Bulgaria, Croatia, Romania, and Slovenia) and four others are already EU candidate countries (Albania, North Macedonia, Montenegro, and Serbia). Health disparities in the population remain large, due to insufficient investment in health and never-ending reforms of the health system, but also to other circumstances, notably undesirable

demographic changes due to population aging. The labour force drain from the SEE countries to the more developed EU Member States, which typically starts immediately after the accession to the EU, combined with low birth rates, has led to an ageing population and slower economic growth and caused a demographic deficit. Two countries with the most aged populations, Bulgaria and Croatia, conducted their censuses in 2021 and found a significant population decline of almost 10 percent compared to the last census ten years ago, while some other countries are also experiencing population declines (Romania and Serbia). On the other hand, countries with an advantageous younger age structure, such as Kosovo, North Macedonia, and Albania, are experiencing a severe economic, social and political crisis and high emigration rates, particularly of health care workers. A democratic deficit that persists in many of these countries is hindering the economic and social development sought and expected during the transition period and deserved by their people.

In general, the crisis of health systems in the SEE countries began forty years ago, and health reforms have not stopped since. It can be said that we are constantly in a *circulus viciosus* of crises and reforms. A crisis requires reform, and reform never ends but gives birth to a new crisis.

In the present SEEJPH special volume, readers will find several articles on the performance of health systems, their reforms, and their economic impact. An article contributed by Romanian authors Silvia Gabriela Scintee and Christian Vladescu gives an excellent example of how to evaluate the implementation of the national health strategy when it is realised gradually through incremental reforms and no official evaluation has been done. The authors assessed small health reforms into five main clusters and analysed their results from the perspective of the main strategic goals.

Professor Doncho Donev contributed a review about a new payment method of health care providers and institution known as “Pay-for-Performance”. As it brings also the risks of compromising the quality of health services, it requires addition regulatory tools that complement it. Professor Klaus-Dirk Henke draws the readers’ attention to the fact that the health care system not only generates high and constantly growing costs but that it must also be seen as a growing industry of great economic importance. The role and contribution of the healthcare industry to the labour market, gross value-added and exports are well documented for Germany at the national level, but can also be broken down to the regional and even county level. The well-documented situation in a highly developed Western European federal country could be a model and guide for the SEE countries on how to monitor and promote the role of the health industry in their economies. In addition, the appendix provides data on the expenditures and shares of the health economy in the overall economy for three SEE countries (Croatia, Slovenia, and Montenegro) compared to the corresponding EU 2018 averages. The approach used in this interesting position paper gives a challenge for analogous analyses of the contributions and importance of health industries to national economies in SEE region.

Monitoring and comparison of health indicators are important for the selection of problems to be addressed when setting priorities at the population level. In this regard, the Global Burden of Disease (BoD) indicators provide a tool for quantifying health loss due to hundreds of causes of death, diseases, injuries, and risk factors. The inclusion of the disability-adjusted life years (DALYs) indicator and its components, Years of Life Lost (YLLs) and Years Lived with Disability (YLDs), made disability criteria as important as incidence, prevalence and mortality. It has made it possible to quantify the burden of diseases

whose consequences manifest them mainly in disability and which have been neglected in the past. An excellent contribution by a group of Slovenian authors led by Professor Lijana Zaletel-Kragelj can serve as a model for analyses of health indicators and their comparisons between two points in time or between different countries. The authors analysed changes in Slovenian BoD indicators (all four dimensions, i.e. Deaths, DALYs, YLLs and YLDs) across several causes groups over five years. They also compared Slovenian indicators with those for the Western European and Central European countries. The authors utilised BoD indicators available from the open international databases and demonstrated the power of original and inventive data visualisation. Three more original studies were done in the region: Burnout and optimism among health workers during the period of COVID-19 was assessed by two psychometric tools in a research study done in Greece while the knowledge, experience and behaviour regarding reproductive and sexual health among medical students were examined by the Serbian authors using a questionnaire designed by the World Health Organization for adolescent sexual and reproductive health. Slovenian authors contributed a study protocol that represents a tool developed for a learning needs assessment of professional workers in community mental health centres.

At the same time as the COVID-19 pandemic hit the whole world in the last two years, Europe was hit by other disasters, too. In 2020, Croatia experienced two destructive series of earthquakes. First, the capital Zagreb was hit by an earthquake, and nine months later, another one hit a rural area. No one can predict or prevent these natural disasters. In such situations, we can only rely on good disaster preparedness and solidarity between people and countries to repair the damage. However, environmental disasters, such as the extreme and deadly weather conditions that were commonplace in the summer of 2021 can also be a result of human activity. In Europe, it began in the centre and west with excessive rain, flooding, and landslides that left more than 240 people dead and many more homeless. It continued in the south with unbearable heat, fires, and suffocating environmental conditions after forests, woodlands and parklands burned. Summer is becoming increasingly dangerous as the heat rises, while little is being done for climate adaptation. The call for papers for this SEEJPH special volume was circulated during the summer of 2021, at the very time of these environmental disasters and the continuation of the pandemic. That makes the issue of climate change and its relationship with the environment and emerging diseases even more important. The article by Professors Zeynep Cigdem Kayacan and Ozer Akgul from Turkey aims to raise awareness of the relationship between climate change, the environment, and emerging diseases. It focuses on climate change and climate-sensitive infections, their nature and epidemiology, which are changing in parallel with global warming. Climate change could trigger new problems, including new epidemics with old or new pathogens. The paper provides an overview of examples of infectious diseases related to changing climatic conditions, focusing on Europe and, in particular, on the South Eastern European and Eurasian regions. At the end of October, right at the time of manuscript submission, the 26th UN Climate Change Conference of the Parties (COP26) began in Glasgow (Scotland). It brought together around 120 world leaders in addition to delegates from almost 200 countries, both the major emitting countries and those most vulnerable to climate change, for face-to-face negotiation how to halve emissions by 2030 and boost green recovery from the pandemic. It follows on from the previous COP25 Conference held two years ago in Madrid, which was the most talked-about conference globally due to the appearance on the scene of a group of young activists led by Greta Thunberg.

Among all the other warnings and complaints, Greta and the 15 activists, aged between 8 and 17, complained to UN-UNICEF about five countries neglecting the fight against climate change. Greta became known worldwide by her speech given a few months earlier at the United Nations Climate Action Summit in New York City, which included her alarming message, "*We are in the beginning of mass extinction, and all you can talk about is money and fairy tales of eternal economic growth. How dare you!*"

After more than two years of the pandemic, it is still not known how SARS-CoV-2 emerged and whether its spread was driven by environmental changes. However, the awareness of the importance of environmental issues, global interdependence, and solidarity has risen up. Relatively new concepts and ideas in Public and Environmental health known as One Health, Planetary Health, Global Health, Circular Economy, and Circular Health are receiving more attention. The World Health Organisation (WHO) endorses those concepts and emphasises the importance of protecting the environment and combating the negative effects of climate change. This volume contains a much-appreciated contribution on Circular Health written by the experts in the field, Professors Flavio Lirussi and Erio Ziglio, who had promoted this concept as former consultant and former head of the European Office for Investment in Health and Development at the WHO Regional Office for Europe (5). It is worth mentioning that SEEJPH dedicated one of its 2021 special volumes to the Global One Health Environmental concept and published an extensive (more than 200 pages) learning module on continuing environmental education for postgraduate scholars (6).

Today, it is clear that a biomedical approach alone was not sufficient for the pandemic control. Social scientists are very much needed to deal with public health problems. A mixture of health, environmental, social, and economic measures is crucial to prevent and combat probable future pandemics and other public health threats. We wonder how to understand the phenomenon observed last year in the SEE region when resistance to epidemiological measures and hesitant attitudes towards vaccination emerged in certain population groups. It was unexpected and even shocking for me as a senior public health scholar to observe the extent of vaccine reluctance in the Republic of Croatia, especially considering that preventive medicine and epidemiological services, including vaccination, had a long and fruitful tradition in the past. Despite the efforts of health care professionals and the government's financial support for businesses, unreasonable resistance seems to be inherent even though in some population groups. The vaccination campaign officially started on 27 December 2020 in all EU Member States and continued progressively in early 2021, extending vaccination coverage to the elderly and chronically ill and gradually to other adult age groups. In the beginning, the response was excellent. There was a struggle to get vaccinated, but in the summer, when the available vaccine doses became sufficient to cover the entire adult population, the interest dropped dramatically and reluctance became visible. A similar or even worse situation occurred in the other countries in the SEE region. The question arises as to the causes of this phenomenon. Despite the all possible organisational and logistical shortcomings of the vaccination campaigns, the impression is that the cause has to be found in the mentality and even resistance to what the state offers and organises, unlike in stable Western democracies.

It is therefore not surprising that the SEE countries have suffered the most deaths from Covid-19, although the mortality rate during the first wave was minimal, partly due to a strict lockdown and partly due to the fact that SARS-CoV-2 initially broke out in Western and Northern Europe. The

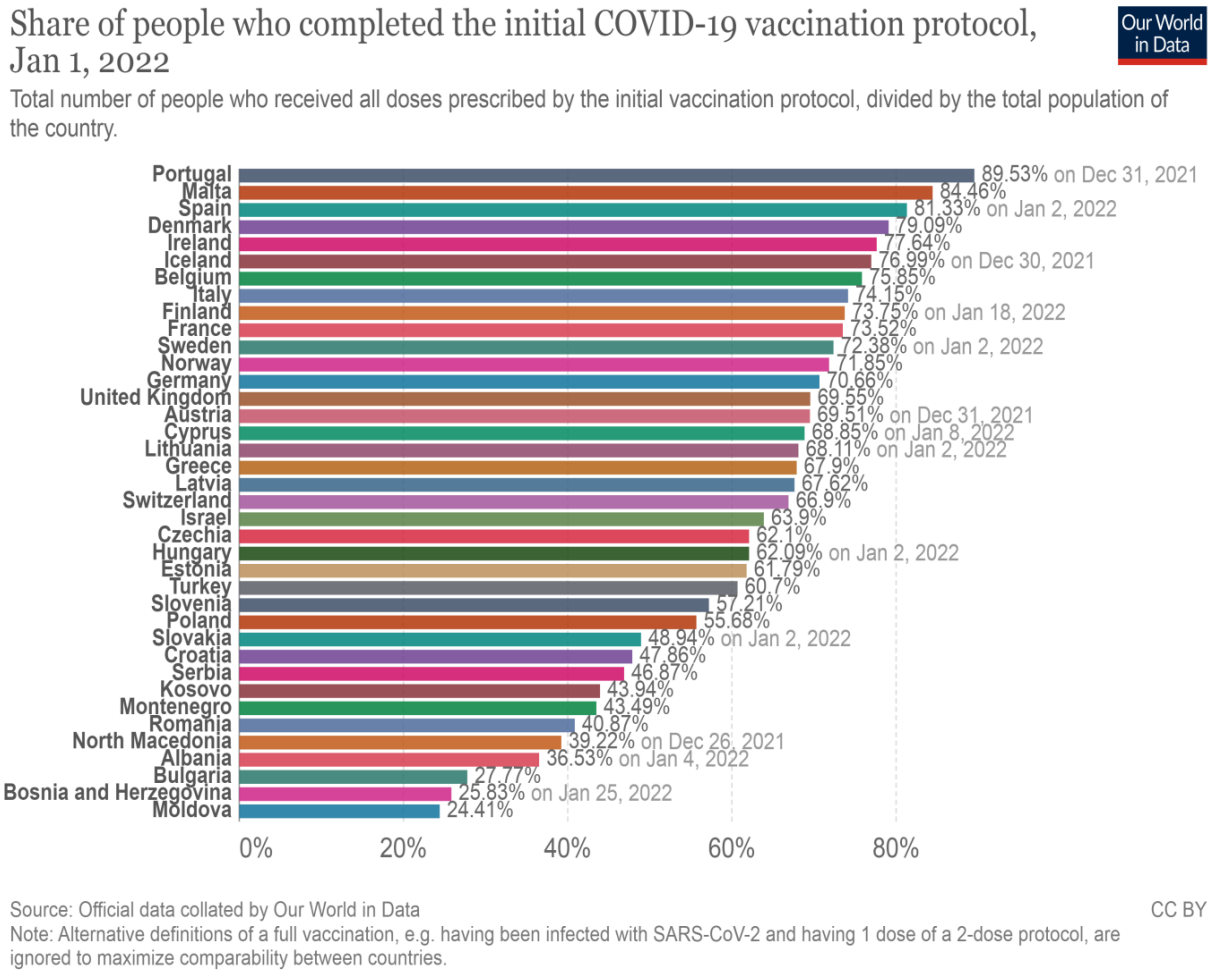
death toll which followed after the vaccines supply became sufficient for adult residents is particularly surprising. High mortality could be only partly attributed to the older population structure in some SEE countries. Although we can also observe a hesitancy to vaccinate and resistance to non-pharmaceutical containment measures in the highly developed countries of Western Europe, we see a shocking difference when it comes to the percentage of people vaccinated. This brings us back to the point made by Kunitz that social and economic changes (modernisation, globalisation) have an instantaneous negative impact on the population. We can conclude that favourable economic and social opportunities and regional (EU) integration processes, which have undoubtedly brought about the desired progress, have a confidence-lacking effect on people and reduce their trust in science and health.

The WHO European Region includes 53 countries, 50 without the three mini-states (Andorra, Monaco, and San Marino). Excluding all the USSR successor states except Moldova and the three Baltic States who are EU Members (Estonia, Latvia and Lithuania), and adding Kosovo, which is not yet a WHO member, we have 39 countries altogether. Figure 1 shows the share of the population fully vaccinated against COVID-19 on 1 January 2022 in those 39 countries. The lower third includes all eleven SEE countries plus Slovakia and Poland, with the lowest share of the population fully vaccinated in Moldova, Bosnia and Herzegovina and Bulgaria (range from 24,41% to 27,77%), and the highest in Slovenia (57,21%). The share of the population fully vaccinated in the upper third spans from 70% up to almost 90% in Portugal (7). The ideas elaborated in the paper on Circular Health might help us understand those phenomena. The authors pointed out the toxic effects of disinformation spreading through social networks and media and opt for a collective effort to develop and implement ethical laws and policies. Referring to the current pandemic, they stated: "*Paradoxically, "virtual" entities like (dis)information and social media could be the main drivers of a "real" pandemic. In other words, they could have far greater influence over its development than the virus factor (viral load, contagiousness, lethality) and even the human factor (genetic makeup, immune response) combined.*" (5). They concluded that the adoption of Circular Health concepts is an urgent necessity in restructuring development policies and making them more effective and sustainable in the protection and promotion of individual and collective health. It must be followed up by new innovative practices and supported by consistent political will that has been lacking in the past. The challenge is to put these principles into practice through the educational curricula for the future generations and training of those currently responsible for political decisions which must fully understand that every choice they make in relation to human, animal, and plant health as well as for the overall environment has impacts on all others. It requires a new way of thinking and acting for individual, collective and global health. To this end, great opportunities are seen in the innovative use of big data and artificial intelligence for health. WHO has recently published a document entitled "Ethics and governance of artificial intelligence for health" aimed at guidance addressing especially three sets of stakeholders: All technology developers, ministries of health, and healthcare providers (5).

Extreme weather events caused by climate change and the SARS-CoV-2 pandemic that marked the last two years, have taken a heavy toll in human lives and worsened the population health. There is a fear that an epidemic of non-communicable diseases, particularly malignant and mental illnesses, is yet to come. Science and biomedical researchers achieved a spectacular result

with the development of new vaccines in less than a year. At the same time, it became evident how social and economic policies are crucial and how much damage could be done by the spread of misinformation. Let us make all the efforts to choose the right decisions and to improve the health status of individuals and communities because South Eastern Europe deserves better and can do better.

Figure 1. Share of the population fully vaccinated against COVID-19 as of 1 January 2022 (link to OurWorldinData) (7)



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