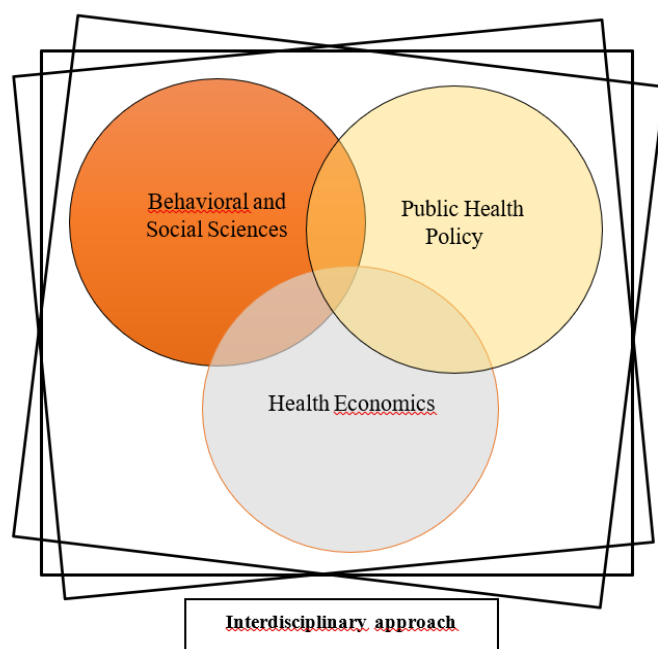




Behavioral Public Health Policy and The Aftermath of the COVID-19 Pandemic: Should Governments Change Their Paradigm?

Matteo Maria Cati

Abstract



Introduction

The COVID-19 pandemic has proven once more to the world that health is one of the key drivers [1] of economic growth. Is health a precondition for economic growth or vice versa or both? The common paradigm [2,3] suggests that economic growth must be the priority in the government's policy decisions and that the welfare and health of the population are a consequence of growing economic systems. In other words, there should be a unidirectional (one-way) relationship between economic growth and health. However, a different and more recent line of research [4-6] suggests that the relationship between economic growth and health is much more complex; it is bidirectional (two-way). The complexity of the health ecosystem requires an interdisciplinary approach, where different fields of study contribute to the aim of improving and safeguarding the health of the population, incentivizing better and healthier lifestyles.

The pioneering work of the famous Italian Virologist and Scientist Ilaria Capua [7,8] is at the base of this new view of the world, whose aim is to improve the health standard through a better public health policy to prevent the onset of new and unknown pandemics, and it involves different fields of

Affiliation:

University of Bologna, 2 Scaravilli Square, 40126 Bologna, Italy

*Corresponding author:

Matteo Maria Cati. University of Bologna, 2 Scaravilli Square, 40126 Bologna, Italy.

Citation: Matteo Maria Cati. Behavioral Public Health Policy and The Aftermath of the COVID-19 Pandemic: Should Governments Change Their Paradigm? Fortune Journal of Health Sciences. 6 (2023): 178-181.

Received: April 12, 2023

Accepted: April 19, 2023

Published: April 25, 2023

study, such as behavioral and social sciences, medical science, economics, health economics, public health, environmental economics and many others. The graphical abstract shows that to locally and globally improve health standards and quality of life, an interdisciplinary approach to public health, framed as the intersection between different fields of study (each of them described by a set) and, in particular, public health policy, behavioral and social sciences and health economics, is necessary to take advantage of the strengths of the various disciplines. This article investigates in more detail what kind of relationship exists between the two subjects, i.e., health and economic growth, and asks an important question about the health ecosystem: In light of the recent COVID-19 pandemic events, should governments change their paradigm? In answering that question, the author will highlight the importance of the contribution that behavioral sciences can make to medical science and to public health policy, giving rise to new approaches to the two fields, namely, behavioral medical science and behavioral health policy.

The aftermath of the COVID-19 pandemic: Health and data on life expectancy at birth

During the first year of the global spread of the SARS-CoV-2 virus, the causative agent of COVID-19, more than half a million EU citizens died (in 2020, 5,184,077 people died, compared with 4,653,033 in 2019 and 5,297,294 in 2021), and the EU's real GDP fell more than 7.5% [9].

In recent times, which have been periods of economic growth [10] (although with ups and downs), despite the severe economic crisis of 2008, in Europe, life expectancy at birth (which is considered to be a typical measure of health) has increased (see Table 1) from 79.9 years in 2000 to 81.6 in 2019. This has been a consequence of various factors, such as increasing living standards and lifestyles, increasing quality of education, improvements in health care and medicine and others.

Unfortunately, the unexpected break out of the SARS-CoV-2 virus has changed the course of the events: Life expectancy at birth, compared to 2019, dropped to 80.4 in 2020 (-1.2 years) and to 80.1 in 2021 (-1.5 years) and returned to 81.6 in 2022 (in that year, the number of deaths was 5,819,294). Clearly, the threshold can be easily considered the introduction [11] of the anti-COVID-19 vaccines in 2020 and the start of the vaccination campaign, whose effects started to be visible (in terms of number of deaths and of improvement of life expectancy at birth) between 2021 (when most European countries were still experiencing economic recession due to the COVID-19 pandemic) and

Table 1: Life expectancy at birth in Europe (years).

2000	2019	2020	2021	2022	2023	2024
79.9	81.6	80.4	80.1	81.6	83.8	83.9

(Source: Mortality and Life Expectancy Statistics – EUROSTAT)

2022 (the year of recovery due to the Next Generation EU plan, called PNRR (Piano di Ripresa e Resilienza) in Italy). Life expectancy at birth is expected to increase, even if it is difficult to predict its future trend, up to 83.8 in 2023 and up to 83.9 in 2024 [12]. After the worst drop of real GDP in years in 2020, the EU implemented an economic recovery program (namely, the Next Generation EU) for EU countries (such as Italy) that were severely affected by the pandemic.

Even if in the 4th quarter of 2022 EU Real GDP decreased by 0,1% [13], overall, in 2022 it increased by 3.5%. In 2023 and 2024, the EU Real GDP is forecasted [14], as a result of the economic recovery program and of the important reforms, to increase by 0.8% and 1.6%, respectively.

This brief analysis of the recent evolution of the data on life expectancy at birth on the one hand and the pace of economic growth in EU countries on the other hand:

- a) reinforces the idea, described by the so-called ‘Preston Curve’ [15,16], that there is a strict relationship between health, as measured by life expectancy at birth, and economic growth (in particular per capita GDP);
- b) suggests that improvements in life expectancy at birth depend not only on economic growth but also on other factors, such as advances in medical science, discovery of new technologies (e.g., new drugs including new vaccines) [4] and other factors;
- c) highlights that the link between health (life expectancy at birth) and economic growth (per capita GDP) is bidirectional.

Furthermore, the fact that the SARS-CoV-2 virus is a zoonotic disease [17] and that the COVID-19 pandemic originated most likely from a spillover (some other researchers are still wondering if it originated from a laboratory leak) of the novel coronavirus in China from animal reservoirs to humans and then transmitted from humans to humans and back to animals (reverse zoonosis) draws the attention of the international scientific community to the urgency of the following:

- monitoring and sharing the information collected (for example, on the genomic sequence of any new viruses) via global datasets to format a better surveillance and testing system [18];
- changing public health policy and governments’ common paradigm: Improvements in health standards are not only the result of increasing economic growth (higher per capita GDP) but also depend on many other factors.

Behavioral public health policy: A change of paradigm in public health policy

This dynamic vision of public health requires collaboration between national and international governmental institutions,

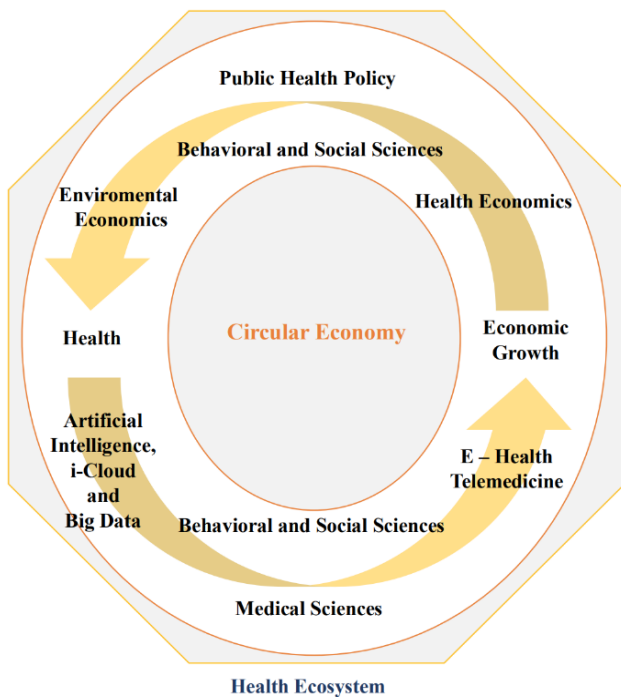


Figure 1: Circular economy and the health ecosystem [21,22].

health systems and multiple disciplines that must interact with the behavior of the population. It requires a rapid and drastic change in policy toward a ‘growth model that is equitable and sustainable from the outset’, whereas failure to do so may have in the near future ‘economic and social consequences’: in other words, a drastic change of paradigm from ‘economy of growth’ to ‘economy of well-being’ [19].

Health, as underlined by the World Health Organization [20], is a fundamental aspect of human well-being, and human well-being is a multidimensional phenomenon. A new wave, after the deadly waves of the COVID-19 pandemic, should take place in public health research aimed at increasing the living standards and quality of health of the global population and consequently at diminishing the likelihood of the outbreak of a new pandemic.

Such a new wave has been named in the literature as the ‘Circular Economy’ [21,22], and it considers the health ecosystem as the place where the main human activities occur, including economic activities. On the one hand, the quality of health care systems and economic growth are interdependent with each other (a higher life expectancy at birth is positively correlated with a higher per capita income and vice versa); on the other hand, the quality of the health ecosystem depends on a multiplicity of factors (see Figure 1):

health education, progress in medical science and the introduction of new drugs (such as new vaccines), the usage of information technology and artificial intelligence in health (E-health and the so-called big data), and an effective public health policy aimed at improving peoples’ lifestyle (from food

to medical habits). In this context, care for the environment should also be considered a determining factor for the quality of health and the ecosystem (for example, by reducing air and marine pollution).

One of the lessons learned from the COVID-19 pandemic [23,24] is that a preponderant part of the quality of health, to prevent the onset of new pandemics and to strengthen the ability of the population to face new and unknown health crises, crucially depends on human behavior. In this regard, behavioral and social sciences can play a fundamental role in influencing and improving the behavior of human beings. Public health policy can in fact build a regulatory architecture that leads to virtuous and healthy behaviors. In this scenario, public health expenditure [25-27], one of the most important items of the public budget, should be considered more as an investment rather than as an expenditure.

Concluding remarks

When is the next pandemic going to occur, and what virus might be the next causative agent? No one knows—maybe the avian virus. Can economic growth alone guarantee the health of the population? Clearly, it cannot. What is clear is that humanity does not have any other means than to change and to improve health behavior, making sure that different disciplines and institutions dialog with each other, exchanging data and medical knowledge, to improve the quality of health and lifestyles on the one hand and strengthen the epidemiological surveillance system on the other hand.

References

1. Julius B Tutor, Melanio L Leal, The egg or the hen: the unending debate between population health and economic growth, *Journal of Public Health* (2023).
2. Does ‘economic growth’ results in better ‘population health’? *JPublicHealth* 44 (2022): 727.
3. Tutor JB, Leal ML. The egg or the hen: the unending debate between population health and economic growth. *Journal of Public Health* (Oxford, England) (2023): fdad012.
4. Prados de la Escosura L. Health, income, and the preston curve: A long view, *Economics & Human Biology* 48 (2023): 101212.
5. Bloom et al. Health and Economic Growth. Discussion paper series, IZADP No.11931. Germany: IZA Institute of Labor Economics (2018).
6. Bloom D, Cuning D. Population Health and Economic Growth. Chapter3, pages 53–75 of *Commission on health and growth*, Health and Growth by Spence and Lewis (Editors), published in 2009 by the International Bank for Reconstruction and Development (2009): 53-75.

7. Capua Ilaria Il Coraggio di non avere paura. La pandemia vista da una stella (2022).
8. Capua Ilaria Il Dopo. Il virus che ci ha costretto a cambiare mappa mentale (2020).
9. Mortality and Life Expectancy Statistics – EUROSTAT. Available on line at: Mortality and life expectancy statistics - Statistics Explained (europa.eu).
10. Eurostat Data Browser – GDP Growth rate (volume).
11. Eu Vaccines Strategy – European commission – June (2020).
12. Life expectancy at birth down to 80.1 years in 2021. News Article March (2023).
13. Eurostat – Euroindicators, 8 March 2023. Available on line at: Eurostat-Euroindicators (2023).
14. European Economic Forecast - Winter 2023 – Institutional Paper 194, February 2023, European Economy Economic and Financial Affairs (2023).
15. Preston S.H. The changing relationship between mortality and the level of economic development. *Popul. Stud* 29 (1975): 231-248.
16. Preston S.H. Response: on ‘the changing relationship between mortality and level of economic development. *Int. J. Epidemiol* 36 (2007): 502-503.
17. Alwine JC, Casadevall A, Enquist LW, Goodrum FD, Imperiale MJ. A critical analysis of the evidence for the SARS-CoV-2 origin hypotheses. *J Virol* (2023).
18. World Health Organization (W.H.O.) Ever alert to the next threat to the human health: a conversation with Dr Richard Molenkamp from Erasmus MC’s Department of Viroscience. 24 January (2023).
19. OECD – Better policy for better lives. The Economy of well being. Remarks by Angel Gurría, OECD Secretary General. 8 June (2019).
20. World Health Organization (WHO) The Global Health Observatory – Exploring a World of Data – Health and Well – Being (2020).
21. Capua Ilaria La meraviglia e la trasformazione - verso una salute circolare (2021).
22. Capua Ilaria Salute Circolare. Una rivoluzione necessaria (2019).
23. Van Devanter N, Shinn M, Niang KT, Bleakley A, Perl S, Cohen N. The role of social and behavioral science in public health practice: a study of the New York City Department of Health. *J Urban Health* 80 (2003): 625-34.
24. Byrne-Davis et al. Using behavioural science in public health settings during the COVID-19 pandemic: The experience of public health practitioners and behavioural scientists *Acta Psychologica* (2022).
25. Vysochyna, A.; Vasylieva, T.; Dluhopolskyi, O.; Marczuk, M.; Grytsyshen, D.; Yunger, V.; Sulimierska, A. Impact of Coronavirus Disease COVID-19 on the Relationship between Healthcare Expenditures and Sustainable Economic Growth. *Int. J. Environ. Res. Public Health* 20 (2023): 3049.
26. Celik EU, Omay T and Tengilimoglu D. Convergence of economic growth and health expenditures in OECD countries: Evidence from non-linear unit root tests. *Front* 11 (2023): 1125968.
27. Comite U. Handbook of Research on Complexities, Management, and Governance in Healthcare. IGI Global (2023).