

From COVID-19 to a “new normal”: could we support a “healthy renaissance” for our cities?

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Abstract

Background. At the beginning of 2020, worldwide public debate focused on the fight against the climate crisis. Many challenges are ahead of us, from health emergencies, with the pandemics underway, to the exhaustion of natural resources, to major climate change.

Discussion. Many cities face health threats related to urban and land use planning, while infectious diseases thrive in overcrowded cities: living in unhealthy environments killed 12,6 million people in 2012 and air pollution killed 7 million people in 2016. Urbanization is one of the major global trends of the 21st century and has a significant impact on health. Over 55% of the world's population lives in urban areas, a percentage that is expected to increase to 68% by 2050.

Conclusions. Developing new and more sustainable ways of living, moving, utilizing resources, and accessing services including healthcare and education, is crucial to preserve our future and the future of the next generations.

Key words

- urban health
- population health
- preventive medicine
- climate change

INTRODUCTION

At the beginning of 2020, worldwide public debate focused on the fight against climate change. The European Union, through its so-called “Green Deal”, ranked the ecological transition as the first goal in its political agenda. Then, the COVID-19 pandemic broke out, putting all other issues on the back burner. COVID-19 is not a priority today as it was at the beginning of the pandemic, as we now feel safer thanks to mostly successful vaccination campaigns all over the world, so much so that we have begun to think about our post-pandemic lives and the future of the planet. However, we know that the consequences of the pandemic will be long-lasting because of its social and economic impact, and we need to update many of our convictions if we want to shape a sustainable world, better prepared for future pandemics.

MATERIALS AND METHODS

In this respect, two questions are crucial:

1) Will the fight against climate change be at the core of the political and social agenda?

Planet Earth faces many challenges, from the health emergency with the recent pandemic, to the exhaustion of natural resources to major climate change. We, therefore, live in syndemic times in which more pan-

demics are underway. Some words should become everyday words such as prevention, action, mitigation, and adaptation. Health systems have been severely tested by the pandemic and the virus responded to our actions to counter it and prevent its deadly consequences with “adaptation” [1]. The virus adapted to changes with a speed unthinkable for a human being. On the other hand, we must adapt to changes, but we must also lay the foundations for a health renaissance. In this context, where to start setting up a renaissance? On a global geo-political effort?

2) Will cities play a key role in this endeavour?

Cities exert a crucial influence on the fate of the planet (70% of the wealth produced, 75% of the energy consumed, 60% of greenhouse gas emissions, and 54% of the world population) [1], and they must acquire a substantial and formal role in the elaboration of global and local policies: therefore multilateral agencies, periodic conferences and horizontal networks are established, and this theme becomes part of the international debate on sustainable development [2], in particular, thanks to Goal 11 of the 2030 Agenda. In some cases, cities choose to take an independent position as opposed to nation-states, e.g., regarding migration and the fight against climate change [3].

RESULTS

Many cities face health threats related to urban and land use planning. Infectious diseases thrive in overcrowded cities or where there is inadequate access to resources; living in unhealthy environments killed 12.6 million people in 2012 and air pollution killed 7 million people in 2016. However, only 1 in 10 cities meets the standards for healthy air, while 9 out of 10 people breathe unsafe air [4]. A recent study conducted by the University of Delft, in the Netherlands [5], focusing on the health-related social costs of air pollution in 432 European cities in 30 countries highlighted that in 2018, on average, everyone living in a European city suffered a welfare loss of over € 1,250 a year owing to direct and indirect health losses associated with poor air quality. This is equivalent to 3.9% of income earned in cities. Most of these costs relate to premature mortality: for the 432 cities investigated, the average contribution of mortality to total social costs is 76.1%. Conversely, the average contribution of morbidity is 23.9%. The researchers also found evidence that transport policies impact the social costs of air pollution, proving further that reducing air pollution in European cities should be among the top priorities in any attempt to improve the welfare of city populations in Europe.

Urbanization is one of the major global trends of the 21st century and has a significant impact on health. Over 55% of the world's population lives in urban areas, which is expected to increase to 68% by 2050 [6]. As most of the future urban growth will occur in developing cities, the world today has a unique opportunity to lead urbanization and other important urban development trends in a way that protects and promotes health. Traditionally, cities have served as vibrant hubs of culture, innovation, and multicultural exchange, making their revitalization and resurgence indispensable to the overall enrichment of the human environment. In 2050 in Italy, it is estimated that about 80% of the popula-

tion will live in urban areas and United Nations projections [6] estimate urban areas will host just over 80% of the European population at the same date. While there were 4 Italian cities with 1 to 5 million inhabitants in 2018 and they will remain the same in 2050, Italian cities with 500,000-1 million inhabitants will increase from 12 in 2018 to 14 in 2050. In order to guide decision-makers from public health, urban and land use planning sectors, including planners, city administrators, health professionals and others, towards the development of cities designed and built with a focus on human and environmental health, we need to work, plan for and train professionals in risk reduction, which is the only way to do primary prevention, in the attempt to avoid possible consequences for human health [7, 8, 9]. Health is an aggregate of dimensions: which and how many to prioritize to include the largest share of the population? The healthcare system is a whole of political, economic, cultural, technical, and organizational factors, relations, processes and elements, in which individuals, groups and communities interrelate, having the goal of satisfying their health needs [10]. Health and health care can be well understood only in the broadest context of human life. That includes social, economic, and political issues besides understanding biological processes. It also requires a grasp of environmental, historical, and cultural circumstances (*Figure 1*).

In light of the current health and environmental situation, it is necessary to rethink cities and rethink the health systems for a "healthy renaissance" to prepare for a "new normal". This post-COVID-19 era offers some elements of reflection on several aspects of the public health response to major events [11]. First of all, preparation, where speed of action, flexibility, production and logistics are crucial. Prevention is strategic in public health and essential to preserve community health as well as to ensure the growth of the country; coordination among different involved parties is needed; a

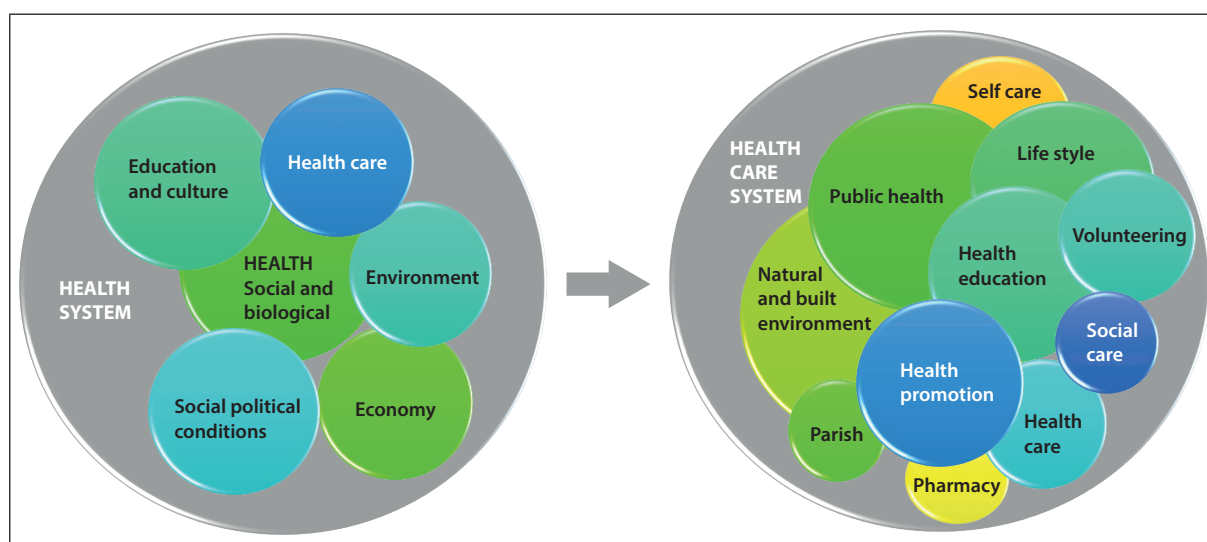


Figure 1
Health system vs complexity health care system.

“glocal” approach that considers the national and sub-national or regional dimensions, the regional or local level and the prevention unit based at the local health authorities’ level should be encouraged [12, 13]. On the human resources front, there is much need for planning and training for the new challenges posed by climate change and health, especially at the urban level. Medical and social services addressing the elderly and frailty, in particular, should be rethought around new organizational models. In this context, it is crucial to factor in the social determinants of health while reconceptualizing urban services, thereby tackling equity challenges that could potentially exacerbate the risks of morbidity due to communicable and non-communicable diseases. Social services should be integrated into the broader healthcare framework, while proximity should be the beacon of all policies and interventions. Digitalization is also a factor of paramount relevance in this process, including the digitalization of the informative system, the interoperability of platforms, performance rules and pricing, and regional and national coordination. Finally, communication and social media, as we could dramatically appreciate during the COVID-19 pandemic, are crucial for transferring the appropriate information and taking the population on board the intended change. A key role is provided by proximity networks, intermediate structures and telemedicine for territorial healthcare: the interventions of this component intend to improve performance provided on the territory thanks to the strengthening and creation of structures and facilities (such as the Community Houses, Territorial Operational Centers and Community Hospitals), the strengthening of home care, the development of tele-

medicine and more effective integration with all social and health services. The community of proximity can be defined as the network of quickly accessible contacts around a person, be they real or virtual, that can be activated to satisfy a need for health and support the social relations of an individual (*Figure 1*); Parish, Social care, Volunteering, Pharmacy, Information Technology, Health care, General Practitioners, but also family, friends, acquaintances and services such as bakers, grocers etc.

DISCUSSION

“A healthy renaissance” follows the path of the rebirth of the cities, where the population is more concentrated. Just as the priorities (Ps) have been defined for health, we have thought of 9 “Rs” for the cities (*Figure 2*). From COVID-19 to a “new normal”, could we support a “healthy renaissance” for our cities? The city of Vancouver, in Canada, can serve as a role model for other cities facing common challenges such as accessibility, rapid growth, climate resilience and citizen well-being. The city administration worked hard in the last few years for the development of a governance model that increases collaboration around infrastructures, encourages jointly funded projects and stimulates future interactions at all levels. The Vancouver Plan includes a long-term community vision, land use strategy, and core principles of ecological and social sustainability including equitable housing, an inclusive economy, and ecosystem restoration [14]. To promote their health renaissance, it is imperative to perceive cities as intricate ecosystems that harbour a diverse range of both domestic and wild animal and plant species. This in-



Figure 2
Health system vs complexity health care system.

terconnection is closely linked to their role as primary centres for the consumption of goods, leading to substantial contributions not just to air pollution but also to emissions and waste, housing biological and chemical hazards, including the proliferation of antimicrobial resistance, often referred to as “the silent pandemic”. From the scientific evidence to the implementation of change, the resources of the Recovery and Resilience Plan (Piano Nazionale di Ripresa e Resilienza, PNRR) are fundamental. They could still be a great opportunity to strengthen the resilience and capacities of the National Health System [14]. The PNRR rests on six main pillars/missions which include health directly and indirectly, but also include the green revolution and ecological transition. Those related to the healthcare system, envisage the use of new technologies to improve hospitals and home healthcare by enhancing the use of telemedicine while reducing territorial fragmentation (€15,6 billion) [15, 16].

CONCLUSIONS

Our paper does not intend to draw conclusions or give recipes, but we can propose the following key messages as food for thought, development of knowledge, and training to think about a sustainable future which depends on cooperative and interdisciplinary work:

- building smart cities and smart regions;
- building sustainable urban ecosystem services;
- building trust in health systems to eliminate health disparities;
- reducing healthcare's climate footprint;
- implementation science;
- improving proximity networks, and intermediate medicine structures for territorial healthcare;
- improving innovation, research, and digitalization of the national health service;

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- improving promotion and prevention, accessibility to services and environmental context can make a difference;
- investing in healthy renaissance;
- investing for the future for a “new normal”.

Urban health is the key to interpreting our species and the planet's future. The cities of the future, where health is prioritised, encompass a myriad of factors spanning from the environment to the entire human society. Such cities could and should serve as the ideal ground for developing and implementing One Health strategies, the most suitable approach at our disposal to tackle the complexity we are currently encountering. Developing new and more sustainable ways of living, moving and using public transport, utilizing resources, and accessing services including healthcare and education, is crucial to preserving our future and the future of the next generations.

Authors' contribution statement

LM conceptualised and drafted the manuscript. OP revised the first draft and added important intellectual content. LM, OP and SB commented and contributed to revisions. All Authors have approved the final version of the manuscript for publication.

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