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Health or medical care system?: matters in efficiency

Abstract

This work seeks to explore a country's organization of its national health systems, its allocation of resources in the process and well as the efficiency of such organized system. The paper also aims to contribute in improving the organization of an integrated health system. The vast majority of countries in the world have formulated their national health system based on their medical care system, ignoring the importance of public and community health. In other words, they are more oriented towards waiting for people to get sick, than taking a preventive approach with early detection of disease to avoid the development of sickness and its complications. Such reactive, rather than proactive approach, continues to contribute to the high costs of medical care associated with the increased number of chronic patients and a greater population longevity. Their reactive formulation of their health systems makes the system inefficient. On the other hand, the practice of medical care is considered recuperative health; however, an increasing demand of chronic patients to medical care services raises the question if the medical practice is really recuperative or only treatment of a chronic disease. The existence of a functional divorce between public health and medical care limits and weakens efficiency. Therefore, it is urgent to integrate both practices into a single organized and coordinated health system that prioritizes prevention over disease treatment, primary prevention rather than secondary prevention (chronicity) or tertiary prevention (damage to other organs as a complication). The COVID_19 pandemic is predominantly public health issue rather than medical, although social behavior has been a major factor in the persistence of the pandemic.

Keywords: health system, primary, secondary and tertiary prevention, primary care, first level of care

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Introduction

The occurrence of the COVID-19 pandemic has revealed the urgent need to strengthen health systems in the vast majority of countries in the world. Since the appearance of the pandemic in Wuhan, China, a little more than 02 years have passed to date (March 2022) and the health, economic and social consequences have been enormous throughout the world, in some countries more than in others, but it has notably altered daily life throughout the world constituting an enormous challenge to the health systems of each country. In many, it has made certainly revealed the weaknesses of their health systems making apparent the many gaps in their conceptualization, organization, execution capacity and inefficiency in the care and protection of the health of its population.

This pandemic experience has become an urgent call for deep reflection on what we understand by a health system, how we should organize systems to become more efficient, how we should plan the allocation of resources within the system, and what changes will be necessary to achieve a strengthened health system to efficiently and effectively face the challenges imposed on us by the threats and risks to health and well-being in our respective countries. We must ask ourselves if there a clear understanding of a health system is. A first question to clarify is whether if the difference between health and medicine is well understood. Do they constitute the same thing? From then on, we will have to define whether a national health system is the same as a national medical care system. Finally, it will be necessary to clarify what we understand by "system", in order to formulate it and build it properly. Public health stresses the prevention of disease, while medicine deals with the prevention, diagnosis, and treatment of individuals.[1,2] (Figure 1) Public health deals with a group of people or populations that are still healthy and who could be at risk of getting sick or dying, while medicine deals with individual people who are fundamentally sick. Public health seeks to achieve primary prevention, that is, it tries to prevent even healthy people from getting sick, while medicine works to practice secondary and tertiary prevention. That is, it tries to ensure that a sick individual does not develop a medical complication or aggravate their illness (secondary prevention) or seeks to prevent other target organs from being damaged as a result of their disease, such as damage to the retina or kidneys as a result of diabetes in a sick patient (tertiary prevention) (Figure 1).

MEDICINE	HEALTH
A. See an individual.	A. See populations.
B. Short/long term (Pat. Acute/chronic)	B. Long-term (policies and management)
C. Secondary and primary prevention	C. Primary prevention
D. Requires physicians	D. They may not be physicians
E. It's science + art	E. It's art + science
F. There is diagnosis and treatment	F. There is evaluation and intervention
G. Hard technology	G. Soft technology
H. Legal responsibility	H. Social responsability
I. Technical prowess	I. Managerial Skill

Figure 1 Differences between health and medicine.

Author: own

Regarding the conceptualization of a system, it is pertinent to point out that a system is a set of closely related elements that pursue a common goal and develop in a common environment such is the case of the cardiovascular system whose elements are: the heart, the arteries, the arterioles, the veins and the venules. All these elements are intimately related to each other and they all pursue a common goal: to transport blood and provide oxygen to all the cells of an organism. They also move in a common environment: the human body. The World Health Organization, WHO, points out that a health system consists of all organizations, people and actions whose primary intent is to promote, restore or maintain health. This includes efforts to influence determinants of health as well as more direct health-improving activities.[3] This means that a health system cannot be conceived based on a single element such as the individual health or medical care

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subsystem. To conceive it as a real system, this individual health or medical care subsystem must work closely with the collective care subsystem, that is with public health, community health and family health and all of them as an organized whole and closely related to each other must be oriented to achieve a common goal: preserve health and seek the well-being of its inhabitants. The common environment where all these elements interact in a coordinated and integrated manner is the territorial space where this health system operates. Understanding the importance of developing and strengthening the practice of collective health within the health system of a country is important in the performance and achievement of objectives of the health system. Collective health (public, community and family health) plays an important role when we think about the efficiency and effectiveness of a national health system. Understanding the scope of public health is crucial to understand its role within the larger health system.[4] Equally important is building bridges between public health and individual health facilitated through the sharing of information via information technology and improving the imbalance in the priority of resource allocation between individual health and collective health. The latter involves the training of human resources in medicine and public health at the university level with an appropriate strategy for patient management with chronic diseases.[5–9]

Primary health care fundamentally refers to a health strategy that is usually carried out in the community with community participation that seeks to promote healthy lifestyles, activities and actions that protect their health and prevent diseases. While the first level of care is a model of care and constitutes the gateway to the medical care system, it refers to medical care that is carried out in smaller health care centers and with less resolution capacity. Unfortunately, it is carried out within the space of the medical and hospital care systems and not necessarily in the community. This type of first level of care intervenes on sick people and not on healthy people. In other words, the behavior is fundamentally recuperative and not necessarily preventive.[10]

It is important note that the pandemic is essentially a public health issue rather than a medical issue; in some cases it becomes a medical issue when public health tools fail or are not practiced adequately or sufficiently. It is then that an individuals may become infected by viral transmission resulting in hospitalization and medical management. However, in a pandemic such as that of COVD-19, despite being one of the most intense in terms of morbidity and mortality, the percentage of affected people who have required hospitalization and medical attention reaches an average of 10 % of the total population of a country, while the remaining 90% remains at constant risk of becoming ill or dying. The responsibility to protect the wellbeing of this remaining 90% falls public health authorities. Public health is a key element of the national health system and if a pandemic of this magnitude finds a country with very poor development of public health systems, there could be a very high risk that infection and death rates will be very high. It is important to note that probably one of the elements that facilitates a rapid spread of the pandemic, in addition to the speed of viral replication and its degree of infectivity (Rho), is the so-called social behavior that in many countries of the world has been a cornerstone in the transmission and perpetuation of the virus and an increase in the number of infected cases. It is necessary to remember that social behavior is one of the central issues on the public health agenda, within the so-called social determinants of health and whose approach necessarily promotes making a profile of lifestyles in each country, region, city, district and neighborhood if necessary, precisely to have a very clear idea of which are the cultural patterns, customs, attitudes and practices, as well as beliefs and values of each community. Without this profile patiently built by public and community health over time and with frequent monitoring to detect changes, it is very difficult to plan and intend to develop an effective plan of social communication and effective interventions in the community.

In other words, if the public health element has not been built with sufficient strength in a country, the risk of failing in an intervention to contain an epidemic or pandemic is very high; it would seem that this has been an important factor in the high transmission of the viral infection in COVID-19. Another very important factor in viral transmission at the international level has been flights from one country to another. In the past, the concern of public health to contain the spread of infections in epidemics was to control winged insects that became vectors or intermediate carriers of the infection by pricking an infected individual and then transmitting the virus by pricking a second individual that until then was healthy; metaphorically, today these winged insects have perhaps been replaced by huge winged devices that transport many people from an infected country to another country that is still healthy and are called airplanes, this is how many people who are probably asymptomatic and recently infected have been transported and therefore not detected by the discard tests when boarding a plane and taking the virus from one country to another in just hours. This certainly also constitutes a public health issue rather than a medical one. As can be seen, public health, unlike medicine, is concerned with caring for populations rather than individuals and people who are still healthy, but at risk of becoming ill or dying, rather than sick patients; Its function is eminently preventive rather than recuperative, and unlike medicine, which uses a large number of drugs produced by the pharmaceutical industry, public health uses almost exclusively a single product pharmacist: vaccines, and he does it with a preventive, but not curative, desire, until today. The central objective of this document is to identify how national and integrated health systems have been formulated in various countries of the world, what is the prioritization of resource allocation in each of the elements of the health system, the level of development achieved in each one of the components of the system, and contribute to the clarification of fundamental concepts about an integrated national health system, its importance and the role of each of the parts to achieve efficiency and effectiveness of the system in protecting the health and well-being of its individuals and its population.

Material and methods

Given that the COVID-19 pandemic has constituted an enormous challenge for the health systems of all the countries of the world, causing great stress not only in the medical care space but also in public health, in communities and in the families, with a large number of human losses and infected people, many of whom even after long months of having suffered from the disease and having been discharged from hospital, still subsist with consequences that alter their health and seriously limit their well-being, in what has been called the post-COVID or long COVID syndrome, it has raised the urgent need to analyze our health systems, their organization, their functionality, their efficiency and their development towards the future.

For the preparation of this work, a short review of academic or technical articles on national health systems, public health systems and medical care systems and their situation in some parts of the world was attempted, as a representative sample, with the intention to approximate an idea of how they conceptualize their national health system, how they have been organized, identify achievements and difficulties and know what has been the percentage of investment of resources in public and community or collective health, and in

individual health or medical care. Considering that from this data we would have an estimated idea of what is the weight and importance that these countries give to public and community or collective health and to individual health or medical care. This review would also give us the opportunity to discuss key conceptual aspects within health systems and analyze the importance of building a close relationship between collective health and individual health as a fundamental step in trying to achieve better, solid and efficient health systems.

During the review of the literature that was selected for the evaluation, the CIS (critical interpretive synthesis) methodology was used for the qualitative evaluation of the selected bibliography. It is important to point out that the search for this information is not so simple, since in a large majority of cases the publications on the health systems of each country are usually replaced by information on their medical care system. This seems to show that in a large majority of cases, the concept of the national health system is conceived as synonymous with the medical care system and also makes transparent the undue and dangerous postponement of the importance of collective health, which acts fundamentally seeking primary prevention, whether it is public health, community health or family health. This affects the healthy population that could be at risk of becoming ill or dying, and instead prioritizes individual health based on medical care that acts on already sick individuals and aims to be recuperative, an aspiration that in most cases seems not to be achieved since a high percentage of the demand for medical care treatment in hospitals is usually a chronic pathology and it increases more each year and with higher expenses for the system[11,12] in such a way that the recovery of health is not achieved, we only worry about trying to achieve early detection of the disease and start its treatment to avoid as much as possible its progression in intensity and the worsening of the disease (secondary prevention) or white organ damaging that occurs over time, as in the case of damage to the retina or kidney as a complication of diabetes (tertiary prevention).[13] Thus, a clear example of the importance of public health within a national health system and with a great impact on the work of medicine and its costs and expenses is indicated by the EPA-Environmental Protection Agency:

"Laws making0 workplaces, restaurants, and bars completely smoke-free can reduce heart attack hospitalizations by 8%–17% within a year. Federal laws that address U.S. air quality have contributed to a decrease of 54% of six common air pollutants since 1980".[14]

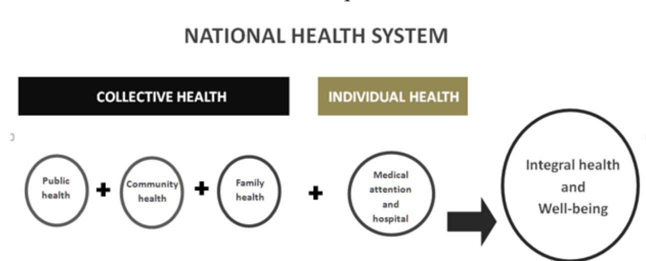

Figure 2 National health system.

Author: own

Results

As noted above, most information on health systems in various parts of the world shows their health care system as synonymous with their health system and denotes a predominance in the construction, development and allocation of resources to individual health or medical care rather than to a real integrated national health system between individual health (medical care) and collective health (public, community and family health). Figure No. 3 shows some of the results obtained from the search for information carried out, in addition to the fact that in most of the articles reviewed the absence of an adequate integrated work relationship between public and community health with individual health is made transparent, or medical care, that is, that denotes a divorce between prevention efforts in the community and health recovery efforts in hospitals.

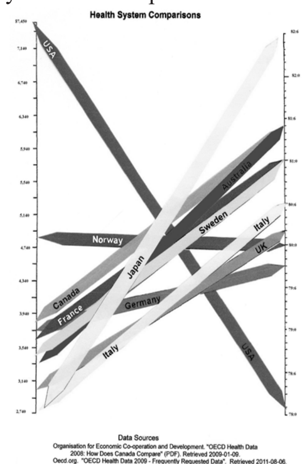

Figure 3 Chart comparing 2008 health care spending (left) vs. life expectancy (right) in OECD countries.

Discussion

With regard to the fact that the world is facing one of the most intense pandemics in its history, which has caused great morbidity and mortality throughout the world, great health, economic, labor and social damage and whose origin is generated in the work area of public health, has forced many health professionals to stop our daily work to reflect deeply on the reality of our health systems, their strength to face these enormous threats and successfully overcome these situations with the least possible damage, and serious consequences to our health and lives. It is absolutely necessary to reflect on whether there really is a national health system in our countries, if it is perhaps well organized and if its operation is that of an integrated and well-coordinated system, and finally to assess its efficiency and effectiveness and identify which weak areas has to strengthen it and be able to build a robust health system with which we have a high level of guarantee on the care and protection of our health and life.

As ordinary people who live in a community, we would like to never get sick, and as health professionals, we are interested in preventive actions within our country's health system being truly efficient and in achieving fewer and fewer people with chronic or degenerative diseases, and so, lowering mortality rate from preventable diseases.

After the review and analysis of the literature selected for this article, we are almost convinced that in the vast majority of countries in the world there is no real integrated and coordinated health system that works efficiently and it seems that the fundamental cause for this. The situation that arises is that care and support have been postponed with the necessary resources to strengthen the planning, organization and adequate implementation of collective health being it public, community and/or family health, and the attention of governments has been priority placed on the development of individual health and through medical care. It is necessary to point out with concern here that this is not only the responsibility of the political and governmental authorities on duty but also of the silence and tolerance from the academic sector that forged the professional human resources in health. In daily practice, a great separation between public health and clinical medical practice is observed, that is, between health prevention and

disease treatment, the allocation of resources, of all kinds, for one and the other is markedly unequal and probably anti-technical from the point of view of the search for an efficient health system, since much more resources are being allocated to confront the disease than to prevent it, that is, more attention is paid to the consequences than to the causes and in this model, it is very difficult for the consequences to diminish and not only will they increase, but they will also become more complex, more difficult to treat and more expensive. The system seems to be more predisposed to wait for the disease to occur than to act to avoid it; this situation will not necessarily improve simply by providing more economic resources for public health. It is absolutely necessary to plan, based on the reality in each country, the model of action and development of public and community health, it must be adjusted to the reality of each who, and we consider that one of the initial strategic actions in the function of public health is to know as well as possible the variety of lifestyles of the communities that make up their society, which is very peculiar and sui generis in each locality within a society.

Country	Life expectancy	Infant mortality rate	Preventable deaths per 100,000 people in 2007	Physicians per 1000 people	Nurses per 1000 people	Per capita expenditure on health (USD PPP)	Healthcare costs as a percent of GDP	% of government revenue spent on health	% of health costs paid by government
Australia	83	4.49	57	2.8	10.1	3,353	8.5	17.7	67.5
Canada	82	4.78	77	2.2	9	3,844	10	16.7	70.2
France	82	3.34	55	3.3	7.7	3,679	11.6	14.2	78.3
Germany	81	3.48	76	3.5	10.5	3,724	10.4	17.6	76.4
Italy	83	3.33	60	4.2	6.1	2,771	8.7	14.1	76.6
Japan	84	2.17	61	2.1	9.4	2,750	8.2	16.8	80.4
Norway	83	3.47	64	3.8	16.2	4,885	8.9	17.9	84.1
Spain	83	3.3	74	3.8	5.3	3,248	8.9	15.1	73.6
Sweden	82	2.73	61	3.6	10.8	3,432	8.9	13.6	81.4
UK	81.6	4.5	83	2.5	9.5	3,051	8.4	15.8	81.3
US	78.74	5.9	96	2.4	10.6	7,437	16	18.5	45.1

Data source: http://www.oecd.org

This will greatly facilitate the implementation of ad hoc programs for that community and achieve their full participation in the search for healthier lifestyles that promote self-care of your health. Mapping the different lifestyles of each community within a society is then the cornerstone in community intervention, that is one of the lessons that the pandemic leaves to public health, since it has been to a large extent the social behaviors that have perpetuated the prolongation of the pandemic and facilitated its easy transmission, although there have undoubtedly been other important factors depending on the innate aggressiveness of each variety of virus or labor and economic factors that have led to a slowdown in isolation and social distancing behaviors; however, social behavior has been a very important variable. The participation of schools of public health in this scenario of working on planning and organization and new functioning of public health is also a very important fact, as well as the necessary opening of medical practice to achieve an adequate mesh with the practice of public health, among other necessary and important changes.

Conclusion

From the review of the technical and academic literature carried out and from the results obtained, many of which are shown in the figures presented in this document, as well as from the discussion raised, the conclusions of this work will be listed, in order to try to facilitate its reading and easier understanding:

I. A national health system must consider Ia firm functional integration between collective health (public and community health) and individual health (medical care subsystem)

II. It is important to recognize that collective health works on healthy people and seeks to prevent diseases, while individual health, which is practiced through medicine, addresses sick people and seeks to treat disease and prevent death.

III. It is very important and strategic that a national health system is supported by the integration and joint operation of both components of the system: public health and individual health care.

IV. The best way to take care of health is to prevent it, rather than just detect it early when it has already happened and start its treatment

V. Public health is responsible for working on primary prevention, that is, preventing people from getting sick.

VI. The practice of medical care also develops prevention actions, but basically they develop secondary prevention (so that the disease does not become chronic) and tertiary prevention (to prevent the chronic disease from damaging other organs, such as kidney damage and the retina as a complication of diabetes)

VII. For the same reason, in order to avoid chronic and degenerative diseases and reduce their high demand in hospitals, it is necessary to strengthen the action of primary preventive health through public and community health, and even family health, if possible.

VIII. The medical practice in chronic patients, who are the majority of the demand for care in hospitals, do not manage to recover their health, that is why they are chronic, but only try to maintain the non-progression of the disease to greater complications.

IX. There are more and more chronic patients, and this has to do, among other things, with lifestyles, aging and longevity of the population. This situation increases more and more the costs of medical care, so, once again, it is absolutely necessary to develop more work in public health as a primary preventive instance and to ensure that fewer people get sick, promoting, among other actions, better styles of life by changing their customs, attitudes and daily practices.

X. For this reason it is said that investment in public health has a much higher return on investment than medical care and is therefore much more profitable in social and economic terms.

XI. In economic terms, the application of money in the care and treatment of chronic patients is an expense (socially necessary and fair, by the way), while the allocation of money in public and community health is an investment (intelligent and strategy) with a high rate of economic and social return.

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Conflict of interests

The author declares that there is no conflict of interest.

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