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# ENSAYO

## Healthcare or sickcare: reestablishing the balance\*

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### Abstract

In this essay we discuss the need to reestablish the balance between health enhancing activities and care for the sick in order to meet the challenges of the 21<sup>st</sup> century. We first briefly review the historical evolution of personal and public hygiene. We then discuss the increasing emphasis on curative care that has characterized the modern world. We conclude that, in order to meet the emerging challenges, contemporary health systems need to adopt a comprehensive scope which include upstream interventions to address the determinants of health; public health interventions to deal with major risk factors; personal health services to manage common infections, reproductive problems, non-communicable diseases, injuries, and mental health problems; and palliative care to deal with old age and the final phases of the human life cycle.

Key words: public health; hygiene; health care

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### Resumen

En este ensayo se discute la necesidad de restablecer el equilibrio entre la promoción de la salud y la atención de la enfermedad con el fin de enfrentar los retos del siglo XXI. En la primera parte se hace una breve reseña de la evolución histórica de la higiene personal y pública. En seguida se discute el creciente énfasis en la atención curativa que ha caracterizado al mundo moderno. El ensayo concluye señalando que, para poder enfrentar los desafíos emergentes, los sistemas de salud contemporáneos deben adoptar una visión integral que incluya intervenciones para lidiar con los determinantes de la salud; intervenciones de salud pública para enfrentar los principales factores de riesgo; servicios personales de salud para tratar las infecciones comunes, los problemas reproductivos, las enfermedades no transmisibles, las lesiones y los padecimientos mentales, y servicios paliativos para afrontar la vejez y las etapas finales del ciclo de vida.

Palabras clave: salud pública; higiene; atención de la salud

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Good health systems design and implement programs and policies, and provide services to keep the population healthy, and, in case of disease or injury, guarantee access to high-quality medical services with financial protection. Ideally, there should be a balance between health promotion and disease prevention, on the one hand, and disease treatment, on the other. However, in the past century, sickness care eclipsed the construction of healthy environments and the promotion of healthy behaviors. The oscillation from emphasis on health enhancing activities to emphasis on care for the sick is a longstanding feature of all civilizations, including the Western world. In this essay we discuss the need to reestablish a balance between these two visions in order to meet the health challenges of the 21<sup>st</sup> century.

### Origins of Western medical tradition

Western medical tradition was born through a Caesarean section.<sup>1,2</sup> According to Greek mythology, Apollo, son of Zeus and god of the sun, conceived a child with the earthly Coronis.<sup>3</sup> However, before giving birth, Coronis falls in love with the Arcadian Ischys ('the Mighty') and marries him.<sup>4</sup> Apollo complains to her twin sister Artemis, goddess of the hunt, who avenges her brother's offense by shooting the pregnant Coronis with her infallible arrows. Troubled by remorse, Apollo asks Hermes, messenger of the gods, to rescue his son from her dead mother's abdomen as she was lying in the funeral pyre.

Apollo's son was no less than Asclepius. His education was entrusted to Chiron, the wise and kind centaur.<sup>5</sup> In Mount Pelion, in the company of Achilles, Ajax and Jason, he learned to hike, play music, and read the omens in the skies. He was also trained in the arts of healing, in which Chiron was a master.

Asclepius was naturally gifted as a healer and soon surpassed his tutor. He was so good that he drew the anger of the gods by having "thoughts too great for man."<sup>5</sup> He once received from Athene, the goddess of wisdom and courage, the blood that flowed in Medusa's veins and used it to bring Hippolytus, son of Theseus, founder-king of Athens, back to life. Zeus, concerned by the power a human could have over the dead, strikes Asclepius with his thunderbolt and eventually turns him into the constellation *Serpentaria*.

With time, Asclepius was revered as the god of medicine and transformed into the central figure of a famous cult based in Epidaurus, a healing center located in the Saronic Gulf. Another renowned Asclepian shrine was built in the island of Kos, and was visited, among others, by Hippocrates, the father of Western medicine. During the Roman Empire, this cult was exported to the Isola Tiberina, an island in the Tiber river, home for

centuries of a temple devoted to Asclepius, known in Rome as Aesculapius.<sup>6</sup> In all these sanctuaries, the healing process was viewed as requiring not only the aid of a physician but mainly the manifestation, usually in dreams, of the divine healer.

Asclepius was married to Epione, the goddess of the soothing of pain, with whom he had two sons, Machaon and Podalirius, and five daughters, Aceso, Aglaea, Hygeia, Iaso, and Panacea.<sup>7,8</sup> They were all well-known in ancient Greece as figures related to health, wellbeing, attractiveness, and healing. Their sons rendered invaluable medical services in the siege of Troy. Machaon was renowned for his ability for treating injuries, while Podalirius was famous for his capacity to treat the diseases of the soul.<sup>5</sup> Aceso and Iaso were associated with the healing process and the recovery from illness, respectively, and Aeglea was honored as the goddess of splendor and beauty. The name of Panacea was eventually given to the remedy capable of curing all diseases. However, it was Hygeia, known in Rome as Salus (the Latin word for *health*), who generated the highest admiration. She represented the virtue of a healthy life in a balanced environment.

According to René Dubos, the famous microbiologist and humanist, the myths of Asclepius and Hygeia represent the "never-ending oscillation", present in virtually all civilizations, between two different viewpoints in medicine.<sup>9</sup> To the followers of Hygeia, health is a condition we can all reach if we live wisely. According to them, the role of medicine is to discover and disseminate the natural laws which ensure the development of *mens sana in corpore sano*. Distrustful of the virtuous potential of human beings, Aesculapius' followers believe that the main role of physicians is to treat injury and disease through the correction of any imperfection generated by accidents of birth or life.

### Evolution of the concern for cleanliness, health and wellbeing

For centuries, personal and public hygiene, understood as the practice conducive to the preservation of health, developed alongside and frequently in opposition to the practice of curative medicine. Ancient Egyptians established high standards of personal hygiene, which included baths, diets, and the use of fresh washed linen garments.<sup>10</sup> Regular bathing, diets and sanitation services were also features of the Roman civilization, whose major cities had monumental aqueducts and large sewers.<sup>11</sup> Public baths were common, and they had not only tubs and swimming pools (*natatio*), but also exercise lodgings (*palaestrae*), dry and wet sweating quarters (*laconica* and *sudatoria*), and cool rooms (*frigidarium*), as

well as massage stations, lecture halls and gardens.<sup>12</sup> In large cities these complexes, known as *balnea* or *thermae*, reached colossal proportions, as in the Caracalla Terms, still standing in the southern part of Rome. Guided by the writings of Galen, who systematized in his *Hygiene* (*De Sanitate Tuenda*) the sanitary precepts of classical antiquity, Romans also showed great interest in food, beverages, evacuations, sexual activity, dreams, and the quality of environmental air.<sup>13</sup>

Personal hygiene was also a central feature of the Renaissance. Its dominant values were temperance and moderation. The popular work of Luigi Cornaro (1467-1565), *Discourse on the Sober Life* (*Tratatto de la Vita Sobria*), encouraged people to avoid the excess of food, drink, cold, heat, fatigue, and sexual activity, particularly during outbreaks of disease.<sup>14</sup> In fact, hygienic regimes, which also included clean streets and rooms, fresh air and sweet odors, were considered the most modern and effective weapon against the plague.<sup>10</sup>

The Enlightenment influenced the ideas of a healthy living as well. The French thinker Jean-Jacques Rousseau identified nature as the force that preserves health, and temperance as the path to a hale and hearty existence. In *Emile* (1792), his treatise on the nature of education, he states: "Hygiene is the only useful part of medicine, and hygiene is rather a virtue than a science".<sup>15</sup>

In the 18<sup>th</sup> century, the concern for hygiene and the dissemination of the theories of contagion, which emphasized the role of dirt in the spread of disease, steered the expansion of urban fresh-water sources and the development of a water-carrying public industry.<sup>16</sup> Europeans also saw the introduction and slow but consistent dissemination of rules of etiquette that demanded restriction of public spitting, the use of the handkerchief and the adoption of strict toilet practices.<sup>17,18</sup>

The 19<sup>th</sup> century witnessed the arrival in Europe of an heterogeneous movement around hygiene and sanitation that had a strong moral and political thrust. This health crusade was organized in response to massive waves of contagious disease (influenza, typhus, typhoid and cholera), which occurred in the 1830s and 1840s. The movement was further fueled by the documentation of the poor sanitary conditions prevalent in most European cities through accounts such as Edwin Chadwick's famous *Report on the Sanitary Conditions of the Labouring Population of Great Britain* (1842) and Friedrich Engel's book on *The Condition of the Working Class in England* (1845), in addition to the tracing of the source of a cholera outbreak in a public water pump in London by John Snow in 1854.<sup>19,20,21</sup> It was also influenced by the widely accepted belief that disease was spontaneously transmitted by *noxious air* or miasma, a by-product of rotting organic matter, filthy water, and

poor hygienic conditions. This hygienist and sanitary movement included the design and dissemination of practices to promote inner cleanliness, reduce overcrowding, improve garbage disposal, and expand access to drinking water and sanitation. Programs of industrial hygiene were also implemented and they included the limitation of the working day, the prohibition of child labor, the establishment of standards for ventilation of working rooms, and the prevention of industrial poisoning through the use of non-toxic materials.<sup>22</sup> In Britain, the Public Health Bill passed in 1848 stimulated the creation of local health boards and the figures of medical officer of health and sanitary inspector, in charge of the supervision of drainage and water facilities, the regulation of waste disposal, and the prevention, detection and control of outbreaks of disease.<sup>9</sup> This nascent tradition, soon extended to other European nations, was associated to major reductions in morbidity and mortality due to communicable diseases. According to Dubos:

It was through the humanitarian movements dedicated to the eradication of the social evils of the Industrial Revolution, and the attempt to recapture the goodness of life in harmony with the ways of nature, that Western man succeeded in controlling some of the disease problems generated by the undisciplined ruthlessness of industrialization in its early phases.<sup>23</sup>

### Increasing emphasis on sickcare

The strong concern for personal hygiene and public health prevalent during the 19<sup>th</sup> century was gradually overshadowed by a growing attention to disease and its care. The starting point of this oscillation towards sickness and sickcare, which prevails to date, was the increasing acceptance of the germ theory of disease, stimulated by the work and discoveries made by Agostino Bassi, Ignaz Semmelweis, John Snow, Louis Pasteur, and Robert Koch.<sup>24</sup> This theory eventually nourished the doctrine of the specific ethiology of disease, which states that each disease has a precise cause and should be treated by confronting the causative agent or, if this is not possible, by focusing on the treatment of the affected parts of the body. The times of the emphasis on health, the holistic view of the patient and his/her balanced interaction with a healthy environment were over.

By the early 20<sup>th</sup> century, the hunt for specific germs responsible for all sorts of infectious diseases reached feverish proportions, and so did the search for their cures, incited by the development of new vaccines and the discovery of immune sera and antibiotics. This was eventually followed by an intense pursuit of the agents, biological or chemical, responsible for

non-communicable diseases (NCDs), such as cancer, diabetes, hypertension, depression, and so on.<sup>25</sup> Equally intense has been the search for specific cures for these diseases—the endless search for Paul Ehrlich's magic bullets—, preferably pharmacological substances that act on the internal milieu, without any regard for the physical and social environment in which those same diseases have their origin.

A phenomenon related to the present emphasis on disease and the care for the sick is the creation of a state of concern for activities and processes (sexuality, menopause, aging) essential to living that have been turned into conditions that are deemed unmanageable by the common individual and that require professional supervision and control. The medicalization of life has turned almost every human being into an individual at risk that requires medical attention and, very frequently, pharmacological support.

The current epidemiological transition has heightened the apprehension for the dominance of the curative approach to health conditions due to its financial impacts. Thanks to improvements in nutrition, access to water and sanitation, waste disposal, and access to public health interventions such as immunizations, the burden of disease attributed to undernutrition and common infections has decreased. Populations have begun to live long enough to experience the effects of exposure to health risks related to modern living, such as lack of physical activity, consumption of unhealthy diets and products (tobacco, alcohol, and illicit drugs), stress and social isolation, which increase the prevalence of NCDs. According to the World Health Organization, NCDs are now responsible for 60 percent of all deaths worldwide, and most of these deaths are concentrated in developing countries.<sup>26</sup> Deaths due to cardiovascular diseases are more numerous in India and China than in all high-income countries combined, and half of the 13 million new annual cases of cancer are occurring in poor nations.

The treatment for NCDs is considerably more expensive than the treatment of common infections. According to the International Diabetes Federation, the economic impact of the diabetes epidemic reached 376 billion dollars in 2010.<sup>27</sup> If we keep favoring the curative approach in dealing with these diseases, health systems will become financially unsustainable, especially in low- and middle-income countries. This means that we need to rely again on health promotion and disease prevention in order to deal with the social, environmental, and behavioral risks associated to NCDs, and address these diseases in a sustainable manner. There is good evidence to support such a shift. According to the US Center for Disease Control, 25 of the 30 years gained in

life expectancy during the 20<sup>th</sup> century in the United States are attributable to advances in public health.<sup>28</sup>

The expansion of life-expectancy itself, which is reaching 80 years in developed nations, good as it may be, is also creating unanticipated challenges in terms of health care, most notably a tendency to treat old age as a disease and to aggressively address the process of dying. In his most recent book, *Being Mortal*, Atul Gawande, states the following:

The waning days of our lives are given over to treatments that addle our brains and sap our bodies for a sliver's chance of benefit. They are spent in institutions—nursing homes and intensive care units—where regimented, anonymous routines cut us off from all the things that matter to us in life [...] Lacking a coherent view of how people might live successfully all the way to their very end, we have allowed our fates to be controlled by the imperatives of medicine, technology, and strangers.<sup>29</sup>

### Reestablishing the balance

More than radically shifting towards health promotion and disease prevention, we need to re-establish the balance between healthcare and sickcare, known to some of the wisest civilizations, in order to meet in a rational way the challenges of the 21<sup>st</sup> century. Health systems need to adopt a comprehensive scope which include upstream interventions to address the determinants of health; public health interventions to deal with major risk factors; personal health services to manage common infections, reproductive problems, NCDs, injuries, and mental health problems; and palliative care to deal with the problems generated in the final stages of the life cycle.

The reestablishment of the balance between healthcare and sickcare demands the implementation of four *P*'s: protection, promotion, prevention, and preparedness.<sup>30-31</sup>

The *protection* of health includes actions to guard both the natural and built environment, such as the protection of water sources and the provision of drinking water; the protection of the atmosphere from pollution; the protection and expansion of green spaces; and the provision of effective road safety and public security services.

Health *promotion* includes actions to encourage healthy life-styles, including the encouragement of physical activity, the consumption of healthy diets, the avoidance of unhealthy products (tobacco, alcohol, illicit drugs), and the facilitation of social interaction.

*Prevention* of specific diseases includes actions to combat vectors of conditions such as malaria, dengue or

Chagas; the organization of immunization campaigns; and the construction of ecological stoves to prevent asma, COPD and lung cancer in rural villages.

Finally, *preparedness* includes two types of actions: a) the provision of services to confront and control natural and man-made disasters, outbreaks of disease and epidemics, and b) the provision of effective, compassionate and affordable personal health services to deal with cases of disease and injury, and with their financial consequences.

The main challenge of health systems in the 21<sup>st</sup> century is to avoid divisive reductionisms and instead fully embrace its wealth of perspectives in an integrative approach. This in no way denies the importance of focalization, specialization, and prioritization, but it does challenge us with the need to build integrative bridges that better allow us to understand and act upon the complexity of the health challenges of a globalized world.

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