

# Medical training in social determinants of health: risk factors or protective factors?

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Recibido: 31/7/25; Aceptado: 20/8/25; Publicado: 21/8/25

**Abstract:** Medical graduate profiles include training in social determinants of health (SDH), which influence people's lives and are linked to the distribution of resources and power. These determinants are grouped into three dimensions: socioeconomic-political context, structural, and intermediate factors. Bronfenbrenner's ecological model allows us to understand the dynamic interaction between individuals and their environment. SDH can act as risk or protective factors for the health of individuals, families, and communities. It is important to overcome the negative view of SDH, as they can also have positive impacts, such as social support or community networks. Governance is key to generating public health policies; its absence increases epidemiological risks and inequalities. Examples show how inadequate policies increase sexually transmitted infections or unwanted pregnancies. Social media and digitalization can reduce health information gaps, but they can also generate misinformation or digital inequality. We propose including SDH in medical training with active methodologies such as interviews, statistical analysis, and community exploration. Finally, service-learning stands out as an effective pedagogical strategy for developing social skills and civic engagement in future physicians.

**Keywords:** teaching, undergraduate medical education, curriculum.

Graduate profiles for medical programs often emphasize the comprehensive training of future medical professionals, which entails teaching subjects with content from the social and health field. One of these is the Social Determinants of Health (SDH), which emerged within the eponymous Commission formed by the World Health Organization (WHO) in the first decade of the 2000s. This refers to the circumstances in which people are born, grow, live, work, and age, including the health system, and which are a product of the distribution of money, power, and resources at the global, national, and local levels (1).

These circumstances are organized primarily into three dimensions: the socioeconomic and political context (governance, macroeconomic policies, social and public policies, cultural and social values); structural determinants (gender, education, race and ethnicity, income, occupational and working conditions, social cohesion, and networks); and intermediate determinants (biological and behavioral factors, the health system, socio-environmental or psychosocial circumstances, material circumstances). All of these determine the enjoyment of good health in individuals, families, and communities.

Bronfenbrenner's Socioecological Model is fundamental to understanding the social determinants of health. This theory proposes that human development is influenced by multiple systems in which a person interacts, from their immediate environment to the broader influences of society (2). This perspective, also known as Bronfenbrenner's Ecological Theory, emerged to respond to previous approaches that treated individual and cultural phenomena as independent processes. Instead, this approach seeks to integrate the interactions between the individual and their environment into a dynamic system, considering the bidirectional relationships between the two (3).

In the conception of good or poor health, the concepts of risk factors and protective factors are fundamental. The former are those elements that pose a risk to health, causing disease (4); while the latter refer to influences that modify, improve, or eliminate a person's response to a health hazard (5). Here, then, the bidirectional component of Bronfenbrenner's Ecological Theory is key, both in terms of risk and protective factors: for example, the development of health promotion actions by Faculties of Medicine and Health Sciences (protective factor) allows students to mobilize knowledge, procedures, and attitudes toward patients, families, and communities; while the latter are the subjects of care and benefit from the students' expertise.

It is imperative that the training of medical professionals include the social determinants of health, contributing to the comprehensive education and care of patients, families, and communities. However, it can be very common to assume that these determinants only negatively affect the health of the population, and this is where a paradigm shift in teaching is important, since they can also have a positive influence. For example, at the microsociological level, an intermediate determinant such as social networks (understood as Bourdieu's "social capital", that is, the network of relationships between a person and others) can be expressed positively through versus actions such as emotional support and support for the sick person or someone at risk of illness. Therefore, it is a component that can have a positive impact on health care and restoration. Negatively, it would manifest itself if a person lacks support networks or friendships that do not provide emotional well-being, influencing the risk of contracting or increasing the development of an illness. A study conducted in China with older adults determined that informal social support had a positive influence on their mental health, increasing life satisfaction, improving access to medical services, and promoting active social participation, thus contributing to healthy aging (6).

At the macrosociological level, a determinant of the socioeconomic and political context, such as governance, can have a positive influence in the following ways: if a government, through its political discourse, has a strong commitment to the promotion and prevention of sexual and reproductive health, based on the guidelines of international organizations and knowledge of the epidemiological reality of the respective country, it will then generate social policies focused on the age and gender groups that report the highest number of risky behaviors. These initiatives necessarily require financing, which can be ensured through macroeconomic policies promoted by the executive branch and endorsed by the country's legislative branch, through the national budget law or the corresponding legal instrument.

Regarding governance regarding the social determinants of health, there is an outstanding debt at the global level. It is argued that failure to fulfill the Health for All promise of 2000, emerging from the Alma Ata Conference, would translate into a potential failure to meet the Sustainable Development Goals by 2030. In fact, a 2020 study found that more than half of the world's people were not covered by essential health services; more than a quarter lacked access to basic sanitation; and 10% lacked safe drinking water and sufficient food (7).

The above determinant would be negatively expressed if a government, aware of the indicators indicating an increase in sexually transmitted infections and an increase in unwanted pregnancies, does not promote preventive policies or ensure the corresponding financing, contributing to the increase in morbidity, mortality, and unwanted pregnancies. As a result, the State would not contribute to the health of the population.

In relation to the above and as an example, a study published in 2020 found an increase in cases of sexually transmitted infections between 2012 and 2017 among adolescents aged 13 to 19 in the Autonomous Community of Catalonia. Chlamydia trachomatis (CT) infection rates increased from 13 to 144.1 per 100,000 adolescents between 2012 and 2017, an increase of 1007%; gonorrhea cases increased by 246% (from 13.4 to 45.4/100,000) and syphilis cases increased by 247% (from 1.7 to 5.9/100,000). Cases of gonorrhea and syphilis mainly affected men, while CT infection cases occurred mainly in women, at 84% (8). In this case, governance should focus on the development of sexual health promotion and prevention actions. Efforts could also be focused on reproductive health to ensure a reduction in unwanted pregnancies, considering that, according to a study published in 2022, between 2015 and 2019, 90.1% of Spanish women terminated their pregnancies for their own reasons, 9.1% for medical reasons, and 0.3% due to fetal abnormalities incompatible with life (9).

In addition to equating Bourdieu's concept of social capital with that of social networks proposed by the model of social determinants of health, we can also understand the latter from the perspective of digital interaction: all those platforms, websites, and applications that allow people to interact with a large volume of information took on a leading role in the context of the COVID-19 pandemic, especially in terms of knowledge of incidence and prevalence rates, and risk and protective factors. In current times, we could rightly point out that with artificial intelligence, social media has acquired a greater role. This is where teaching about these social determinants from both a positive and negative perspective is important. In positive terms, social media provides a great opportunity for governments to reduce gaps in access to health information and empathize with the needs of the population. To achieve this, it is important to have institutional networks that publish regular and updated information (e.g., Social media can be used to communicate with users (e.g., infographics) and respond in real time to potential citizen queries. This, based on Bourdieu's sociological theory, generates cultural capital in the area of health, which, in turn, positively impacts the structural social determinant related to education. However, if we view social media from the perspective of digital access, existing gaps could be influenced by socioeconomic factors or digital literacy. The World Health Organization considers digital health a key factor in ensuring universal health coverage. Therefore, it is interesting to coin a new concept complementary to that of social determinants of health: digital determinants of health as a new factor that could influence social and health inequality (10).

Understanding social media in negative terms, we would find the inaction of the state in this area and the emergence of unreliable information spaces related to health. The latter is important to consider in light of the phenomenon of cyberchondria, understood as the tendency of some people to search for information about their symptoms or health concerns online and then misinterpret that information to conclude that they have a serious or dangerous illness, even when this is not necessarily true (11). Another negative component of social media—in the digital realm—is the existence of access gaps for individuals, as well as the age component, which would make internet use more complex, for example, in the case of older adults.

In the case of institutional social media in the health field, there could also be a risk of misinformation if the information is not updated following specific protocols or in accordance with evidence-based medicine. Consequently, and without prejudice to the previous examples that refer to some social determinants of health, it is important that academics from Faculties of Medicine and Health Sciences with socio-sanitary training channel the training of the same as both a risk and protective factor, although emphasizing the necessary efforts that must be made to reduce the determinant as a risk factor. To this end, without prejudice to the existence of other alternatives reported in research and educational innovations, the use of teaching strategies that highlight the interpretive

paradigm of qualitative research is recommended, with structured or semi-structured interviews, written or recorded, that allow to know the perception of people about the manifestation of the determinants in their environment; the exploration of the territory, through participant or non-participant observations; the critical evaluation of the manifestation of the determinants through the analysis of vital statistics and epidemiological reports; or the analysis of health and disease processes in individuals, families, and communities, from a socio-health perspective and the Bronfenbrenner Model to analyze the bidirectionality present in health risk and protective factors.

Another teaching strategy, such as service-learning, has extensive research demonstrating its effectiveness. In a study conducted at the Faculty of Medicine of the University of Alcalá, Spain, where students participating in the cross-curricular course Introduction to Development Cooperation were surveyed, it was found that the learning experience was rated as very satisfactory. 60% strongly agreed that this methodology allows for the development of new skills as citizens, followed by the promotion of greater responsibility to society, with 50% of those mentioning the "strongly agree" response category; and feeling better about oneself, with 40% of those mentioning the "strongly agree" response category (12).

## Conclusions

- Social determinants of health (SDH) are essential in medical training, as they directly influence the health of individuals, families, and communities.
- It is necessary to understand that SDH not only negatively impact health outcomes, but can also act as protective factors that promote well-being.
- Governance and public policies play a central role in reducing health inequalities; their absence increases social vulnerability.
- Social media and digitalization represent both opportunities and risks and must therefore be critically integrated into health education and management.
- Teaching SDH must incorporate active and community-based methodologies that allow students to experience and analyze these phenomena.

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