

ECONOMIC EFFICIENCY AND LEGAL ASPECTS OF MODELING HEALTH DETERMINANTS IN PUBLIC HEALTH MANAGEMENT: A PEDAGOGICAL AND METHODOLOGICAL APPROACH

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Introduction

This article aims to clarify the intricate theoretical and practical dimensions of health determinants and their application in health governance. The author approaches this topic from a didactic perspective, specifically focusing on how to effectively convey these complex concepts to students during lectures and seminar classes. The World Health Organization (WHO) defines health, as stated in its 1946 constitution, as "a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity." This definition is reflected in the domestic legislation of the Republic of Armenia, such as Article 2 of the Law on Medical Aid and Service to the Population. The definition's strength lies in its comprehensive, positive portrayal of well-being across physical, mental, and social dimensions, moving beyond a purely biomedical view. However, this idealist definition can be seen as an unattainable standard, potentially leading to the medicalization of normal human experiences and social issues. Furthermore, the WHO definition is not universally applicable across different branches of law; for instance, in tort law, health refers to an individual's physical and mental state prior to an offense, allowing for objective assessment of damages.

Health is understood as the continuous interaction between our internal biological structure (genes, organs) and the external environment (where we live, work, learn, eat, and our social connections). This dynamic interplay is essential for developing effective strategies to promote health and prevent diseases at both the individual and public levels. While biology and genetics investigate internal biological factors, public health science examines external factors such as lifestyle, working conditions, environmental quality, and social connections. All factors influencing health and quality of life, whether for individuals or populations, are broadly referred to as "health determinants." These differ from "disease determinants," which focus solely on the causes of illness, as health determinants also include factors that promote health. The article highlights the importance of distinguishing between health determinants and risk factors in education, as determinants are broad, macro-level factors creating preconditions for health, while risk factors are specific, micro-level exposures that increase the likelihood of disease at an individual level. Determinants address the underlying "whys," whereas risk factors represent the specific "whats" that elevate disease probability. Public health law, as a scientific discip-

line, focuses specifically on the legal regulation and management of these external conditions that either cause or prevent diseases.

Methodology

The research presented in this article is organized to serve educational and pedagogical purposes, specifically guiding lecturers on how to explain the complex concepts of health determinants to students during lectures and seminar classes. The methodology begins by advocating for an initial discussion of the WHO definition of health, emphasizing both its positive and negative aspects. Subsequently, it stresses the importance of clearly differentiating between health determinants and risk factors, illustrating that determinants represent the macro-level "whys" and risk factors the micro-level "whats" of health outcomes.

The article stresses the pedagogical importance of explaining the concept of social determinants of health through examples, underscoring that an individual's health is predominantly shaped by the conditions in which they are born, grow, live, and work, rather than merely by access to medical services. This revolutionary concept in public health urges a focus on the underlying social causes and inequalities of diseases, moving beyond merely curative approaches. Furthermore, the methodological approach calls for a comparative analysis of the three main models of health determinants: the microbial (biological), behavioral, and ecological (environmental) models. For each model, lecturers are encouraged to present specific examples – such as smoking, environmental impact or social pressure – to illustrate their characteristics and limitations. This comprehensive, multidimensional approach aims to ensure students understand that health is not merely a medical issue but a multifaceted phenomenon influenced by various interconnected factors. The article proposes that the research findings should serve as an objective basis for state intervention in public health.

Literature Review

The article draws upon a variety of authoritative sources to elaborate on health determinants and public health law. The foundational understanding of health is rooted in the World Health Organization (WHO), specifically its 1946 Constitution, which defines health as a state of complete physical, mental, and social well-being. The WHO's later work, such as the "COVID-19 and the social determinants of health and health equity: evidence brief" (2021), is also cited, highlighting the importance of social determinants.

The discussion on the grouping of health determinants into microbial, ecological, and social/behavioral models references [Gostin et al., 1999, 59] from their work "The Law and the Public's Health: A Study of Infectious Disease Law in the United States". Gostin is a prominent figure in US health law, known for his extensive work on public health law and human rights, which aligns with the article's focus on the legal regulation of health factors. For the distinction between determinants and risk factors, the article refers to Annette Leclerc and others work, specifically to their "Dictionnaire d'épidémiologie"

(1990). This indicates the use of French epidemiological literature. When discussing the concept of social normative influence in behavior, the article cites Aronson, Eliot, from the work "Social Psychology," who is a well-known text in US social psychology.

The broader context of public health law and the social determinants of health often draws heavily from UK scholars and institutions (e.g., Marmot reviews), though these are not directly cited within this particular extract. The article's comprehensive approach, spanning biological, behavioral, and environmental models, reflects a broad engagement with the international scientific literature on health determinants. The choice of literature reflects a desire to cover foundational definitions (WHO), legal aspects (Gostin), epidemiological distinctions (Leclerc), and social psychology (Aronson), to provide a robust framework for teaching public health law.

Analysis

Understanding the Factors Shaping Health

The World Health Organization (WHO) in its 1946 Constitution defined *health* as "a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity" [WHO, 1315-1323]. This definition, notably, has been directly incorporated into Armenia's domestic legislation, for example, in Article 2 of the Law on Medical Aid and Service to the Population.

When we unpack this definition, it's crucial to acknowledge both its strengths and its significant weaknesses. On the positive side, it moves beyond a purely biomedical approach. It presents a holistic concept, positing an ideal state of well-being across three key dimensions: physical, mental, and social. It affirmatively emphasizes a positive state of well-being, not just the absence of illness.

The rub is, this WHO definition of health – this "state of complete physical, mental, and social well-being" – is an illusory and idealistic standard, rendering it practically impossible and unattainable. The reality is, most people, if not everyone, would be considered "unhealthy" at various stages of their lives, given the prevalence of chronic conditions, the inevitability of aging, or the daily stresses of urban living. There's a real risk here: such an overly broad definition can lead to the medicalization of normal human experiences and social problems. Consider sadness or loneliness – under this expansive view, they might be labeled "diseases" requiring medical treatment.

Moreover, the WHO's definition isn't universally applicable across different branches of law. Take tort law, for instance. Here, "health" typically refers to an individual's physical and mental condition before an injury. This precise baseline allows the legal system to objectively assess and quantify damages by comparing a person's health status pre- and post-injury, which is fundamental for compensation claims.

The Dynamic Interplay: Internal and External Factors. A person's health status is the constant result of an interaction between our internal biological structure—how our bodies are built, our genetics, our organ function – and our external environment – where we live, work, study, what we eat, and our social connections. Understanding this interaction is key to grasping health as a dynamic and multifactorial phenomenon. It means health isn't solely a product of our genes or just our environment; it's about how these two realms collaborate and influence each other.

Grasping this interaction is vital for developing effective strategies to promote health and prevent disease at both the individual and public levels. In simpler terms, we can better manage an individual's health when we comprehend how our internal and external worlds reciprocally shape us, either contributing to wellness or leading to illness.

The study of these internal biological factors primarily falls to biology and genetics, disciplines that uncover the molecular and cellular mechanisms of disease, heredity, and the functional characteristics of the body's internal systems. Conversely, the external factors contributing to disease and promoting health—those tied to lifestyle, work and educational conditions, environmental quality, and social connections—are the domain of public health. Public health analyzes how these external elements impact population health, developing preventative strategies and interventions aimed at improving community health, while also considering the critical role of social determinants.

Determinants vs. Risk Factors: A Crucial Distinction. All the factors influencing human health and quality of life, whether for an individual or an entire population, are broadly termed determinants of health in professional literature. Why "determinants of health" and not "determinants of disease"? While "determinants of disease" would focus on uncovering factors that cause illness, "determinants of health" compel professionals to identify not only the conditions and factors that lead to disease or jeopardize health and life, but also those that actively promote and maintain population health.

It's critical, especially in educational settings, to explain the distinction between determinants of health and risk factors. While interconnected, they are not interchangeable and operate at different levels of influence on health. Determinants of health are the broad, comprehensive factors that shape or determine an individual's or population's health status. They often reflect the social, economic, political, and environmental conditions in which people live, work, learn, and age. These are macro-level factors that set the stage for whether someone is healthy or unhealthy. For example, environmental pollution directly impacts health as a determinant. Risk factors, in contrast, are specific behavioral, biological, or environmental exposures that directly increase the probability of a particular disease or injury at an individual level. They are often considered "intermediate" factors influenced by the broader determinants. For instance, smoking is a risk factor for lung cancer and cardiovascular disease; an unhealthy diet is a risk factor for diabetes,

heart disease, and obesity; and physical inactivity is a risk factor for a host of chronic conditions. Therefore, in lectures and seminars, it's essential to explain, with examples, that determinants are frequently the underlying causes of risk factors. A determinant implies a causal role – it's an underlying, broader factor that impacts health without necessarily being the sole necessary or sufficient isolated cause for a disease to occur. For example, low educational attainment or poverty can be determinants that create unhealthy conditions. A risk factor, however, is more specific; it pertains only to the increased likelihood of a particular disease developing in exposed individuals, without necessarily explaining the underlying causes. For instance, smoking is a risk factor for lung cancer. But someone might smoke due to low education or social difficulties, which are, in turn, determinants. In essence, determinants are the "whys," while risk factors are the "whats" that increase the probability of disease [Leclerc A., et al, 1990, 143].

The Social Determinants of Health: Getting Down to Brass Tacks

Understanding the various types of health determinants is absolutely fundamental to grasping what health really means and how it functions. It pushes us to look comprehensively at all the factors influencing health, from individual biology and lifestyle right through to the social, economic, and environmental contexts in which we live. This perspective forces us to acknowledge that health isn't just a medical problem; it's a multidimensional phenomenon shaped by things like education, income, housing, employment, and culture.

Getting this diversity into our heads is crucial for public health professionals. It guides them to develop comprehensive, multi-sectoral interventions that don't just treat diseases, but actually target their underlying causes, ultimately bolstering the overall well-being of the population. If I were lecturing on this, I'd emphasize to students how deeply our living conditions directly impact health, and why the "social" component is so paramount in public health.

External Factors Are Social Determinants

When teaching public health, it's particularly important to hammer home that external factors affecting health are essentially the social determinants of health (SDOH). This means that, by the WHO's own understanding, our health is heavily contingent upon the social conditions in which we are born, grow, live, work, and age.

To put it plainly: a person's income, their education, the neighborhood they live in, and even the very structure of society often have a far greater impact on individual health than mere access to doctors and medications. For instance, if someone lives in an area without clean water access, or where healthy food is expensive and hard to find, their health is already compromised, regardless of their genetic makeup. This concept is revolutionary in public health because it compels us to move beyond purely clinical or curative approaches and to focus squarely on the underlying social causes and inequities that drive disease [WHO Const, 1946, IV].

Public Health vs. Clinical Medicine: The Core Distinction. To truly understand how public health differs from clinical medicine, we first need to shine a bright light on the essence of the social determinants of health. These are the external factors that influence, or can influence, the human body, irrespective of an individual's specific biological or genetic characteristics. In other words, public health primarily investigates all those external circumstances that frequently become the causes or conditions for disease or health deterioration, or, conversely, contribute to its improvement. A good lecture would make it clear, with concrete examples, how polluted air or inadequate food access affects people, regardless of their genes.

Furthermore, public health law, as a distinct academic discipline, specifically examines the legal regulation and governance of these external conditions—the very factors that cause or prevent diseases. Traditionally, these determinants of health are categorized into three main models: the microbial (pertaining to the spread of infectious diseases), the ecological (related to the environment), and the social or behavioral (focusing on human lifestyle and social environment) [Gostin et al, 1999, 59-128].

The Microbial Model of Health Determinants

For a long time, the primary culprits behind diseases were seen as microbial factors: the invasion of an organism by fungi, viruses, bacteria, or prions, typically through food, water, or insects. This model, still considered part of the biological determinants of health today, pinpointed these pathogens as the direct cause of illness, recognizing that external factors contributed to their manifestation.

It was within this microbial framework that strategies to combat, neutralize, and eradicate pathogens were developed. This, in turn, raised critical questions about the permissible limits of state intervention into the human body for health preservation purposes. However, modern neuroscience has added a layer of complexity to this picture. It asserts that the human body is a complex system of biological materials – essentially, a "bag of biological substances" – encompassing hormonal, genetic, and neuro-systems responsible for an individual's decision-making. This perspective suggests that even our preferences (for example, for colors, music, or style) might be conditioned by biological predispositions, rather than being solely the result of rational or social processes.

Consequently, despite biological changes occurring under the influence of age, social conditions, and daily activities, the work of health professionals with direct microbial and other biological factors remains crucial for health preservation. In recent discussions, this model is also frequently referred to as the biological determinants of health.

The Behavioral Model of Health Determinants. In another model the primary cause of disease is pinned squarely on individual behavior. This is a widely held view: that behaviors like smoking, excessive drinking, or gambling directly cause various illnesses. The

core tension here is whether, say, the act of smoking is purely a matter of individual will and choice (as proponents of this model often argue) or if it's fundamentally a product of social environmental influence. Advocates of this model don't ignore that external factors can lead to changes in a person's biological makeup. However, their emphasis on health preservation and disease prevention is on interventions aimed at modifying behavior. Ultimately, when it comes to shaping desires, preferences, beliefs, individual value systems, social norms, and perceptions of the surrounding environment, the distinction between internal (physiological) and external (community, family, environment, traditions, friends, technology, media) factors becomes critical for selecting the right intervention or measure to ensure public health.

When studying behavior, it's not just about counting disease cases. It also involves continuously monitoring individuals' lifestyles, activities, and actions. The results obtained through scientific methods can provide an objective basis for state intervention. The necessity, methods, forms, and means of such intervention fall within the state's discretion, and it must be carried out in line with general legal principles. However, when authorities intervene in matters related to individual behavior and choice, such intervention can certainly be characterized as unacceptable paternalism. For example, the broad legislative frameworks and the manner of their adoption for smoking bans in Europe and Armenia have often been deemed impermissible interference. We've certainly seen similar critiques of the Armenian Ministry of Health's policies in combating tobacco in our context [Ghambaryan A., 2019, 7-9].

The Ecological or Environmental Model of Health Determinants. Alongside the purely biological perspective, a significant segment of professionals argue that biological predispositions alone are insufficient to explain health outcomes. Crucially, an individual's life experiences, social environment, and their status within that environment also play a vital role. Take smoking, for example. While often categorized as a behavioral issue and framed as a personal choice, the reality is it can be a consequence of social interactions, subculture, income levels (or poverty), unregulated or stressful work conditions, psychological or physiological addiction, and other circumstantial factors. In other words, while the individual is ultimately responsible for their behavior within societal norms, their choices are not always purely an active manifestation of free will. The classic example of unhealthy eating during New Year's holidays vividly illustrates how social pressure or "social normative influence" (as social psychology terms it, per Aronson, Eliot, et al.) dictates expected behavior. Deviating from this actually jeopardize social connections.

Environment's Undeniable Impact. Beyond behavior, environmental factors exert a substantial influence on health. These encompass all elements of our objective surrounding reality: natural, residential, societal, industrial, and more. These aren't about infections or individual choices; they're the sum total of environmental elements and social percep-

tions, such as the quality of soil, water, and air, noise levels, building conditions, the organization of work and rest, and the prevailing culture and psycho-moral atmosphere in residential or work institutions.

The natural environment is particularly critical for health preservation, given the biological interconnectedness between health and natural elements. The examples of Nubara-shen and Aghdzk clearly demonstrate how individuals with identical biological data and lifestyles can exhibit different qualities of life and longevity depending on their living environment. Public health actively studies these factors to understand their health impact and determine what interventions are necessary to mitigate their adverse effects.

The vulnerability of immigrant health is another case in point: changes to a new environment (air, water, food) and unfamiliarity with healthcare services can negatively affect the body's adaptive mechanisms. Historical studies, like paleoanthropological research, further indicate that the body's resistance and longevity can be specific to populations that have long inhabited a particular area, as observed, for example, with the longevity of the Artsakh Armenian population during the Soviet era.

Conclusions

Key takeaways for teaching health determinants. When teaching students about the factors that shape health, the methodical approach is key. You should start with the WHO's definition of health, being sure to highlight both its strengths and its significant limitations. From there, pivot to making a very clear distinction between health determinants and risk factors. Think of determinants as the "whys" – the macro-level forces at play – while risk factors are the "whats" – the more specific, micro-level exposures.

It's critical to illustrate the concept of social determinants of health with concrete examples. Emphasize that an individual's health is largely shaped by the conditions in which they are born, grow up, live, and work, rather than solely by their access to affordable medical services.

Throughout your teaching, compare and analyze the three primary models of health determinants: the microbial (biological), the behavioral, and the ecological (environmental). For each, demonstrate its unique characteristics and limitations using specific, real-world examples. Think about how smoking, the influence of one's living environment, or social pressures all fit into this framework.

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Economic efficiency and legal aspects of modeling health determinants in public health management: a pedagogical and methodological approach

Key words: health, illness, public health, health determinant, health governance, health outcomes, medical causes of disease, non-medical causes of illness, social determinants of health

The factors that ensure health and prevent diseases can be biological conditions, human behavior, and the natural environment, as well as the social and cultural environment in which a person lives. These factors, which have a negative impact on human and population health, are called health determinants in professional literature.

This article pursues a didactic purpose, which aims to assist lecturers in explaining to students the methodology of dividing the main concepts of health determinants during lectures and seminar classes, and to shed light on the scientific basis and practical importance of the applied methods.

The goal here is for students to grasp the multidimensional nature of public health and understand that health isn't just a medical issue; it's a phenomenon influenced by a complex web of factors.