



The Notion of Health: A Conceptual Analysis

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Abstract

The notion of health used in medicine may have important implications, such as guiding the allocation of medical resources. This paper explores the notion of health through an overview and conceptual analysis of various notions of health found in modern medical and philosophical literature. It argues that health is characterized either positively or negatively (per exclusion), and either mechanistically (as the set of common or ideal states of a species) or holistically (as unimpaired self-organization of organisms). The paper concludes that a sound notion of health characterizes health negatively and holistically, assimilating mechanism as a good approximation in simple cases.

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The notion of health seems central to the modern medical enterprise, if only because it regulates the allocation of medical resources. This is so because the healthy are considered to be less deserving of medical intervention than the ill in contemporary western medicine (preventive medicine notwithstanding), even when the healthy may benefit from medical intervention such as plastic surgery. Yet the notion of health has not been studied much, at least not nearly as much as disorder [1]. Hence, the problem of which notion of health is most sound and can thus guide medicine best may not have been sufficiently addressed. The objective of this paper is to address this problem, using an overview and conceptual analysis of various notions of health found in modern medical and philosophical literature.

Positive versus negative notions of health

The most recent trend in the study of health seems to be the study of health as a positive notion. According to this approach, health is not merely the absence of disorder; that is, health is characterized positively in some way or other. The methodologic version of this approach is that health cannot be diagnosed merely by the absence of disorder; additional factors are needed

in order to diagnose health (or rather, in order to identify health, as the term "diagnosis" is skewed in that it is supposedly taken from "disorder" terminology). This is in contrast to the negative notion of health, according to which health is diagnosed merely by exclusion (of disorder).

An example of a recent positive notion of health is the characterization of health in terms of abilities to reach goals. This is proposed by contemporary theorists such as Nordenfelt and Porn. Their concept of health does not rely on the concept of disorder, which at the most is considered a potential cause of ill health, but rather on the concept of adaptive functioning [2,3]. This concept can be criticized theoretically for not being specific, as many other domains aside from health deal with adaptive functioning. This notion of health can also be criticized empirically for not being true to the facts, as (ill)health and (mal)functioning are commonly de-coupled, e.g., even severely mentally ill persons may function reasonably well and adaptively [4]. Also, additional characterizations of health-related notions that are based on this positive notion, such as the characterization of disability and handicap [5], falter [6], and may thus imply a fundamental fault in this notion of health.

The positive notion of health seems to depict health as logically distinct from the notion of disorder. Yet, health and disorder are not logically distinct, at least not in the strict sense of the word, for they are contradictory opposites, i.e., the requirements of one characterize the other – by their not being satisfied. Rather, health and disorder are distinct methodologically, in the sense that the identification of health is dependent – at least in part – on the identification of (the absence of) disorder, whereas the identification of disorder is independent of the identification of (the absence of) health. This seems to be the case because there are common characteristics of disorder in general, such as suffering, whereas no such sensitive markers exist for health, e.g., health does not seem to correlate strongly with any component of well-being, such as happiness (for it is common to be miserable although healthy, and it possible to be happy although gravely ill). Hence, the positive notion of health, depicting the notion of health as logically distinct from the notion of disorder, seems to be untenable in light of this analysis, thus leaving room only for negative notions of health. This is also true for the practical

reason that we do not yet know the set of sufficient conditions for health, such as the perfect genome and the ideal environment, if this can be known or exists at all.

The common versus the ideal

It seems, then, that health is to be studied as the absence of disorder. This negative notion of health is traditional in modern western thought, and comprises within it different concepts of health. Two central and historically rival concepts within this tradition are: a) the concept of health as the set of common states of organisms of a given species [7], and b) the concept of health as the set of ideal states of organisms of a given species [8,9]. The concept of health as the set of common states is closely related to the statistical concept of normality. Most contemporary medical texts still assume this view – of health as statistical normality. The concept of health as the set of ideal states is closely related to the concept of well-being. In keeping with the relatively recent introduction of the biopsychosocial model of humans in medicine [10], the view of health as complete well-being, formally introduced by the World Health Organization, is gaining in popularity.

These two concepts of health share the assumption that there is a state or set of states, perhaps a distinct one for each species, which constitutes health in individuals. The characterization of such states and their method of determination matter less for our discussion than the mere fact that they are a fundamental part of both these concepts of health. Now, is the assumption of such states necessary for health? If not, what is the alternative to it, and its consequences? To answer this, a slight digression on conceptions of the nature of organisms is in order.

Mechanism versus holism

Two fundamental conceptions of the nature of organisms are the mechanistic conception and the holistic conception, established in medicine by the ancient school of Cnidus and the ancient school of Cos, respectively [11]. Mechanism, i.e., the view that the whole can be explained merely by reference to its individual parts, implies that every disorder in a system is local, i.e., it involves only part of the system. Medical mechanism, termed externalism [11], views disorder as a local defect of the organism caused directly by specific interference from the environment or by internal wear and tear of the organism [12]. Thus, a (negative) mechanistic notion of health would characterize health as the absence of any local defect of the organism, attributed to the fact that no specific external agent interferes with the organism and that no internal part of the organism has worn out. Holism, i.e., the view that the whole cannot be explained merely by reference to its individual parts, implies that every disorder in a system involves the whole system. Medical holism, termed generalism [11], views disorder as a defect in the pattern of interactions within the organism and between it as a whole and its environment (as the organism is part of an ecologic system). Thus, a (negative) holistic notion

of health would characterize health as the absence of any defect in the pattern of interactions within the organism and between it as a whole and its environment.

Mechanism implies that disorders of organisms can be fully corrected locally, i.e., by replacing parts of the organism. Yet, many parts of systems may not be replaceable, or at least not satisfactorily so; and even when such a local correction is considered successful, the whole system may never be again as it was before. Holism implies that an optimal balance can be reached within the organism and between it as a whole and its environment. Theoretically, this may be a more promising view than that of mechanism, not only because it seems to best represent the complexity inherent in living organisms, but also because it assimilates insights of mechanism in that it views it as a good approximation in certain simple cases, such as simple fractures, where the disruption is largely localized [11]. Indeed, the importance of assimilating mechanism within holism may have already been recognized by pioneers of modern medicine, such as Pasteur, who discovered infectious microorganisms but stressed their relation to host and environmental factors in determining ill-health [13].

How is the issue of mechanism versus holism related to the issue of states of health versus alternative notions of health? It seems that as holism refers primarily to interactions, which are easily viewed as processes rather than as states, holism is not closely tied to states (of health), whereas mechanism is more easily affiliated with them. If, as argued above, holism is preferable to mechanism, at least as a general framework, it may be worthwhile to explore processes of health as an alternative to states of health. What might such processes be like?

Health as (unimpaired) self-organization

Any notion concerned with organisms and their health should be able to explain the fact that healthier organisms are more resilient, in the sense of having relatively invariant properties in differing – and sometimes challenging – environmental conditions, within certain limits of viability. The general explanation for the phenomenon of resilience is that the immediate environment does not fully determine the properties of the organism; that is, that the organism is, at least in part, self-determined or self-organized. Processes of health might be just those processes comprising self-organization, considering that health and resilience are closely related. If so, what are the characteristics of self-organization?

Self-organization requires compensatory interactions between parts of the organism and between it and its environment, so as to correct for deviations from the (genetic) blueprint and from the optimal environment. This supports the notion of processes of health as comprising self-organization. There may be two general kinds of self-organization: the first is self-creation, namely the self-determined creation of systems; and the second is self-repair, namely the self-determined maintenance of systems (the notion of self is meant here in the broadest sense of a system delimited in some manner and to

some degree from its surroundings). Note that self-organization is not a new notion in modern medicine, having been assumed by pioneering concepts such as the internal environment [14] and homeostasis [15] from the early stages of modern scientific medicine.

Thus, the notion of ill health may refer to impairments in processes of self-organization. Following that, disorder is lessened self-organization or self-organization gone astray; and death is the complete absence of self-organization, or more precisely, the complete absence of self-organization leads directly to death. It is not that such a characterization of health and disorder cannot be found along the history of modern medicine; rather, it is usually not presented as such, and almost always not publicly acknowledged [16]. For instance, it was the genius of Freud that made possible what may be his least appreciated yet most profound idea – the characterization of mental disorder as psychological self-repair gone awry, such as in the rigid use of some unconscious defense mechanisms [11].

A case that illustrates the difference between the holistic view of health, involving processes of self-organization, and the mechanistic view of health, involving common or ideal states of organisms, is that of bone fractures, explicitly viewed by many – laymen and physicians alike – as a purely mechanistic case. The mechanistic view holds that any fracture manifests ill health, in that the organism is neither in an ideal nor in a common state until the damaged tissues are fully replaced. In contrast, the holistic view holds that fractures do not necessarily manifest ill-health, as many fractures do not manifest impaired self-organization, in that the organism may recover spontaneously by means of common self-repair processes. Clinical practice supports the latter view in that only fractures that are related to a disruption of self-repair, as in malignancies, are viewed as pathologic, and hence deserving of more medical attention, as compared to simple fractures (which holism and mechanism would treat similarly due to the largely localized disruption involved).

Conclusion

This paper has highlighted and analyzed various notions of health. The main conclusion is that the most sound notion of health is negative and holistic, i.e., it characterizes health as the self-organization processes of interaction within the organism and between it and the environment, that prevent and alleviate disorders and their complications. A mechanistic approach can be assimilated in simple cases where the disruption is localized to a part of the organism. Further issues for study are the practical implications of this and alternative notions of health. For instance, the difference between the holistic notion of health as processes of self-organization and the mechanistic notion of health as common or ideal states of organisms may

imply different ways of allocating medical resources. Whereas mechanism implies more healthcare entitlement when a person is not in a common or an ideal state, holism implies more health care entitlement when a person's self-organization is impaired, such that he or she cannot recover spontaneously, i.e., without medical services. Perhaps most important, the holistic notion of health better prepares the ground for medical intervention, being more respectful of the self-determination of organisms, and for reserving aggressive medical interventions for situations where spontaneous recovery without major sequelae is not possible. This may provide a sound conceptual framework for medicine's clinical and ethical decision-making process, as well as for societal policy-making regarding medicine.

References

1. Antonovsky A. *Unraveling the Mystery of Health*. San Francisco: Jossey-Bass, 1987.
2. Nordenfelt L. *On the Nature of Health*. Dordrecht: Reidel, 1987.
3. Porn I. Health and adaptedness. *Theor Med* 1993;14:295–303.
4. De Jong A, Giel R, Sloof CJ, Wiersma D. Relationship between symptomatology and social disability. *Soc Psychiatry* 1986;21:200–5.
5. Nordenfelt L. The importance of a disability/handicap distinction. *J Med Philos* 1997;22:607–22.
6. Edwards SD. Nordenfelt's theory of disability. *Theor Med Bioethics* 1998;19:89–100.
7. Boorse C. Health as a theoretical concept. *Philos Sci* 1977;44:542–73.
8. Engelhardt HT Jr. The concepts of health and disease. In: Engelhardt HT Jr, Spicker SF, eds. *Evaluation and Explanation in the Biomedical Sciences*. Dordrecht: Reidel, 1975:125–41.
9. Margolis J. The concept of disease. *J Med Philos* 1976;1:239–55.
10. Engel GL. The need for a new medical model: a challenge for biomedicine. *Science* 1977;196:129–36.
11. Fried Y, Agassi J. *Psychiatry as Medicine*. The Hague: Martinus Nijhoff, 1983.
12. Toulmin S. Concepts of function and mechanism in medicine and medical science. In: Engelhardt HT Jr, Spicker SF, eds. *Evaluation and Explanation in the Biomedical Sciences*. Dordrecht: Reidel, 1975:51–66.
13. Dubos R. *Louis Pasteur*. New York: Scribner, 1960.
14. Bernard C. *An Introduction to the Study of Experimental Medicine*. New York: Macmillan, 1927 (1865).
15. Cannon WB. *The Wisdom of the Body*. New York: Norton, 1932.
16. Rudnick A. The ends of medical intervention and the demarcation of the normal from the pathological. *J Med Philos* 2000;25:569–80.

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The doctor will be a guidance system and not an oracle that knows the answers.

Lawrence Weed MD, 1972