

## Moving Beyond the WHO Definition of Health: A New Perspective for an Aging World and the Emerging Era of Value-Based Care

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*The WHO definition of health is not fit for purpose, especially in the emerging era of value-based care. Developed 70 years ago, it contributed to a very useful broadening of the lens through which we consider health; however, it cannot provide clear and useful goals for the value-based care movement, especially given the nuanced needs of an aging population. For the purpose of designing and evaluating systems to deliver health (as opposed to merely delivering services), something more practical is required. This paper outlines principles that should underlie an improved definition of health, and proposes a new definition: "Health is the experience of physical and psychological well-being. Good health and poor health do not occur as a dichotomy, but as a continuum. The absence of disease or disability is neither sufficient nor necessary to produce a state of good health." This definition has implications for the goals and metrics of value-based care. Specifically, it highlights: (i) the need for patient-centered and goal-based metrics; (ii) the need to include measures of overall health status; and (iii) the need to aim for improved and preserved health status, as opposed to the impossible goal of "complete . . . well-being," as called for in the WHO definition.*

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### Introduction

The World Health Organization's (WHO) definition of health is by far the best known and most widely used. But it is not a practical definition, and is especially ill-suited to the emerging era of value-based care. As the objective of health-care systems shifts from providing services to providing health, certain questions become more relevant to policy and practice: What *is* health? What outcomes should be measured to determine if health has been delivered? Where do patients' goals fit into the value equation? The answers to these questions hinge on how health is defined.

#### *The WHO Definition of Health*

The WHO definition of health appears in their Constitution:

*Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity.* (International Health Conference, 1946, p. 1)

It was visionary in its time, for its focus on well-being across the physical, mental, and social spheres (predating the influential biopsychosocial model<sup>1</sup> by more than 30 years [Engel, 1977]); and its positive requirement for well-being, as opposed to the absence of disease (Jadad & O'Grady, 2008). But in the decades that have passed since 1946, it has come under a great deal of criticism (Jadad & O'Grady, 2008; Larson, 1999).

The most important critique is of the definition's requirement for "complete ... well-being." This is a clearly unworkable goal (Callahan, 1973; Huber et al., 2011), which would classify people as unhealthy for even the most mild and well-managed chronic conditions or minor disabilities (Bircher & Kuruvilla, 2014). Under this definition, people who require reading glasses or braces would not qualify as healthy. It is, as Smith (2008) argues, "... a ludicrous definition that would leave most of us unhealthy most of the time."

This is particularly problematic in light of the world's rapidly aging population. Before 2020, the number of people aged greater than 65 worldwide will exceed the number aged less than 5 for the first time in history. And the over-65 population will continue to grow rapidly, from an estimated 8.5 percent in 2015 to 12 percent in 2030, and 16.7 percent by 2050 (He, Goodkind, & Kowal, 2016).

Normal aging, and even "successful aging,"<sup>2</sup> are multidimensional constructs that occur along a continuum (Lowry, Vallejo, & Studenski, 2012), and many older people rate themselves as "well enough" to be aging successfully even if they are experiencing one (42.7 percent) or two (35 percent) chronic conditions (Strawbridge, Wallhagen, & Cohen, 2002). A definition of health that requires "complete ... well-being" is especially poorly suited to this population.

In practical terms, this insistence on impossible perfection makes the definition unusable.

The "dichotomous reductionist worldview" (Sturmberg, 2013, p. 1) reflected by this binary view of health may also contribute to the sense that health status can be determined exclusively by "objective" and external means, without recourse to the experiential basis (Bircher & Kuruvilla, 2014; Engel, 1977, 1978; Huber et al., 2011; Sturmberg, 2013) of health at the patient level.

Because the WHO definition insists that presence of any level of "disease or infirmity" makes one unhealthy, any professionally delivered diagnosis is disqualifying. But,

Persons with "the same" disease, from the point of view of the health care system—similar biological parameters, prognoses and implications for treatment—*may experience very different levels of symptoms and distress, and very different effects on their ability to function in their various social roles. Arthritis, and musculo-skeletal problems more generally, are leading examples of*

*conditions for which the patient's sense of "illness" bears no very close relationship to the clinician's interpretation of "disease."* (Evans, 2003, p. 1356)

And, therefore,

Disease, as a medical construct or concept, will usually have a significant bearing on illness, and thus on health, but is not the same thing. (Evans, 2003, p. 1356)

This implies that health improvement activities based on the WHO's definition might easily be mistargeted on disease, rather than health, wasting scarce resources with limited benefit to overall well-being.

Indeed, this approach may prove harmful even more directly, by helping to promote overmedicalization, with its attendant risk of iatrogenic harm:

It therefore supports the tendencies of the medical technology and drug industries, in association with professional organisations, to redefine diseases, expanding the scope of the health-care system. New screening technologies detect abnormalities at levels that might never cause illness and pharmaceutical companies produce drugs for "conditions" not previously defined as health problems. Thresholds for intervention tend to be lowered—for example, with blood pressure, lipids, and sugar. (Huber et al., 2011, p. 1)

Many of the other objections to the WHO definition boil down to a complaint that the constructs on which it is built cannot be operationalized and are therefore unmeasurable, (Doll, 1992; Larson, 1999; Saracci, 1997) or that they are bound to be operationalized incorrectly (Callahan, 1973; Saracci, 1997). However, if one does not insist on complete well-being, this is no longer the case (Larson, 1999).

Constructs such as physical and psychological well-being *can* be operationalized and measured effectively. In recent decades, the health-care sector has successfully adopted insights from the psychometric community to develop and deploy many such measures (Streiner, Norman, & Cairney, 2015; Ware, 1995). Well-validated nondichotomous measures exist for such constructs as "physical and psychological well-being" (McHorney, Ware, & Raczek, 1993), health-related quality of life (Stewart, Cutler, & Rosen, 2014), and "function and disability" (Sayers et al., 2004).

Ware, Brook, Davies, and Lohr (1981) raise an objection that has more merit. Based on their work in the Rand Health Insurance Experiment, they argue that social circumstances are probably best viewed as *influences* on health, rather than as an integral component of the *definition* of health. Such an approach "... explains empirical results better than one that includes social factors as an integral component of individual health" (pp. 621–622).

In addition to conforming with the authors' empirical results, this perspective is better aligned with the meaning of health as commonly understood, which focuses on the individual (Merriam-Webster, 2015). And there is a fundamental

difference between the normative goals of physical and psychological health-care as compared to efforts to improve what might be termed “social health.” As Canguilhem (1978b) writes:

As far as health and disease are concerned, and consequently as far as setting accidents right, correcting disorders, or, as it is popularly said, remedying ills are concerned, there is a difference between an organism and a society, in that the therapist of their ills, in the case of the organism, knows in advance and without hesitation, what normal state to establish, while in the case of society, he does not know. (p. 159)

There is widespread agreement that physically and psychologically oriented health care should ideally seek to restore patients to “normal” function (necessarily defined by the individual and his or her context [Canguilhem, 1978a]), but there is far less agreement as to how social ills should be corrected, or even what they are (Canguilhem, 1978b; Kass, 1975).

This is not to downplay the importance of the social *determinants* of health. Social context can have as profound an effect on health as any microbe or flying bullet, and interventions to improve health must take social determinants into account. As with microbes or bullets, however, the contribution of social context to health is experienced through its impact on physical and psychological well-being (Ware, 1995).

The WHO approach, developed 70 years ago, contributed to a very useful broadening of the lens through which we consider health. But it is not up to the task of providing clear and useful goals for the value-based care movement. Nor has it been superseded despite its well-known weaknesses.

In 1978, the WHO’s Declaration of Alma-Ata included a focus on more attainable goals, such as the “attainment by all peoples . . . of a level of health that will permit them to lead a socially and economically productive life” (WHO, 1978). On the surface, this seems to offer a more nuanced and achievable goal for health attainment. However, Article I of the same document repeats the same flawed definition of what actually *constitutes* health. This may reflect a tension between the unattainable aspirations of the WHO’s definition and the more pragmatic objectives of its real-world operations.

As Evans (2003) and Stoddart write, “The WHO definition is thus difficult to use. . . It has accordingly been honored in repetition, but rarely in application” (p. 1347). For the purpose of designing and evaluating services to deliver health, something more practical is required.

### A More Useful Definition of Health

To improve on the WHO definition, a more practical theory of what comprises health should acknowledge the following three principles:

1. Health is not a dichotomous variable (i.e., *healthy* vs. *unhealthy*), but one that occurs along a continuum between *more healthy* and *less healthy*.

2. Health *status* is an experiential state, which (in line with the first principle), does not correspond directly to the absence or presence of “objective” health *conditions*.
3. Though shaped by social influences, an individual’s experience of health itself is psychological and physical in nature. It “end[s] at the skin” (Ware et al., 1981, p. 621).

In line with these principles, I propose the following definition of health:

Health is the experience of physical and psychological well-being. Good health and poor health do not occur as a dichotomy, but as a continuum. The absence of disease or disability is neither sufficient nor necessary to produce a state of good health.

This definition does not seek to serve as a model of health, or to enumerate the causes of, or barriers to, health. Instead, it focuses tightly on describing what health *is*. This is why, for instance, the term “social” does not appear here, as it does in the WHO definition (International Health Conference, 1946) and in the biopsychosocial model of health (Engel, 1977).

This definition is in agreement with the WHO approach in stating that the simple lack of disease or infirmity (replaced here with the broader term “disability”) is not sufficient to qualify as health. The fundamental positive requirement is for an experience of well-being. On the other hand, and for the same reason, the *presence* of some degree of disease or disability is not disqualifying.

By describing health as a continuum, rather than a dichotomy, this approach avoids the most criticized aspect of the WHO definition, and enables the pursuit of realistic goals (i.e., good health, better health, or preservation of health, as opposed to “complete. . . well-being”).

The experiential framing of health also implies subjectivity and the need for person-centered assessment. While many health *conditions* can be measured objectively (e.g., a broken leg, or congestive heart failure), health itself cannot. A person’s *experience of well-being* is inherently subjective, contextual, and particular to the individual (Breslow, 1972). Health is “. . . a personal experiential state” (Sturmberg, 2013) that is influenced not only by the presence or absence of health conditions, but also by the individual’s culture, circumstances, and expectations (Bircher & Kuruville, 2014; Huber et al., 2011).

This is echoed by Bircher and Kuruville (2014) in their *Meikirch Model of Health*, which posits that:

Health occurs when individuals use their biologically given and personally acquired potentials to manage the demands of life in a way that promotes well-being. This process continues throughout life and is embedded within related social and environmental determinants of health ... (p. 111)

This more nuanced view of health is also supported by a consensus study that highlighted the ability to “adapt and self-manage,”<sup>3</sup> especially in the face of

chronic conditions, as a key component of health in the modern world (Huber et al., 2011).

Thus, a woman in her 80s who has been experiencing arthritis in her knees for the past 20 years may consider herself to be in reasonably good health “all things considered,” despite experiencing health conditions that would have felt disabling to her at age 30. This is especially likely if she lives on the ground floor of her building, has good access to public transportation, and a strong social support network. The same woman might feel far less healthy, though, if the onset of arthritis were more recent (and therefore less in line with her expectations), or if she moved to a third floor apartment in a building with no elevators, poor access to public transportation, and limited opportunities for social interaction.

This definition of health gives us three things: (i) A clear goal: *The experience of physical and psychological well-being*; (ii) a realistic criterion for success in meeting that goal: Improvement or maintenance of a person’s place along the continuum of health (as opposed to “complete well-being”); and (iii) an understanding that the true arbiter of success when designing and assessing interventions to improve health must be the individual (or, in the case of public health, the population) whose health we hope to affect.

### **Operationalizing the Definition: Implications for Value-Based Care**

Adopting this definition of health could help drive much-needed change in the metrics used to assess and pay for value-based care. The most direct implications relate to individualized patient-centered metrics and to the importance of measuring overall health. More generally, this definition also implies the need for risk-adjusted metrics that take into account the goal of improving and preserving health, as opposed to achieving perfect health, as the outcome of interest. While these improvements can be expected to benefit all users of the health-care system, they are likely to be especially important for older persons and those with chronic conditions.

#### *Patient-Centered Metrics*

If the experience of well-being is specific to the individual, it follows that—to some degree—the measurement of health should be as well. This is not a principle that is reflected in most health-care reimbursement systems. Most pay-for-performance schemes take a “one-size-fits-all” approach based on process measures that fail to account for patients’ goals (Lynn, McKethan, & Jha, 2015; Snyder & Neubauer, 2007). Also, the current state of the value-based care movement has been characterized as provider-centered, rather than patient-centered (Fredriksson, Ebbevi, & Savage, 2015).

Health-care systems designed to efficiently deliver outcomes that patients may not want or need cannot reasonably be called “value-based.” And, indeed, payment systems that define *value* in ignorance of patients’ *values* may actually interfere with the delivery of health.

A healthy teenager who visits her doctor for a required physical prior to joining a sports team probably does not require a consultation about her values and how those should be reflected in her preferred plan of care. But those with complex chronic conditions or significant disabilities and those facing end-of-life decisions would clearly benefit from a patient-centered care plan, and a reimbursement system that focuses more on goal-based care than on meeting disease-specific quality measures that may be irrelevant (or even inimical) to patients' goals (Reuben & Tinetti, 2012; Rijken et al., 2014; Snyder & Neubauer, 2007).

A recent paper by Lynn et al. (2015) suggests a path forward that aligns well with a patient-centered view of health, and with the professional mores of clinicians. For those who would benefit most (e.g., those with complex chronic conditions, disabilities, and frailty, as well as those facing end-of-life decisions), they propose:

1. Proactively consulting with patients to identify their individual goals and design a comprehensive care plan.
2. Building documentation of this process into the electronic health record (EHR) system.
3. Capturing patient and caregiver-reported metrics to track whether the care plan (and actual care provided) are aligned with what matters most to the patient.
4. Measuring the financial burden on patients and their families.

The concept of value in value-based care must include value to the patient, as defined *by the patient*. However, patients' values have not always been well integrated into health-care practice (Eaton et al., 2012; Gawande, 2014; Moriates, Arora, & Shah, 2015). As this definition of health makes clear, we cannot claim to be incentivizing or delivering value-based care without taking into account the goals and constraints of patients as individuals.

### *Measuring Overall Health*

The ultimate goal of health care should be to improve or preserve health. Metrics that aim to evaluate performance against that goal should therefore include measures of overall health (i.e., "the experience of physical and psychological well-being").

As Porter wrote in 2009:

We need to measure true health outcomes rather than relying solely on process measures, such as compliance with practice guidelines, which are incomplete and slow to change. We must also stop using one or a few measures as a proxy for a provider's overall quality of care. Performance on a measure such as mortality within 30 days after acute myocardial infarction, for example, says little about a provider's care for patients with cancer. (p. 110)

The same narrow measures continue to be used today. And while they may be useful in focusing attention on specific problem areas, they cannot provide a

complete picture of care quality or outcomes. They must be supplemented by measures of overall health (van Dulmen et al., 2015).

The use of well-validated instruments to assess patients' "physical and psychological well-being" (McHorney et al., 1993)/health-related quality of life (Stewart et al., 2014)/function and disability (Sayers et al., 2004) would be no more complicated than current efforts to assess patient experience (Giordano, Elliott, Goldstein, Lehrman, & Spencer, 2010) or other patient-reported outcome measures (PROMs) (Black, 2013). When used as part of a pay-for-performance program, the results should be converted to risk-adjusted scores so that health-care organizations and providers are assessed on their contribution to overall well-being, and not the baseline characteristics of the patient populations they serve (Jha & Zaslavsky, 2014).

The resulting data would provide a much more useful picture of the impact of care on patients' overall health status, as opposed its impact merely on individual health *conditions*.

### *The Goal of Improving and Preserving Health*

Despite the WHO definition, it is impossible to achieve perfect well-being for everyone at all times. Making that our goal can only lead to wasteful overmedicalization and (in market-oriented health-care systems) to payment schemes that punish providers for serving those who need care most.

The definition of health presented here can inform the design of value-based care programs that focus on what *is* possible: improving and preserving the health status of patients and populations, as defined and experienced *by* those patients and populations. With this as our goal, we can align payment incentives and quality metrics with the goals of improving health-related quality of life (Stevens, Shi, Vane, Nie, & Peters, 2015); promoting health equity (Weissman et al., 2012); reducing patient harm (Card, 2014; James, 2013)—including avoidable suffering associated with care (Card & Klein, 2016; Lee, 2013); and better supporting patients at the end of life (Gawande, 2014; Smith, 2000).

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### Notes

Conflicts of interest: None declared.

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1. George Engel's biopsychosocial model is a systems theory-based framework intended to "broaden the approach to disease to include the psycho-social [psychological and social influences] without sacrificing the enormous advantages of the biomedical approach" (Engel, 1977, p. 131) which Engel saw as reductive and incomplete.
2. The definition of successful aging is a matter of some debate, but it is increasingly framed in terms of resilience and "functional independence" (Lowry et al., 2012) despite age-related changes



(Hildon, Montgomery, Blane, Wiggins, & Netuveli, 2010; Lowry et al., 2012; Pruchno, Heid, & Genderson, 2015; Whitley, Popham, & Benzeval, 2016).

3. The authors of the consensus document did not produce a *definition* of health, but reached consensus on this as the “general concept” (Huber et al., 2011, p. 2) that should underlie such a definition. “The discussion of experts at the Dutch conference, however, led to broad support for moving from the present static formulation towards a more dynamic one based on the resilience or capacity to cope and maintain and restore one’s integrity, equilibrium, and sense of well-being. The preferred view on health was ‘the ability to adapt and to self manage’ (Huber et al., 2011, p. 2).

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