The Hubris of Health Status Measurement: a Clarification of its Role in the Assessment of Medical Care

NORBERT GOLDFIELD
3M/Health Information Systems Inc., Department of Health Services, Boston University School of Public Health, Baystate Medical Center, Springfield, Massachusetts, USA

Numerous advances in health status measurement have occurred in the past several years. Of the many challenges, one, in particular, is important for any health reform proposal to succeed. That is, while many researchers point to health status measures as a means of evaluating outcomes of competing health plans, this paper outlines difficulties with such a proposal. The paper then provides different suggestions for dealing with this important issue. Most notably, a community based health status assessment is recommended. Copyright © 1996 Elsevier Science Ltd.

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INTRODUCTION

Over the past 15 years, there have been tremendous advances in our ability to measure an individual's physical and emotional state (health status) using information gleaned from the patient [1]. Much of the health reform push to focus on the outcomes of health care is based on recent strides in appreciating the components which make up health status [2]. In fact, several researchers in the health status field advocate the use of these instruments for assessing the effectiveness of a managed care organizations impact on the health status or outcome of an individual [3].

Yet significant challenges remain. Unfortunately, researchers in health status assessment point to increased statistical reliability without examining the possible limitations of the validity of these instruments for the purpose of evaluating the health care system [3]. All health care practitioners must seriously, yet sympathetically, critique the uses to which health status instruments are put.

There are numerous barriers to the use of health status measures for the assessment of a managed care organization's impact on an individual's health status. The barriers include:

- The need to examine carefully the conceptual underpinnings of health status assessment. Specifically, differing patient utilities (i.e. the values individuals attach to items in HS questionnaires) need to be better understood.
- The fact that a change in individual health status is frequently beyond the scope of physician practice [4]. This is particularly true for several types of chronic illness. Health status assessments may need to incorporate, for certain chronic illnesses such as AIDS, the influences of the wider community of which the individual is a part. The importance of community influences needs to be highlighted in this political era of emphasis on individual responsibility.
- Significant challenges to questionnaire construction and implementation when using health status measures with low-income populations.
Rather than presenting an extensive literature review of the concepts discussed, this paper will discuss how the three barriers listed above can be mitigated. In lieu of a report card mentality which emphasizes choices of health plans based on information gathered at one point in time, it is preferable to pursue a continuous quality improvement approach which focuses on the change in health status over time. In fact, the goals of quality improvement can be best realized when the results of health status assessment are implemented within a community-wide framework, and not just within the confines of traditional medical practice. Measuring health status within a community-wide framework begins to address the community-wide influences on changes in health status. These community-wide influences are particularly salient for low income populations.

Another means of addressing the barriers to effective use of health status measures is to obtain both provider and patient assessments of health status. Not infrequently, providers and patients view differently the patients' health status [5]. The entire health care team, including both the doctor and patient, needs to work together to understand better the sources of these differences. Taking patient and provider assessments into account begins to address the challenge of differing patient utilities pertaining to specific health status domains. In so doing, a more complete picture of the care provided by the health care team—which includes both the patient and providers—can be gleaned.

CONCEPTUAL UNDERPINNINGS OF HEALTH STATUS MEASUREMENT

There is an increasing belief that "the voice of the patient" should be heard [6]. When the assessment is performed only by the clinician, as is done in traditional medical practice, the patient's perspective may be subtly altered. Patient derived health status measurement is based on the premise that patients are able to provide reliable and reproducible assessments of specific aspects of their functioning. "Did you feel full of life?" and "How much bodily pain have you had in the past four weeks?" are two items from a popular measure of health status, the Short Form-36 [7]. In developing patient responses to these statements using choices such as none to very severe, the developers of this measure assume that:

- either the items in the questionnaire do not have an intrinsic utility (or value) which varies from patient to patient,
- or if the statements do have utility they will vary in a reliable and consistent manner.

Not only do patients attach values or utilities to each statement in a health status measure, but patients attach different values to statements pertaining to the same aspect of health status. According to Sen, "it is hard to see how rankings are possible without recourse to utility valuations of the relevant states" [8].

A patient responds to health status questionnaire statements by combining several judgments which need to be distinguished from each other:

- The range of the presence or absence of the good itself (e.g. the fullness of life and presence of pain).
- What the individual potentially derives from this good (e.g. a lot of "life", or absence of bodily pain).
- The individual's emotional reaction to this capability (e.g. I want to have a full life; I do not want much bodily pain).

All three judgements are processed prior to deciding a response to the generic question pertaining to the presence or absence of pain (or whether one is full of life). According to Brock:

Even for primary functions about which it is plausible to claim that they have a place in virtually any life, the different functions can have a different relative value or importance within different lives. How happy we are with our lives (e.g. full of life) is significantly determined by how well our lives are in fact going in other objective reports [9].

Confirming the need to understand better patient utilities when applied to health status measurement, Gruft et al., in a study of patients with chronic pain, found "the environmental context of pain behavior to be as important as the behavior itself...we found certain behaviors appear more or less frequently in certain contexts" [10]. It is important to understand better the utilities or values attached by patients to statements in health...
status questionnaires. The next section discusses how specific socio-economic and clinical variables further impact the use of health status measures in evaluating the effectiveness of a managed care organization.

HEALTH STATUS ASSESSMENT OF INDIVIDUALS WITH CHRONIC ILLNESS

Chronic illnesses pose a number of challenges to the tracking of change in health status over time as a measure of the effectiveness of a health care delivery system. The following types or aspects of chronic illness will be, in turn, discussed:

- Acute exacerbation of a chronic medical illness.
- Chronic mental illnesses.
- Chronic illnesses with a progressive downhill course, such as people living with AIDS.

Chronic medical illness

Acute exacerbations of chronic illness, particularly those resulting in hospitalization, are most amenable to the use of health status measures to determine the effectiveness of a health care organization. The acute physical nature of the disability for a patient hospitalized with a flare-up of rheumatoid arthritis is generally responsive to acute medical intervention. Even though the presence of community support such as family is important, the impact of the pharmaceutical and therapy utilized is likely to have an even greater impact. Thus the measurement over a brief period of time, such as a month, of the health status of an individual suffering from an acute flare-up of arthritis should provide information on the effectiveness of the intervention; the same approach has been applied to the six-month follow-up of patients undergoing a total hip replacement [11].

The waxing and waning pattern of most chronic illnesses can be attributed to many factors, including:

- The many factors impacting the effectiveness of the health care intervention.
- Non-medical factors such as worsening of the patient's emotional status, for example due to changes in the family or social support system.
- The natural course of the illness.
- Differences in patient tolerance patterns for pain and other complications of the chronic illness. Two individuals with the same disability may exhibit very differing pain responses. In turn, these pain responses can significantly affect these individuals, perception of other aspects of their health status.

Each of these factors impacts the outcome of care. The effectiveness of the medical intervention represents only one of these factors. In addition, several of these factors (for example, the presence of a functioning social support system) can often be best ameliorated via interventions at a community level as opposed to changes in the doctor–patient interaction.

Mental illness

Both chronic and acute mental illnesses represent an extreme example of the importance of the community/social support system in contrast to the individual doctor–patient interaction. For patients suffering from acute mental illness, there is ample literature documenting a substantial increase in work-related stress leading to a deterioration of the mental health of the working population [12]. Chronically mentally ill individuals including those with manic–depressive illness and schizophrenia do benefit from medication but, just as importantly, need interventions derived from the community at large. Thus, adequate community support services in the form of day treatment programs and group housing—both of which need the support of the surrounding community to exist—are essential for maintenance of an individual's mental health status.

However, acute exacerbation of chronic mental illness is likely to be objectively measured by the mental health portion of health status measures. Thus the treatment of a manic–depressive patient who suddenly enters into a manic phase can be reliably monitored by health status measures.

People living with AIDS

Health status assessment in people living with AIDS is challenging on several fronts:
The natural course of the illness, while unpredictable in its time span, is generally downward.

Health status is much more strongly impacted by community-based influences and resources than by the doctor–patient interaction.

The positive impact of the health care system on people living with AIDS often revolves around the issue of planning for and thinking through the short-term personal future as opposed to specific medical interventions. This may be the one area which could reasonably be monitored to assess the efficacy of a health care system. Thus, for example, a questionnaire could determine whether the patient desires heroic medical interventions. However, this domain is more of a process measure of quality than an outcome measure relevant to health status.

Health status is very much impacted by the patient’s attitude towards the AIDS diagnosis he or she must live with.

Instruments are available for the measurement of health status of people living with AIDS [13]. They are particularly relevant in the evaluation of new medications. However, there are significant problems in the use of health status assessment of people living with AIDS for the purpose of evaluation of the efficacy of a health care organization. For many individuals, there is a relentless downhill course after an initial remission. There is also controversy over the short-term efficacy of currently available treatment. These factors diminish the value of using health status measures for the purpose of measuring the efficacy of a managed care organization.

In contrast, there are interventions, the impacts of which are best understood as process of care measures, which are not pursued by the vast majority of managed care organizations, and yet are likely to be among the most important interventions a managed care organization could execute to assist in the control of this epidemic. Thus, of great importance, the intermediate causes for the transmission of the HIV virus include behaviors (unsafe sexual practices, drug abuse, poor communication between sexual partners) which are rarely impacted or even assessed in the traditional doctor–patient relationship. Community-based interventions, not the measurement of changes in health status, are most likely to have a lasting impact on these behaviors and on this illness.

While health status assessment has little place in the assessment of the efficacy of outcomes of care for most chronic illnesses, there is an important role for health status assessment of these patients within the quality improvement process. In utilizing the results of health status measurement of people living with AIDS, a worsening of health status should prompt the health care organization to, for example, seek improved coordination of services. Put another way, it is the entire process, not the outcome, of care which can be ameliorated by careful use of health status assessment. As will be discussed below, outside consumers, whether they be individuals or large corporate purchasers of care, should examine whether health status assessment is tied to an ongoing process of improving all aspects of care, particularly those aspects of AIDS treatment tied to community interventions (e.g. home IV treatment, physical and mental health treatment by non-physicians).

For policy-makers interested in applying health status measurement to the care of people living with AIDS, one ideally needs to look at community interventions before the onset of AIDS. Thus, the true test of the impact of health status management (see below under community actions) on AIDS should be the degree to which the use of mass communication techniques decreased the incidence of HIV-positive individuals. Is such an activity appropriately the role of a managed care organization which has accepted the responsibility for the management of the outcomes of a particular population or does it more properly belong in the realm of public health such as a state department of public health?

CHALLENGES IN APPLYING HEALTH STATUS MEASURES TO LOW-INCOME AND CULTURALLY DIVERSE POPULATIONS

Health status assessment is particularly challenging when fielded to low-income popu-
Health status measurement in medical care

Specific challenges which still need to be better understood include:
• Illiteracy. Numerous articles document the high illiteracy rate in low-income populations and its possible impact on the health care system [14].
• Discomfort with being asked their opinion of an unfamiliar health care system which may provide the key to government payment, such as general relief.
• The need to adjust health status measures for cultural differences.

Each of these problems adds to the challenge of reliably and validly eliciting patient preferences in low socio-economic groups. Important research studies on the culturally specific responses to health status questionnaires are underway. These include:
• The specification of guidelines on how to develop cross-cultural versions of health status questionnaires [15].
• Development of an adolescent health status questionnaire tested in the Chicano population [16].
• The translation of the SF-36 and other instruments into other languages with attempts to understand the cultural basis for differences in response to this questionnaire [17].
• A better understanding of clinical symptoms within a cultural context [18].

It will be particularly important to ask what is the purpose of measuring health status when determining the health status of low-income populations. As pointed out in this section, significant challenges exist to purposes which might easily come to mind such as the tracking of improvement as a consequence of programmatic interventions. Thus, even with the important research underway, the challenges listed above will limit the use of health status measures in the comparison of managed care organizations. This is particularly true for the chronic illnesses discussed in the previous section; it is less true for acute events such as the effective treatment of asthmatic patients who present themselves acutely to the emergency room. Despite these challenges, health status measurement has a significant role to play in the health care setting. New advances in health status assessment of low-income populations will further enable practitioners to utilize health status measurement for internal Continuous Quality Improvement programs to be discussed below.

HEALTH STATUS ASSESSMENT SHOULD EXPLICITLY INCLUDE AND IDENTIFY THE IMPACT OF COMMUNITY-WIDE INFLUENCES

While health status assessment cannot be pigeon-holed into the medical paradigm, it is important to evaluate the health status of the individual within a community context. Community-oriented health status assessment takes into account socio-economic factors not explicitly acknowledged within the doctor-patient relationship. Thus, dependent variables, such as changes in mental health status, could be arrayed against independent variables such as unemployment rate and quality of housing stock. Such an approach is very much in keeping with a community-wide effort currently underway in Austin, Texas [19]. In this project, many non-health care-based community groups are working with health care institutions to change health care behaviors such as teen pregnancy and addiction. These conditions can be impacted by both community influences and traditional health care interventions. With such a community health status assessment in hand, one could utilize a community-oriented health status management (COHSM) perspective to assess the efficacy of both medical and community-based interventions.

COHSM involves:
• Knowledge of individual health status and its relationship to both community and medical influences. COHSM needs to integrate traditional community planning with individual planning characteristic of the traditional doctor-patient relationship. Thus, assessment of emotional status or social support of individuals must be followed up or tied to an assessment of aspects of the community (e.g. lack of housing) which may represent an integral aspect of the maintenance of strong emotional status.
• A focus on vulnerable populations. This includes low-income populations and that small percentage of the middle-class/upper-income population which is chronically ill.
with disabilities significantly impacting their way of life. It is these populations which health care delivery systems should be most concerned with. Unfortunately, the market incentive for managed care organizations encourages a focus on the relatively well, typically middle-class, individual [20].

- The identification and involvement of community elites, such as individual activists and recognized community groups, which can contribute to improved health status of vulnerable populations. The involvement of non-health professionals in the assessment and management of health status of individuals represents a realization that many aspects of the community have an impact on individual health status.

The use of mass communication techniques represents a key contribution of COHSM. Such an approach goes well beyond the traditional doctor–patient relationship. Campaigns based on these techniques can be successful when

- there is widespread belief, as in asthmatics, in the efficacy of the treatment.
- the media can increase understanding of the issue, to stimulate interpersonal communication and to recruit individuals to participate in campaign activities [21].

Unfortunately, it is likely that a shift in emphasis from individual health status assessment to COHSM will not occur for the foreseeable future. It will be very challenging to shift the current health status research strategy because:

- academic medical researchers understandably concentrate on policy issues for which there is financial support. Thus, studies pertaining to managed care organizations largely highlight the traditional medical paradigm consisting of the impact of a health professional on individual health status and which de-emphasizes the impact of other community factors on individual health status;
- a community health status assessment strategy is inconsistent with the current direction of health reform which focuses on the traditional medical paradigm. This is in contrast to community-oriented health status management which emphasizes the change in health status of a community over time and takes into account influences outside the traditional doctor–patient paradigm. Report cards, which purport to offer information to individual enrollee decision-makers, represent the ultimate manifestation of the current health reform strategy. Preliminary data indicate that this strategy faces considerable challenge in meeting its goal of empowering individuals to make choices from competing managed care organizations [22]. Recent research documents show such a strategy will likely have even less impact on vulnerable populations [23]. Community-oriented health status management is in conflict with the current health reform approach which emphasizes an individual health care quality report card in contrast to the changes in health status of a community over time;
- of the cultural/political need to emphasize insured middle-class needs in any health reform process. The irony is that, except for that relatively small percentage which is chronically ill, health status assessment may be less relevant for the vast majority of the insured middle-class in contrast to low-income populations. The use of health status assessment to measure the efficacy of treatment of the well, likely to have health insurance, middle class is less relevant for a population which primarily suffers from minor acute illnesses and has optimal levels of health status. Thus, traditional health status assessment is entirely misdirected if one is trying to improve the health status of those least in need (middle class) but is consistent with meeting the political needs of the current health reform strategy which is aimed primarily at cutting costs and at least providing the perception of improved access for the insured middle class.

THE ROLE OF QUALITY IMPROVEMENT IN COMMUNITY-ORIENTED HEALTH STATUS MANAGEMENT (COHSM) AND MANAGED COMPETITION

The process of quality improvement is enhanced in two ways when health status assessment is tied to a community focus:

- Unlike the managed competition report
card concept in which managed care organizations are compared at one point in time, COHSM emphasizes the long term and the measurement of health status over many points in time [24].

• Both quality improvement and COHSM emphasize the expedition and resolution of systemic causes for issues needing improvement.

By its very nature, COHSM will have widely varying success depending on numerous factors. Many of these factors are embedded within the community and are resistant to short term interventions such as those embedded within the traditional doctor–patient relationship. However, the quality improvement philosophy which emphasizes organizational commitment to a long-term process is particularly suited to COHSM. Thus, a fish bone diagram indicating the sources of transmission for the AIDS virus can provide the basis for many community-based interventions which, of necessity, must take a longer term perspective and require other resources than those contained within the doctor–patient relationship.

The quality improvement process is less consistent with the philosophy of managed competition in which employees compare the results of different outcomes with the expectation of immediate change on the part of the consumer. It is understandable that patients who are recipients of tomorrow’s procedure want to have it performed by the physician with the best results yesterday. As a reporter recently put it:

What a consumer wants to know is “What are my chances of benefitting from a specific course of treatment or surgery compared to most people’s chances?” [25].

In contrast, developing a quality improvement process surrounding health status assessment of, for example, AIDS patients necessitates a societal perspective if one is to, for example, make an impact on the sources of AIDS transmission. This approach is very much in keeping with the approach espoused by the quality improvement movement in which “systemic” causes are sought for in trying to make slow incremental change. Systemic causes are important to examine when looking at changing societally based issues, and one must expect a slow incremental change.

For the foreseeable future, a great deal of attention will be focused on managed competition, an approach to health care delivery which will, at first, avoid community-wide influences. This avoidance will occur because managed care organizations will make every effort to market their services to healthier individuals—even if technically they will not discriminate against enrollees. While excellent measures of severity and co-morbidity exist, there are no methodologies which are able to risk adjust capitation rates with a predictive capacity of more than a few per cent [26,27].

Over time, the traditional avoidance of community-wide influences by MCOs will change as their number in a defined geographic area decreases and the remaining MCOs begin to develop vertically integrated delivery systems. This has already begun to occur in Minneapolis–St. Paul—the most mature managed care market in the United States. Prudential, the last of the major commercial insurers left in the twin cities, shut down its operations, leaving health care delivery to three local MCOs [28]. The remaining MCOs will be forced to enrol populations which they might not have ordinarily chosen.

Once this “maturing” of the managed care market occurs, providers will begin to focus on community-wide influences. In such a situation, there may be interest in both provider and patient assessments of health status. Discrepancies between health status assessments may reflect a number of factors including chronicity, provider knowledge of the patient, and provider assessment of the efficacy of her intervention in contrast to a patient’s desire to improve health status.

Both of these assessments are important for many purposes, including:

• Determining whether resources should be directed at community-wide efforts or specific medical interventions.

• Providing physicians with aggregate information on the discrepancy between patient and provider assessments. Few studies have been done collecting both provider- and patient-derived health status. While the research community constantly emphasizes that patient-centred concerns and self-
reports are valid, the implicit assumption in the research community is that, when differences often exist between patient and provider assessments, the former must be "right" and the provider must be "wrong". Instead of this approach, physicians and other members of the health care team should take the approach that these differences can provide important information. This information can be critical in a number of areas ranging from the establishment of quality improvement teams to better understanding discrepancies between providers and clinicians in specific areas. Significant discrepancies may also be due to differing perceptions between the patient and provider of the efficacy of medical intervention. This, in turn, might enable clinicians to explain to patients the limitations of medical interventions and possibly request the substitution of a community intervention.

CONCLUSION

There are two principal challenges to the clinical and policy use of health status measures:

- From a conceptual framework, differing patient utilities attached to health status statements need to be better understood.
- The impact of influences outside the doctor–patient relationship on health status assessment needs to be clarified.

Traditional use of health status assessment underestimates the importance of the community-based interventions and inflates the impact of the traditional doctor–patient relationship on individual health status. This is particularly problematic as proponents of health status measurement claim that use of these instruments provides a means of comparing the effectiveness of managed care organizations. This article has indicated possible challenges to this belief.

These challenges can be met if one uses the information derived from health status assessment for promoting internal continuous quality improvement efforts. In addition, as part of these efforts, provider-derived assessments of their patients should also be obtained in an effort to understand patient needs within a framework of available resources.

There is an important unexpected benefit to this difficulty in the use of health status assessment to measure the effectiveness of managed care organizations. As the focus on tying outcomes measurement to managed care effectiveness founders particularly for the conditions discussed in this paper, policy-makers will redirect their attention and hopefully look to the appropriate dependent variable to be measured when looking at health status assessment. Policy-makers may be tempted to include the entire community within the purview of health status management. Thus, the headlong push toward health status assessment of all may have the unanticipated benefit of concentrating increasingly scarce resources on vulnerable populations. It is low-income populations and those individuals with debilitating chronic diseases, such as AIDS and paraplegics, who need an integration of the benefits of the classical doctor–patient relationship with social interventions at a community level. Only through the appropriate analysis of societal resources can health status be appropriately measured and monitored. The tracking over time of this type of measurement could provide an important indication of the value provided by a health care organization entrusted with the management of the care of chronically ill and low-income populations.

REFERENCES


