How the Current System Fails People With Chronic Illnesses

Reinhard Priester Robert L. Kane Annette M. Totten

Copyright 2005 by the Society of Actuaries.

All rights reserved by the Society of Actuaries. Permission is granted to make brief excerpts for a published review. Permission is also granted to make limited numbers of copies of items in this monograph for personal, internal, classroom or other instructional use, on condition that the foregoing copyright notice is used so as to give reasonable notice of the Society's copyright. This consent for free limited copying without prior consent of the Society does not extend to making copies for general distribution, for advertising or promotional purposes, for inclusion in new collective works or for resale.

Abstract

The Institute of Medicine concluded in 2001 that with regard to quality, "between the health care we have and the care we could have lies not just a gap, but a chasm." In fact, the chasm is not only over quality. The lack of access, financial barriers, high costs and workforce shortages are among the other dimensions of our health care system that further expose the chasm between "what is" and "what should be." These deficiencies are particularly troubling for people with chronic conditions who, on average, use the health care system more frequently, consume more health care resources and are more likely to see multiple health care professionals and have longterm relationships with them. When the health care system fails, chronically ill patients are often harmed the most. The foremost reason America's health care system cannot optimally provide the services needed by people with chronic conditions is that the system remains based on an episodic, acute care medical model. In addition, care is often fragmented and poorly coordinated, families' and patients' roles are too restricted, information technology (IT) is not fully utilized, too few providers are adequately trained in chronic care and economic incentives are at odds with quality care. This paper explores these deficiencies and examines how they hinder the provision of optimal chronic illness care.

A version of this paper will appear in Kane, R. L., Priester, R., & Totten, A. (in press) *Meeting the Challenge of Chronic Illness*. Baltimore, MD: Johns Hopkins University.

Reinhard Priester, J.D., is a coordinator, Division of Health Services Research and Policy, School of Public Health, University of Minnesota; Robert L. Kane, M.D., is a professor and Minnesota Chair in Long-Term Care and Aging, School of Public Health, University of Minnesota; and Annette M. Totten, Ph.D., is a research associate, Division of Health Services Research and Policy, School of Public Health, University of Minnesota

1. INTRODUCTION

In its influential 2001 report, *Crossing the Quality Chasm, A New Health System for the 21st Century*, the Institute of Medicine's Committee on the Quality of Health Care in America found serious deficiencies in our health care system and concluded that "between the health care we have and the care we could have lies not just a gap, but a chasm" (Institute of Medicine, 2001). Although the IOM's committee focused only on the quality of health care, the chasm the committee identified is in fact much broader. In addition to quality concerns, the lack of access for millions of Americans, financial barriers, high costs, inadequately trained and too few health care professionals and other dimensions of our health care system further expose the gap, or chasm, between "what is" and "what should be."

The deficiencies in the health care system are particularly troubling for people with chronic conditions. On average, people with chronic conditions rely more heavily on the health care system; they use the system more frequently, consume more health care resources and are more likely to see multiple health care professionals and have long-term relationships with them. Chronic illness care is the predominant challenge facing America's health care system. Nearly 125 million Americans, roughly half the total population, report having at least one chronic condition and 60 million of them have more than one chronic condition (Wolff, Starfield, & Anderson, 2002). By 2020, 157 million people in the United States are projected to have at least one chronic condition. The cost of caring for people with chronic conditions will continue to increase as well, from an estimated 75 percent of total health care expenditures in 2000 to nearly 80 percent in 2020 (Wu & Green, 2000).

Thus, when the health care system fails, chronically ill patients are often harmed the most. Regarding chronic illness care, the deficiencies of our health care system can be grouped into three categories: structure and function; payment; and personnel. This paper explores some, but by no means all, of the deficiencies in each of these categories and examines how they hinder the provision of optimal chronic illness care.

2. Structure and Function

The structure and function of the health care system refers to the way in which hospitals, physician practices, clinics, rehabilitation centers, long-term care facilities, health plans and the other components of the system are configured, both as independent entities and as parts of a larger whole. It also refers to how those components relate to and interact with one another. The "structure and function" of the health care system thus encompasses both how the components of the system are put

together and how they, and the system as a whole, perform or do their jobs. Deficiencies in the structure and function of the health care system that hinder optimal chronic illness care include fragmented and poorly coordinated care, restricted roles for patients and families, failure to practice evidence-based medicine (EBM) and inadequate use of IT. But the fundamental failure of our health care system relative to chronic care is that the conceptual model of care that lies at the system's foundation does not support optimal chronic illness care.

2.1 Wrong Model of Care

At its core, our health care system rests on a conceptual model. Conceptual models are designed to make sense out of complex events in the world and to help organize our responses. Micro-economics, for example, uses Adam Smith's conceptual model of a perfectly competitive market to both understand economic transactions and shape policies to achieve desirable economic goals. In a similar fashion, the conceptual model that underlies our health care system constitutes the reference framework we use to understand and treat health problems. The model helps, for example, determine what counts as a "disease," set the proper boundaries of health professionals' responsibilities, establish the appropriate response of the health care system to those who are "sick" and shape societal attitudes toward patients.

The conceptual model at the foundation of America's health care system is the acute care model. As a result, the system is structured first and foremost to prevent, diagnose and treat acute medical conditions. The acute care model adopts a disease orientation, is firmly grounded in science and is principally focused on the pathology and pathophysiology of body functions and structure. In this model, diseases are narrowly defined as abnormalities or deviations from what is normal. The language of science (primarily the biological sciences) is used to establish both what is "normal" and which deviations from the norm are sufficient to warrant the label "disease." Thus the model helps determine, for example, whether a child who is markedly shorter than his peers can be said to have a disease, rather than being merely short. Short stature due to a deficiency in human growth hormone is recognized as a disease, whereas short stature due to no known natural causes (idiopathic short stature) typically is not. The model also influences the response: treatment for a child with growth hormone deficiency is accepted medical practice whereas medical interventions to increase the height of a short child without a recognized disease are seen as inappropriate. Health insurers typically pay for the former but not the latter.

The acute care model has been enormously successful for understanding and treating many medical conditions, resulting in remarkable achievements in identifying

the causes and mechanisms of disease and in developing effective treatments. This has vastly reduced the incidence of infections diseases and ameliorated many other medical problems. Although it is important to acknowledge the successes of this model in improving treatment for acute conditions, the acute care model nonetheless is not a sound framework for responding to chronic conditions.

Chronic conditions differ from acute conditions on a variety of important dimensions. Acute conditions generally have a sudden onset. They last for only a short period of time and usually are stopped with the appropriate care or end spontaneously, without requiring ongoing treatment. They usually end with cure but sometimes with death. In general, an illness or condition is considered chronic if it has persistent or recurring health consequences lasting for a substantial period of time (variously identified as at least three months, six months, or longer), is not self-limiting, waxes and wanes in terms of severity and typically cannot be cured. The essential aspect of a chronic condition is its lengthy duration. (*Chronic* is derived from the Greek, *khronos*, meaning "time.") A chronic condition is enduring and not simply a series of disconnected complaints.

In addition to differences in duration, the sudden onset of most acute conditions contrasts with the progressive nature of many chronic conditions. People "come down" with an acute illness, whereas they "develop" a chronic condition. Also in contrast to acute conditions, chronic conditions tend to have multiple causes and can occur long after the causative exposure or behavior. For example, a person's exposure to carcinogens such as asbestos fibers can lead to a chronic lung condition several decades later. Acute and chronic conditions also differ markedly in their impact on a person's health and life. In acute conditions the threat to a person's health is discrete and relatively brief. In chronic conditions the threat is ongoing, long-lasting and global—affecting the social, physical, psychological and economic aspects of the person's life.

The acute care model leaves little if any room for the social, psychosocial and behavioral dimensions of chronic illness (Tinetti & Fried, 2004). It does not provide for the commitment to continuing care. It is also not broad enough to account for and aid understanding of the types of human distress experienced by people with chronic conditions. These include challenges to the "person's self-image and sense of meaning and purpose in life" (Jennings, Callahan, & Caplan, 1988) and the suffering that occurs due to disruptions in the patient's "extended system," including their family, friends, work associates and community (Cassell, 1991). Furthermore, the acute care model undervalues the importance of a variety of other key facets of chronic illness care, including the influence of lifestyle factors such as nutrition and exercise in preventing or managing a chronic condition, the likelihood of depression or other mental health

issues accompanying a chronic condition, the vital role of families in supporting and caring for a chronically ill family member and the influence of the environment in understanding the causes of and developing appropriate responses to chronic conditions.

To paraphrase the IOM's Committee on Quality, between the care encompassed by the acute care model and the care needed by people with chronic conditions lies not just a gap, but a chasm. Health care based on the acute care model focuses on treating immediate presenting symptoms, and often discounts the sustained impairments that threaten the health status and diminish the functioning of people with chronic conditions. Similarly, acute care's emphasis on cure seems misplaced when directed to chronic conditions, most of which can never be resolved. The episodic nature of acute care is also at odds with the long-term monitoring and continuous support and care needed by people with chronic conditions to prevent exacerbations and maintain their functional abilities.

Because America's health care system is structured principally to respond to acute conditions, it fails to effectively meet the needs of people with chronic conditions (Tinetti & Fried, 2004). The predictable consequence of a system built on the acute care model is the current chasm between the reality of having to respond to chronic illness in our society and the way our health care system actually deals with chronic illness. While the system does not ignore chronic conditions themselves, it continues to respond to them as if they were acute and episodic, treating symptoms as they occur. The care for persons with chronic conditions is often a "poorly connected string" of clinician-patient encounters (Rothman & Wagner, 2003). Consequently, the system ignores the fundamentally different approach that is needed to care for people with chronic conditions, that is, managing the conditions long-term and responding to the myriad ways they impact peoples' lives. The problem is not that people with chronic conditions do not receive care in our health care system; rather, the problem is that their care is provided in a system principally designed to treat a wholly different type of condition and thus ill-equipped to adequately respond to chronic conditions.

In sum, the distance between "what is" and "what should be" for chronic illness care persists as the health care system continues to emphasize acute care—in the provision of services, the education of health care professionals, the research and development of new technologies and the system's financing. The foremost reason why America's current health care system cannot optimally provide the full complement of services needed by people with chronic conditions is that the system remains based on an episodic, acute care medical model.

2.2 Fragmented, Poorly Coordinated Care

In the current system, care for people is often fragmented and poorly coordinated. While this may jeopardize health care quality and efficiency for any patient, it is particularly troublesome for those with more than one chronic condition. To meet their complex needs, patients with chronic conditions often receive care from multiple clinicians, who may work independently from each other. Each of the clinicians may provide one or more of the services that comprise the full spectrum of care the patient needs, such as medical, mental health, rehabilitation, prevention and supportive services. Yet the clinicians rarely communicate with each other about the patient's care. By functioning in separate "silos," the clinicians (and the clinics and health care organizations where they practice) often do not have complete information about the patient's condition or treatment history, a major source of medical errors.

This "silo-based" approach to care is a hallmark of our fragmented system, hampering the "coordinated, seamless care across settings and clinicians and over time" that is needed to effectively meet the needs of people with chronic conditions (Institute of Medicine, 2001). It also results in inefficiencies since discrete health care providers will often duplicate laboratory and radiological investigations and other diagnostic services, especially if medical records and other patient care information are not shared. Compounding the complexity and inefficiency, each of these segments of care may have its own distinct management information system, payment structure, financial incentives and quality oversight. Patients find this complicated, uncoordinated 'system' extremely confusing and a "nightmare to navigate" (Picker Institute, 1996).

The fragmented system hampers the follow-through and coordination of care across the entire spectrum of care processes. Information about a patient's health and treatments is rarely centralized, well-organized or easily retrievable, "making it nearly impossible to manage many forms of chronic illness that require frequent monitoring and ongoing patient support" (Institute of Medicine, 2001). Coordination of care for a chronically ill patient is particularly important when many different individuals—including various health care professionals as well as the patient, family members and other informal caregivers—are involved in managing the patient's conditions. The discrete, yet interconnected tasks performed by these individuals, often in disparate areas of the health care system as well as in the patient's home, must be linked and coordinated in order to ensure that desired outcomes are achieved efficiently.

But the coordination of care for chronically ill patients, including the integration of medical with non-medical services, is often overlooked. Rarely in a fragmented, poorly coordinated health care system is a single health care professional or entity

responsible for a patient's overall care. Instead, clinicians and other health care professionals may feel responsible only for the care and services they themselves provide, and neglect or overlook integrating and coordinating all of the care their individual patients receive. Even when a clinician strives to stay abreast of his patient's overall care, the system's fragmentation may thwart such efforts. Imprecise clinician responsibility increases the chance that some services may conflict with others (e.g., medications prescribed by different clinicians may interact and harm a patient) and that still other needed services may not be provided at all.

Patients with chronic conditions suffer from fragmented services in another sense—when they are treated not as persons but instead are segmented or compartmentalized into discrete organs or body systems. If health care professionals treat a malfunctioning system of the body rather than the person as a whole (i.e., treat disease in the patient rather than treat the patient with disease), treatment can become a series of medical interventions that target only the disease and ignore the ill person. Such a disease-centered—as opposed to a person-centered—approach risks providing care that the person may not want. By treating a patient's diabetes, for example, rather than treating the patient who has diabetes, a clinician may focus narrowly on using intensive monitoring, aggressive follow-up and systematic assessments to control blood sugar levels and other aspects of the disease, thereby reducing the risks of future complications. Even if the patient shares the goal of reducing the chance of blindness or other complications of diabetes, a singular focus on such narrow medical goals may ignore the patient's interest in keeping the management of the disease from overwhelming other aspects of his or her life (Wolpert & Anderson, 2001).

2.3 Restricted Roles for Patients and Families

For chronically ill patients, the condition and its consequences "interact to create illness patterns requiring continuous and complex management" (Holman & Lorig, 2000). Effectively managing chronic conditions requires intimate understanding of these illness patterns. Patients, not their clinicians, are best positioned to accurately detect and characterize such patterns. Only they can provide the personal information regarding the impact of the condition on their health and well-being that is necessary for effective management. Effective chronic illness care must therefore allow and encourage patients to be more engaged in their own care. "Self-management" refers to a variety of activities individuals undertake with the intention of limiting the effects of their illness. These include participating in decisions about treatment and sharing responsibility for them by, for example, monitoring their health status, reporting changes or unexpected events and adhering to agreed-upon treatment. "Unlike much acute care, effective care of the chronically ill is a collaborative process, involving the definition of clinical problems in

terms that both patients and providers understand; joint development of a care plan with goals, targets and implementation strategies; provision of self-management training and support services; and active, sustained follow-up" (Von Korff et al., 1997).

Generally, people with chronic conditions have better health outcomes and are more satisfied with their care if they participate actively in the management of their health and health care (Leveille et al., 1998; Lorig et al., 1999). Yet many patients do not have the needed skills and competencies for this role. Some patients desire a more passive approach to their health and health care or may be uncomfortable managing their own care and thus may not seek to acquire such skills and competencies. For patients who want to become more actively engaged, however, health care providers and health plans often fail to prescribe, provide, or reimburse the necessary educational materials and empowerment tools to build self-efficacy and self-management skills or to support their efforts to manage their own care. Even when patient education services are provided, they are often sporadic, unplanned and superficial, given the lack of coordination among providers. In addition, the current system often fails to acknowledge and address the impact of a person's chronic illness on other family members, both as caregivers and as family members.

2.4 Failure to Practice Evidence-Based Medicine

EBM is defined as "the conscientious, explicit, and judicious use of current best evidence in making clinical decisions about the care of individual patients" (Sackett et al., 1996). In a nutshell, EBM is designed to take the best available scientific information and help clinicians apply the results in clinical practice. All too often, innovations in clinical practice have had little impact beyond a few leading medical groups and institutions.

In theory, EBM will improve the quality of care by closing the gap between the treatment recommended on the basis of clinical evidence and the treatment actually provided—between knowing and doing. Examples of this so-called "treatment gap," i.e., the differences between the treatment recommended on the basis of clinical evidence and the treatment actually provided, include the failure to prescribe the most effective medications, inadequate follow-up and monitoring and many examples where the care provided failed to follow widely accepted practice guidelines, resulting in the underuse, overuse and misuse of services in the care of patients. Such problems have been well-documented for patients with chronic conditions throughout the health care system (Institute of Medicine, 2001; McGlynn et al., 2003). For example:

- The Diabetes Quality Improvement Project recommends routine monitoring of HgbAlc protein, a marker for glucose. Only 29 percent of diabetic patients reported having this test during the previous year (Saadine et al., 2002).
- 24 percent of patients with unstable angina who were "ideal" candidates for treatment with aspirin during hospitalizations did not receive aspirin during their hospital stay (Simpson et al., 1997).
- Less than 25 percent of Americans with major depressive disorders are receiving adequate treatment (Kessler et al., 2003).
- Overall, even when evidence-based guidelines exist, a chronically ill patient has just a 56 percent chance of receiving the recommended care (McGlynn et al., 2003).

Efforts to promote EBM include the identification and dissemination of research findings about effective clinical practice, the development of innumerable (sometimes competing) practice guidelines and assessments of the safety and effectiveness of existing and emerging health care technologies. The common aim of these activities is to find out what works in health care and what does not, and to promote the appropriate use of those interventions that work and minimize the use of those that do not.

However, EBM has several limitations. The base of evidence about the safety, effectiveness and cost-effectiveness of health care interventions is not as great as some believe, certainly not evidence derived from well-executed scientific studies. When such evidence does exist, it may be restricted to carefully defined instances that do not directly relate to actual practice, especially when patients' chronic conditions are made more complex by the interactions of other diseases. In many instances, scientific evidence to support EBM has had to be supplemented by professional consensus. Still, even where good scientific evidence does exist, clinicians unfortunately may not use it.

2.5 Failure to Optimize Information Technology

IT is critical for delivering good chronic care. In the context of health care, IT encompasses all forms of technology used to create, store, exchange and use information to support the delivery and processes of health care. IT includes single task systems, such as computerized patient health records, as well as complex, integrated systems that can meld together multiple tasks such as ordering medications and lab tests, billing and patient records. The IT toolbox in health care includes discrete devices, such as PCs and handheld computers, as well as e-mail and Web-based technologies that allow health care providers to communicate with patients and monitor patient care remotely.

Health IT can play several crucial roles, including:

- 1. Providing clinical decision support
- 2. Collecting and sharing clinical information
- 3. Reducing medical errors
- 4. Enhancing patient/clinician interactions
- 5. Educating and informing patients.

Many believe that IT has significant untapped potential for improving chronic illness care. IT is expected to improve the flow of information and improve the quality of decisions by getting the right data to the right people at the right time—when decisions need to be made—and thereby producing better care and providing care more efficiently. Nevertheless, the rate of adoption of IT in health care has been slow, relative to many other industries. Despite its promise, there has been great reluctance within health care to invest heavily in IT, outside of financial accounting and billing. As a result, "the U.S. health care system remains mired in a morass of paper records and bills, fax transmittals and unreturned phone calls" (Goldsmith, Blumenthal, & Rishel, 2003).

3. Personnel

3.1 Workforce Shortages

Patients with chronic conditions will continue to receive care from a wide range of health care practitioners. While projecting the future demand and supply of health care professionals in chronic illness care is imprecise at best, the consensus is that without significant changes in health professional education, there will be too few practitioners trained to deal with the manifold needs of patients with chronic conditions. One concern is the decline in the number of primary care clinicians (Grumbach & Bodenheimer, 2002). Since primary care is the foundation for most chronic illness care, this decline is troubling, especially in light of the projected increase in demand for chronic care services.

Another concern is the number of clinicians who care for particular subpopulations of chronically ill patients, such as elderly patients with multiple chronic conditions. Because of their special training in aging and age-related disease, maintaining and improving functional status and managing chronic conditions, geriatricians are often the most qualified to treat such patients. There are, however, relatively few practicing geriatricians and their number is expected to decline in the near future as practicing geriatricians retire at a faster rate than new trainees enter

practice (Warshaw & Bragg, 2003). Beyond the shortage of geriatricians is the inadequate training for medical students who do not specialize in geriatrics. Although most physicians will see elderly patients at some point in their practice regardless of their specialty, few receive much formal training in the specific needs of this population.

Though the projected supply and demand for physicians caring for chronically ill patients is hotly debated, the shortage of nurses is well-documented and unquestioned. As with physicians, the shortage of nurses with special training to care for older persons is a particular concern. The demand for advanced practice nurses (registered nurses with advanced education and clinical training in fields such as adult or pediatric health) has increased in recent years and the number of such clinicians has risen as well. However, there are relatively few advanced practice nurses with specific geriatric training to respond to the unique needs of elderly patients (Cooper, 2001).

3.2 Inadequate Training in Chronic Illness Care

Managing chronic conditions demands skills and knowledge that extend beyond traditional biomedical training for preventing, diagnosing and treating acute conditions. Care coordination abilities, behavior modification techniques and patient education are among the broader set of skills health professionals will need to provide optimal chronic care. Health education curricula, however, have not kept pace with changes in the health needs of the population, such as the rise in chronic conditions. Specifically, the current curricula for many health care professionals, but particularly for physicians, do not provide adequate training in the principles of good chronic illness care, such as promoting patient-centered care, using information technology and information systems, practicing EBM and working in interdisciplinary teams.

In addition to less than adequate training in these key chronic care competencies, health professional students do not receive enough of their training in the settings in which they will provide the vast majority of care to patients with chronic conditions. Most medical and clinical training continues to transpire in hospital settings, even though the system is rapidly moving more care into ambulatory practice. Moreover, since a hospital admission for a chronically ill patient typically results from an exacerbation of the illness, a breakdown of normal caregiving systems or further deterioration in function, health profession trainees see such patients at their worst, rather than in less crisis-oriented ambulatory settings.

4. Payment

4.1 Misaligned Financial Incentives

Financial incentives can serve as primary motivators or re-enforcers for behavior change among providers, patients and other stakeholders. Yet few incentives in the current health care system promote effective chronic care. Instead, the predominant payment schemes represent major barriers. However motivated some health care stakeholders may be to implement changes to improve chronic illness care, few will operate counter to their economic interests (Leatherman et al., 2003). A core element for improving chronic illness care will thus be to develop and adopt payment approaches that include appropriate financial incentives.

Payment methods in America's health care system are varied and complex, linking health plans, providers, patients and other stakeholders through various financial transactions. Current methods often do not align financial incentives with the goal of optimal care for patients with chronic conditions. For example, the primary methods of clinician reimbursement (that is, the methods for paying clinicians for the services they provide) include fee-for-service (FFS), capitation and salary. Each creates perverse incentives for patient care. The incentive under FFS reimbursement is to provide as many reimbursable services as possible, creating the potential for overuse of services, and not to provide uncovered services that may ultimately be cost-effective, such as active patient monitoring by phone or computer. On the other hand, FFS minimizes incentives for avoiding patients who are difficult to treat, such as patients with multiple chronic conditions.

Capitation arrangements, which pay clinicians based on the number of people they care for and not the quantity of services they actually provide, have the opposite economic incentives. Clinicians paid by capitation bear the financial risk, creating the potential for underuse of services. Under capitation, clinicians have the incentive to sign up more consumers (patients) and do less for each, as well as to avoid high users of care, such as patients with multiple chronic conditions. Salary methods may be the most neutral form of clinician reimbursement; however, they have "the potential for reduced productivity if sufficient rewards are not built in" (Stoline & Weiner, 1993). FFS is the dominant payment method for physicians; the popularity of capitation methods waxes and wanes; and though an increasing number of physicians now earn at least part of their income as salary, fully salaried doctors remain the exception to the norm. In contrast, most other clinicians, such as advanced practice nurses, are salaried employees.

Our health care system may create perverse financial incentives at the health plan level as well. Most of the discussions about creating suitable incentives for health plans focus on the problem of selecting enrollees. Capitated health plans, such as HMOs and other managed care plans that receive a predetermined per capita fee, should theoretically have incentives to provide to their enrollees preventive and other services designed to keep them healthy, slow the progression of disease or otherwise reduce enrollees' future use of health care services. However, the financial reward of such efforts sometimes isn't captured until 10 or 20 years in the future, particularly for efforts targeting slow-developing and long-term chronic conditions (e.g., diet and exercise programs to reduce risks for diabetes). A health plan would thus reap a reward only if enrollees who participate in the plan's health promotion and risk reduction programs remain with the plan long-term. However, annual open enrollment and other features of our health care system facilitate and encourage consumers to switch among health plans. This undercuts incentives to provide such programs since the health plan that incurs the programs' costs is not necessarily the same plan that captures the financial pay-off. The same arguments also apply to hospitals, integrated health systems and other provider organizations. While diabetes management programs and other quality improvement initiatives, for instance, improve health outcomes and may save health care dollars over the long run, current payment policies do not offer provider organizations financial incentives to develop and implement such initiatives. The prospect for a positive return on investment within a reasonable period of time for the parties that invest in these initiatives, i.e., the "business case," is weak or nonexistent (Leatherman et al., 2003).

Another feature of the health care financing system provides a second disincentive for health plans to improve chronic illness care. Insurance spreads the financial risk of unexpected events. The essential logic of health insurance is to spread this risk across "a very broad pool in which the currently well subsidize the currently ill" (Kuttner, 1998). The structure of the U.S. health insurance market of competing health plans, voluntary participation, choice among health plans and payments that generally do not take into account individuals' health status means that the market currently rewards those health plans that enroll more of the "currently well" and avoid the "currently ill." When health plans pursue these rewards, the burden falls most heavily on people with chronic conditions, who comprise the majority of the "currently ill" and are, on average, the most costly enrollees for a health plan. Furthermore, health plans that achieve good outcomes for such enrollees would not want that information publicized if it leads to increased enrollment of more people with chronic conditions. Being identified as a health plan that is good for people with chronic conditions could be financially harmful to the plan.

Health plans have begun to aggressively pursue strategies for turning the unexpected events that trigger utilization of health care services into predictable occurrences. One such strategy, "predictive modeling," uses sophisticated software to attempt to accurately predict who will develop a chronic condition that may require expensive services (McCain, 2001). While such strategies would theoretically allow a health plan to target timely health care interventions to prevent or at least ameliorate the predicted condition, under the current financing system the plan would also have a financial incentive to identify and then remove such patients from their enrolled population.

4.2 Coverage Gaps

Many private health insurance plans as well as public programs such as Medicare do not cover or inadequately cover some of the most important services that people with chronic conditions need. Generally, health insurance plans give priority to acute, provider-directed medical care over the clinical and non-clinical supportive services needed by people with chronic conditions. The coverage and benefits policies of public and private health plans also often encourage costly, institutionally based care in favor of less costly supportive home- or community-based services. Specific coverage problems for patients with chronic conditions include inadequate coverage for preventive services, patient assessments and the coordination and management of care. Similarly, few health plans reimburse physicians for teaching patients how to better manage their own chronic condition. The most pernicious coverage gap, of course, concerns the 40 million and counting uninsured Americans, many of whom have a chronic condition, who consequently suffer the greatest hardship in our patchwork health care system.

5. Summary

The current health care system is ill-equipped to treat patients with a chronic condition and breaks down quickly when confronted with patients with multiple chronic conditions. The reactive, crisis oriented acute care model focuses on treating a patient's immediate needs or symptoms and views each patient interaction with the health care system as an isolated encounter. It typically ignores the interdependent nature of multiple conditions; thus failing, for example, to connect a diabetic person's depression with the resultant loss of appetite, which can lead to malnutrition, which can exacerbate their diabetes, and so on. Treating and managing multiple conditions highlights the fact that effective chronic care entails moving beyond a series of encounters to monitoring patients over the long term and providing "longitudinal care." Such care must be consistent over time and coordinated, so that the various

services reinforce each other toward achieving common goals. The care provided over the long term varies primarily in intensity, responding to changes in the patient's health status. An ideal health care system should also follow a patient with chronic conditions through successive acute care episodes and facilitate the transitions prior to and following intensive treatment such as surgeries or hospitalizations.

Improving chronic illness care will require more than minor adjustments and accommodations to a health care system based on the acute care model. Optimal care for people with chronic conditions requires a different type of health care system. The solution, however, does not require discarding the infrastructure in place for acute care, which will need to continue to treat acute medical conditions. Rather, a new system is needed that overlays the current system that can only respond in a fragmented and disjointed way to the needs of patients with chronic conditions. Foremost, a new conceptual model of care is needed that would then serve as the foundation for the chronic care component of the system by encompassing the health as well as the social, psychosocial and behavioral dimensions of illnesses.

References

- Cassell, E. 1991. *The nature of suffering and the goals of medicine*. New York, NY: Oxford University Press.
- Cooper, R.A. 2001. Health care workforce for the twenty-first century: The impact of nonphysician clinicians. *Annual Review of Medicine* 52:51-61.
- Goldsmith, J., Blumenthal, D. and Rishel, W. 2003. Federal health information policy: A case of arrested development. *Health Affairs (Millwood)* 22(4), 44-55.
- Grumbach, K. and Bodenheimer, T. 2002. A primary care home for Americans: Putting the house in order. *JAMA 288*(7), 889-893.
- Holman, H. and Lorig, K. 2000. Patients as partners in managing chronic disease.

 Partnership is a prerequisite for effective and efficient health care. *British Medical Journal* 320(7234), 526-527.
- Institute of Medicine. 2001. *Crossing the quality chasm: A new health system for the 21st century* (Vol. 2001). Washington D.C.: National Academy Press.
- Jennings, B., Callahan, D. and Caplan, A.L. 1988. Ethical challenges of chronic illness. *Hastings Center Report 18*(1), suppl 1-16.
- Kessler, R.C., et al. 2003. The epidemiology of major depressive disorder: results from the National Comorbidity Survey Replication (NCS-R). *Journal of the American Medical Association* 289(23), 3095-3105.
- Kuttner, R. 1998. The risk-adjustment debate. *New England Journal of Medicine* 339(26), 1952-1956.
- Leatherman, S., et al. 2003. The business case for quality: Case studies and an analysis. *Health Affairs (Millwood)* 22(2), 17-30.
- Leveille, S.G., et al. 1998. Preventing disability and managing chronic illness in frail older adults: A randomized trial of a community-based partnership with primary care. *Journal of the American Geriatric Society* 46(10), 1191-1198.

- Lorig, K.R., et al. 1999. Evidence suggesting that a chronic disease self-management program can improve health status while reducing hospitalization: A randomized trial. *Medical Care* 37(1), 5-14.
- McCain, J. 2001. Predictive modeling holds promise of earlier identification, treatment. *Managed Care* 10(9).
- McGlynn, E.A., et al. 2003. The quality of health care delivered to adults in the United States. *New England Journal of Medicine* 348(26), 2635-2645.
- Picker Institute. 1996. *Eye on patients report*. Washington, D.C.: Picker Institute and American Hospital Association.
- Rothman, A.A. and Wagner, E.H. 2003. Chronic illness management: What is the role of primary care? *Annals of Internal Medicine* 138(3), 256-261.
- Saadine, J.B., et al. 2002. A diabetes report card for the United States: Quality of care in the 1990s. *Annals of Internal Medicine* 136, 565-574.
- Sackett, D.L., et al. 1996. Evidence based medicine: What it is and what it isn't. *British Medical Journal* 312(7023), 71-72.
- Simpson, R.J., Jr., et al. 1997. Improving care for unstable angina patients in a multiple hospital project sponsored by a federally designated quality improvement organization. *American Journal of Cardiology 80*(8B), 80H-84H.
- Stoline, A. and Weiner, J. 1993. *The new medical marketplace: A physician's guide to health care economics in the 1990's*. Baltimore, MD: John Hopkins University Press.
- Tinetti, M.E. and Fried, T. 2004. The end of the disease era. *American Journal of Medicine* 116(3), 179-185.
- Von Korff, M., et al. 1997. Collaborative management of chronic illness. *Annals of Internal Medicine* 127(12), 1097-1102.
- Warshaw, G.A. and Bragg, E.J. 2003. The training of geriatricians in the United States: Three decades of progress. *Journal of the American Geriatric Society* 51(7 Suppl), S338-345.

- Wolff, J.L., Starfield, B. and Anderson, G. 2002. Prevalence, expenditures, and complications of multiple chronic conditions in the elderly. *Archives of Internal Medicine* 162(20), 2269-2276.
- Wolpert, H.A. and Anderson, B.J. 2001. Management of diabetes: Are doctors framing the benefits from the wrong perspective? *British Medical Journal* 323(7319), 994-996.
- Wu, S. and Green, A. 2000. *Projections of chronic illness prevalence and cost inflation*. Washington D.C.: RAND Health.