with some of its insurance companies, the net effect was a squeeze on revenue, a situation that naturally leads to troubling questions about how far improvement can be allowed to outpace the need for revenue.

Improving the scientific basis for managing chronic illness is critical to the reform of health care. To do it right, leading health care organizations from different parts of the country need to be recruited to this mission. Large group practices and integrated hospital networks are uniquely qualified to conduct research that depends on organized delivery systems, and research grants under the comparative effectiveness research agenda need to be targeted to bring such organizations on board. Teaching hospitals, particularly those like the University of California hospitals that exhibit strikingly different patterns of care, even while they belong to the same "system" of care, must also be recruited. Yet research grants will not be enough to ensure rapid implementation of this practice-changing research agenda. The redesign of care for the acutely and chronically ill, geared to improve efficiency and clinical outcomes, may fundamentally alter the resource requirements, changing the need for beds, physician workforce, and equipment—and disrupting the flow of volume of care–generated dollars essential for short-term financial stability. Progress in establishing cost-effective care as the standard of practice will occur at a snail's pace unless these organizations are at least partially shielded from major financial impacts associated with declining utilization rates. This is why the comparative effectiveness research agenda needs to be tied to a shared savings program such as Medicare's "Section 646" demonstration project.

Opportunities for Radical Redesign of Care for Aging America

A distinguishing characteristic of the American culture is its willingness to experiment to adapt to new challenges by figuring out what works, even when this means a radical departure from tradition. Over the past fifteen years, right here in Hanover, practically in the backyard of the Dartmouth-Hitchcock Medical Center, an example of radical redesign has taken place, but the implications for both the patient experience and health care costs have only recently become apparent. The experiment involves the evolution of a primary care–based approach to providing continuous medical care to the residents of a retirement community, located in Hanover, New Hampshire. Most of the 450 members of the community come from professional and business backgrounds, with many holding advanced degrees. As with most senior living communities, the members are sufficiently affluent to be able to purchase their

home and also pay monthly fees. The security they purchase is lifetime care in the community. Once members, virtually all remain until death.

According to Dr. Dennis McCullough, the community's founding medical director, the approach to health care is based in a comprehensive discussion among caregivers and community members around medical care issues, including preferences for care at the end of life. Over time, a close collaboration between community members and care providers has created a "medical subculture" that embraces a remarkably conservative strategy for managing acute and chronic illnesses and care at the end of life. In addition to community participation and regularly repeated education on how the care system works, central elements include early family involvement in all recognized medical problems, promotion of a slowed pace for careful decision making for all chronic problems, and medical consultations as "advice consultations" (as opposed to transfer of patient management). These important elements were identified and implemented jointly with the community of elders. Many retired resident medical and nursing professionals (a number of whom had worked at the Dartmouth-Hitchcock Medical Center) were vital to the initial planning of the community's approach to health care. The approach to care developed by and for the community became the basis for "Slow Medicine," a philosophy and set of practices described in a book by the same name by Dr. McCullough.[6]

The care model is primary care-based, involving one full-time equivalent primary care physician and two nurse practitioners. As with many senior retirement communities, there are onsite facilities for dealing with progressing chronic illness, including a skilled nursing facility (SNF) that is qualified for Medicare reimbursement. The primary care team, composed of three or four people, is accountable for continuous care, on call 24/7, so use of the emergency department is generally avoided. The care team manages referrals to specialists and coordinates all admissions to the nearby Dartmouth-Hitchcock Medical Center. The use of the onsite SNF as a substitute for acute care hospitalization proved to be an important asset for accomplishing the goal of avoiding hospitalization. Even though Medicare does not reimburse the SNF for care unless the stay follows an acute care hospital admission, the members of the community and their providers are dedicated to avoiding acute care hospitalization, if at all possible. For example, patients who experience an acute problem, such as pneumonia or recurrence of congestive heart failure, are routinely monitored and treated in the SNF rather than being sent to the hospital. Physician and nurse practitioner fees are billed on a fee-for-service basis through Medicare. Care at the end of life, with rare exceptions, takes place within the community.

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The success of the community's redesign of clinical practice in meeting the goals of the community for conservative management of chronic illness and supportive care at the end of life is reflected in the Dartmouth Atlas statistics. Measured over a ten-year period (1997 through 2006), the hospitalization rates were extremely low compared to the rates for the neighboring townspeople: only 5% of deaths occurred in the hospital compared to 22% of residents of similar ages living elsewhere in Hanover. (Nationally, about 32% of the deaths in the Medicare population occur in hospital; in some regions, such as McAllen, Texas, as many as 45% of patients die in hospital.) Community residents were hospitalized for surgical procedures at about the same rate as other citizens of Hanover, the greatest difference being in the use of hospitals for acute and chronic medical conditions. The admission rate for patients 75 years of age and older was only about one-third of that of others living in Hanover—68 admissions per 1,000, compared to 210 per 1,000. Emergency department use was similarly lower.

The potential for the radical transformation of the health care economy rests in communities and individuals coming to terms with preferences regarding the management of chronic illness and care at the end of life. Primary care is crucial to helping patients to both define and achieve their goals and support alternatives to acute care hospitalization. The story of what has happened at the Hanover retirement community provides an excellent example of what an ACO might look like: a defined system accountable for the continuous care of a population of patients, in a way that is responsive to their needs and their wishes. It is also an example of what is today widely advocated as the primary care medical home—a patient-centered or community-centered collaborative model for care, organized around a primary care team. It points to key features that should be supported under a shared savings program, including the organization of primary care as a full-time salaried team with 24/7 coverage and direct admission to an SNF without requiring a prior stay in an acute care hospital.

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As the nation moves forward with health care reform, we must acknowledge the harms, both financial and physical, that overuse imposes on patients, especially the elderly. The goal of any health care system should be to promote health and to ease the suffering that comes with serious illness and dying. Much of our so-called "system" does neither. Yet there are models out there, examples of high-quality, high-value care and efficiency, that can and should lead the way toward a better, more just, more compassionate, and patient-centered way of doing business. This means that we have some, although