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CHRONIC CARE AND PREVENTION: EVOLUTION IN PRACTICE AND FINANCE

John V. Jacobi*

Modern health care is complicated. Many advances in medicine in recent decades have been exquisitely refined, technologically stunning solutions to conditions previously thought incurable. The proliferation of treatments for serious diseases has had the obvious effect of offering relief to critically ill patients. The success of 20th century medicine allows us to live longer, survive previously fatal conditions, and, unfortunately, engage in unhealthy behavior; we therefore experience a sharp increase in chronic illness – the prevention and treatment of which is the main task of 21st century medicine. The rise in serious chronic illness has created a demand less for high-tech intervention than for low-tech, ongoing assistance. In addition, it has created a need for the coordination of the care-needs of people with chronic illness, who too often experience bewilderingly uncoordinated services from a host of poorly connected professionals, leading to treatment that is far less than the sum of its parts. This paper will discuss two interrelated movements responsive to the growth of chronic illness: the growth of models of chronic care management, and the renewed attention to the provision of primary and preventive care. These movements offer relief to those at risk of and affected by chronic disease, and they are two of the few promising sources of health care cost containment.

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The newly enacted Affordable Care Act¹ contains several gestures toward heightened attention to chronic care management.² Attention to chronic care management offers an opportunity to rethink our health delivery and finance system. Chronic care management's focus on interdisciplinary care, patient self-direction, and support for family and community care-givers shows a way to improve the health and the lives of people with serious chronic illness, and mounting evidence suggests that doing the right thing may even save money. While research into chronic care management continues, the quest turns to those not (yet) chronically ill. Can multi-disciplinary, patient-focused primary and preventive care be applied more generally, and, if so, can we afford it? This paper will briefly describe the rise of chronic illness, the health care system's long history of failure in treating those with serious chronic conditions, and some promising methods to change practice and payment in response. It will then explore the extension of these methods to primary and preventive care more generally,³ and the funding issues that must be resolved if coordinated care is to be the norm rather than the exceptional case. The ACA suggests a movement toward both chronic care management and improved provision of primary and preventive care. This paper will argue that success in the implementation of those ACA provisions is socially important and that lessons from chronic care management can apply to efforts to improve primary and preventive care.

1. The health reform legislation is contained in two separate acts, the Patient Protection and Affordable Care Act (PPACA), Pub. L. No. 111-148, 124 Stat. 119 (2010), as amended and supplemented by the Health Care and Education Reconciliation Act of 2010, Pub. L. No. 111-152, 124 Stat. 1029 (2010). Neither title rolls off the tongue, and collectively they have come to be known as the Affordable Care Act. See <http://www.healthreform.gov/>. This paper will use "Affordable Care Act" or "ACA" to reference the reform laws collectively unless otherwise indicated.

2. See, e.g., PPACA § 1302(b)(1)(I) (including chronic disease management as an "essential" benefit); see also PPACA § 2703 (creating a state option for a program of health homes for Medicaid beneficiaries with chronic conditions).

3. The ACA also lends some focus to the importance of primary care. See, e.g., PPACA § 4001 (creating a National Prevention, Health Promotion, and Public Health Council); see also PPACA §§ 4103 – 4108 (improving access to preventive services in Medicare and Medicaid).

THE SHIFT TO CHRONIC CARE

Health care needs have shifted over the past several decades. Needs had been for acute care - usually one or a few closed-ended episodes of intense service, with little or no follow-up care.⁴ The trend over the past twenty years, however, has been movement away from acute care and toward chronic care.⁵ The number of Americans living with chronic conditions, depending on the definition employed,⁶ is large and growing. A recent study estimated that 43.8% of civilian, non-institutionalized persons had one or more chronic illnesses.⁷ The Institute of Medicine has estimated that about 100 million Americans had a chronic illness as of the late 1990s (about 44 million of whom had more than one), with the number expected to rise to 134 million by 2020.⁸ The increased incidence of chronic illness is traceable in part to the success of scientific medicine and acute care in the 20th century. Conditions that would previously have killed or resulted in a greatly shortened life span are now treatable, but sometimes the treatment leaves the patient with chronic care needs. In addition, treatments which cure previously fatal conditions now allow patients to grow older, and the incidence of chronic illness rises inexorably with age.⁹

4. See ROBERT L. KANE ET AL., *MEETING THE CHALLENGE OF CHRONIC ILLNESS* 9 (2005).

5. See Kenneth Thorpe et al., *Chronic Conditions Account for Rise in Medicare Spending from 1987 to 2006*, 29 HEALTH AFF. 718, 722 (Apr. 2010), ("Increased spending on chronic diseases among Medicare beneficiaries is a key factor driving the overall growth in spending in the traditional Medicare program.").

6. Compare Katherine Anne Paez et al., *Rising Out-Of-Pocket spending for Chronic Conditions: A Ten-Year Trend*, 28 HEALTH AFF. 15, 16 (Jan./Feb. 2009) (conditions lasting 12 months or longer and resulting in "physical limitations and/or the need for ongoing medical care") (citation omitted); and KANE ET AL., *supra* note 4, at 7 (condition of lengthy duration that is "not self-limiting, waxes and wanes in terms of severity, and typically cannot be cured"); with COMM. ON QUALITY OF HEALTH CARE IN AM., INST. OF MED., *CROSSING THE QUALITY CHASM: A NEW HEALTH SYSTEM FOR THE 21ST CENTURY* 27 (2001) (illness lasting longer than three months that is not self-limiting).

7. Paez et al., *supra* note 6, at 17.

8. COMM. ON QUALITY OF HEALTH CARE IN AM., *supra* note 6, at 27.

9. See KANE ET AL., *supra* note 4, at 29; COMM. ON QUALITY OF HEALTH CARE IN AM., *supra* note 6, at 26-27; Edward H. Wagner et al., *Improving Chronic Illness Care:*

With increased incidence of chronic illness comes an increase in reimbursed medical treatment for those illnesses. Americans increasingly need treatment for "chronic illnesses that require on-going long-term attention and management,"¹⁰ including "diabetes, kidney disease, hyperlipidemia, hypertension, mental disorders, and arthritis."¹¹ Treatment is often provided in ambulatory care settings, including physicians' offices, rather than inpatient settings.¹² The increased diagnosis and treatment of chronic conditions, the identification of new forms of chronic illness, and adoption of new modalities of treatment for old and new chronic conditions together explain why chronic care is at the heart of increases in medical costs, particularly in Medicare.¹³ Care for people with chronic illnesses consumes about seventy-five percent of health care costs,¹⁴ and most of the inflationary pressure in Medicare results from increased identification and treatment of chronic illnesses.¹⁵ The average cost of care for a person with one chronic condition is more than twice that of a person without chronic conditions.¹⁶ For a person with two or more chronic conditions, costs average almost six times that of care for persons without chronic illnesses.¹⁷ Many of the fifteen most expensive medical conditions are chronic diseases.¹⁸

Translating Evidence Into Action, 20 HEALTH AFF. 64, 64 (2001).

10. KANE ET AL., *supra* note 4, at xvii.

11. Thorpe et al., *supra* note 5, at 722.

12. *Id.*; Sandra L. Decker et al., *Uses of Medical Care for Chronic Conditions*, 28 HEALTH AFF. 26, 30-32 (2009).

13. See Thorpe et al., *supra* note 5, at 719-720; Kenneth E. Thorpe & David H. Howard, *The Rise in Spending Among Medicare Beneficiaries: The Role of Chronic Disease Prevalence and Changes in Treatment Intensity*, HEALTH AFF., WEB EXCLUSIVE, w378, w385 (Aug. 22, 2006), available at <http://content.healthaffairs.org/cgi/reprint/25/5/w378>.

14. Catherine Hoffman et al., *Persons With Chronic Conditions: Their Prevalence and Costs*, 276 JAMA 1473, 1476 (1996); see also Alain C. Enthoven, *Employment-Based Health Insurance is Failing: Now What?*, HEALTH AFF., WEB EXCLUSIVE, w3-237, w3-238 (May 28, 2003) (citing Hoffman et al.), available at <http://content.healthaffairs.org/cgi/reprint/hlthaff.w3.237v1.pdf>

15. Thorpe et al., *supra* note 5, at 718-19.

16. Hoffman et al., *supra* note 14, at 1477.

17. *Id.*

18. Joel W. Cohen & Nancy A. Krauss, *Spending and Service Use Among People*

Notwithstanding increases in funding and treatment, the quality of chronic care and the satisfaction of patients with that care have been unacceptably low. This quality shortfall is attributable in part to a failure to make the transition from procedure-based service delivery to a coordinated, long-term view of patient care:

Patients with chronic conditions suffer from fragmented services . . . 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 the 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.¹⁹

This fragmentation of care is widespread, and creates risks of harm to patients through lost opportunities and conflicting treatment:

Rarely in a fragmented, poorly coordinated health care system is a single health care professional or entity responsible for a patient's overall care. . . . Imprecise clinician responsibility increases the chance that some services may conflict with others . . . and that still other needed services may not be provided at all. Among people with chronic conditions 71% report having no help in coordinating their care . . . and 17% say they have received contradictory medical information from health care professionals.²⁰

This lack of coordination presents obvious risks of medical

with the Fifteen Most Costly Medical Conditions, 1997, 22 HEALTH AFF. 129, 135 (2003). The fifteen most expensive conditions were: heart disease, cancer, trauma, mental disorders, pulmonary conditions, diabetes, hypertension, cerebrovascular disease, osteoarthritis, pneumonia, back problems, endocrine disorders, skin disorders, kidney disease, and infectious disease. *Id.* at 134. See also Benjamin G. Druss et al., *Comparing the National Economic Burden of Five Chronic Conditions*, 20 HEALTH AFF. 233, 235-36 (2001) (data examining cost of treatment of patients with one or more of five conditions (mood disorders, diabetes, heart disease, hypertension, and asthma) accounted for forty-nine percent of the nation's health spending in 1996).

19. KANE ET AL., *supra* note 4, at 50-51.

20. *Id.* at 50 (citation omitted).

errors.²¹ In addition, this confusion of services and information can be emotionally wrenching for those with chronic conditions and their family members – who often provide substantial “informal” care.²²

Our health care delivery and finance systems have slowly pivoted toward the need for coordinated and consistent care of chronic conditions.²³ The organizational reforms attempting to enhance care coordination are diverse.²⁴ As employers’ and insurers’ concerns about the cost of chronic care rose in the 1990s, disease management programs were created. These programs were, and are, add-ons to traditional insurance design, are provided through referral, and operate “in parallel” with primary medical providers.²⁵ Disease management referrals are often made for plan members with single, serious chronic conditions such as diabetes, asthma, chronic obstructive pulmonary disease (COPD), cancer, or kidney disease.²⁶ The disease management vendors often receive a monthly fee for each referred patient, and often guarantee cost-neutrality (or better) to the medical plan sponsor.²⁷ They often rely on

21. See COMM. ON QUALITY OF HEALTH CARE IN AM., *supra* note 6, at 28.

22. *Id.* at 27. See NATIONAL ALLIANCE FOR CAREGIVING & AARP, CAREGIVING IN THE U.S. 2009 12-13 (2009), available at http://assets.aarp.org/rgcenter/il/caregiving_09_fr.pdf.

23. KANE ET AL., *supra* note 4, at xvii. See Elizabeth Pendo, *Working Sick: Lessons of Chronic Illness for Health Care Reform*, 9 YALE J. HEALTH POL’Y L. & ETHICS, 453, 454-55 (2009); Wendy K. Mariner, *Social Solidarity and Personal Responsibility in Health Reform*, 14 CONN. INS. L.J. 199, 222-23 (2008); John V. Jacobi, *Reform With a Patient Focus*, 37 CUMB. L. REV. 437, 454-55 (2007); COMM. ON QUALITY OF HEALTH CARE IN AMERICA, *supra* note 6, at 9-10.

24. See Soeren Mattke et al., *Evidence for the Effect of Disease Management: Is \$1 Billion a Year a Good Investment?*, 13 AM. J. MANAGED CARE 670, 671 (2007) (describing different types of “disease management” programs); Jennifer L. Wolff & Chad Boulton, *Moving Beyond Round Pegs and Square Holes: Restructuring Medicare to Improve Chronic Care*, 143 ANNALS INTERNAL MED. 439, 440 (2005) (comparing programs that operate separately from primary care professionals with those that are “integrated within provider practice”).

25. See Wolff & Boulton, *supra* note 24, at 440.

26. Glen P. Mays et al., *Convergence and Dissonance: Evolution In Private-Sector Approaches To Disease Management And Care Coordination*, 26 HEALTH AFF. 1683, 1686-87 (2007).

27. See David M. Bott et al., *Disease Management For Chronically Ill Beneficiaries In Traditional Medicare*, 28 HEALTH AFF. 86, 89 (2009).

periodic home nursing visits, supplemented by on-line and telephone contacts to encourage compliance with medication and self-care aspects of a care plan, to assess the participant's health status and to assist in the coordination of care for the chronic condition.²⁸

The benefits of these add-on disease management programs have been difficult to assess. The programs have evolved rapidly and divergently, and the cost and quality implications remain unproven.²⁹ The application of these programs in traditional fee-for-service Medicare has been a challenge. Cost savings have been slow to materialize.³⁰ Patient satisfaction has not been shown to increase significantly, and primary care physicians have not reported improvements in the coordination of care.³¹ Growing dissatisfaction with these add-on disease management programs has spurred attempts to enhance treatment compliance and care coordination from another direction: the enhancement of the ability of primary care practices to themselves engage the fundamental mechanisms of chronic care coordination necessary to maintain the health and functioning of the patient and her family.³²

These programs of primary care-based coordinated care management have not produced robust data on health and cost outcomes, in part because they have arisen more recently than add-on disease management programs. Some emerging evidence is, however, tentatively positive on clinical benefit, suggesting that practices adopting integrative care management "generally improve the quality of care and the outcomes for patients with various chronic illnesses."³³ The appeal of this

28. See Bott et al., *supra* note 27, at 95; Peikes et al., *Effects of Care Coordination on Hospitalization, Quality of Care, and Health Care Expenditures Among Medicare Beneficiaries*, 301 JAMA 603, 607 (2009).

29. See Mays et al., *supra* note 26, at 1690.

30. See Peikes et al., *supra* note 28, at 612-14.

31. See Bott et al., *supra* note 27, at 92-93. See also *infra*, Part III(A).

32. See Katie Coleman et al., *Untangling Practice Design from Disease Management: How Do We Best Care for the Chronically Ill?*, 30 ANN. REV. PUB. HEALTH 385, 385 (2009).

33. See Katie Coleman et al., *Evidence On The Chronic Care Model In The New*

shift from outside, vendor-provided care management to management by a primary care practice, or "medical home" has substantial appeal to primary care providers.³⁴ Issues of health central to their neediest patients are incorporated into their professional practice, enabling them to undertake the cognitive and care-giving work central to primary care practice. The appeal of these models to people with chronic illness and their community caregivers may also be substantial, as they provide a focus for care and care guidance in an integrated, coherent setting rather than through a confusing patchwork of providers.

There are many models of integrated, coordinated chronic care with substantial levels of adoption.³⁵ All share an orientation toward whole-person treatment, support of patient and family self-direction, and integrative care.³⁶ The most prominent and most studied chronic care program is the Chronic Care Model ("CCM"), created at the Group Health Cooperative in Seattle, and adopted by several hundred health care organizations.³⁷ It is avowedly multidisciplinary and collaborative:

This model endorses reliance on multidisciplinary teams of health care professionals who collaboratively educate, counsel, and empower patients with self-care techniques to manage their chronic diseases. Individually tailored evidence-based treatment plans guide clinical decision making and the frequency of patients' planned visits for chronic care. Supported by customized treatment plans and multi-disciplinary teams of health care professionals, patients are charged with undertaking necessary lifestyle and behavioral modifications to manage their diseases responsibly.

Millennium, 28 HEALTH AFF. 75, 81 (2009); see also Coleman et al., *supra* note 32, at 385.

34. See Coleman et al., *supra* note 33, at 76; Am. Acad. of Family Physicians et al., *Joint Principles of the Patient Centered Medical Home*, PATIENT-CENTERED PRIMARY CARE COLLABORATIVE (February 2007), <http://www.pcpcc.net/content/joint-principles-patient-centered-medical-home>; see also Michael S. Barr, *The Need to Test the Patient-Centered Medical Home*, 300 JAMA 834, 834 (2008).

35. See KANE ET AL., *supra* note 4, at 216-26.

36. *Id.*

37. *Id.* at 216-218.

Information technology facilitates provider practice redesign, including the creation of disease registries, proactive outreach to patients, and greater involvement of nonphysician health professionals.³⁸

CCM is an “organizational approach to care” built on six features intended to emphasize the patient’s and her community’s participation. Its components are:

- Self-management support: Empower and prepare patients to manage their health and health care. . . .
- Delivery system design: Assure the delivery of effective, efficient clinical care and self-management support. . . .
- Decision support: Promote clinical care that is consistent with scientific evidence and patient preferences. . . .
- Clinical information system: Organize patient and population data to facilitate efficient and effective care. . . .
- Health care organization: Create a culture, organization, and mechanisms that promote safe, high-quality care. . . .
- Community: Mobilize community resources to meet needs of patients. . . .³⁹

CCM has been the subject of a large number of reviews (including case-control studies) to test whether it is easily adaptable to primary care practices, results in improved processes of care, and results in improved health outcomes.⁴⁰ The results of these studies have recently been gathered, and the authors of that meta-study have concluded that:

Considerable experience using the CCM to improve the quality of chronic illness care has accumulated over the past decade. Although not definitive, published evidence suggests that practices redesigned in accord with the CCM generally improve the quality of care and the outcomes for patients with various chronic illnesses. This finding appears to be consistent in both

38. Wolff & Boulton, *supra* note 24, at 439.

39. KANE ET AL., *supra* note 4, at 217-18.

40. See Coleman et al., *supra* note 33, at 77-79.

U.S. and international settings.⁴¹

The strategies central to CCM emphasize the use of a variety of resources to support patient management of their care,⁴² such as the use of non-physician professionals, including nurse educators, dietitians, and social workers,⁴³ and the use of community resources.⁴⁴

While the evidence on cost-effectiveness is thinner than the evidence on quality, it appears that CCM is "worth it." Studies suggest that "interventions that result in improved disease control reduce total health care costs for patients" with chronic illnesses.⁴⁵ More work must be done to validate this initial conclusion and difficult questions of the timing of the costs and savings remain. If a substantial cost incurred this year will save even greater costs ten years hence, is the expenditure this year "worth it?" The answer may well depend, as is discussed below,⁴⁶ on who is being asked: the answer from Medicare (presuming the patient is and will be Medicare-eligible) is different than that from an insurer that believes the patient will be some other insurer's responsibility ten years hence.⁴⁷ This timing issue aside, it is increasingly clear that CCM saves more than it costs.⁴⁸

41. *Id.* at 81.

42. *See* KANE ET AL., *supra* note 4, at 217.

43. *See* Susan L. Norris & Darin E. Olson, *Implementing Evidence-Based Diabetes Care in Geriatric Populations*, 59 GERIATRICS 35, 37 (2004).

44. *See* Coleman et al., *supra* note 33, at 75.

45. *Id.* at 81.

46. *See infra* pp. 59-64.

47. *See* Coleman et al., *supra* note 33, at 81 (discussing the problems that arise in paying for CCM when one party is responsible for implementation and another reaps the financial benefits).

48. A separate question is also briefly addressed *infra* pp. 59-64. That is, is an intervention "worth it" if premature death is avoided, if the patient will in the future (because he lives an additional period of years) experience other, unrelated medical costs that could have been "avoided" had he died prematurely. This could be referred to as the "Philip Morris argument," after a report titled *Public Finance Balance of Smoking in the Czech Republic* by Arthur D. Little in support of a Philip Morris position that the Czech Republic saved money from the premature death of smokers, and that Philip Morris therefore did not owe the Republic compensation for tobacco-related injuries. Text of document available at <http://www.mindfully.org/Industry/Philip-Morris-Czech-Study.htm>. As is described below, the argument

Chronic care management techniques, and in particular CCM, have demonstrated some promise in turning health care from over-emphasis on acute care and technological advancement, and toward the incorporation of integrative methods of care suited to 21st century needs. Studies to date preliminarily affirm that a patient-first orientation, in which interconnected health needs are addressed in partnership with physicians and other health professionals, the patient, and the patient's family and community can not only reduce frustration with health system interactions, but can also produce improved health outcomes for those most in need – people with chronic illness – and that such reforms may be pursued cost-effectively.

The next Part turns to care for those without chronic conditions, and asks whether the value of coordinated, patient-centered care emerging in chronic care can be achieved in broader populations, and in particular whether goals of improving prevention of illness can be advanced by borrowing from chronic care models.

APPLICATION OF CARE MANAGEMENT TO PRIMARY/PREVENTIVE CARE

The discussion above suggests that American health care's structure ill-serves people with chronic conditions and that programs such as CCM can bridge the gap. Discussions leading to the recent health reform legislation, and the shape of the Affordable Care Act itself, suggest the need to shift American health finance and delivery's attention toward primary and preventive care.⁴⁹ These concerns are congruent with those driving chronic care reform: frustration at our current over-

about cost-effectiveness over time can be difficult. *Public Finance Balance of Smoking in the Czech Republic*, MINDFULLY.ORG, <http://www.mindfully.org/Industry/Philip-Morris-Czech-Study.htm> (last visited Nov. 19, 2010).

49. See Dianne Rittenhouse et al., *Primary Care and Accountable Care – Two Essential Elements of Delivery-System Reform*, 361 NEW ENG. J. MED. 2301, 2301 (2009); Diane R. Rittenhouse & Stephen M. Shortell, *The Patient-Centered Medical Home: Will It Stand the Test of Health Reform?*, 301 JAMA 2038, 2038 (2009).

emphasis on specialty care⁵⁰ and skepticism that we are receiving value from our costly current system.⁵¹ Ken Thorpe's recent analysis of the role of chronic conditions in driving up Medicare costs suggests the need to consider application of delivery system reform, emphasizing primary care and care coordination to people with and without chronic illness:

The U.S. health system remains predicated on providing acute, episodic care that is inadequate to address the altered patterns of disease now facing the American public. Our results highlight the need for prevention and care outside doctors' offices and hospitals designed to address the changing needs of patients at risk for or living with chronic disease and, often, multiple comorbidities. As Congress and the Obama administration, along with providers, insurers, and consumers, continue their efforts to reshape the U.S. health system, they must address these changed health needs through evidence-based preventive care in the community, care coordination, and support for patient self-management.⁵²

How, then, do prevention and primary care fit into chronic care management and, by extension, into reformed primary care models?

PREVENTION

Steps that can prevent serious chronic illnesses are "often common sense, low-tech, and straightforward" but they can nevertheless be difficult to implement.⁵³ There is clear overlap in the needs for sound preventive care among those who have chronic illness and those who do not (yet). The literature

50. See Rittenhouse & Shortell, *supra* note 49, at 2038.

51. See Mauricio Avendano et al., *Health Disadvantage in US Adults Aged 50 to 74 Years: A Comparison of the Health of Rich and Poor Americans With That of Europeans*, 99 AM. J. PUB. HEALTH 540, 546 (2009) (pointing to American focus on specialty, rather than primary care and prevention, as a possible cause for the lower health status of older Americans across all economic groups as compared with European comparison groups).

52. Thorpe et al., *supra* note 5, at 723.

53. Jennifer Fisher Wilson, *Can Disease Prevention Save Health Reform?*, 151 ANNALS INT. MED. 145, 146 (2009).

supports an argument that CCM programs, leaving aside the coordination of primary care delivery, are sound vehicles for the delivery of “preventive services such as health risk assessments, individual and group counseling, and referral to community-based programs to address patients’ health risk behaviors.”⁵⁴ The concept of prevention in this context can be defined according to three aspects:

- *Primary prevention*: public education, advocacy, and practice encouraging good health and disease avoidance through, *e.g.*, the adoption of a healthy diet, an active lifestyle, and the avoidance of risky behavior;
- *Secondary prevention*: in response to risk indicators including elevated biometric values, guidance and practice intended to, *e.g.*, lower cholesterol levels, lose weight, and give up smoking;
- *Tertiary prevention*: attentive care to persons with chronic conditions to ameliorate or slow the progression of the condition by, *e.g.*, counseling exercise, or prescribing medication.⁵⁵

It is axiomatic that it is preferable to prevent rather than treat an illness.⁵⁶ The behavioral and environmental causes of such illness are also not controversial. This connection is well illustrated by the graphic representation offered by authors from the Centers for Disease Control and Prevention (“CDC”) in 2004.⁵⁷ The first chart⁵⁸ displays the ten leading causes of death in the United States in 2000, as reported by the CDC, and accounting for almost 80 percent of deaths in that year.

54. See Dorothy Y. Hung et al., *Rethinking Prevention in Primary Care: Applying the Chronic Care Model to Address Health Risk Behaviors*, 85 MILBANK Q. 69, 72 (2007).

55. See Ron Z. Goetzel, *Do Prevention Or Treatment Services Save Money? The Wrong Debate*, 28 HEALTH AFF. 37, 38-39 (2009).

56. The “cost-benefit,” of primary prevention is discussed *infra* pp. 59-64. Cost aside, no one would argue against the human benefit of preventing, rather than treating diabetes or heart disease.

57. Ali H. Mokdad et al., *Actual Causes of Death in the United States, 2000*, 291 JAMA 1238, 1239-40 (2004).

58. *Id.* at 1239.

Chart 1. Leading Causes of Death in the United States in 2000

Cause of Death	No. of Deaths	Death Rate per 100,000 Population
Heart disease	710,760	258.2
Malignant neoplasm	553,091	200.9
Cerebrovascular disease	167,661	60.9
Chronic lower respiratory tract disease	122,009	44.3
Unintentional injuries	97,900	35.6
Diabetes mellitus	69,301	25.2
Influenza and pneumonia	65,313	23.7
Alzheimer disease	49,558	18
Nephritis, nephrotic syndrome, and nephrosis	37,251	13.5
Septicemia	31,224	11.3
Other	499,283	181.4
Total	2,403,351	873.1

This chart uses the usual means of identifying causes of death – the infectious diseases, traumas, or medical conditions that are the direct cause of the cessation of life. The second chart⁵⁹ displays the nine leading “actual” causes of death in 1990 and 2000, as estimated by the authors. “Actual” causes of death are defined as “major external (nongenetic) modifiable factors that contributed to death.”⁶⁰

59. *Id.* at 1240.

60. *Id.* at 1238 (citing J. Michael McGuinnis & William H. Foege, *Actual Causes of Death in the United States*, 270 JAMA 2207, 2207-12 (1993)).

Chart 2. Actual Causes of Death in the United States in 1990 and 2000

Actual Cause	No. (%) in 1990*	No. (%) in 2000
Tobacco	400,000 (19)	435,000 (18.1)
Poor diet and physical inactivity	300,000 (14)	400,000 (16.6)
Alcohol consumption	100,000 (5)	85,000 (3.5)
Microbial agents	90,000 (4)	75,000 (3.1)
Toxic agents	60,000 (3)	55,000 (2.3)
Motor vehicle	25,000 (1)	43,000 (1.8)
Firearms	35,000 (2)	29,000 (1.2)
Sexual behavior	30,000 (1)	20,000 (0.8)
Illicit drug use	20,000 (<1)	17,000 (0.7)
Total	1,060,000 (50)	1,159,000 (48.2)

* The percentages are for all deaths.

The 2000 data show that almost forty percent of the deaths were attributable to modifiable use of substances (tobacco, alcohol, and “illicit” drugs), poor diet, and physical inactivity.⁶¹ Cross-walking the data in Chart 2 to Chart 1, the health benefits of primary prevention can be quantified in terms of saved lives. The inference to be drawn from these charts is that primary prevention measures that reduce or eliminate unhealthy behavior related to substance use, poor diet, and sedentary lifestyle could have eliminated hundreds of thousands of premature deaths in 2000.

Several aspects of existing chronic care management programs are consistent with enhanced primary preventive care. They rely on multidisciplinary teams, and therefore offer the opportunity for counseling of patients to modify their diet, join a local YMCA’s exercise programs, or participate in wellness programs at the local senior center.⁶² Similarly, counseling and

61. Chart 1 shows approximately 2.4 million deaths in 2000. Chart 2 shows approximately 537,000 deaths due to tobacco, alcohol, or illicit drug use, and 400,000 due to poor diet and physical activity in that year; 937,000 is about 37.8 percent of 2.4 million.

62. See *supra* text accompanying notes 33-44.

education would be provided as secondary prevention measures when patients are guided in the process of reducing the risk presented by existing conditions such as high cholesterol levels. As one recent study concluded,

[T]he implementation of CCM elements in primary care practices was positively associated with the use of interventions targeting risk behaviors identified as leading causes of morbidity and mortality in the United States. . . . [P]rimary care practices . . . may benefit from more widespread implementation of the CCM adapted for prevention that not only better controls existing chronic illnesses, but also reduces patients' risk of developing chronic diseases in the future.⁶³

PRIMARY CARE

Tertiary prevention is the attentive care given to a person with a permanent or ongoing condition that ameliorates the effects of the condition and supports the patient's identification and navigation of appropriate coping responses to the condition.⁶⁴ As one leading advocate of chronic care explained, "[t]he core functions of primary care – comprehensiveness, accessibility (or first-contact care), continuity, and coordination – are also central to chronic illness care."⁶⁵ The return of emphasis on primary care is entirely consistent with continued resort to specialized care when needed; an overarching goal of chronic care management, however, is the close coordination of the patient's care, in partnership with the patient and her family, so that only care consistent with the patient's life goals is provided, and that all care (primary and specialty) is coordinated to ensure that a Sorcerer's Apprentice cascade of specialty treatments is not visited on the patient. The coordination in chronic care models is usually the domain of physicians, advanced practice nurses and other nurses, along with (as necessary) the participation of professionals and paraprofessionals in many

63. Hung, *supra* note 54, at 86.

64. See Goetzel, *supra* note 55, at 39.

65. KANE ET AL., *supra* note 4, at 93.

disciplines, including pharmacy, social work, physical and occupational therapy, and food science.⁶⁶

Can these preventive and primary care services be generalized from chronic care patients to apply generally in primary care settings? A movement to a patient-centered model of primary health care has long argued for improvements in basic health care delivery. One formulation of eight “dimensions of patient-centered care” in primary care sounds very like those driving chronic care models:

- 1) respect for the patient’s values, preferences, and expressed needs;
- 2) information and education;
- 3) access to care;
- 4) emotional support to relieve fear and anxiety;
- 5) involvement of family and friends;
- 6) continuity and secure transition between health care settings;
- 7) physical comfort; and
- 8) coordination of care.⁶⁷

The coordinated model of primary care organization is often referred to as a “patient-centered medical home (PCMH).” Four national primary care physician organizations created an influential set of principles for PCMH in 2007.⁶⁸ The framers describe the principles as follows:

- **Personal physician** each patient has an ongoing relationship with a personal physician trained to provide first contact, continuous and comprehensive care.

66. See *id.* at 93-94.

67. Robert A. Berenson et al., *A House is Not a Home: Keeping Patients at the Center of Practice Design*, 27 HEALTH AFF. 1219, 1221 (2008) (citing Anne-Marie Audet et al., *Adoption of Patient-Centered Care Practices by Physicians: Results from a National Survey*, 166 ARCHIVES INTERNAL MED. 754, 755 (2006); see generally THROUGH THE PATIENT’S EYES: UNDERSTANDING AND PROMOTING PATIENT-CENTERED CARE (Margaret Gerteis et al. eds., 1993).

68. The four groups are the American Academy of Family Physicians, the American Academy of Pediatrics, the American College of Physicians, and the American Osteopathic Association. These four organizations published *The Joint Principles for the Patient Centered Medical Home* in February 2007. The principles are available at <http://www.pcpcc.net/content/joint-principles-patient-centered-medical-home>. Am. Acad. of Family Physicians et al., *supra* note 34.

- *Physician directed medical practice* – the personal physician leads a team of individuals at the practice level who collectively take responsibility for the ongoing care of patients.
- *Whole person orientation* – the personal physician is responsible for providing for all the patient's health care needs or taking responsibility for appropriately arranging care with other qualified professionals. This includes care for all stages of life; acute care; chronic care; preventive services; and end of life care.
- *Care is coordinated and/or integrated* across all elements of the complex health care system (e.g., subspecialty care, hospitals, home health agencies, nursing homes) and the patient's community (e.g., family, public and private community-based services). Care is facilitated by registries, information technology, health information exchange and other means to assure that patients get the indicated care when and where they need and want it in a culturally and linguistically appropriate manner.
- *Quality and safety* are hallmarks of the medical home. . . .
- *Enhanced access* to care is available through systems such as open scheduling, expanded hours and new options for communication between patients, their personal physician, and practice staff.
- *Payment* appropriately recognizes the added value provided to patients who have a patient-centered medical home.⁶⁹

PCMH's "core features include a physician-directed medical practice; a personal doctor for every patient; the capacity to coordinate high-quality, accessible care; and payments that recognize a medical home's added value for patients."⁷⁰ The similarity between these principles, and in particular the focus on the whole patient in context, has obvious similarity to those

69. American Academy of Family Physicians et al., *supra* note 34.

70. John K. Iglehart, *No Place Like Home – Testing a New Model of Care Delivery*, 359 NEW ENG. J. MED. 1200, 1200 (2008).

defining CCM.⁷¹ PCMH pilot projects are proceeding in a number of states,⁷² and a Medicare demonstration project has been on again · off again for several years.⁷³ It has been argued that further developmental work is necessary to “achieve [a] broader consensus on what medical homes reasonably can be expected to accomplish, and how they can best be developed in different practice environments and supported with altered payment policies.”⁷⁴ One aspect of the effort to regularize the shape of PCMH and its finance and delivery implications has been the recognition process administered by the National Committee for Quality Assurance (NCQA).⁷⁵

The passage of the Affordable Care Act raises the stakes for PCMH as medical homes are a central feature of the ACA’s push to improve the coordination of primary and preventive care. Medical homes are featured in several places in the ACA,

71. See generally Larry A. Green et al., *Task Force 1: Report of the Task Force on Patient Expectations, Core Values, Reintegration, and the New Model of Family Medicine*, 2 ANNALS FAM. MED. S33 (2004); Iglehart, *supra* note 70, at 1200.

72. See Paul A. Nutting et al., *Initial Lessons From the First National Demonstration Project on Practice Transformation to a Patient-Centered Medical Home*, 7 ANNALS FAM. MED. 254, 254-55 (2009).

73. The Medical Home Demonstration was initially authorized by Section 204 of the Tax Relief and Health Care Act of 2006, and further funding for the demonstration was authorized in Section 133 of the Medicare Improvements for Patients and Providers Act of 2008. See generally MATHEMATICA POLICY RESEARCH, INC., DESIGN OF THE CMS MEDICAL HOMES DEMONSTRATION (October 3, 2008), available at http://www.cms.hhs.gov/DemoProjectsEvalRpts/downloads/MedHome_DesignReport.pdf. In response to Congressional reform efforts that would change the nature of medical homes demonstrations, CMS suspended development of the Demonstration on October 16, 2009. See Centers for Medicare and Medicaid Services, *Details for Medicare Medical Home Demonstration*, U.S. DEP’T HEALTH & HUM. SERVICES, <http://www.cms.hhs.gov/DemoProjectsEvalRpts/MD/itemdetail.asp?itemID=CMS1199247> (last modified Sept. 14, 2010). DHSS Secretary Sebelius announced on September 16, 2009, however, that Medicare would “join Medicaid, and private insurers in state-based efforts to improve the way health care is delivered” through the testing of “Advanced Primary Care (APC) models’ also known as medical homes.” See HHS Press Office, *Secretary Sebelius Announces Medicare to Join State-Based Healthcare System Delivery Reform Initiatives*, U.S. DEP’T HEALTH & HUM. SERVICES (Sept. 16, 2009), <http://www.hhs.gov/news/press/2009pres/09/20090916a.html>.

74. Berenson et al., *supra* note 67, at 1220.

75. See Paul A. Nutting et al., *supra* note 72, at 254; Berenson et al., *supra* note 67, at 1220; see also *Physician Practice Connections – Patient-Centered Medical Homes*, NAT’L COMM. FOR QUALITY ASSURANCE <http://www.ncqa.org/tabid/631/default.aspx> (last visited Dec. 2, 2010).

including:

- § 1001. One of the “immediate improvements in health care coverage” is to require health plans and insurers to report on quality efforts, including “through the use of the medical homes model.”⁷⁶
- § 1301(a)(3). Permits “Qualified Health Plans” to deliver service through medical homes.
- § 1311(g)(1)(A). Allows enhanced reimbursement for methods that improve health outcomes, including, *inter alia*, through “the use of the medical home model.”
- § 3021(b)(2)(A). Creates the Centers for Medicare and Medicaid Innovation, and requires testing of delivery and finance innovations including those “[p]romoting broad payment and practice reform in primary care, including patient-centered medical home models.”
- § 3502. Requires the Secretary to provide grants or enter into contracts to establish “community health teams to support the patient-centered medical home.”

The PCMH model is a developing one, and questions remain about its most effective and efficient form. Resolution of these questions will be vital to the implementation of the ACA.

It has been suggested, for example, that some versions of the model – and the NCQA recognition process – are too focused on electronic records and health information technology, perhaps to the detriment of the core patient care focus.⁷⁷ The fault here may be that efforts to normalize a developing model often focus on readily quantifiable measures. It is much easier to audit a requirement for a trail of electronic charts, referrals, and follow-up notices than to assess the extent to which a practice incorporates family and community input, or emotionally

76. This language amends the Public Health Service Act by adding a new § 2717.

77. Berenson et al., *supra* note 67, at 1225.

supports patients to reduce fear and anxiety. The continuing value of the model will depend on its adherence to its patient-centered roots.

A second concern is that the PCMH may require primary care offices of a sufficiently large scale to support the electronic medical records components and 24/7 availability that are currently central to the design.⁷⁸ Many physicians' offices in many parts of the country are small, and will experience difficulty scaling up to meet operating standards.⁷⁹ These and other concerns may be resolved as PCMH develops. Perhaps the most serious non-fiscal concern,⁸⁰ however, is the adequacy of the primary care workforce.

The supply of primary care services generally, and for Medicare beneficiaries in particular, is nearing crisis level.⁸¹ The American College of Physicians has warned of the "collapse" of the physician primary care supply.⁸² The cause of this imminent collapse is often described as a combination of the growing workload of primary care physicians and the low level (at least relative to other physicians) of their compensation.⁸³ In addition, a general shortage of physicians is now projected,⁸⁴ a shortage that cannot improve the primary care situation. How will improvements in primary and preventive care be achieved without an adequate supply of primary care physicians?

78. *Id.* at 1226.

79. *Id.* Berenson et al. suggest that a solution for small practices maybe to contract with an outside nursing service employing the Guided Care model of nursing support for people with serious chronic conditions. See Cynthia M. Boyd et al., *Guided Care for Multimorbid Older Adults*, 47 GERONTOLOGIST 697, 697 (2007). This suggestion may serve to fill gaps, as Berenson suggests, for people with chronic illness, although such out-sourcing is far from ideal for a program intended to integrated care in a primary care setting. It is unclear how the model could work for non-disabled persons.

80. Reimbursement issues are addressed below in pp. 59-64.

81. See Jana E. Montgomery et al., *Primary Care Experiences of Medicare Beneficiaries, 1998 to 2000*, 19 J. GEN. INTERNAL MED. 991, 991 (2004).

82. See Thomas Bodenheimer, *Primary Care – Will It Survive?*, 355 NEW ENG. J. MED 861, 861 (2006).

83. See *id.* at 861-62.

84. See Anemona Hartocollis, *Expecting a Surge in U.S. Medical Schools*, N.Y. TIMES, Feb. 14, 2010, at A1.

Several factors contribute to the shortage of primary care physicians. Their compensation is far below that of specialty practitioners, and would be lower but for their high volume of appointments, increasing their fee-for-service payments.⁸⁵ This high volume, and the obligations to be on-call after normal business hours, strains their professional and personal quality of life.⁸⁶ Reimbursement-related concerns have been the focus of groups attempting to increase the supply:

Primary care practice is not viable without a substantial increase in the resources available to primary care physicians. The American College of Physicians (ACP), the American Academy of Family Physicians (AAFP), and MedPAC have recommended changes to rescue primary care from what the ACP has called an "impending collapse." The MedPAC, whose 17 members are appointed for 3-year terms by the U.S. Comptroller [sic] General, has been concerned with primary care because, as a watchdog of Medicare costs, it views a high ratio of specialists to population as a cost driver while a greater number of primary care physicians may help contain costs.⁸⁷

But increased fees would not address quality of life concerns; increased reimbursement, coupled with a move from a procedure-driven fee-for service system to one that values patient communication and thoughtful management, would more fully address the problem.⁸⁸ In the meantime, and while those practice modifications remain aspirational, the Association of American Medical Colleges has committed to training more physicians by expanding the overall capacity of American medical schools.⁸⁹ A projected thirty percent increase in capacity is expected to add approximately 3,500 new medical graduates over the next ten years – including, it is hoped, more opting for a primary care practice.

85. See Thomas Bodenheimer et al., *The Primary Care-Specialty Care Income Gap: Why it Matters*, 146 ANNALS INTERNAL MED. 301, 301 (2007).

86. Bodenheimer, *supra* note 82, at 861-62.

87. Bodenheimer et al., *supra* note 85, at 304-05.

88. *Id.* at 305.

89. See Hartocollis, *supra* note 84.

There is substantial concern, however, that the supply of primary care physicians will not increase in the near term. First, in difficult fiscal times, it is unlikely that substantial new funds will be devoted to primary physician fees.⁹⁰ Second, it is unlikely that a shift of the balance of existing funds toward primary care would be advocated by physicians as a group,⁹¹ thereby maintaining the gulf between specialty and primary care income. Third, prior experience with increases to the supply of physicians suggests that simply lifting the cap on medical school graduations will not improve the primary care workforce supply:

Past experience shows that further increases in the number of physicians per capita will do little to redress the inverse care law that governs the location of physicians. Between 1979 and 1999, the per capita supply of physicians increased by 51%, but regional differences in physician supply changed little. For every physician who settled in a low-supply region, 4 physicians settled in regions with already high supply. Increasing overall supply is a blunt instrument for increasing supply in underserved communities, a need better addressed by focused reforms of medical education and financial and other practice incentives to change physician settlement patterns.⁹²

Furthermore, a vanishingly small percentage of new medical school graduates enter primary care,⁹³ and absent a dramatic reconfiguration of compensation, status, and workload, that pattern is likely to continue, wherever the new graduates settle.⁹⁴

Reform of the management of the chronically ill and the

90. One exception is the ACA's temporary increase in physicians' Medicaid fees for some primary care procedures to the Medicare level of reimbursement.

91. See Bodenheimer et al., *supra* note 85, at 305.

92. David C. Goodman & Kevin Grumbach, *Does Having More Physicians Lead to Better Health System Performance?*, 299 JAMA 335, 336 (2008). See David C. Goodman & Elliot S. Fisher, *Physician Workforce Crisis? Wrong Diagnosis, Wrong Prescription*, 358 NEW ENG. J. MED. 1658, 1659-60 (2008).

93. See Bodenheimer et al., *supra* note 85, at 301.

94. See Robert Steinbrook, *Easing the Shortage in Adult Primary Care – Is it All about Money?*, 360 NEW ENG. J. MED. 2696, 2696-97 (2009).

more general reform of primary and preventive care practice will require an adequate supply of primary care professionals. In the event the dysfunction in physician training and compensation patterns continue, it may be that we will have to accept that physicians have largely abandoned the field of primary care. It may, therefore, be necessary to look elsewhere, for example, through the acceleration of the expansions in the scope of practice-permitted, non-physician primary care professionals, such as advanced practice registered nurses (APNs).

Many states have expanded APNs' scope of practice in recent years, although the progress has been uneven and slow. APNs are:

registered nurses whose formal education and clinical training go well beyond the basic requirements for licensure. Most [APNs] are trained in master's degree programs. [APNs] are trained to diagnose and treat common acute illnesses and injuries, manage high blood pressure, diabetes, and other chronic problems; prescribe drugs, devices and treatments; order and interpret X-rays and other laboratory tests; and counsel patients on disease prevention.⁹⁵

Although their scope of practice has been slowly expanding, APNs remain restricted in their practice by requirements for "formal relationships with MDs," and by restrictions to only limited practice forms or geographic regions.⁹⁶

Researchers have for many years studied the quality of primary care provided by APNs in comparison to that provided by physicians, and have found equivalent results.⁹⁷ A study published in 2000, performed a randomized trial of primary care

95. Michael J. Dueker et al., *The Practice Boundaries of Advanced Practice Nurses: An Economic and Legal Analysis*, THE FED. RES. BANK OF ST. LOUIS: WORKING PAPER SERIES 2-4 (2005), available at <https://research.stlouisfed.org/wp/2005/2005-071.pdf>.

96. *Id.* at 5.

97. See Mary O. Munding et al., *Primary Care Outcomes in Patients Treated by Nurse Practitioners or Physicians*, 283 JAMA 59, 59 (2000); M. Laurent et al., *Substitution of Doctors by Nurses in Primary Care (Review)*, 4 COCHRANE DATABASE OF SYSTEMATIC REVIEWS (2004), available at http://www.hss.state.ak.us/hspc/files/Primary_Care_Substitution.pdf.

provided by physicians and APNs in which their primary care practices were “similar both in terms of responsibilities and patient panels.”⁹⁸ Like prior studies, this trial found essential equivalence in relevant outcomes:

This study was designed to compare the effectiveness of nurse practitioners with physicians where both were serving as primary care providers in the same environment with the same authority. The hypothesis predicting similar patient outcomes was strongly supported by the findings of no significant differences in self-reported health status, 2 of the 3 disease-specific physiologic measures, and all but 1 of the patient satisfaction factors after 6 months of primary care, and in health service utilization at 6 months and 1 year.⁹⁹

These results suggest that one answer to the problem of a shortage of primary care physicians is to more fully utilize APNs as primary care professionals. Several factors impede the ready introduction of APNs into full practice in primary care settings. First, more research must be done to confirm the body of evidence supporting the safety and effectiveness of APN practice.¹⁰⁰ Second, physicians must cooperate; there are some suggestions that a guild mentality or professional jealousy is inhibiting the integration of APNs into practice with physicians.¹⁰¹ Third, compensation and reimbursement systems must facilitate this integration, as APNs, like physicians, have varying options in their choice of practice. Fourth, state licensure standards must be clarified and normalized so as to ensure that APNs can practice broadly, including in substitution for physicians, where such forms of practice are shown to be safe and effective.¹⁰²

Were these conditions met, the path to APN status could be an appealing option in the “career ladder” for registered nurses,

98. Mundingier et al., *supra* note 97, at 59.

99. *Id.* at 66.

100. See Denise Bryant-Lukosius et al., *Advanced Practice Nursing Roles: Development, Implementation and Evaluation*, 48 J. ADV. NURSING 519, 526 (2004).

101. See Dueker et al., *supra* note 95, at 19.

102. See Bryant-Lukosius et al., *supra* note 100, at 524-25.

who now experience relatively flat salary progression and fairly limited professional advancement opportunities. These steps then could serve both to bolster the primary care workforce and to retain trained nurses in the profession by giving them an appealing "next step" in their nursing options. Expanding the primary care workforce to include APNs as independent practitioners seems consistent with the sense of CCM, which relies on multidisciplinary teams, and therefore might readily incorporate slightly different professional structures. As PCMHs have developed, however, they have tended to be oriented toward physician leadership, and incorporating more independent APNs into PCMHs will pose difficulties.

The next Part examines a particular barrier to the incorporation of CCM and PCMH into reimbursement policy. Decisions on cost effectiveness in health finance are not made in a vacuum. The ACA makes it clear that we will continue to rely on private insurance companies to manage the steps of health reimbursement closest to individual providers and patients. It is they, acting within the framework of general regulations, who will manage provider networks and influence the flow of funding for care. To the general question, is CCM (or PCMH) "worth it?" we must ask another question: worth it to whom?

FINANCING CHRONIC CARE AND PREVENTIVE/PRIMARY CARE: WHO DECIDES WHETHER IT'S WORTH IT?

The literature on chronic care management provides substantial evidence that models such as CCM, with patient-centered, multidisciplinary, community-coordinated care, are much more responsive to the needs of people with serious chronic conditions than is the currently dominant and fragmented system. The literature suggests that these models can also be cost-effective, in the sense that they show the promise of reducing the health costs patients would have experienced over time absent the interventions. There is less evidence that PCMH models are cost-effective in this sense, although future studies may demonstrate that they are. The cost effectiveness of these

models is important, as cost concerns will play an enormous part in health reform decisions for the foreseeable future. And for good reason: as prices rise, extending coverage to high quality care becomes more difficult.

There are cost-effectiveness arguments for CCM and PCMH that are beyond the scope of this paper,¹⁰³ in which the primary focus is on cost-effectiveness in only a narrow sense: whether the provision of care through CCM or PCMH will reduce the cost of care provided to the patient in the future. This is an admittedly cramped use of the term “cost-effectiveness.” Discussion of cost-effectiveness in this cramped sense has value, as coverage and access decisions in the foreseeable future are likely to be driven, in substantial part, on an analysis of the cost implications of those decisions for the health care system. While admitting to the artificiality of this constraint, its political and practical force is undeniable. How can we determine whether coordinated provisions of chronic care or primary and preventive care are cost-effective in the narrower sense that it promises a reduction in overall health care costs? There are issues that must be addressed to respond to this inquiry. One, obviously, is the question of the meaning of the term “cost-effective” in this narrow sense. The second is the identification of a time frame over which accrued costs will “count” for purposes of the analysis – a question of vital importance now that the ACA locks people into a system in which many consumers will shift from one commercial insurer to another during the course of their lives. The third is a process question and goes to the means by which the coverage question is answered if there are principled disputes as to cost-effectiveness.

103. The art of cost-effectiveness analysis (CEA) has been addressed in voluminous literature. See generally PETER J. NEUMANN, USING COST-EFFECTIVENESS ANALYSIS TO IMPROVE HEALTH CARE: OPPORTUNITIES AND BARRIERS (2005); see generally COST EFFECTIVENESS IN HEALTH AND MEDICINE (Marsha R. Gold et al. eds., 1996); see generally David M. Cutler & Mark McClellan, *Is Technological Change in Medicine Worth It?*, 20 HEALTH AFF. 11 (2001).

"COST-EFFECTIVE"

As is described above, there is "some evidence" that CCM can reduce total health care costs for at least some chronically ill patients.¹⁰⁴ If this conclusion is borne out on further study, then the cost-effectiveness question seems easy: the reduction in other health costs is greater than the cost of CCM; therefore, CCM is cost-effective in the narrow sense. The analysis for PCMH – and for prevention in general – is murkier. If CEA focuses on medical costs, there is substantial evidence that, "[d]espite savings in some categories," most preventive interventions "add more to medical costs than they save."¹⁰⁵ It will be important as primary and preventive care is institutionalized in the reimbursement system that sensible evaluation of value is undertaken. For example, much of the cost-increasing preventive care is of the high-tech variety, such as pharmaceutical products marketed as "maintenance" (that is subject to purchase and use for a patient's lifetime),¹⁰⁶ and not on lower-tech interventions such as health education and counseling about the benefits of proper diet and exercise.¹⁰⁷ As the philosophy of CCMs and PCMHs emphasize the lower-tech care, a more fine-grained analysis of the particular prevention methods they use will help guide this discussion.¹⁰⁸

104. Coleman et al., *supra* note 33, at 81.

105. Louise B. Russell, *Preventing Chronic Disease: An Important Investment, But Don't Count on Cost Savings*, 28 HEALTH AFF. 42, 42, 45 (2009).

106. *Id.* at 43.

107. See Goetzel, *supra* note 55, at 38.

108. In addition, those who argue that prevention creates net medical costs

point out that in many instances, preventive measures do not save money, when compared to the cost of treating the disease that would otherwise have been prevented, because screening costs for healthy people far outweigh treatment costs for the few who [would have] develop[ed] the disease. They are absolutely right in that respect. Providing certain preventive services, mostly in clinical settings, does not save money. But, then again, neither do most medical treatments.

Goetzel, *supra* note 55, at 37.

TIME FRAMES

As is noted above, CCM has been determined to “reduce total health care costs” for some chronically ill patients.¹⁰⁹ The determination comes with an important caveat, however: in many cases, the cost-savings accrue over time and therefore may not benefit the payer responsible for the reimbursement of some substantial costs of providing the CCM.¹¹⁰ For example, the cost of the primary-care-based CCM might be borne by one insurance company (either a private insurer or one providing coverage as a Medicare Advantage or Special Needs Plan (“SNP”)¹¹¹) covering a patient in 2010, but the cost savings (in the form of foregone surgery, for example) accrue to another insurer covering the same patient in 2015. Coleman dismisses this aspect of the CEA analysis with the perfectly reasonable, but not fully satisfying, observation that the treatment under those circumstances would be “cost-effective from a societal perspective.”¹¹² But that observation demands recognition of the insurers’ self-interest in calculating cost-effectiveness in a narrower time frame (during the three or four years insurers believe their members will stay with them), and some means of forcing consideration of a longer time frame.

RESOLVING THE “WORTH IT” QUESTION

Patient-centered chronic care and primary/preventive care have substantial appeal from the perspective of outcomes and patient satisfaction, and there is evidence of cost-effectiveness in at least some circumstances. If problems related to practice design and professional workforce adequacy can be

109. See *supra* text accompanying notes 44-47, quoting Coleman et al., *supra* note 33, at 81.

110. See Coleman et al., *supra* note 33, at 81.

111. See David C. Grabowski, *Special Needs Plans and the Coordination of Benefits And Services for Dual Eligibles*, 28 HEALTH AFF. 136, 137 (2009) (describing Medicare Special Needs Plans for, *inter alia*, Medicare beneficiaries with severe chronic illnesses).

112. Coleman et al., *supra* note 33, at 81 (footnotes omitted).

addressed,¹¹³ a major remaining impediment to incorporating models such as CCM and PCMH into coverage may well be financial, requiring an answer to the question of whether the cost of providing care through such models is "worth it." In some circumstances, the answer will be easy. Where, for example, the sponsor of coverage (in the case of Medicare, CMS, or in the case of a Medicare Advantage plan or SNP, the insurer) is able to determine that the addition of a coordinated care system costs less than that of avoided services within the sponsor-relevant time frame, the care system will be implemented. In these cases, the primary care team will have to be compensated in an amount and through a method that facilitates and encourages the provision of the services essential to the success of coordinated care models, most likely in the form of case payments or partial capitation.¹¹⁴

The more difficult cases arise when there is a more complex relationship between costs and benefits. In cases where the health care cost benefits of a coordinated care approach manifest several years in the future, the inclination to approve the implementation of a case management system may be more mixed. Public programs resolve this conflict by defining, with some particularity, the services participating insurers must cover including preventive and primary care services. What of privately insured persons? Insurers might be left free to make their own judgments. When the benefit of implementing a coordinated care system is substantial in the long term, but the benefits will not likely accrue to the insurer, the insurer is in a hopeless conflict of interest. Left to its own internal interests, the insurer will either reject implementation (if permitted to do so), or be inclined to engage in overt or covert exclusionary screening in order to avoid covering those in most need of the care coordination. Allowing insurers to act on their own

113. See *supra* text accompanying notes 78-94 (describing PCMH discussion of small practice settings and too few PCPs).

114. See Bodenheimer et al., *supra* note 85, at 305; Wolff & Boulton, *supra* note 24, at 442-43.

interests in such situations would be to simply frustrate the social judgment in favor of care coordination. No insurer would choose to cover such services when it could simply externalize the costs of chronic care, and at the same time discourage enrollment by chronically ill members.

The division of interest is between those paying for coverage and those selling coverage. It may be in insurers' interest to consider the benefit of a care coordination or wellness program within quite a narrow time frame, consistent with the short period it expects members to remain "theirs." It is in the interest of payers (government, employers, and individuals), however, that the time frame be expanded so that expenditures be made if they will pay off over a longer period. The ACA resolves what would otherwise be a clash of interest between payers and insurers by mandating several aspects of chronic care management and primary and preventive care.¹¹⁵ Decisions on covering chronic care coordination, and primary and preventive care services then, cannot be left to private insurers even if cost-effectiveness is narrowly defined as producing a net savings in health care costs. The time frames during which insurers will calculate returns on investment are too short. Instead, the decisions must be made by public payers for their members and by regulators of insurance for those in the private market.

SOME BROADER CONSIDERATIONS

The discussion above argues for the addition of chronic care management and primary and preventive care services, and describes a narrow set of circumstances in which such services should certainly be provided by all plans and insurers, namely, those in which such coverage is narrowly cost-effective. While that narrow cost-effectiveness analysis is the focus of this section, there are other compelling arguments for adding robust

115. See Patient Protection and Affordable Care Act (PPACA), H.R. 3590, Pub. L. No. 111-148, 1§§ 1001, 1302, 24 Stat. 119 (2010).

care coordination to all insurance. Most obviously, as has been described above, it appears that CCM improves the perceived quality of care for people with chronic conditions and allows patients and their families to suffer less anxiety and confusion in the course of their treatment. In that circumstance, the services should be provided even if they add marginal cost to the health care system. After all, other interventions – new cancer treatments or novel orthopedic surgeries – are covered if they are deemed medically necessary even if they add to marginal costs. Even in cost-constrained times, it is not clear that high-tech interventions (surgery on the knee to repair the sports injury of a “weekend warrior”) should be covered, while low-tech interventions similarly assistive in advancing patient mobility (home health aide services to allow for the social integration of a person with severe mobility impairments) should be denied.

This is not to argue that trade-offs between cost and benefits will not be made. The health care cost containment imperative is powerfully felt, and all services should be subjected to reasonable tests for cost-effectiveness. The results of such analysis are certain to be contested and controversial. Health care does not exist in the first instance to save money, but rather to advance personal and social goals of wellness and well-being. New models of both chronic care management and primary and preventive care services are designed with those wider goals in mind. Producing higher levels of well-being for people with chronic illness and their families, and preventing serious illnesses is worth something beyond the saved cost of avoided future medical care. Achieving those goals can enhance social integration, economic productivity, personal satisfaction, and familial well-being.

CONCLUSION

Two forces are driving changes in health care delivery and finance. First, chronic care needs have supplemented and supplanted acute care needs. Through most of the 20th century,

the care and finance focus was on acute care – the intensive intervention into a sudden and/or imminently serious disease or trauma, calculated to restore the patient to “normal” functioning. We increasingly, however, need care for ongoing chronic conditions instead of, and in addition to, acute care. The delivery system we inherited from the 20th century too often provides disjointed, frustrating, and ineffective care to people with significant chronic illness. Second, the finance system we inherited from the 20th century tends to value high-tech procedures, drugs, and devices. It little values the time spent by professionals to listen to or talk with their patients or each other. As needs have shifted to continuing care for multiple chronic conditions, this skewing of financial priorities has led to significant inefficiencies and cost increases. Models of patient-centered coordinated care offer some promise to address these two concerns. An important aspect of patient-centered coordinated care for people with chronic illness is the provision of wellness-directed preventive and primary care.

As the human, clinical, and fiscal benefits of chronic care models have become evident, researchers have asked whether their approach could be used to improve primary and preventive care for those who do not (yet) have chronic illnesses. The focus on maintaining wellness, addressing the whole person in the context of family and community, and furthering goals of patient empowerment, have generated support. Achieving optimal primary and preventive care – for those with and without chronic conditions – will depend on some structural shifts in a practice and finance environment that has grown too far removed from first principles of maintaining wellness rather than providing exotic care, and revision in the reimbursement methods to decrease emphasis on entrepreneurial interests and increase support for wellness and personal control. Adopting care coordination in some settings is clearly more cost-effective than maintaining our current system. In other settings, the costs and benefits are less clearly measured. In these cases social judgments must be made: how much is it worth to turn our

health care system toward wellness and disease avoidance?