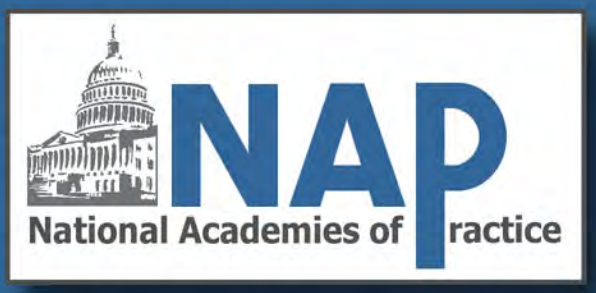

Models of Accountable, Coordinated Health Care:

A Policy Paper of the National Academies of Practice

partially supported by a grant from the Commonwealth Fund

Contents

Executive Summary

An accountable, coordinated health care system should promote and support a variety of health care professionals in providing integrated patient-centered health care and optimal care outcomes across all care settings (home, office, facility), types of care (prevention through rehabilitation) and throughout a patient's lifespan (prenatal through geriatric care). Such a system assures that all providers of record:

a. Know the patient's condition and preferences;

b. Optimize the use of tests, procedures, referrals, and patient education to promote efficient and effective care;

c. Coordinate their care plans;

d. Are accountable for results through a system of self-regulation including measurement against pre-set benchmarks for care improvement.

The National Academies of Practice (NAP), an interdisciplinary organization of health care professionals representing ten disciplines, supports the development of a comprehensive, accountable, and coordinated health care system. To that end, NAP examined pertinent evidence-based, peer-reviewed literature on models of accountable, coordinated health care systems and convened a Forum of experts and NAP membership in March 2009. At this Forum, national experts presented models of coordinated health care delivery, as well as data regarding the current state of health care in the U.S.

A broad spectrum of NAP membership and a smaller Policy Paper Committee have deliberated the steps necessary to achieving an accountable, coordinated health care system in the United States. We recommend and conclude:

1. A broad spectrum of accountable models of coordinated care should be tested. This includes, but is not limited to, Chronic Care, the Medical Home, the Home-Based Medical Care and the HealthCare Community™ models.

2. Federal investment must be provided for the development and maintenance of an infrastructure necessary to support accountable interdisciplinary systems.

    2.1 Federal investment must be provided to promote cross-professional training within professional schools and through graduate internships and the development and spread of interdisciplinary teams.

    2.2 Federal investment is required to improve communication among health professionals and between health professionals and their patients. Tools to improve such communication include electronic medical records, translator services, health educators, and community health workers. Support is needed to incorporate these tools and services and incentives into practice.

    2.3 Financing reform and technical assistance must be undertaken so that disincentives to coordinating and integrating care are removed. The current fee-for-service system should be replaced by a payment system that encourages efficient delivery of high quality, interdisciplinary care that fosters innovation.

    2.4 Methodologies for assessing the quality and cost-effectiveness of efforts and systems to promote health and provide health care must be examined, refined, and effectively used.

3. Significant investment in federal, state, and local public health efforts are necessary to achieve optimal health, improve cost effectiveness in the U.S. health care system, and address social and environmental factors related to health outcomes disparities. Disease prevention and health promotion are necessary components of an integrated healthcare system.

4. Patients need accountable, coordinated care. To achieve universal affordable care, a mixed financing system of both private and public options is the most practical and cost-effective way to achieve such coverage.

In this work, NAP relied upon the efforts and findings of several of the Commonwealth Commission's recent reports on developing a high performance U.S. health care system. We also acknowledge the Commonwealth Fund's support for the NAP 2009 Forum and the development of this paper.

The Commonwealth Fund, a national, private foundation based in New York City supports independent research on health care issues and makes grants to improve health care practice and policy. The views presented here are those of NAP and not necessarily of The Commonwealth Fund, its directors, officers, or staff.

Models of Accountable, Coordinated Health Care: A Policy Paper of the National Academies of Practice

The National Academies of Practice (NAP) is an interdisciplinary nonprofit organization with membership representing ten health care professions with a mission to serve as distinguished advisors to health care policy makers in Congress and elsewhere. Since our founding in 1981, NAP has produced a series of public policy papers on various aspects of health care reform. Most recently, these policy papers have focused on access to health care and health care manpower shortages. More information about NAP, including current policy papers, can be found at our website at: www.NAPractice.org.

Achieving accountable and coordinated systems of care is critical to health care reform, and the focus of this policy paper. To develop the background and reach the conclusions herein, NAP has relied on three primary sources of information:

1. A review of pertinent evidence-based peer-reviewed published articles, books, and reports;

2. A Forum hosted by NAP in Arlington, Virginia on March 28th, 2009;

3. Deliberations of the Forum Policy Paper Committee informed by the literature review and proceedings of the Forum.

The Forum, titled "Transforming Health Care: Models of Accountable Interdisciplinary Care Coordination that Work," included collaborative discussions among NAP members and guests and presentations by five nationally-known speakers:

- **Anne Gauthier,** MS, Assistant Vice President and Deputy Director for the Commission on a High Performance Health System, The Commonwealth Fund, New York, NY discussed the Commission's position regarding the importance of accountable coordinated care in achieving quality healthcare.

- **Robert Berenson, MD,** Senior Fellow in Health Policy, The Urban Institute, Washington, DC, discussed the overall implications of chronic care in our health system, and what is known and not known about care coordination models.

- **Michael Barr, MD, MBA, FACP,** Vice President, Center for Practice Innovation, American College of Physicians, Washington, DC discussed the potential for "the medical home" in improving health outcomes.

- **Thomas Edes, MD,** Chief, Home and Community-based Care, Department of Veterans Affairs, Washington, DC discussed the structure, outcomes, and cost savings of a home-based care system for sick, elderly veterans.

- **Marie DiCowden, PhD,** Executive Director of the Biscayne Institute of Health and Living, Miami, FL discussed the role of a community-based health care model in delivering coordinated care.

For details on the Forum and the bibliography, please visit the "Policy Forums" section of NAP's website at: www.NAPractice.org.

What is an Accountable Coordinated Health Care System and what is the case for its inclusion in health care reform?

What is it?

An accountable, coordinated health care system should promote and support a variety of health care professionals in providing patient-centered integrated health care across all care settings (home, office, institution), the care continuum (prevention through rehabilitation), and throughout a patient's lifespan (prenatal through geriatric care), in order to assure optimal care outcomes. Such a system assures that all providers of record:

a. Know the patient's condition and preferences;

b. Optimize the use of tests, procedures, referrals, and patient education to promote efficient and effective care;

c. Coordinate their care plans;

d. Are accountable for results through a system of self-regulation including measurement against pre-set benchmarks for care improvement.

Why do we need it?

Despite having the most expensive health care system in the world, the United States does not consistently and equitably provide its citizens with high quality health care. Although the US health system has improved recently on many measures, other countries have improved more quickly. The United States now ranks 19th of 19 countries in mortality rates for conditions amenable to health care. According to the Commonwealth Fund's "National Scorecard for US Health System Performance," we do not yet even provide equitable care for all of our citizens. The Scorecard measures 37 indicators across 5 areas (healthy lives, quality, access, efficiency, and equity). The U.S. health system scored worst overall than 5 other countries: England, Netherlands, Germany, Australia, New Zealand, and Canada. With respect to coordinated or patient-centered care, the U.S. scored next to worst.

Can we afford it?

In their recent report on "The Path to a High Performance US Health System," the Commonwealth Fund's Commission on a High performance Health System sets out a plan to achieve slower growth in U.S. health care costs through the simultaneous pursuit of strategies to achieve:

- Affordable coverage for all
- Alignment of incentives with value and effective cost control
- Accountable, accessible, patient-centered, and coordinated care
- Aiming high to improve quality, health outcomes, and efficiency
- Accountable leadership and collaboration to set and achieve national goals

According to an analysis by the Lewin Group for the Commission's "National Scorecard" and "Path to a High Performance U.S. Health System" reports, slower growth in costs can only be achieved through pursing these five goals at once. In addition to slowing the rate of increasing costs, achievement of the report benchmarks could also mean:

- 37 million more adults and 10 million more children would have access to primary care
- 68 million more adults could receive recommended preventive care
- 70,000 fewer children might be admitted to hospitals for asthma
- 600,000 fewer elderly might be hospitalized or re-hospitalized for preventable conditions
- 100,000 fewer deaths from conditions amenable to healthcare might occur before age 75

An accountable and well-coordinated system is an integral part of the Commission's "A High Performance Health System for the United States: An Ambitious Agenda for the Next President" report. The report references studies that document "coordinated care systems are better equipped to pursue improvements in quality and efficiency than independent physicians practicing in isolation. Integrated medical groups are more likely than independent practices to utilize care management processes, electronic medical records, and incentives for quality improvement."

Recommendations to promote accountable, accessible, patient-centered and coordinated care also include technical assistance to encourage healthcare practices to form networks of care, liability coverage for providers accepting bundled payments, and development of integrated care delivery systems. The Commission believes that well organized systems will be better able to accept bundled payments.

What is the evidence for the impact of accountable coordinated care?

The NAP Policy Paper Committee conducted a review of current peer-reviewed journal articles, books, and reports on all aspects of this issue — care coordination, accountable health care system models, interdisciplinary care, electronic medical records, and other issues. The articles deemed most relevant and evidence-based were reviewed in depth by one or more committee members who presented their findings and conclusions to the group as a whole. In addition to the arguments and data presented by the Commonwealth Fund, the literature supports an accountable, coordinated, system of care. Findings demonstrate that such care counters fragmentation, avoids adverse drug interactions and acute exacerbations of untreated or inappropriately treated illness, avoids excessive costs, promotes efficient care, and assures better quality outcomes. Data from foreign health care systems highlight the benefits of better integrated, more accessible, and less expensive systems. Two U.S. systems that exemplify coordinated accountable are Geisinger Clinic and the Kaiser Permanente group.

Recommended reading: Berwick (2002), Bodenheimer (2008), Commonwealth Fund Commission (2007) (2008) and (2009), Davis (2007), Davis (2008), Davis, Schoen et al. (2008), Druss (2003), Paulus (2008), Schoen (2007), Zeiss, (2008).

Are there accountable coordinated models of healthcare that work?

More research is needed to determine what models of accountable and coordinated care result in the best, most accessible, and least costly care. However, promising models have been identified and a body of qualitative and quantitative data regarding these models is emerging. The Forum highlighted four models, and committee members found several more during literature review and/or discussion by the NAP membership.

1. The Chronic Care Model

Wagner's geriatric model is widely accepted as the standard model for chronic care. The basis of the model is multicomponent change in 4 categories:

1. Improving provider skills and knowledge

2. Providing education and support for patients

3. Making care delivery more team-based

4. Using registry information

As the population is aging, chronic conditions have become the central challenge to health care reform. Currently, patients with chronic conditions account for 96% of hospitalizations. More than three-quarters (78%) of current health care spending is for persons with chronic conditions. Several chronic conditions, such as diabetes, also make patients more prone to acute events. As a result, care for persons with chronic illness has emerged as a topic of special concern among those seeking to reduce health care costs and advance a high quality, accountable, coordinated system of care that serves everyone.

Because the likelihood of developing chronic conditions increases with age, issues related to care for the chronically ill will become more urgent as the U.S. population ages. The link between aging and chronic conditions also means that the field of geriatric care has advanced our understanding and knowledge of barriers to accountable, coordinated care, as well as providing us with models for addressing the needs of the chronically ill.

Barriers to recommended care for people with chronic conditions are many. Wagner and others identified the "tyranny of the urgent" as a significant barrier for physicians — acutely ill patients make it increasingly difficult for physicians to attend to chronically ill patients' assessments, interventions, education, support, and follow-up.

Workforce issues have also been identified as barriers to providing coordinated chronic care. For example, decreasing numbers of medical students are entering primary care. When Massachusetts established insurance for everyone, the state discovered that many communities simply did not have the capacity to provide primary care to all residents. The pressures of a 15 minute visit have reduced quality of care and professional satisfaction among physicians in the U.S. and elsewhere. Current models of care assume that all care must be delivered through a face-to-face visit and that the provider must be a physician. Given the increase in the geriatric population and the decrease in primary care providers, such a model is simply unworkable.

Lack of success in delivering coordinated chronic care is often related to a lack of clarity regarding the target populations, interventions, and the site of care delivery. Different kinds of patients require different kinds of care. Identifying patients by the sheer number of chronic conditions, while useful analytically, is not useful medically because some conditions (like hyperlipidemia) do not cause disability or lead directly to death. The current models of limitations of the activities of daily living (ADL) are also limited in that they fail to address patients in whom the goal of returning to active independence is inappropriate (e.g., geriatric populations, the frail elderly, and persons with special needs). Interventions are also not well defined. Especially lacking is clarity regarding "care management" and "care coordination."

Many chronic care studies — including a review of 30 years of fee-for-service and capitation demonstrations of chronic care management show improvement in quality of care, but no cost savings. A large randomized trial in a geriatric population demonstrated no improvement in mortality, but significant reduction in functional decline and mental health problems. Another study showed improved quality of care based on coordinated care for chronic obstructive pulmonary disease (COPD).

The lack of demonstrated success is related to a lack of clarity regarding the patients served and the interventions offered. It is analytically useful to identify patient groups by the number of their chronic conditions — but this grouping is not at all useful medically. For example, models that measure increased or decreased limitations in the activities of daily living do not appropriately measure success or failure in providing care to patients for whom the goal of returning to active independence is inappropriate (e.g., some geriatric populations, and some persons with special needs). Similarly, while it may in some ways be useful to identify hyperlipidemia as a chronic illness, it is not appropriate to compare care for persons with hyperlipidemia to care for persons with illnesses that lead inevitably to disability and death.

Interventions and strategies for the care of persons with chronic conditions are also not always well or clearly defined. "Care management" and "care coordination," for example, are often used interchangeably. Each is sometimes used to describe a specific service provided to patients, and at other times, to describe a strategy employed by providers to organize the delivery of care.

Many healthcare disciplines have successful models of chronic care. The Forum attendees identified geriatrics as a discipline that is more experienced and advanced in collaborative care models. Hospital environments were also identified as potential sources of models of or expertise in collaborative care. New models for hospital payments, home health agencies, and special needs plans may also have a role in shaping health care for persons with chronic conditions.

Recommended reading: Berenson (2008), Bodenheimer (2008), Cohen (2008), Coleman (2009), Marr (2008), Peikes (2009), Spilliopolis (2008), Wagner (1996).

2. The Medical Home Model

The Medical Home Model of integrated health care coordinated through a single provider is supported most strongly by research in other countries. The Patient Centered Medical Home (PCMH) model provides a vision of health care as it should be; a framework for organizing care at the micro (practice) and macro (society) level; a model to test, improve, and validate; and a part of the current health care reform agenda. The model can be used to describe a pathway to excellent health care, to reclaim a role as advocates for patients and their families, to encourage team-based care, to develop educational opportunities, and to attract medical students and residents to primary care.

The American College of Physicians (ACP) joined with a number of representatives from pediatrics, family medicine and other specialties to develop the Joint Principles of the PCMH. The Joint Principles included: a personal physician in a physician-directed medical practice engaging other professionals through referrals or through a centralized external organization. The PCMH takes a whole person orientation, with the physicians taking care of the whole person either directly or through coordination and referral. This role is not designed to be gate keeping and the concept of "medical" is broadly defined to include non-medical practitioners in providing overall health care. The PCMH is focused on quality of care and safety, and so supports accountability, performance measures, and other similar measures. However, the PCMH model does not address issues of access or health disparities.

The ACP has developed a method for practices to measure the extent to which they achieve PCHM expectations, and to guide practices in developing themselves as PCHMs. The lowest level does not require an electronic health record (EHR), although registry and tracking functions must be in place. Its emphasis is on providing better care through increased access to care, office organization and processes, enhanced patient self-

management, and the introduction of evidence-based guidelines, measurement, and quality improvement. Higher levels of PCMH require electronic records, as they require health information sharing, electronic mail, and personal health records for patients. Other features of the PCMH include each team member practicing to their highest capability, support for cultural competency training, health literacy, community connections, self-management, and the development of patient advisory groups.

A literature review begun with the Commonwealth Fund report showed increased quality, decreased costs, and better coordination, due in part to the prevalence of EHRs and other information technology, in medical home models in foreign countries. Schoen's article reviewing multiple data sets provides support for the medical home model of health care delivery.

Recommended reading: Barr (2008), Berenson (2008), Bodenheimer (2009), Joint Principles (2009), Marr (2008), Schoen (2007).

3. The Home-Based Primary Care Model

Persons who are home-limited cannot access primary medical care as it is usually delivered in offices or hospitals. When they suffer from complex chronic diseases that will not improve, but will instead worsen gradually, their need for primary care is particularly grave. Until they are close to death or dependent upon others for several activities of daily living, these patients may "fall through the cracks" in the current health care systems, and may not qualify for home health agency, hospice services, or nursing home placement.

The VA Home-Based Primary Care Program (HBPC) provides services to this population, promoting the independence of its patients as a core value. The VA HBPC is comprehensive, longitudinal primary care delivered in the home by an interdisciplinary team. The program targets patients with complex, chronic, disabling disease who are "too sick to go to clinic." The program is different from and complementary to Medicare Home Care.

The mean age of the VA HBPC population is 76.5 years; 96% are male, and most have more than 8 hierarchical chronic conditions. Nearly half are dependent in two or more activities of daily living (ADL). Approximately half are married, but almost 1/3 of spouses also have compromised function. The mean duration of patients in VA HBPC is 315 days, with an average of 3.1 visits per month. By contrast, the mean duration of patients in Medicare Home Care is 65 days; 61 days for home hospice.

The VA HBPC teams include nurses, occupational or physical therapists, pharmacists, physicians, psychologists, and social workers. Physicians provide medical direction and a nurse or social worker acts as program director. Teams meet weekly and work together to develop unified care plans for each patient. VA HBPC teams spend about 25% of their time in home visits, 25% in travel, and the remaining 50% in care coordination and record keeping.

The VA has identified and tracks several performance measures for the VA HBPC program. These include measures to assure that patients and caregivers are receiving appropriate care, including diabetic monitoring, vaccinations, care after heart attacks, cognitive impairment screening, caregiver strain screening and caregiver support as needed. Measures of successful programs include: well-functioning interdisciplinary teams, providing longitudinal rather than episodic care, enforcing caseload limits of 20-30 per nurse, proper use of electronic medical records (EMR) and telemedicine and allowing clinical judgment to drive the frequency of care. The VA tracks both reduction in inpatient admissions as well as stays and veteran satisfaction. The last measure is considered a "balancing measure," to assure that reductions in hospitalizations are not achieved by preventing a veteran from receiving needed care.

VA HBPC has reduced the costs per patient per year from an average of $45,000 to an average of $17,000. VA HBPC has also reduced hospital stays and nursing home stays, even as outpatient visits remain steady and home care visits more increase by more than 250%. Overall, VA HBPC has resulted in a 24% reduction in the cost of care.

Additional data from the GRACE project documented improvements in care and costs savings through two different models of home-based primary care of frail elderly by interdisciplinary teams of health professionals. Separately, the American Academy of Pediatrics (AAP) has reported improvement in health, but no cost savings, through medical home services provision to children and youth with special health care needs. Berenson reported that 13 of 15 Medicare demonstration sites showed improvement in quality of care but no cost savings, in their medical services programs.

Recommended reading: Beales (2009), Berenson (2008), Counsell (2006).

4. The Community-Based Model

The HealthCare Community™ (HCC) is a model of care which has been trademarked to assure the integrity of the definition. To qualify as a HealthCare Community™, an interdisciplinary practice must include at least health promotion and preventive care, integrated primary care, and rehabilitation services within the same facility. The HealthCare Community™ model is rooted in the community system, and has a central focus on health and function. It began with a focus on coordinated rehabilitation and has broadened since. The model demonstrates that efforts that are effective for the care of patients with chronic conditions are also effective in caring for other patients.

The Biscayne Health Care Community (BHCC) is an example of a HealthCare Community™ provides its patients with:

- Individual treatment by a team that communicates with each other under one roof
- Care that is health focused, not simply medically focused
- Protocols to acknowledge context of family and community
- Care that is responsive to cultural values

The model is based on the belief that the whole is greater than the sum of its parts and that each team member can be transformative, rather than merely additive. Components of the model at BHCC include: integrated primary care (physicians, Chinese medicine, behavioral health), rehabilitation, wellness and prevention. Ancillary programs at BHCC include: an academy program that provides rehabilitation, primary care, and special education services; a small protected work environment; research and training with all disciplines in order to keep community, staff, and university programs interrelated, and to train for the future; community outreach programs through which other institutions utilize BHCC staff to establish and teach about particular issues/protocols/programs; a foundation — a 501(c)3 organization that works on education and advocacy on wellness, cutting edge health care, and grants funding; and a volunteers program — community members and patients providing volunteer support and role models. The BHCC is "humanizing health care through accountable, interdisciplinary health care for all."

BHCC manages funding in the current system through a "patchwork" funding. This includes private insurance, Medicare, Medicaid, Medicaid waiver, state funded health and education programs. Bundled payments would be welcomed as a step forward at BHCC and simplify administrative/billing procedures and overhead. BHCC has been able to demonstrate the ability to provide cost effective care: adult programs for persons with long-term disabilities are provided at $86.51/hour; outpatient medical care, including the elderly, is provided at $90.74/hour, and pediatric care, including psychological care and special education, is provided for $10.06/hour. These costs include all professional care and case management services, but do not include pharmaceutical costs.

Recommended reading: DiCowden (2007), Marshall (2009).

5. Other models of accountable, coordinated care delivery

Increasing evidence suggests appropriately trained advance practice nurses (APNs) do as well as primary care physicians in many settings, especially inner city, and rural venues. In many countries, APN use has reduced costs. There are also models for dental "homes." Other interdisciplinary models of healthcare include prevention centers, focusing on cancer, alcoholism, drug abuse, or heart disease prevention and screening.

The literature does not yet address models that might be more appropriate to the needs of special populations: minority populations, non-English speakers, patients with low literacy, the homeless, patients with significant single-organ problems (renal failure, congestive heart failure), or psychiatric or psychological illnesses to name a few. The social and environmental determinants of health disparities must be acknowledged and models addressing these issues must be developed and tested. In short, more diverse models are needed and need to be tested.

Recommended reading: Laurent (2004), Nowak (2002).

Necessary supports to enable and enhance Accountable, Coordinated Models of health care delivery

While accountable, coordinated, integrated models of health care delivery are a necessary ingredient of an improved health care system, these models require certain supports or ancillary components without which they will not be successful. They include:

Electronic Health Records (EHR) /Electronic Medical Records (EMR)

Systems using EHR/EMR show improvement in quality of care (monitoring tests and benchmarks); communication among providers is also improved. Only 25% of primary care practices in the U.S. have EHR/EMR, and they are usually located in larger practices or in hospital systems. Less than 2% of hospitals have comprehensive EHR/EMR systems. Kaiser Permanente, with years of experience with EHR/EMRs, provides strong evidence on their effectiveness and cost-efficiency.

Incentives to support adoption and appropriate use of EHR/EMRs should be established. Small practices — which are the majority of primary care practices — may have particular needs for support and guidance. More studies are needed regarding best practices for data input (i.e., who should be able to access and input data in a record — physicians, social workers, nurses, patients, etc.).

Interdisciplinary team building to improve coordination

Team building is difficult, but achievable. The current lack of interdisciplinary training is a barrier to team development among health professionals. Additional data regarding effective strategies for team building are needed, as are strategies to systematically review data that is usually anecdotal and otherwise difficult to generalize. Investment in cross-professional training in graduates schools and internships is necessary to develop a 21st century health workforce.

Forum attendees suggested that having students spend part of their training in interdisciplinary teams would expand their practice and knowledge and build experience and skills in interdisciplinary communication and health care. This would allow students to develop their individual discipline expertise but learn to practice in a system that promotes coordination and accountability among all health care professions. Interdisciplinary research was identified as a strategy to build bridges between disciplines and to promote understanding and mutual respect. Opportunities for presentations by and between members of different professions were suggested to improve understanding and promote collaboration. Canada and England have made education reform an integral part of health care reform, with a focus on interdisciplinary (interprofessional) education and care. Why shouldn't we?

Attention to health workforce availability

The lack of a strong central federal entity to monitor and correct health workforce deficiencies has led to the "sudden" realization of shortages among primary care physicians, nurses, veterinarians, pharmacists and other health care providers. Incentives to promote increases in provider types are needed. See the NAP policy paper on Health Workforces Shortages at www.NAPractice.org.

Reimbursement reform

Fee-for-service payments do not foster coordinated care. Those trying to work as a team or coordinate care are penalized in the current system. Attention must be paid to a more flexible reimbursement system. Other models include global payments for patient care, or allowing an add-on code for services when offered in the context of a PCMH. These and blended models are currently being tested. Bundled payments should not be used to decrease care but allow greater flexibility to provide accountable care in a more cost effective manner. The current system punishes providers for taking on patients with complex chronic disease and provides little incentive to the system for avoiding preventable hospital and nursing home care.

Forum attendees noted that current funding structures thwart collaboration in many ways. Payments are often based on the profession and the degree achieved, rather than the quality of care. Managed care plans within different disciplines may operate with different rules, making it difficult to coordinate care between providers answering to each other. In other cases, managed care panels are perceived to be physician-centric, hamstringing strategies to provide care through other professions. There is limited financial support for the work required to create and maintain collaboration, including sharing information and test results between professionals, and providing patient counseling. Attendees felt that fee-for-service payment schemes are likely to always be barriers to collaboration.

Quality assessment issues

A standardized system for quality assessment of patient status is needed. Currently, the medical system relies on the International Classification of Diseases (ICD), but functional assessment may be more meaningful in evaluating the effectiveness and quality of care delivery outcomes. Many industrialized countries are now tracking public health through the International Classification of Functioning, Disability and Health (ICF). The ICF was developed by the World Health Organization as a companion classification to the ICD and holds great promise in classifying function in a manner that is easily understood and accessible to health care professionals, patients, families and other disciplines as well. The use of ICF has the potential to turn our disease care system into a true health system, especially if outcomes and reimbursement are measured through functional assessment and quality of life.

Comparative effective research must be supported. We agree with The Commonwealth Fund's call for the development of a Center for Comparative Effectiveness, to collect and monitor data on system improvements but this must take both a qualitative as well as a quantitative approach. Review of treatment efficacy is an important variable in cost containment.

Standardized definitions of the various models and criteria for their implementation successes and failures need to be developed and accepted. The necessary components of the different health care delivery models need to be enumerated and promulgated.

Continuity of care issues

Most agree that patients' transition from hospital to home is fraught with lack of coordination and communication problems, and that patients often suffer as a result. The cost in health outcomes and in dollars is staggering. In 2004, costs associated with readmission within 30 days were more than $17 billion. Coordinated care must extend across models of delivery spanning sites of delivery as well as the continuum of health to medical and rehabilitation delivery.

Barriers to implementing interdisciplinary care models

Forum attendees noted that managed care networks can sometimes serve to limit referrals; speakers suggested greater support for and flexibility in making referrals as a means of supporting collaborative care. Regulatory structures, such as HIPAA and state licensure, can act as real or perceived barriers to care coordination. Barriers of particular concern to integrated care included inter-professional issues, liability issues, and working with special populations.

Forum attendees also noted that there are many barriers between professions, which are sometimes enforced on a personal level through issues of ego or perceived professional esteem. These barriers are often echoed and reinforced in the structure of professional organizations, which can be defensive of their discipline, funding streams, and particular priorities. The stigma surrounding mental illness was noted as a particular barrier to collaboration between physical and mental health providers.

The solo practitioner, small practices, and coordinated interdisciplinary health care

Seventy-five percent of primary care physicians are in solo practices or practices having fewer than five partners. Professionals in dentistry, nursing, optometry, pharmacy, podiatry, psychology, and social work often work in similarly small and single profession practices. Forum attendees discussed ways the private practitioner could decrease fragmentation and increase care coordination. These include:

- Networking among professionals, including presentations at local or regional meetings of health professions, individual efforts to network within the community, and inclusion of patients in efforts to improve communication and collaboration
- Using telemedicine technologies as strategies — especially in isolated communities — in connecting to other health professionals and providing collaborative care
- Making a decision to avoid error by organizing a practice that establishes safety procedures, asks about drug allergies, keeps records organized and accessible, and maintains good communication with all caregivers
- Using locally-based professional organizations, such as county medical societies to hold regular meetings at which colleagues from other professions are invited to dialogue to address the isolation found in rural areas of practice
- Seeking specialty consultation by telephone from university medical centers
- Developing "virtual" health care teams in one's communities

Because solo and small practice settings are the major form of outpatient care, considerable attention — financial and technical support — should be focused on how they can become part of accountable coordinated interdisciplinary care teams.

Recommended reading: Bajcar (2005), Barr H (2002), EICP (2009) Canadian Interprofessional Health Collaboration (2009), Hillestad (2005), Institute of Medicine (2001), International Classification of Functioning (2009), Jha (2009), O'Kane (2008), Paulus (2008), Peikes (2009), Pham (2008), Scherer (2008).

Prevention and health promotion must be part of health care reform

Generally, healthcare reform advocates as well as Forum attendees agree that preventing disease and promoting health is a key ingredient in ultimately decreasing the burden of disease and disability. However, healthcare reform discussions rarely specify what potential delivery models for prevention and health promotion are best suited to providers. While reform currently focuses on delivery models that address various diseases or infirmities, we need to consider not just medical system reform, but an integrated health system reform.

Such a reform would focus on the whole person in the context of the biological, social, and environmental determinants of their health, illness, and disability. Preventing disease and promoting health are different goals from curing or ameliorating disease states and require different solutions. Effective interactive partnerships between federal, state, local systems, healthy persons, and healthcare providers are the foundations for promoting a healthy populace. Elaborating on the delivery models of prevention and/or health promotion activities is beyond the scope of this report. The following comments might set the stage for a future Forum discussion.

It is not clear how effective it could be to incorporate preventive measures and screening recommendations into a small PCP practice. However, there is evidence to support the positive effect of individual practitioners and organized systems of practice in influencing individual health-seeking behavior. Given the pressure on primary care providers to see patients in 15 minute intervals, monitoring and counseling for preventive services — a generally unreimbursed activity — is unlikely to happen. An alternative approach might be to develop and study a prevention-home model.

Whatever the delivery systems, significant efforts and investments in federal, state, and local public health entities are necessary to achieve optimal health and cost-effectiveness in the U.S. health care system. Investment must be made in studying and lessening the negative impact of social and environmental determinants on the health of diverse populations. There is also a role for the practitioner outside of the office or hospital. Practitioners, including solo practitioners, can make a positive impact in their community by becoming active in public health meetings, advising community bodies about unhealthy social practices, and promoting health in the schools.

Recommended reading: The APHA Agenda for Health Reform (2009), Murray (2006).

Universal coverage is necessary, but must be affordable

The need for broad-based delivery system reform has been widely accepted and now informs all consideration of the nation's health care system. Reform is now focused not just on including the uninsured, but on including the underinsured as well. It is also focused on health care for all in addition to more effectively managing chronic conditions and decreasing acute illness episodes.

Compared to other industrialized countries, there has been a huge growth in the numbers of the uninsured and in the growth of per capita health expenditures in the United States. The Commonwealth Fund Commission argues that system inefficiencies cannot be addressed without universal coverage and without a public option insurance plan. A single payment entity is probably most cost-efficient, ensuring that most dollars are spent on patient care and not on stockholders. However, given the current political climate, the most practical achievable reform of the insurance system would include a public/private mix of insurance to insure that most dollars are spent on patient care.

Economists and others have argued that a mixed public-private plan is necessary to achieve significant cost-savings. Theodore Marmor defended the public plan's role in cost savings: "The public plan, essentially a voluntary Medicare equivalent for Americans younger than 65 years, could save money in 3 ways. First, it could take advantage of the lower administrative costs of government programs, such as Medicare. Second, the public plan could use its substantial market power to restrain the prices of the medical care it finances. The extent of savings would depend in part on the size of the public plan's enrollment; a larger plan would have more purchasing power to control costs. Savings would, of course, also depend on the political willingness to reduce payments to medical providers. Finally, the combination of marketing regulation and competition from the less expensive public plan could also prompt private insurers to innovate in ways that lowered costs."

Recommended reading: Davis (2008), Marmor (2009), Schoen (2008).

Discussion and recommendations

1. A broad spectrum of accountable models of coordinated care should be tested, including — but not limited to — Chronic Care, Medical Home, Home-Based Primary Care, and the HealthCare Community™ models.

   We believe health care system reforms must be much more far-reaching that those currently under consideration if the need and potential for true health care, not just medical care, reform is to be recognized. Such reforms must maximize accountability for quality improvement and cost reduction results, while concurrently focusing on the 21st century priorities of:

   - Chronic care management
   - Maximization of existing and growth of new health workforce resources, especially in primary care
   - The need to learn both from national and international examples about what can and does work

   Specifically, we believe system reform should encourage the development of accountable health care systems that can be organized from individual or network of care practices or groups of practices, and by integrated health care systems. However, unlike current narrow proposals, we believe such systems should:

   - Include — but not be limited to — the medical model, instead focusing on all aspects of health
   - Not just focus on primary care physicians, but on interdisciplinary teams
   - Recognize differences in patient/caregiver/family needs when chronic disease and disability are concerns
   - Operate to fit patients' needs, offering home-based as well as office-based care for those who need it, and continuum of care management including services in the community, not just management between the office and hospital

   We support the "medical home" concept. We believe, however, that other healthcare delivery models need to be explored. Further, the interdisciplinary team concept should be more widely tested as the mode of health care delivery, as is being done abroad. We believe in the promise of separating higher cost chronic disease patients from lower cost chronic disease patients, and expanding systems to treat them in their homes if need be. Due to the care improvement and large cost savings, we support expansion of home-based primary care programs such as the one in the VA to the private sector.

   We also recommend immediate demonstration projects to determine how collaborative interdisciplinary care can be delivered effectively and how team structure and composition needs to adapt to individual patient needs. We recommend Federal funding of demonstration projects that showcase other types of effective and appropriate patient-centered care. Pilot and demonstration authority could also be used to test other types of patient-centered homes that focus on specific health issues such as community-based rehabilitative models (physical and/or psychological), community-based health center models (for citizens of all economic levels), and dental-home models to name a few. Further trials of physician provider collaboration/substitution as care coordinators should be undertaken, especially given the projected shortage of primary care physicians.

2. Federal investment must be provided for the development and maintenance of the infrastructure necessary to support accountable interdisciplinary systems.

2.1 Federal investment must be provided to promote cross-professional training within professional schools and through graduate internships.

Integral to health system reform is reform of U.S. healthcare workforce training. Given the shrinkage of number of primary care physicians, the potential growth in numbers of patients needing care through universal coverage, the burgeoning numbers of elderly needing complex chronic care management, it is imperative that we address health manpower issues. Today, we train in the old-fashioned silos of care of the past, with outdated assumptions about who can or should do what, and what relationships among health care professionals should be.

The 21st century healthcare workforce we need will have not only individual technical competency, but the ability to work collaboratively in teams — not just to address patient safety in complex hospital situations, but to address chronic care needs and primary care management for all. Our history, culture, and the politics of the current siloed system have left us far behind Canada and England on this front. Congress must take the lead.

We recommend ending the neglect of the field of interdisciplinary education. Grants, contracts, and other incentives for academic medical and health centers can help practitioners use the knowledge that already exists abroad to jump-start overdue efforts toward quality interdiscipinary education and training activities in the United States.

2.2 Federal investment is required to improve communication among health professionals and between health professionals and their patients. Tools to improve communication include electronic medical records, translator services, health educators, and community health workers. Support and incentives for these tools and services are needed to incorporate them in practice.

Historically, health care in the United States is primarily delivered as ambulatory care to patients through small, independent, practices that are poorly connected to other health disciplines or specialty care. There is a general failure to acknowledge diversity among patients in terms of age, sex, race, health literacy and educational achievement, income, and culture. The medical model's dominance in the United States unnecessarily excludes non-Western models of health care, and providers of care other than physicians.

Clearly articulated plans of care and accountable interdisciplinary teams have been shown to improve health outcomes. Electronic medical records are important — but insufficient — tools to support such plans and teams. No medical record can ever supplant interpersonal collaboration among health care professionals. NAP supports investment at the federal level to develop multiple communication tools, systems, and expertise that will maximize health outcomes

2.3 Financing reform and technical assistance must be undertaken so that disincentives to coordinating and integrating care are removed. Replace the current fee-for-service method of financing with a payment system that encourages efficient delivery of high quality, interdisciplinary care that fosters innovation.

Current reimbursement systems do not encourage interdisciplinary team development or accountable health care systems. Practices both large and small require financial support to develop technological infrastructure, to include electronic medical records, communication tools and operating systems, and operating protocols for their use. Training in team development and team development activities (e.g., the development of policies and procedures, memoranda of agreement, and protocols

for referral, communication, collaboration) also require financial support. The costs and benefits of models of care and reimbursement could be tested through the Center for Medicaid and Medicare Services' current demonstration program authority.

However, reform must not solely reduce payments. Rather, it must reward needed activities (such as care coordination) by those able to manage patients most cost-effectively (often primary care as a substitute for more expensive specialist care). Payment for non-face-to-face care and coordination (telephone, email, telemedicine) is essential. Bundled payments that improve collaborative flexibility — not just cut payment levels — could have such a salutary effect on both quality outcomes and cost effectiveness, depending on its structure.

2.4 Methodologies for assessing the quality and cost-effectiveness of efforts and systems to promote health and provide health care must be examined, refined, and effectively used.

NAP believes this support is critical to meeting the goals for quality improvement identified in the Institute of Medicine's "Crossing the Quality Chasm" report, addressing workforce shortages in key health care occupations, and building more cost-effective systems of care. Comprehensive outcome research addressing direct and indirect costs and savings must be developed as fundamental element of all national health care policies in order to inform debate and drive improvement. The Congressional Budget Office and other entities that conduct evaluations must examine and improve their methodologies to provide an accurate, comprehensive evaluation of health care models and efforts. Comparative effective research as recommended by the Commonwealth Fund should be funded as an independent Research Center.

3. Significant investments in federal, state, and local public health efforts are necessary to achieve optimal health, improve cost effectiveness in the U.S. health care system, and address social and environmental factors related to disparities in health outcomes. Prevention of disease and health promotion are necessary components of an integrated healthcare system.

   The current health care system focuses narrowly on treating diseases and illness — an approach that drives costs up and threatens the overall health and wellness of patients and populations. Significant, consistent support for public health efforts on the local, state, and federal level must be made and need to continue. Significant investment must be made in studying and lessening the negative impact of social and environmental determinants on the health of diverse populations.

4. All Americans need accountable, coordinated care. To achieve universal affordable care, a mixed financing system of both private and public options is the most practical and cost-effective way to achieve such coverage.

   European, Canadian and other health care systems that achieve lower costs and better outcomes have elements that are controversial in the United States, such as a high emphasis on primary care instead of on specialty care and cost controls on overall spending especially in key areas such as the price of drugs. However, we wonder how we will be able to afford universal coverage without some elements of fundamental cost control such as those found in other countries. This is why we support the public option that offers some promise of lower administrative costs, and the potential for cost controls through bidding on pharmaceutical products, medical equipment and other elements. A mixed financing system, including both private and public options, is the only practical way to quickly achieve universal health care coverage. Quickly achieving universal health care coverage is vital to slowing growing health care costs.

   NAP supports and endorses the conclusions of the Commonwealth Fund, that universal coverage is a requirement of health care transformation and controlling the growth of health care costs. Further, we agree that building off of the current structure of private and public insurance coverage is the most practical way to achieve universal and affordable coverage.

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Definitions

APN: Advanced Practice Nurse (i.e. nurse practitioner, certified nurse midwife, clinical nurse specialist or certified registered nurse anesthetist).

EHR vs. EMR: Electronic Health Record vs. Electronic Medical Record. According to the National Alliance for Health Information Technology, the preferred usage is EHR for records shared by different organizations (hospital and insurer) and EMR for records used by a single organization.

ICD: International Classification of Disease. This system classifies by disease state and does not distinguish a diagnosis of asymptomatic heart disease from untreated symptomatic heart disease.

ICF: International Classification of Functioning, Disability, and Health. The system classifies level of functioning rather than the disease state (e.g. a stroke patient who can feed him/herself from one who cannot).

Interdisciplinary: Different professional disciplines working together (e.g., social work and dentistry). In Europe, the preferred terminology is 'interprofessional'.

PCMH: Patient-Centered Medical Home.

Prevention-home: A patient-centered support system/place for screening, prevention, and health promotion education and activities.

Telemedicine: Similar to telehealth, web, phone, or television-based provision of healthcare services information and education.

Telehealth: More specifically refers to provider-patient communications.

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