

Models of Care in the United States

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The views expressed are solely those of the authors and do not necessarily represent the views of the Agency for Healthcare Research and Quality or the U.S. Department of Health and Human Services.

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Abstract

While the optimal model of health care delivery has not been identified, the diversity of models of care in the United States offers a testing ground for the world. Currently two powerful concerns are driving health care change in the US – cost and quality. While not fully abandoning its embrace of managed care, the health care system is increasingly turning to the chronic care model and health information technology as partial solutions to improving health care quality and limiting health care expenditures. Public and private initiatives in both of these arenas have shown promise. Wider implementation of both the chronic care model and health information technology will require overcoming challenges posed by the current financing mechanisms of US health care.

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The interplay of evolving roles of primary care physicians, specialist physicians, and advanced practice nurses with a wide variety of health care financing and clinician remuneration strategies has produced multiple models of health care within the United States (US). While the optimal model of health care delivery remains elusive, the diversity of models of care in the United States offers a testing ground for the world. In this paper we will examine the results of two powerful forces that are currently driving changes in the US health care system – cost and quality concerns – and their effect on the health care workforce.

Seemingly no health care discussion, innovation or intervention in the US can occur without addressing cost. No matter how one looks at it, in terms of per capita, percent of gross domestic product (GDP), or overall, the US spends more on health care than any other country in the world. Additional expenditures are anticipated as America's population ages. In the Agency for Healthcare Research and Quality's (AHRQ) 2000 Medical Expenditure Panel Survey, 85% of Medicare patients had more than one chronic condition. By 2010, it is expected that there will be 70 million people with multiple chronic conditions in the US. Not surprisingly, patients with multiple chronic illnesses utilize the most health care resources, including hospitalizations and prescription drugs (1). Thus current and evolving models of care have been heavily influenced by a desire to control rising health care expenditures.

Despite paying a lot, Americans cannot count on receiving high quality health care. In the landmark report of the United States' Institute of Medicine (IOM), "Crossing the Quality Chasm," quality concerns were described as so pervasive that the gap between the quality of the health care system we have now and the health care system we need is not a small gap, but a "chasm" that can only be achieved through sweeping, large scale changes in the design and organization of health care.(2) Interest in the IOM report was fueled by two studies which suggested that between 44,000 and 98,000 Americans die

each year in hospitals due to medical errors. In a landmark study by McGlynn, physicians were found to provide appropriate care across a wide variety of conditions only about half the time.(3) Surveys from the patient's perspective have also demonstrated significant room for improvement. In a Harris interactive survey in 2000, persons with serious chronic conditions reported undergoing duplicate tests or procedures (54% sometimes/often), receiving different diagnoses from different clinicians (52% sometimes/often), and receiving contradictory medical information (45% sometimes/often).(4) The IOM has called for the development of a US health care system that will be driven by aims for improvement, including safety, effectiveness, efficiency, patient-centeredness, timeliness, and equity.(2) Unfortunately, this newly recognized epidemic of medical errors and safety concerns is also contributing to increased health care costs.(5)

Thus the US is looking for new, more effective health care models that improve health care quality, improve outcomes, and control costs. Given the heterogeneous nature of the US health care system and its longstanding "pluralistic" approach to health care policy, this paper focuses on a select group of important and emerging themes in the search.

Models of Care in the US

In the late twentieth century, the US looked to the organization of care into health maintenance organizations (HMOs) to control costs and improve preventive and clinical care services. Through managed care, physician payment moved beyond the traditional fee-for-service model in the US. More importantly, costs were managed and appropriate care determined by placing increased emphasis on the primary care sector. Primary care clinicians were encouraged to do more. They were given what was to become known as a 'gatekeeper' role. (6) The intention was to promote greater coordination of care and more appropriate (and limited) use of specialist physician and auxiliary services. Early on, HMOs were credited with increasing the delivery of clinical preventive services in the US. Physician involvement in the design and management of HMOs however was fairly minimal. The role of gatekeeper was not embraced by primary care clinicians and drove

a wedge between the public and their providers. Initial cost savings quickly disappeared as insurance companies responded to growing public frustration with real and perceived lack of access by developing newer blended models such as preferred provider organizations and less centralized and less integrated managed care organizations. (7, 8)

While in general the health maintenance organization experiment has been judged not to have reached its potential for improved quality with reduced costs, a few notable models emerged. Kaiser Permanente, the oldest managed care organization in the United States, utilizes a closed-system where the majority of its health care providers are its employees and it owns and manages both its inpatient and outpatient facilities. The Kaiser system has made substantial investments in information technology and care management programs. It continues to be financially viable in many US markets and has become a national leader in quality improvement initiatives. Another similar health maintenance organization, both in its relatively large size, use of a physician employment, and investment in health information technology and care management programs is Group Health Cooperative of Puget Sound.

Two models of care that have emerged from America's experiment with HMOs are the theory of the Chronic Care Model and the application of health information technology.

The chronic care model developed by Dr. Edward Wagner at Group Health Cooperative of Puget Sound, offers a broad-based clinical and population approach to the management of chronic illness. As stated by Wagner, "although the majority of disease burden and health care resources is related to the treatment of chronic conditions, the nation's health care system is organized and oriented largely to provide acute care and is inadequate in meeting the needs of the chronically ill." (9) The model is designed not as a framing theory, but as a "concrete guide to improving practice," and identifies six essential elements: community resources and policies, health care organization, self-management support, delivery system design, decision support, and clinical information systems.(10) The components are interdependent and build on one another. The chronic care model "envisions an informed, activated patient interacting with a prepared,

proactive practice team, resulting in high-quality, satisfying encounters and improved outcomes.” (10) While few examples exist of programs that fully incorporate and integrate all six components of the model, many health systems, including community health centers, private medical practices, and integrated health systems, have launched successful initiatives based on the model. A growing body of evidence supports improved patient outcomes and even suggests actual cost savings from programs that incorporate the tenets of the model. (11) The early successes of the chronic care model are leading to variations on its themes, including initiatives for addressing health behavior change and the provision of preventive health services. (12)

While multiple barriers hamper wider adoption of the chronic care model in American health care, the role of health information technology is being emphasized as a strategy to achieve greater coordination across providers, health care settings and systems of care. American policymakers are embracing health information technology (IT) as a bipartisan response to both their quality concerns and as a potential tool for reducing health care expenditures. (13) An emerging evidence base suggests that significant improvements in quality and safety can result from greater diffusion of health IT in health care. For example, clinical decision support at the point-of-care has been shown to increase adherence to clinical guidelines. (14) While the cost savings attributable to health IT have not yet been fully demonstrated, there is some evidence that suggests that health information technology could result in dramatic cost savings through reduced duplication of tests and procedures, as well as greater use of lower-cost pharmaceuticals. (15)

Nonetheless, compared to other sectors of the US economy, the health care system significantly lags behind in investment in information technology even though it has been embraced conceptually by both the public and private health care sectors.(16) Recently, an ambitious goal of near universal use of personal health records by Americans by 2014 was announced by the President of the United States. The Medicare Modernization Act, a sweeping piece of federal legislation passed in 2003, has placed new emphasis on the use of physician incentives to better coordinate care through the use of health IT with the goal of reducing unnecessary waste and improving health care quality. This has already been demonstrated by America’s public health system for veterans. The Veterans

Administration health care system has achieved remarkable improvements in health care outcomes through systematic office redesign and use of health information technology.

(17) The Agency for Healthcare Research and Quality (AHRQ) has a \$60 million initiative to assess the value of health information technology and health information exchange, while implementing effective health information technology in communities across the country at the low end of the diffusion curve.

The Effect of Quality and Cost Concerns on the Health Care Workforce

The Institute of Medicine cited health care professionals as the most important and undervalued resource within the US health care system.(2) Emerging models of care have begun to impact on the education, training and roles of US health care providers. In particular, newer priorities, such as interdisciplinary collaborative teams, new and emerging roles for primary care, and greater use of non-physicians in the care and coordination of patients with chronic illness, have begun to make inroads into the way we train and utilize health care professionals in the US.

As envisioned by the IOM in the Chasm report, a redesigned health care system needs to rest on a foundation of health care professionals working in teams. (18) While providers currently work together in the American health care system, there is little true coordination that suggests an interdisciplinary team. The lack of progress towards a more interdisciplinary model in the US has been driven by numerous factors, including “differing professional and personal perspectives and values, role competition and turf issues, lack of common language among professions, variations in professional socialization, differing accreditation and licensure regulations, payment systems, and existing hierarchies...” (19)

Despite, or perhaps, because of what Ed Salsberg points out is a lack of a “centralized, formal system of physician workforce planning in the United States,” increasing number of non-physicians have entered the health care ranks. (20) Significant increases have been noted among nurse practitioners, certified nurse midwives, physician assistants,

optometrists, podiatrists, and nurse anesthetists and other clinical nurse specialists. (21) And of course, despite lack of planning, they have begun to redefine our models of health care delivery. These new clinicians are changing the landscape of both primary care and specialty medicine. In fact, as the numbers of varied health care professionals have increased there has been a commensurate expansion in the scope of practice of almost all health professionals in the United States. Nurse practitioners and psychologists have been granted prescribing privileges. Technological advances, such as non-surgical approaches to cardiac disease, allow both physicians and non-physicians to offer multiple new services. Some sub-specialist physicians have even expanded their scope of practice to include primary care and preventive care services.

Recognizing that non-physicians will play an important role in all new models of health care, physician professional societies, such as the American Academy of Pediatrics (AAP) and the American Academy of Family Physicians (AAFP), have called for a greater emphasis on a team-based approach to care. Nonetheless, their embrace of interdisciplinary care has been tempered by concerns over perceived scope encroachment by non-physician providers. (16, 22) Both organizations have emphasized the importance of health care teams, as long as physicians remain the leader of these teams. With multiple goals including patient safety, increased access, and economic self-interest, scope of practice battles wage. Many of these battles have taken place in the legislature. A recent call by a team of primary care physicians and nurse practitioners to move beyond turf battles has not been heeded. (23)

In the face of a seemingly diminishing role for primary care in the current health care delivery system and competition from non-physician and alternative health care providers, the specialty of family medicine unveiled the results of its “Future of Family Medicine Project.” The project, a collaborative effort of seven family medicine organizations concerned that family medicine needed revitalization, began in 2002 with the goal of developing “a strategy to transform and renew the discipline of family medicine to meet the needs of patients in a changing health care environment.” The development of a new model for family medicine emerged among the project’s top

recommendations. This new model of care would be based on a relationship-centered personal medical home to serve as a focal point for patients' care. The transformation to this model would include office redesign, electronic health record systems and a team approach to care. (24) Organized general internal medicine and pediatrics also recently completed or in the process of defining new visions for the future of their specialties. In a paper on the future of general internal medicine, Larson et al argues that the current level of chaos in the health system should spur innovation in practice management, reimbursement, information technology, teaching, and research. He also emphasized that the core values of general internal medicine must include effective communication and sharing knowledge with patients. (25) Along with the development of these new theoretical models of health care delivery, these physician specialty societies are creating new roles for themselves in implementing their proposals. They have begun implementing projects to assist their members in redesigning their offices, incorporating health information technology, and creating quality improvement initiatives on the practice-level. In addition to assisting their individual members improve the quality of care they provide, these physician organizations hope that these individual practice-level efforts may eventually lead to larger, system-wide changes in health care delivery and organization in the US.

In spite of the paucity of successful models of interdisciplinary care, The Association of Clinicians for the Underserved, an organization of health care professionals who serve America's uninsured, poor, and marginalized communities, is championing moving towards a model of "transdisciplinary care." This model includes the collaboration of multiple disciplines in the assessment and treatment processes and stresses cross-disciplinary training and role overlapping. The ACU argues that a transdisciplinary approach is needed to break down the barriers that currently exist between the health professions which contribute to lack of efficiency, medical errors, career dissatisfaction, and lack of a patient-centered focus of our system. (26)

ACU is not alone in calling for more integrated training of health professionals. As part of the follow-up to the Chasm report, the Institute of Medicine in its report, "Health

Professions Education: A Bridge to Quality” calls for health professions training that prepares learners for work in interdisciplinary teams through interdisciplinary training. (19) Despite a common belief in the value and importance of co-training of nurses, physicians, pharmacists, and other health professionals few examples of more than superficial efforts to accomplish this exist in the U.S. health education system.

The US continues to assess the impact of our specialist-laden health care sector. While there is some evidence that specialist physicians provide higher quality care for disease-specific care processes, including heart disease and rheumatoid arthritis (27-29), other evidence suggests that higher utilization of specialists in a geographic region is associated with significantly increased costs with no improvements in overall health outcomes for the population. (30, 31) Given the increasing numbers of Americans with more than one chronic health condition, disease-specific models of health care may become less successful in the future. The emerging evidence that “shared care” between primary and specialty care leads to both improved outcomes for selected conditions, such as diabetes and depression, and improved health maintenance should encourage greater coordination and collaboration between primary care clinicians and specialists. (32) How this can be achieved in the US’s fragmented delivery system, however, remains a question.

Impact of Models of Care in the US

Overall, the impact of these various models of care in the United States has not been fully demonstrated. The organizational and financial strategies orchestrated to reduce costs and improve quality have not yet been fully realized.

As noted above, the organization of care into managed care has demonstrated variable results. Lack of satisfaction with this model has led to a leveling off of enrollment in health management organizations and even recent decreases. In 1985, Health Management Organizations enrolled about 21 million Americans under the age of 65; by 1995 this had increased to over 46 million. The trend peaked in 1999 with 85.5 million enrollees. In 2000, the most recent figures available, HMOs still provided health care coverage for 82.2 million Americans. (33)

A lynch-pin in the managed care model was the construction of the primary care physician as the health care system's "gatekeeper". This aspect of the model has been heavily scrutinized. Gatekeeping was intended to reduce costs while maintaining or improving quality of care by increasing coordination and reducing duplicative care. While there is some evidence that primary care physicians selectively referred patients with discretionary conditions to specialists depending on gatekeeping and capitation arrangements (34), primary care physicians did not universally embrace this potentially powerful role or view gatekeeping in a positive light. (35) Primary care physicians have expressed concern about clinical decisions they make under capitated payment arrangements for both discretionary and life-saving care. (36) In addition, patients have expressed varying levels of trust in their physician depending on their perceived payment mechanism. (37) In a recent survey, primary care physicians reported pressure to limit referrals and increase productivity. These pressures were associated with career dissatisfaction. (38) Under gatekeeping arrangements, a small but significant number of primary care physicians expressed discomfort about their perceived expanding scope of practice. (39)

Managed care's ability to influence physician practice to improve the quality of care, especially outside of closed systems, appears to have been limited. A study by Hillman concluded that some, but not all types of financial incentives, as well as the type of HMO, influenced physician behavior with an unclear effect on quality of care. (40) More recent evidence suggests that the actual impact of managed care on independent physician decision-making is minimal when compared to other personal and practice characteristics. (41)

Increasingly, US third-party payers are looking towards rewarding high quality care through initiatives such as General Electric's Bridges to Excellence program. Experiments with this new payment scheme, which replaces traditional fixed capitation and utilization-based compensation systems, offer rewards to clinicians for meeting quality-related objectives. The ability of these programs to positively impact on both clinician and institutional performance is being closely watched by many third-party payers and managed care organizations. The US federal government is also

experimenting with this type of program through a pilot authorized under the Medicare Modernization Act. (42)

Though quality of care remains a major driver of health care system improvement, the impact of US models of care on quality have not yet been demonstrated. In particular, it is not yet clear how to best provide care for chronic illnesses in the US. In a recent survey, a majority of physicians, policymakers, and the general public were concerned that the current health care system is not addressing the needs of people with chronic conditions. (43) The growing spread of quality collaboratives to address chronic illness care, as well as health care disparities, has begun to demonstrate success within specific conditions. (44, 45) While increasing number of health care systems have explored the chronic care model on a grander scale, these changes need to be accompanied by major changes in the way that health care is financed if they are to be replicable and sustainable.

Another barrier to the implementation of the chronic care model is highlighted by a national physician survey that concluded that most physicians perceive their medical training for chronic illness care was not adequate to meet the current US health care challenges. (46)

The recent Medicare Modernization Act (MMA) of 2003 supports the physician's role in care management, as well as the adoption and use of health information technology. The MMA is the largest expansion of a social benefit in the United States in the past 30 years with an estimated price tag of half a trillion dollars. In addition to expanding coverage for prescription medications, the MMA's intended focus is the improvement of health care quality for elders with chronic medical conditions. The legislation's authors were convinced in the benefits of the chronic care model. The final legislation, however, supports a limited version of the model through support for disease management for specific conditions while encouraging the development of private Medicare-funded managed care organizations. While a diabetes case management program can be quite effective for an otherwise healthy diabetic, it is not clear how well these programs will perform when confronted with the more typical older patient with multiple chronic conditions and polypharmacy. In contrast to disease management programs that often

enroll identified patients in “alternative, specialized systems built to provide condition-specific care,” there is clearly a need to weave chronic illness care into the fabric of clinical practice in the US. (47)

Conclusion

While no health care system is optimal in all respects, various models of care offer opportunities for quality improvement. (48) As other countries experiment with mixed public-private health systems and payment mechanisms, the US experience with managed care and financial incentives may offer important lessons learned. With rising costs and growing concerns about health care quality, the US will continue to focus on health care system reform. Promising models, such as the chronic care model, collaborative and coordinated care, paying for quality performance, and greater use of health information technology, will continue to be pursued across our disparate health care system.

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