The Impact of Health Information Technology on Collaborative Chronic Care Management

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ABSTRACT

BACKGROUND: Chronic disease is a growing problem in the United States. More than 125 million Americans had at least 1 chronic care condition in 2000, and this number is expected to grow to 157 million by the year 2020.1 Some of the challenges associated with current chronic care management approaches can be addressed through the use of health information technology (IT) and health information exchange.

OBJECTIVE: To review the current challenges of chronic care management and explore how health IT and health information exchange efforts at the national, state, and local levels can be leveraged to address some of these challenges.

SUMMARY: Efforts to effectively manage chronic care have been hampered by a number of factors, including a fragmented health care system and the need for more coordination across the health care setting; the lack of interoperable clinical information systems, which would help provide readily available, comprehensive information about the patient to those who deliver care, those who manage care, and those who receive care, and finally, the current predominantly fee-for-service reimbursement system that rewards volume and fragmentation, and does not effectively align incentives with the goals of chronic care management.

The introduction of health IT, including electronic health records and health information exchange, holds great promise for addressing many of the barriers to effective chronic care management, by providing important clinical information about the patient when it is needed, and where it is needed, in a timely, secure fashion. Having information from the care delivery process readily available through health IT and health information exchange at the national, state, and local levels supports key components of the chronic care management process, including those related to measurement, clinical decision support, collaboration and coordination, and consumer activation.

CONCLUSIONS: Those engaged in chronic care management should seek to leverage health IT and health information exchange initiatives particularly at the local levels. Community-based initiatives have built social capital and trust across multiple stakeholders; enabled access to clinical data derived from the care delivery process that only resides locally; and in many cases aligned incentives around the mobilization of clinical information across care settings. All of these elements are critical to the long-term success of chronic care management.

While there is good research regarding interdisciplinary care models, more research is still needed to identify policies, practices, and strategies for facilitating and building cooperation among those engaged in chronic care management, and those engaged in multi-stakeholder efforts involved in the exchange of clinical health information electronically.

KEY WORDS: Chronic care management, health information exchange, health information technology, performance measurement, quality improvement

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Overview

The number of Americans with chronic disease is growing significantly, yet our nation’s health care system is ill equipped to address this growing problem due to a number of factors. The adoption of health information technology (IT) and health information exchange can play a critical role in supporting chronic care management, by providing readily available, comprehensive information about the patient to those who deliver care, those who manage care, and those who receive care, resulting in greater care coordination, clinical decision support at the point of care, the use of timely, accurate information for performance measurement and quality improvement, and increased patient engagement.

Increasingly, leaders within the public and private sectors are focused on: (1) breaking down barriers to higher quality, safer, and more efficient health care through the introduction of new payment strategies (often referred to as “pay for performance” programs or “value-based purchasing” programs), (2) transparency and accountability in health care, (3) review of new care approaches such as the “medical home” concept (where payments are made to a physician practice that provides comprehensive, preventive, and coordinated care centering on a patient’s needs using health IT and other process innovations),2 and (4) consumer engagement — all of which lay the foundation for better chronic care management. Policymakers at the national and state levels are also focused on providing support for the use of interoperable health IT and health information exchange, given their role in improving health and health care. However, more work is needed to align strategies that support chronic care management with the foundational underpinnings that interoperable clinical information systems can bring to improve their effectiveness.

The eHealth Initiative (eHI) is an independent, non-profit organization whose mission is to drive improvement in the quality, safety, and efficiency of health care through information and IT. eHI engages multiple stakeholders including clinicians, consumers, employers, health plans, health care IT suppliers, hospitals, and other providers, laboratories, pharmaceutical manufacturers, pharmacies, public health, and public sector agencies, as well as a growing coalition of more than 250 state, regional,
and community-based collaboratives to develop and drive the adoption of common principles, policies, and best practices for improving the quality, safety, and effectiveness of America’s health care using information and IT. One of the primary areas of focus for the eHealth Initiative is to explore the intersection and alignment of strategies related to both health care quality, and IT as policies related to these two areas continue to rapidly emerge.

The Growing Challenge of Chronic Disease and Its Impact on Health Care Costs

Chronic disease is a growing problem in the United States. More than 125 million Americans had at least one chronic care condition in 2000, and this number is expected to grow to 157 million by the year 2020. And almost half of the people with chronic conditions have more than one chronic condition to manage.

The number of Americans with chronic disease is growing significantly due to a number of factors, including advances in medical science and technology that are resulting in an increase in the number of people living with chronic conditions, our nation’s increasing ability to screen and diagnose chronic conditions with greater frequency and success, and the aging society in general. As baby boomers continue to age, the number of individuals living with chronic conditions will continue to grow. While 12.7% of the population during the year 2000 was aged 65 years or older, this number is expected to grow to 20% by the year 2030.

People with chronic conditions absorb a majority of health care spending in the United States, accounting for 78% of all health care spending in 1998. Seventy-six percent of all hospital admissions are attributable to people with chronic conditions, and people with chronic conditions account for 88% of all prescriptions filled and 72% of all physician visits. The costs associated with chronic conditions are primarily borne by private, employer-sponsored insurance, government programs such as Medicare and Medicaid, and individuals through their insurance premiums and out-of-pocket spending for services. Fifty-five percent of people with chronic conditions have private insurance, while 33% are covered by Medicare or Medicaid. Almost all Medicare dollars and about 80% of Medicaid resources are spent on people with chronic conditions, with 85% of Medicare enrollees and 39% of Medicaid enrollees having 1 or more chronic conditions.

Chronic Care Management Approaches and the Role of Health Information Technology

The U.S. health care system is not well equipped to address the growing number of people with chronic conditions. The fragmentation of the current health care system results in uncoordinated care. Almost half of those with chronic conditions have multiple conditions, and therefore, multiple physicians often resulting in their receiving conflicting advice, redundant services, and variations in care from those who provide them with care. There are growing concerns about the nation’s ability to deal with issues related to chronic disease. In fact, as shown in the Table, a recent study shows that a majority of physicians, policymakers, and the general public are concerned that the current health care system is not addressing the needs of people with chronic conditions.

The current health care system does a much better job of responding to patients with acute conditions and is poorly designed to provide ongoing care to people with chronic conditions, a phenomenon that Wagner et al. at the MacColl Institute for Healthcare Innovation call the “tyranny of the urgent.”

Two very distinct methods have emerged over the years to address the management of chronic care: one method used by third-party payers is often called “disease management” and the other method ordinarily led by providers emerges from Wagner’s “Chronic Care Model.”

Third-party disease management is ordinarily conducted by disease management vendors or more sophisticated health plans that focus on identifying chronically ill patients and by communicating with them frequently to help them self-manage their conditions and avert more serious problems, which could result in unnecessary interventions and avoidable hospitalizations.

The Chronic Care Model, developed in the 1990s by Wagner et al. at the MacColl Institute for Healthcare Innovation, calls for a system of care involving:

- Productive interactions between informed, activated patients, and a prepared practice team;
- Self-management support that empowers patients to take greater responsibility for their own health;
- Delivery system design that requires clarifying roles and tasks to ensure the patient gets the care that is determined to be needed, that all those who take care of a patient have centralized, up-to-date information about the patient’s status, and that follow-up is part of standard procedure;
- Decision support tools that assist with ensuring that treatment decisions are made based on guidelines, which are accessible and integrated into the day-to-day practice;
- Clinical information systems that track the care of individual patients as well as populations;

<table>
<thead>
<tr>
<th>Statements</th>
<th>Public%</th>
<th>Physicians%</th>
<th>Policymakers%</th>
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<tr>
<td>People with chronic medical conditions usually receive adequate medical care.</td>
<td>48%</td>
<td>45%</td>
<td>22%</td>
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<td>Government programs are adequate to meet the needs of people with chronic medical conditions.</td>
<td>38%</td>
<td>20%</td>
<td>16%</td>
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<td>Health insurance pays for most of the services chronically ill people need.</td>
<td>37%</td>
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- Organization of health care in systems to create an environment where organized efforts to improve the care of people with chronic illness take hold and flourish; and
- Recognition of the importance of the community in which the system operates, and therefore, creation of alliances and partnerships within the community.9,13,14

While there is great interest in the Chronic Care Model, for the most part, the current reimbursement system does not provide the financial support for practices and physicians that adopt, implement, and maintain the infrastructure and processes necessary for this model of care, except in integrated group practices that are largely funded through prepayments.

Regardless of approach, efforts to effectively manage chronic care have been hampered by a number of factors, including a fragmented health care system and the need for more coordination across health care settings; people with serious chronic conditions having difficulty paying for their health care; the need for enhanced medical training and education, which places an increasing focus on chronic care; the lack of interoperable clinical information systems, which would help provide readily available, comprehensive information about the patient to those who deliver care, manage care, and receive care; and the current reimbursement system, which is predominantly a fee-for-service system that rewards volume and fragmentation and does not reward key elements of chronic care management, including those related to patient counseling and education, physician-patient interactions, and care coordination, creating a negative business case for chronic care management.

Because of the highly fragmented nature of the U.S. health care system, information about the patient is stored in a variety of locations largely in paper-based forms, and therefore, cannot easily be accessed. As a result, clinicians often do not have comprehensive information about the patient when and where it is needed most—at the point of care. Those responsible for managing and improving the health of populations do not have the information they need to measure progress and facilitate response and improvement. Interoperable health IT and health information exchange or the mobilization of clinical information electronically facilitates access to and retrieval of clinical data, privately and securely, among different entities involved in the care delivery system, to provide safer, more timely, efficient, effective, equitable, patient-centered care.15

The introduction of health IT, including electronic health records and health information exchange, holds great promise for addressing issues related to quality, safety, and efficiency within health care. For example, researchers estimate that the annual savings from health IT could average almost $81 billion over 15 years.16 Other research estimates that health IT could eliminate 200,000 adverse drug events, which would result in savings of $1 billion per year.17 At the same time, health IT can address many of the barriers to effective chronic care management, by providing important clinical information about the patient when it is needed, and where it is needed. Having information from the care delivery process readily available through health IT and health information exchange supports key components of the chronic care management process, including those related to greater care coordination; clinical decision support at the point of care; the use of timely, accurate information for measurement and improvement; and greater patient engagement. For example, health IT can support care coordination by enabling the compilation of patient-centric information related to care delivered by multiple clinicians, hospitals, and ancillary service providers in the system and providing views of such information by the interdisciplinary care team to enable care coordination. Information from health information systems can trigger alerts and reminders regarding allergies, tests that need to be performed, or medications that need to be prescribed to support clinicians as well as patients. Clinical health information enabled by health IT and health information can also support the group of important measures related to both quality and efficiency, which traditionally have been accessed through the paper record, to support both quality improvement and performance measurement efforts. Finally, the connection of health information exchange networks or other clinical applications to personal health records, can improve patient engagement, by not only providing additional information to support self-monitoring, but also creating a mechanism for the patient to input his or her own experiences to support the work of the care team.

Health IT Policies Rapidly Emerging at the Federal and State Levels

Over the last several years, interest in and recognition of the importance of health IT and health information exchange to improve our nation’s health and health care have grown significantly, bringing a number of policy changes at the federal and state levels.

Efforts within the federal government were stimulated by the Institute of Medicine’s 2001 report Crossing the Quality Chasm: A New Health System for the 21st Century,18 which highlighted the importance of health IT in addressing quality, safety, and efficiency challenges, as well as the National Committee on Vital and Health Statistics report Information for Health: A Strategy for Building the National Health Information Infrastructure, which laid out a strategy for the creation of a comprehensive knowledge-based system capable of providing information to all who need it to make sound decisions about health.19

On August 22, 2006, President George W. Bush issued an executive order calling for health care programs that are administered or sponsored by the federal government to utilize health IT systems and products that meet recognized interoperability standards.20

In 2005, the Department of Health and Human Services (DHHS) Secretary Michael Leavitt created the American Health Information Community (AHIC), a federal advisory body chartered to make recommendations to the Secretary regarding how to accelerate the development and adoption of health IT. Plans are now underway to privatize this public-private sector multi-stakeholder body.
In 2004, a new office was created within the DHHS entitled the Office of the National Coordinator for Health Information Technology (ONC) to provide federal leadership and coordinate efforts within the federal government around health IT. Since that time, ONC has initiated several activities designed to provide foundational support for the adoption of health IT, including issuing contracts that support standards harmonization, certification of health IT products, the development of prototypes for a "nationwide health information network," and the assessment of business rules and policies related to privacy and confidentiality across states.

The Agency for Healthcare Research and Quality (AHRQ) has long provided support through grants to health care leaders to support health IT adoption and evaluation, studies designed to evaluate impact, and technical assistance through its National Resource Center for Health Information Technology. The Centers for Disease Control and Prevention and Food and Drug Administration have aligned the use of health IT with their programmatic efforts related to public health surveillance and drug safety and the Centers for Medicare and Medicaid Services have incorporated health IT into their demonstration programs, performance reporting initiatives, and technical assistance provided through the Quality Improvement Organization (QIO) Program.

Congress has also played a considerable role in driving the adoption of health IT, with several bills having been introduced over the last several years that address key barriers to health IT adoption, including standards for interoperability, funding, and authorization of bodies to provide coordination and technical assistance. In December 2006, Congress passed the Tax Relief and Health Care Act of 2006 (H.R. 6408) as the 109th Congress came to a close. Among other things, the bill called for bonuses to those eligible health care professionals involved in the Medicare program, who would engage in voluntary reporting of quality measures specified by the DHHS Secretary, placing indirect pressure on the private sector to drive improvements in health care quality and efficiency through accreditation programs, such as those developed by the National Committee for Quality Assurance and the Joint Commission; multi-stakeholder collaborative efforts including those supported by the Ambulatory Quality Alliance, the Hospital Quality Alliance, the Quality Alliance Steering Committee, and the National Quality Forum; and rapidly expanding incentives programs including Bridges to Excellence, which is now operating in 18 states.27

Executive order also called for health care programs that are administered or sponsored by the federal government to make available cost and quality information to their beneficiaries.20 In support of this executive order, DHHS Secretary Leavitt launched the “Value-Driven Health Care” initiative, which is based on “four cornerstones” for health care improvement outlined in the DHHS Prescription for a Value-Driven Health System, the key elements of which are provided below:

- Interoperable Health Information Technology,
- Measure and Publish Quality Information,
- Measure and Publish Price Information, and
- Promote Quality and Efficiency of Care.26

Federal efforts are lending support to continued efforts by the private sector to drive improvements in health care quality and efficiency through accreditation programs, such as those developed by the National Committee for Quality Assurance and the Joint Commission; multi-stakeholder collaborative efforts including those supported by the Ambulatory Quality Alliance, the Hospital Quality Alliance, the Quality Alliance Steering Committee, and the National Quality Forum; and rapidly expanding incentives programs including Bridges to Excellence, which is now operating in 18 states.27

While there is clear recognition of the important foundational role that health IT provides in supporting quality and efficiency, further work is needed to determine specifically how electronic health records and health information exchange networks can be leveraged to provide the data necessary to support performance measurement and reporting, while at the same time, providing feedback loops for quality improvement within care delivery settings. eHealth Initiative, a non-profit, multi-stakeholder consortium of clinicians, consumers, employers, health plans, hospitals, and health care IT suppliers, is developing consensus on principles and strategies to support the alignment of quality improvement activities with health IT.
The Important Role of Community Efforts in Driving Health Care Improvement

Increasingly, health care leaders and policymakers alike are realizing the importance of collaboration at the regional and community level in driving improvements in health care quality, safety, and efficiency. In a recent report entitled It Takes a Region: Creating a Framework to Improve Chronic Disease Care, Wagner et al. state that “in the absence of substantial national health care reform, regional quality improvement efforts appear to offer the best hope for transforming American health care.” Wagner cites four strategies for regional quality improvement, all of which align closely with strategies for chronic care management, including:

- Data sharing for performance measurement,
- Engaging consumers,
- Improving health care delivery, and
- Aligning benefits and finances.

eHealth Initiative’s research findings on value and sustainability in health information exchange also reveal the importance of local collaboration to facilitate health IT adoption and the mobilization of information electronically between health care organizations. Supported by a set of experts in economics, finance and health care, and lessons learned from learning laboratories in 10 regionally-based health information exchange efforts, the eHealth Initiative Foundation with funding support from the DHHS Health Resources and Services Administration, learned that sustainability of health information exchange is indeed possible, but hampered by the embedded infrastructure resulting from many years of a third-party, fee-for-service reimbursement system that largely rewards volume in health care services as opposed to quality outcomes that require care coordination and review of information about the patient regardless of where the patient resides, which has resulted in a fragmented delivery system that creates little demand for, and in fact, much resistance to the sharing of information across health care organizations.

As a result, regional and community-based collaboratives that have been successful in spite of these forces, have done so because among other things they have built “social capital” or a “radius of trust” that enables multiple stakeholders with divergent interests to come together around a common good—improvement of health and health care for the individuals that reside within a community. Social capital has enabled many local efforts in the United States to build the trust necessary to come to an agreement on and then implement policies for information sharing that address privacy and confidentiality concerns and develop business models that deliver value to local stakeholders who need to bear the cost of the exchange despite pressures to silo data given the misalignment between those who bear the costs for and those who reap the benefits related to the use of health IT.

In addition through eHI’s survey research, it has been noted that much of the clinical data required for health care delivery and improvement resides within local (versus national) institutions such as hospitals, local laboratories, pharmacies, and physician practices. As a result, the “nationwide health information network” will need to be built from “the ground up,” through the linkage of organizations locally through health information exchange networks, and the linkage of local efforts with both national networks as well as each other, through a “network of networks,” utilizing standards for interoperability developed nationally.

Recent funding initiatives sponsored by the federal government also signal recognition of the importance of regional and community collaboration, including the DHHS Office of the National Coordinator’s solicitation of grant proposals for “trial implementations of the Nationwide Health Information Network” that will be awarded to “state, regional and non-geographic health information exchange consortia” in September 2007 and the Centers for Disease Control and Prevention’s solicitation of grant proposals to support public health surveillance by state and local entities, also expected to be awarded in the coming months.

The number of collaborative health information exchange initiatives at the state, regional, and community levels has grown considerably over the last 3 years. According to eHealth Initiative’s Third Annual Survey of Health Information Exchange at the State, Regional and Community Levels, at least 165 such initiatives existed in July 2006, which are located in 49 states, the District of Columbia, and Puerto Rico.

According to the survey, such initiatives are increasingly effective in engaging the multiple and diverse stakeholders in their regions, including consumers, clinicians, employers, health plans, hospitals, pharmacies, and public health agencies, as noted in the Figure.

According to eHealth Initiative’s survey results, 26 of such initiatives identified themselves as “fully operational” in 2006, with at least one-fifth of all initiatives electronically transmitting claims, dictation, emergency department episodes, enrollment/eligibility, etc.
inpatient and outpatient episodes, laboratory results, outpatient prescriptions, and radiology results.30

Survey results also indicated that the most common functionalities of such efforts are those related to care delivery, with more than one-fifth of respondents claiming that they were offering the following services: clinical documentation (26%), results delivery (25%), consultation/referral (24%), electronic referral processing (23%), and alerts to providers (20%).30 At the same time, 2006 survey results reflect the expansion of services beyond those supporting direct care delivery with 20% of such respondents providing disease or chronic care management services, 11% of respondents providing quality performance reporting for purchasers or payers, and 10% providing quality performance reporting for clinicians. Very little research has been conducted regarding the impact of the use of electronic clinical information from health information exchange initiatives on chronic care management activities.

At the same time, an emphasis on regional and community collaborations is also being seen in federal policy initiatives related to quality improvement and value-driven health care. Such recognition is highlighted by DHHS “Value-Driven Health Care Initiative,” which notes that “at its core, health care is delivered locally ... it is provided in a diverse range of environments that differ in their history, resources, populations served, market characteristics, and medical cultures ... and the most effective steps to achieving lasting improvements in health care require a critical mass of support from community stakeholders investing their time and resources toward shared, meaningful, actionable goals.”33

As part of the Value-Driven Health Care Initiative, DHHS is supporting a network of regional collaboratives to foster and encourage their growth, recognizing both “Community Leaders” and more advanced “Value Exchanges” to “transform health care at the local level through quality improvement and reporting.” One hundred and ten “Community Leaders” representing a mix of business coalitions, quality improvement organizations, and health information exchange initiatives were recognized on the DHHS Web site as of January 29, 2008.34 Discussions are underway to identify policies and practices for such “Value Exchanges” to lever- age both national data sets primarily made up of claims data and clinical data from health information exchange initiatives to support quality improvement and reporting efforts.

The recent increase in regionally and locally driven health care improvement efforts, including those related to health IT adoption and health information exchange as well as quality improvement and reporting, offer a critical foundation upon which chronic care management strategies can expand and be sustained as community health care improvement activities.

**Chronic Care Management Challenges Can Be Addressed Through Health IT**

Chronic care management, regardless of approach, faces many challenges that can be addressed by electronic health information exchange efforts at the local levels, a summary of which is provided below.

- **Identifying Patients with Chronic Disease.**
  
  One of the most critical steps in chronic care management programs is the identification of the populations for which the program will have the most impact. While information from claims data is critical for the identification of patients with chronic conditions, this information can be augmented with clinical data from health information exchange initiatives to capture those patients who have not yet been diagnosed and stratify patient populations to identify those for which interventions will have the most impact.

  Examples of data currently being exchanged by health information exchange initiatives, which can be utilized to identify and assess patients with chronic conditions include inpatient and outpatient episodes, laboratory results, prescriptions, and radiology results.30

- **Engaging and Informing Members of the Care Delivery Team**

  One of the most difficult challenges faced within chronic care management programs is the effective engagement of all members of the care delivery team, including physicians, nurses, pharmacists, health plans, patients, and their caregivers. Health information exchange initiatives offer a platform for efficiently and effectively sharing critical health information about patients and their care, while managing privacy and confidentiality from across the health care system with those who deliver their care, regardless of setting.

  Alignment of health information exchange efforts with those related to chronic care management will enable access to critical information such as lab test results, visits, and prescriptions orders. Health information exchange initiatives can also be leveraged to deliver alerts and reminders to the clinician based on information in the system.

- **Engaging Patients in the Care Management Process**

  Health information exchange initiatives that have either created patient portals or connected with personal health records or other consumer applications enabling patient review of clinical information residing in the health information exchange network, offer another opportunity for enhancement of chronic care management by engaging patients in the process.

  To be effective, chronic care management programs must effectively engage the patient by offering education, support for behavioral modifications, and providing feedback loops to enable patients to take a more active role in their care. Connecting patients with clinical information derived from the health information exchange initiative can augment patient educational materials, enable patients to track their progress over time, and enable patients to receive alerts for tests that need to be performed as well as medication reminders.

  Patient input of data such as blood pressure readings, blood glucose levels, weight, as well as other information derived from
remote monitoring devices, can provide significant support and information to the care management team.

- **Getting Access to Additional Data to Measure Impact**
  Clinical information is required, along with claims data to understand the impact of chronic care management programs, including their effect on both quality and cost effectiveness of care. Historically, information for the calculation of performance measures has been derived from a combination of claims data and manual chart reviews. The introduction of health IT into the process has the opportunity to improve the accuracy, comprehensiveness, and timeliness of the data used to measure performance and support quality improvement.

  Recent analyses conducted in 2005 and 2006 by Bridges to Excellence in its evaluation of the American Board of Internal Medicine's Practice Improvement Module program identified measures with the highest clinical and economic support. As noted below, a majority of those measures that have the highest support require the use of clinical data, that through health information exchange initiatives, can be accessed electronically.

  - Blood pressure (BP) < 140/90
  - Systolic BP < 140
  - Diastolic BP < 90
  - Hemoglobin A1c (HbA1c) > 9%
  - HbA1c < 7%
  - Low density lipoprotein (LDL) < 100
  - LDL < 130
  - LDL < 100 after discharge for AMI, CABG, or PCI
  - LDL < 130 after discharge for AMI, CABG, or PCI
  - LDL < 100 with any CAD
  - LDL < 130 with any CAD

- **Augmenting Existing Chronic Care Management Strategies With New Data Sets and Services From the Health Information Exchange**
  Several health care organizations already have chronic care or disease management programs in place. In such cases, they should be reviewed to explore how they can be improved by leveraging health information exchange initiatives. Chronic care management providers or sponsors should ask the following questions.

  1. What data elements are missing in the current strategy?
  2. What data is needed to more effectively identify those patients with chronic conditions or assess those for which an intervention have the most meaningful impact? Can data types provided by the health information exchange be useful in identifying such patients?
  3. What data or supporting infrastructure is needed to support the information needs or the integrated care delivery team? Can data types or services provided by the health information exchange initiative support these efforts?
  4. What data is needed to more effectively measure quality and cost effectiveness of care? Can data types or services provided by the health information exchange initiative support these efforts?

- **Extending the Ability to Communicate With Care Providers and Patients**
  Research shows that the patient-provider relationship is critically important in chronic care management and health care generally. One of the most pressing challenges faced by chronic care management providers is to gain the attention of already busy practitioners, particularly when only a small number of the practice’s patients is affected by the chronic care management program. Another pressing challenge is being able to engage the patient in managing his or her own care. Chronic care management providers or sponsors should consider the following to expand or enhance provider communication.

  1. Clinicians are more likely to pay attention to information that is relevant to their entire patient population or all of those patients in the practice who have a chronic condition, not just those covered by a particular health plan or disease management program. Is there an opportunity to utilize the health information exchange effort to provide clinicians with a more comprehensive picture of their patients with a particular chronic condition? Is there an opportunity to have
access to the same information to support care management efforts? Can these quality improvement “report cards” generated with data from the health information exchange be augmented with the chronic care improvement strategies that might be developed and delivered alongside these reports?

2. Health information exchange initiatives often deliver clinical messaging services, reminders, or alerts to clinicians as their first set of services, given their demonstrated return on investment. In fact, 75% of advanced stage health information exchange initiatives included in eHealth Initiative’s 2007 Survey of Health Information Exchange at the State, Regional, and Local levels are delivering clinical messaging services. Are there ways in which these existing communications vehicles can improve the effectiveness of chronic care management strategies?

3. Health information exchange facilitates the sharing of information across an entire care delivery team because of its electronic nature, and its patient-centric approach. Because chronic care management relies on coordination of care across different components of a fragmented health care system, can the health information exchange be leveraged to support communication among the entire care delivery team, including clinicians, hospitals and other providers, pharmacies, other ancillary service providers, plans, and patients?

4. Increasingly, health information exchange initiatives are exploring the addition of services that would enable consumers to access clinical information from the health information network to support their navigation of the health care system. Does this service offer yet another opportunity for activating and engaging consumers in chronic care management strategies?

5. Increasingly, health plans and employers are providing personal health records and other consumer-facing applications to support wellness, prevention, and chronic care management. Can these services be enhanced and improved by utilizing them as a mechanism to engage both clinicians and patients in chronic care management activities? Can the integration of electronic clinical information such as lab test results, medication histories, and other relevant clinical information from the health information exchange within the personal health record make them more meaningful to both clinicians and patients?

Conclusions

Chronic disease is a rapidly growing problem in the United States, which will grow as the percentage of Americans aged 65 years or older continues to increase. Health IT and health information exchange can play a critical role in improving the effectiveness of current chronic care management approaches, by providing readily available, comprehensive information about the patient to those who deliver care, those who manage care, and those who receive care.

In particular, regional and community-based multi-stakeholder collaboratives focused on health information exchange should be leveraged to address many of the challenges that chronic care management efforts face including access to clinical information for performance measurement, support of information sharing about the patient across the entire care management team, integration of patient-specific health care information into clinical decision applications at the point of care, and integration of clinical information into patient-facing communications vehicles such as the personal health record.

Given the rapid increase in the number of efforts at the national, state, and local levels, related to health IT and health information exchange, it is critical that chronic care management processes and strategies are aligned with rapidly emerging standards, policies, and best practices related to health IT.

Those engaged in chronic care management should seek to leverage health IT and information exchange initiatives particularly at the local levels, given the alignment in goals around improvement in the health of the community; the amount of clinical data needed for chronic care management that can only be accessed at the local level; and the creation of social capital and trust across multiple stakeholders that is required for both health information exchange and chronic care management initiatives to be successful.

Health information exchange initiatives, which traditionally have been provider-centric, will benefit from the participation of employers, health plans, and others historically involved in chronic care management, given their extensive history and experience in population health improvement. Health information exchange initiatives should also view sponsors of chronic care management programs, as a new set of “customers” for whom they are uniquely positioned to serve, given their capabilities, services, data, and abilities to convene multiple stakeholders from across the system—all of which significantly align with the needs of chronic care management.

DISCLOSURES

Janet M. Marchibroda discloses that there was no financial relationship or financial interest relating to the topic of this activity. Marchibroda was responsible for the entire study concept and design of this article. She performed all the data collection, data interpretation, writing, and revision of this article.
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