

The importance of home and community-based settings in population health management

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Executive Summary

This paper is the first of a series of white papers that Philips has published on population health management. It provides a summary of the implications of the health care reform on the financial risks being placed on healthcare providers in the United States. It emphasizes the importance of the home and community-based settings in population health management. In doing so, it sets the stage for other white papers that describe actual approaches to leverage remote health management offerings for population health management.

Introduction

Health care expenditures have been rising unsustainably across the globe. Alone in the United States, for example, health care expenditures in 2010 reached \$2.6 trillion, over ten times the \$250 billion expended in 1980. Projected growth in costs will outpace growth in national income for the foreseeable future. To curb these costs, the U.S. government has passed the health care reform bill that creates incentives for health care organizations to manage more health and financial risks for their patient populations. In managing these risks health care organizations will need to adopt population health management strategies at home and in the community. These new strategies require a transformation in organizational business models and attention to many new factors, including financial incentives, metrics, change management and the importance of partnerships across the continuum of care from acute care settings to long-term and post-acute care providers.

Furthermore, the new strategies require technologies to support health care providers in delivering population health.

The Cost, Quality and Access Conundrum

Managing Chronic Disease

The growth in health expenditures is driven by multiple factors. One critical factor is the rising incidence of chronic diseases, which the Centers for Disease Control and Prevention has estimated now account for 75% of the cost of medical care. Patients with Chronic disease make up only 20% of Medicare patients yet account for 80% of expenditures. These patients have higher rates of unnecessary hospital admissions and take many medications to manage their conditions. Traditional fee-for-service payment models that pay for treatment transactions are ill-suited for serving patients that require close monitoring and treatment tweaking and must be managed in a coordinated fashion. The traditional providers of chronic disease management, primary care physicians, only touch patients intermittently and rely on patients themselves to comply with care plans and lifestyle recommendations. Patients with complex chronic diseases and multiple comorbidities may see on average 11 different doctors a year, creating major challenges for communication, information sharing, reconciliation of care plans and patient follow-up.

Reducing Waste

Another key driver of high health care expenditures is waste. A study from the Institute of Medicine found that roughly 30

percent of health care spending in 2009, around \$750 billion, is wasted due to unnecessary or poor quality care and a general lack of coordination between providers. The report acknowledges that no single solution can eliminate this waste, which stems from excessive complexity, a lack of accountability and insufficient information exchange in addition to other drivers. Rather, the report recommends that new incentives are required to increase accountability and foster a continuous improvement culture focused on longitudinal patient outcomes. In addition, all participants in the health care system – patients, doctors, hospitals, health systems, long-term and post-acute care providers, insurers and government agencies – need to have usable information available to make informed decisions.

Changes in the Health care Landscape

Payers are Shifting Risk to Health Care Providers

Health care reform in the United States brings about dramatic changes: foremost health care providers will increasingly carry financial risk in managing their patients. While historically providers have been reimbursed for delivering discrete services, payers are now incentivizing providers based on the quality of outcomes and the satisfaction of the patient, which necessitates longitudinal patient management and coordination across care providers and settings. In order to meet these new incentives and expectations, providers must innovate ways to manage the cost and quality of care for populations of patients. Traditional care models that treat patients only after they arrive

in a hospital or physician office are insufficient. Providers must build the capabilities to monitor patients and proactively intervene wherever they reside. Health systems must finally close the last mile of relationships and extend their reach into patient homes. However, providers must also avoid adding to the overall cost of care by applying population management interventions inappropriately. To be successful, providers must have data on the status of the patients, risk scores to cost-effectively target interventions, and technology to proactively intervene and coordinate care.

New versus Old Payment Models

Reducing health care expenditures will require major changes in care delivery. To spur action, health care reform is pushing public and private payers to adopt new payment models that encourage providers to innovate. Rather than dictating how hospitals and doctors should deliver care, payers are creating the incentives and fostering an ecosystem under which providers have the freedom to choose the best solution for their specific markets and organizations. This approach is a distinct differentiator from a past cost reduction attempt: Health Management Organizations (HMOs). Under HMOs, insurance companies or third party organizations dictated limits on a patient's care plan. Current initiatives put the burden on providers themselves to create cost-effective patient management strategies that produce better outcomes. Furthermore, in contrast to the HMO model, current initiatives give patients the freedom to choose their provider. This freedom to choose providers is a major challenge for organizations, which are now becoming accountable for the health of a population, because while care provided outside of their network is not in their control,

it will affect the overall outcome and consequently the incentives they receive.

Opportunity: Incentives Designed to Spur Innovations in Care Delivery

Under health care reform, the Centers for Medicare & Medicaid Services drive innovations in care delivery through a variety of initiatives (Table 1). Some initiatives are imposed on all providers, such as readmissions penalties, while others are voluntary, such as forming Accountable Care Organizations (ACOs, see Table 1). Organizations must not only understand which initiatives they will adopt, but they must engage in strategic and operational redesign to create care delivery models that drive financial and clinical results based on these new incentives. This may entail forging strategic partnerships between acute care providers, such as hospitals and physician practices, with long-term and post-acute care (LTPAC) providers.¹ Furthermore, the changes in the reimbursement system put a strong emphasis on patient satisfaction and quality of service. Organizations will therefore monitor and analyze satisfaction, quality, and outcome parameters. The results from analyzing data will ensure iterative improvements in the delivery of care, while at the same time containing or reducing costs.

Challenges in Adopting New Health care Initiatives

Prior to realizing the benefits of the care delivery innovations, health care organizations are likely to face several challenges:

- *Financial Challenges:* In order to meet the demands of managing risk, organizations are likely to face costs for consulting, systems, care managers and information technology (IT) infrastructure and staff.
- *Cultural Challenges:* To be successful under new incentive models, organizations need to have the mindset of cross continuum and cross-site collaboration as well as patient empowerment. Without strategic partnerships and effective change management strategies, there might be resistance to new business cultures.
- *Operational Challenges:* For any incentive model to succeed, data needs to be shared across diverse care settings. Chronic communication disconnects among inpatient, ambulatory, long-term and post-acute care settings, including hospice, as well as communication breakdowns between insurers and providers could hinder efforts to provide more efficient care.
- *Legal Challenges:* Many providers, including former competitors, may pool resources to create accountable care organizations to improve quality of care potential, but doing so could spur an antitrust investigation.

¹ Long-term and post-acute care providers include skilled nursing, rehabilitation, assisted-living facilities, continuing care retirement communities, and home-health or home care agencies.

Table 1. Cost reduction incentives, related initiatives by the Centers for Medicare & Medicaid Services (CMS) and estimated financial opportunities

Incentive Models	Example CMS Initiatives	Estimated Financial Opportunity
Direct payment	Medical Home. Primary care physicians that participate as a medical home receive a monthly care management fee for each qualified beneficiary “to help defray the cost of transformation into a person-centered, coordinated, seamless primary care practice.”[1]	For physician practice: \$6 per beneficiary per year under CMS demonstration project
Grouped payment	Bundled Payment. “Under the Bundled Payments initiative, CMS links payments for multiple services that patients receive during an episode of care. For example, instead of a surgical procedure generating multiple claims from multiple providers, the entire team is compensated with a “bundled” payment that provides incentives to deliver health care services more efficiently while maintaining or improving quality of care. Providers will have flexibility to determine which episodes of care and which services would be bundled together.”[2]	<p>For hospitals: Increased market share and reduced procedure costs</p> <p>For physicians: Shared savings from improved quality and reduced costs</p> <p>For patients: Shared savings of 50% per procedure up to a maximum of \$1,157 [3]</p>
Shared savings	Accountable Care Organizations. “ACOs are groups of doctors, hospitals, and other health care providers, who come together voluntarily to give coordinated high quality care to the Medicare patients they serve. Coordinated care helps ensure that patients, especially the chronically ill, get the right care at the right time, with the goal of avoiding unnecessary duplication of services and preventing medical errors while improving the quality and access of care. When an ACO succeeds in both delivering high-quality care and spending health care dollars more wisely, it will share in the savings it achieves for the Medicare program.”[4]	<p>For an ACO: Consider a 30,000 member ACO starting in July 2012:</p> <ul style="list-style-type: none"> ▪ Total savings generated by ACO: \$33.8 million ▪ Shared savings to ACO through 2015: \$13.5 million ▪ Startup and operating costs to ACO through 2015: \$10.2 million ▪ Net financial impact: \$3.3 million [5]
Penalties	Readmissions Penalties. “Under the Hospitals Readmissions Reductions Program, CMS will withhold up to 1% of regular reimbursements for hospitals that have too many patient readmissions within 30 days of discharge because of certain medical conditions, including heart attack, heart failure and pneumonia. A total of 2,217 hospitals will be penalized in 2012, of which 307 will be penalized the maximum rate of 1%.”[6]	<p>For hospitals: Up to 1% of Medicare reimbursement will be withheld with penalties increasing to 2% in 2014 and 3% in 2015</p> <ul style="list-style-type: none"> ▪ Average penalty per hospital in fiscal year 2013 is \$125,000 [7] ▪ Some hospitals expect to be penalized more than \$3 million in 2012 [8]

- *Challenges due to small population size:* Organizations need to have a significant patient population to avoid being thrown off course by a few very sick, extremely costly patients. Especially in rural areas it might be hard to reach a sufficiently large number of patients. Congregate senior housing, housing with services, retirement communities and assisted-living facilities may offer opportunities to access pool populations with multiple common chronic conditions.
- *Challenges due to retaining patients:* Certain incentive models, notably accountable care models, give patients the choice to use services outside of an organization's network. This poses a risk for organizations, because they will not be in control of part of the health care delivered. This makes it imperative for health care providers to collaborate with a large network of providers including long-term and post-acute care providers who deliver diverse long-term services and supports.
- *Challenges due to patient acceptance:* Health care delivery models have to be convincing to the public. Without proper information, patients and their families might not understand the importance of certain care steps, thereby undermining efforts to reduce risk for the entire population.
- *Health IT systems:* Given the need to exchange data between health care providers, interoperability is a necessary requirement. Different health care providers, however, are likely to have different IT solutions (e.g. patient registries, electronic medical records, remote monitoring technologies) and different ways of representing their data.

Population Health Management

To overcome these challenges, health care organizations need to strengthen primary care services, embark on clinical integration and care coordination with other providers, and adopt health care technology to facilitate care delivery while measuring quality. Furthermore, they need to develop a culture of patient-centeredness, coordination with other providers, accountability, continuous improvement and physician leadership. In short, they need to put all components in place to manage populations.

The Concept of Population Health Management

Population Health Management can be defined as a combination of strategies used to improve quality of health care delivery for a given patient population while containing costs. Its underlying strategies are based on a few fundamental questions:

1. *What* health care problem is to be managed? In population health management, the objective of is to maximize the health of a population. The starting points are usually identifying specific clinical quality measures.
2. *Who* is to be managed? There are multiple ways of defining a population. Common examples are stratification according to: a) age, b) income, c) geography, d) community, e) employer, f) insurance coverage, or g) health status.
3. *Where* can population health management occur? There are various settings which might be appropriate for providing adequate services and

programs. Employers, communities, and health plans provide ample opportunities to address needs of distinct populations.

4. *Why* does a population need to be managed? The question why we need to manage population health provides the necessary motivation to address the concerns of cost, access, and quality of health care services.

Population Health Management Strategies

There are a variety of strategies to execute population health management initiatives:

- *Lifestyle management* is based on the behavioral change techniques targeted at improving personal health habits. It aims at reducing health risk via health promotion and prevention activities.
- *Demand management* programs are based on the utilization of remote patient management activities in the home and community, which are aimed at directing individuals in the complex health care systems.
- *Disease management* targets population with a specific disease. It is based on a set of strategies and activities for the longitudinal management of chronic disease or comorbidities.
- *Catastrophic care management* programs deal with the complexities of the care provided to a population suffering from a devastating injury or sudden illness.
- *Disability management* strategies are usually developed by employers aiming

at reducing loss of productivity suffered from illness or injury.

- *Integrated population health management* promotes the concept of health and wellbeing of every individual in a population and not only the absence of the illness.[9]

Each of these population health management strategies is designed according to specific needs in the population and availability of resources to meet them. What is the same across the board, and helps in implementation and execution of the strategy, is a focus on quality improvements in delivery of care with the same or less engaged resources.

Key Questions to Consider

Organizations need to consider their strategy in the face of the limited information available when executing population health management initiatives. They need to ask themselves a number of key questions.

- *Do we possess the key competencies required?* Core competencies include clinical and managerial leadership, an organizational culture of teamwork, relationships with other providers, an IT infrastructure for population management and care coordination, infrastructure for monitoring, managing, and reporting quality, the ability to manage financial risk, the ability to receive and distribute payments or savings, and resources for patient education and support.
- *Do we have the right strategic partners?* Strategic partners may be the way to complement existing competencies and enable the organization to attain control when patients are outside the hospital or clinic efficiently and cost-effectively.
- *How will savings be shared?* Payment reform is an important component of accountable care since it is the main

vehicle for holding providers accountable for the quality and cost of care that they provide. The model of payment as well as associated bonuses and penalties, will have to be substantial enough to generate change in the way care is delivered. Hospitals may prefer to use savings to offset any expenditures related to the accountable care implementation or decrease in revenue stream resulting from reduction in volume, while primary care physicians may choose to use the savings to pay for care management and information technology infrastructure.

- *How will a part of the incentives be used with LTPAC providers?* Long-term support and services such as housing, home care, home health, etc. have significant impact on health, outcomes, utilization of health services and consequently cost. Providing the appropriate levels of services and providing compensation for these services, is key to the success of accountable care for older adult, chronically ill and/or disabled populations.
- *How will physician resistance to integration be addressed?* Organizations need to understand physicians' preferences for autonomy and individual accountability over coordination. They will need to employ appropriate reimbursement/incentive models that are attractive to physicians and that fall within the existing legal requirements. Key to successful integration is ensuring that physicians' burdens remain manageable, for example physicians do not have time to review daily biometric remote patient monitoring reports from telehealth systems. The services of a home health nurse coordinating with the physician's office may offer an efficient and cost-

effective way to achieve this integration.

- *How will patient satisfaction and engagement be maintained?* Patients will need to be informed in order to understand how accountable care can improve their care. Further, patients need to become actively engaged consumers in their care in order to reach the goal of efficient care delivery. They must have access to comprehensive clinical programs, such as wellness, prevention, chronic care and disease management programs. Finally, the patients' satisfaction with care must be regularly assessed using valid instruments such as the Consumer Assessment of Healthcare Providers and Systems (CAHPS).
- *How do we measure performance? Do we have tools and data to measure and identify variances? How can we make the results actionable?* Key to making progress is receiving accurate feedback on one's performance in a timely fashion. Benchmarks will need to include a combination of process, outcome, and patient experience measures in order to accurately evaluate all aspects of care provided. The measures will also have to be applicable to different care providers and span different care settings.
- *What are the legal and regulatory Challenges?* The current legal environment entails a number of legal challenges for accountable care. Organizations will need to assess their contracts with other providers under these constraints.

Population Health Management in Home and Community Settings

We believe that the home and community-based settings play a central role in population health management. Under the new incentive models, health care organizations will focus on maintaining or improving health in order to prevent costly, avoidable admissions and unnecessary care. As a result, they must ensure that care gaps are addressed when patients are *not* in the hospital. The switch in focus requires that organizations develop various strategies such as managing patients at home, and partnering with LTPAC providers.

Drivers for Providing Care Outside of the Hospital

Due to the increased financial and clinical accountability, health care organizations will shift care out of expensive institutions, particularly the emergency room and the hospital, to less expensive settings whenever appropriate. Examples of opportunities include monitoring a heart failure patient through home care visits or physician's office visits so as to avoid a more expensive hospital admission. Thus, non-hospital sites such as the home and community settings become more important as they are a crucial component in offering a low-cost service offering.

Reduction in payment for excessive readmissions also contributes to the growing interest in having home and community-based care solutions that minimize unnecessary readmissions. Examples include an enhanced discharge process with personalized discharge instructions and educational material or a hospital-to-home care transition program with

a transition coach who works directly with the patient and his family during the period after discharge to help them understand and manage their complex needs and ensure continuity of care across settings.

Value of Long-Term and Post-Acute Care Providers

Long-term and post-acute care (LTPAC) providers bring a significant value for hospitals, physician groups and ACOs, by providing the following services:

- Rehabilitation and skilled nursing facilities provide post-discharge/ post-acute patient rehabilitation.
- Skilled nursing facilities, assisted living facilities, continuing care retirement communities, housing with services, and home health agencies provide post-acute patient stabilization and sub-acute chronic disease management.
- LTPAC provides a holistic person-centered care, including support services.
- LTPAC offer lower cost care settings than hospitals.

The Role of Technology in Supporting Population Health Management

Technologies play a major role in enabling population health management outside of the hospital. Various remote health management offerings (e.g. personal emergency response systems, medication dispensers, and telemonitoring solutions) empower the patient and allow for self-management. The data

collected through such devices as well as other electronic data sources (such as electronic medical records and health registries) could be leveraged to support population health management:

- Enabling the collection of real-time data to track the patient status and to improve post-discharge compliance.
- Identifying potential exacerbations before they become expensive emergency room visits and hospital stays.
- Enhancing the discharge process and care transition by enabling a more efficient way of communicating with patients and helping and empowering patients to manage their condition.
- Improving self-care, treatment, and medication compliance by educating, motivating, and monitoring patients on a more frequent basis.
- Improving the organization's productivity by enabling providers to manage more patients without additional resources.
- Supporting workflows through tracking of tasks and automation of routine tasks.
- Facilitating care coordination between providers across the continuum to attain desired health outcomes.
- Analyzing data to drive population health management strategies.

Philips is exploring technologies and services for the home and community-based settings to improve population health management strategies. A specific population health management approach in the home and community-based settings is described in another white paper.

Summary

Under the health care reform, providers are increasingly carrying the main financial risk in managing their patients. As a result, they are shifting their focus to managing patient populations. The population health management strategies comprise a variety of approaches developed to foster health and quality of care improvements while managing costs. Population health management in the home and in community settings is key in achieving clinical and financial targets, because most of the patient care occurs outside of the hospital.

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