Overcome barriers to effective care delivery

How to develop and deploy care management strategies

A multidisciplinary approach to data-driven care management is an effective way for organizations to rise to the challenges of the rapidly evolving industry, including engaging consumers, overcoming data siloes and transitioning to value-based care.

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Introduction

Health care providers are facing significant challenges managing a growing number of individuals with chronic conditions and long-term needs.

As the population of the United States ages, chronic conditions are becoming more prevalent. According to the Centers for Disease Control and Prevention (CDC), about half of all adults in 2012 had at least one chronic condition. One in four U.S. adults lives with two or more long-term health conditions, including common conditions such as diabetes, kidney disease and hypertension.

In addition to negatively impacting quality of life for individuals, the high rate of chronic conditions can be exceedingly costly for organizations. Eighty-six percent of the nation's $2.7 trillion in annual health care expenditures is devoted to managing and treating chronic conditions, the CDC notes.[1]

While organizations are increasingly recognizing the importance of delivering comprehensive care to individuals at higher risk of long-term health complications, the current health care environment is filled with significant challenges.

For example, data barriers can lead to siloes in care delivery, which may in turn result in unnecessary utilization, repeated tests or procedures, and financial waste. Unempowered individuals who do not actively participate in their health and care can lead to organizations allocating valuable time and resources to care for these individuals with little effect on outcomes.

To overcome these barriers and deliver meaningful outcomes to the individuals under their care, organizations must deploy innovative, data-driven care management strategies in a cost-effective, collaborative manner.

At the core of these efforts are the longitudinal plan and the multidisciplinary care team, both of which are integral to collaborating effectively and managing care for people in need of enriched services.

According to the Centers for Disease Control and Prevention (CDC), about half of all adults in 2012 had at least one chronic condition. One in four U.S. adults lives with two or more long-term health conditions, including common conditions such as diabetes, kidney disease and hypertension.[1]

Building foundations for care management

Creating a strong foundation for care management requires technical development and organizational action. It also requires an alignment of business incentives that can support the comprehensive care services involved in population health management, explains Bharat Sutariya, M.D., Cerner vice president and chief medical officer.

"Value-based care (VBC) creates opportunities and lowers a set of barriers that existed in the past. There is now an economic incentive to coordinate care that isn't as strong under fee-for-service (FFS)."

To earn shared savings or accrue other financial benefits from a value-based payment (VBP) model, organizations need to get upstream of rising risks and proactively address emerging health concerns for individuals.

The process of identifying target populations for enhanced services starts by segmenting individuals into relative risk categories.

[1]The Centers for Disease & Preventation. "About Chronic Diseases." Sept. 8, 2018, https://www.cdc.gov/chronicdisease/about/index.htm.

High-risk individuals are often among the most frequent visitors to clinical settings and the highest spenders, but they may also be those who have been lost to follow-up after a new diagnosis or worrisome lab result.

Individuals with moderate risks may be on the cusp of developing a chronic condition, or they may be newly diagnosed and in need of monitoring to prevent a costly and disruptive unplanned hospitalization in the future.

Low-risk individuals are generally healthy but require routine preventive care and regular communication with providers to ensure their risks do not begin to rise. Developing and populating these risk categories requires access to rich, multifaceted data.

"With access to the longitudinal record across clinical care venues, financial claims and the pharmacy ecosystem, we have the capability to identify the right point of impact for the right individuals and the best resource-intensified model that will help to positively influence their outcomes," Sutariya states.

The ability to formulate a longitudinal record by aggregating data from disparate systems, coupled with the ability to run predictive models against that data, will enable providers to access insights across a wide range of key care management functions. If a data analytics model detects a gap in care, such as a missed screening, that information can be easily brought to the attention of a care team member, inclusive of the individual, and turned into an action item within the individual's longitudinal plan.

The distinction between a longitudinal record and a longitudinal plan is an important one. Organizations must have access to a comprehensive, seamless record that includes clinical and socioeconomic information that may reveal personal stressors with an impact on health. However, they also need an accompanying care plan that takes that information and makes it actionable.

Longitudinal plans are built around an individual and transcend any single venue or single episode of care. Because a longitudinal plan is collaborative and enables all approved care team members to contribute information, it provides comprehensive insight into where an individual has been — and where he or she is headed — along the lifetime journey to better health.

According to a 2017 survey by Healthcare Financial Management Association (HFMA), 92 percent of health care executives believe chronic care management will be "highly" or "extremely" important for success with VBC over the next three years.[2]

Creating a comprehensive care plan

Both the longitudinal record and the plan have several elements that support the care team, including:

- **Demographics:** Basic information on the individual, including name, address, date of birth, gender, ethnicity and contact information
- **Care team list:** Directory of care team members involved in the management of the individual, such as primary care physicians, nursing staff, patient navigators, social workers and other health professionals
- **Active problem list:** An up-to-date list of active diagnoses and health concerns that may need to be addressed, as well as resolved or past diagnoses that may support future decision-making
- **Active medication list:** A current list of all medications the individual currently takes, which may include prescription medications, over-the-counter medications, and vitamins or supplements

[2]Healthcare Financial Management Association. "HFMA's Executive Survey: Value-Based Payment Readiness." Sept. 24, 2018, http://www.hfma.org/ValueBasedPaymentReadiness.

Patient risk factors: Significant clinical, social, economic or personal risk factors that may contribute to a deterioration in health status or an inability to benefit from interventions

Health interventions: A record of any actions taken to identify or monitor an individual's health status, including screenings, tests or routine health maintenance activities

Enrolled care management programs: A list of available care management services for targeted conditions or identified needs; for example, inclusion in a cohort of consumers recently diagnosed with diabetes who are offered coaching, navigation and holistic education about their disease, lifestyle modification, treatment and possible complications

Health goals: Personalized goals related to clinical outcomes, wellness or health maintenance, and self-management, along with a detailed plan for how to achieve measurable improvements

Perhaps most important of all, this information must be sharable between all members of the care team, including the individual and external providers (e.g., specialists, allied health professionals) who may be involved in the individual's care.

"A true longitudinal plan, one that relies on industry standards to go above and beyond a single care venue, is an important goal for the industry," comments Sutariya. "It's an idea that we need to continue to articulate with more clarity and enable from a technology perspective."

An end-to-end view of the individual is crucial for effectively managing his or her health, especially if that individual requires attention from multiple providers, notes Linda Stutz, R.N., Cerner vice president of care management.

"Highly complex individuals have highly complex data," she says. "They may have half a dozen providers across multiple organizations. If each provider only looks at their data, it can be difficult for any single provider to understand what that individual's 'normal' looks like."

To generate these necessary insights, providers can leverage an emerging ecosystem of machine learning, predictive models and evidence-based logic designed to analyze potential risks or care gaps and highlight opportunities for improvement.

Continual surveillance tools are becoming increasingly valuable for synthesizing huge volumes of complex data and making appropriate care recommendations to care team members.

Machine learning provides additional value by allowing systems to ingest feedback and predict outcomes based on previous input. As a result, care team members can gain a deeper understanding and pinpoint an individual's specific needs at the point of greatest impact.

For example, programs can be used to alert care team members if one of their patients living with diabetes has a glucose reading trending in a negative direction. A care team member, such as a care manager, could proactively intervene instead of intervening after complications arise.

Close to 60 percent of health care organizations are using big data analytics to support care management for specific patient populations, says a 2018 report from Deloitte. One-third are using predictive modeling to guide care decisions.[3]

[3]NEJM Catalyst. "Analytics for Payer-Provider Collaboration." November 2017, https://join.catalyst.nejm.org/sponsor/catalyst-deloitte-forum2017.

Applying the longitudinal plan

Applying the longitudinal plan requires a concerted effort from the multidisciplinary care team with equal access to important information about the individual's health status, goals, challenges and risks.

Multidisciplinary teams can take many forms, and are tailored to meet the unique needs of a care setting, practice type or individual. An effective multidisciplinary team may consist of:

- A **primary care physician** who makes important clinical choices and acts as a point of integration for information around diagnoses and treatment
- **Specialist physicians** who diagnose and treat conditions on a detailed level
- A **physician assistant** or **nurse practitioner** who supports the primary care physician, manages care within the scope of their licensure and offers expanded access to individuals
- One or more **registered nurses** who carry out clinical services, triage new concerns, communicate with individuals and provide personal support
- A **care manager** who coordinates services, delivers reminders and suggestions for screenings and laboratory testing, facilitates communication across the team and offers education
- A **pharmacist** who manages and dispenses an individual's medications, helps the individual maintain medication adherence and provides consultation to ensure optimally effective treatment
- **Social workers** who provide valuable input on how to address an individual's social determinants of health, including connecting the individual with community services or providing counseling on interpersonal and socioeconomic issues
- **Mental and behavioral health care providers** who are vital for ensuring individuals have access to appropriate services that complement clinical care but are often overlooked as partners of the clinical care team
- A wide variety of **allied health professionals**, including physical and occupational therapists, respiratory therapists, speech language pathologists, dieticians and nutritionists and numerous other professionals, who play critical roles in delivering necessary services to people with specialized needs
- The **individual** who must reside at the center of every care team and should take an active role in making decisions about his or her health and lifestyle choices

Optimal multidisciplinary care teams enable each member to work to the top of his or her license by developing a layered approach to care management.

By clearly defining roles and responsibilities correlated to each component of the longitudinal plan, organizations can develop teams that maximize enterprise resources. For example, a care manager could take charge of calling or emailing people to remind them of appointments and screenings, enabling a registered nurse in the clinical setting to spend more time with patients. In turn, providers may be able to work more efficiently on complex cases when they receive additional support from their nursing colleagues.

Consumer-centric diabetes medication adherence strategies could reduce individual patient costs by close to 4 percent, resulting in a system-wide savings of more than $210 million per year, Express Scripts found in 2017.[4]

[4]Express Scripts. "Adherence to Diabetes Rx." Aug. 25, 2017, http://lab.express-scripts.com/lab/insights/industry-updates/report-adherence-to-diabetes-rx.

A multidisciplinary approach to care management can be enhanced through the use of digital tools to engage individuals, develop goals and complete interventions. Examples include:

Customer relationship management (CRM) tools can help automate certain outreach tasks, such as triggering an email to an individual when he or she is due for an annual screening. This capability frees up care managers and educators to lead educational programming or answer specific questions from individuals participating in chronic condition management initiatives.

Remote patient monitoring devices, including internet-connected blood pressure cuffs and weight scales, serve to alert providers when an individual with a chronic condition appears to be headed toward an acute event. Upon receiving the notification, a registered nurse, physician assistant or nurse practitioner could reach out to that individual, collect more information about his or her health status, and recommend a course of action.

Consumer portals offer the opportunity to deliver tailored education, create new avenues for digital communication and enable individuals to access their personal health information to support more-informed decision-making and more-efficient clinical appointments.

Measuring outcomes, improving results

Effective care management requires comprehensive measurement to monitor performance and identify opportunities for improvement.

Organizations should employ a mix of process measures and outcomes measures to understand how the delivery of specific services and interventions impacts the health of a population.

At BayCare Health System in Florida, Director Chris Eakes, MBA, CPHIMS, notes that readmission rates provide a valuable barometer for the effectiveness of care management activities.

According to a highly-cited article from the *New England Journal of Medicine*, close to one in five Medicare beneficiaries experienced a readmission within thirty days of discharge from the hospital, and only ten percent of those readmissions were planned. In the same study, the estimated Medicare costs of unplanned readmissions topped $17 billion.[5]

More than half of individuals re-hospitalized within thirty days had no claims for a provider office visit between the time of discharge and the time of readmission, indicating insufficient follow-up after an acute surgical or medical episode.

“Gaps in care coordination will often be reflected in readmissions numbers,” Eakes observes. “Measuring readmission rates allows us to gauge the success of our care management initiatives and transitions of care within our accountable care organization (ACO) and clinically integrated network (CIN).”

“When we note a change, we can review our work and see what specific components of the process are working, and which might need to be adjusted to better meet our population’s needs.”

Automating care management: A consumer example

Meet Ann, a 45-year-old mother of two living with diabetes. Ann has struggled to manage her health in the past and requires extra support from her providers to maintain her health status.

A care management program, powered by robust consumer relationship management (CRM) tools, can help her achieve her goals.

Ann receives regular communications from other care team members, thanks to the automated email campaign function in her primary care provider’s CRM platform. The latest email encourages her to schedule an appointment for a foot exam, explaining the importance of regular screenings for individuals living with diabetes.

Ann would like to make an appointment but has some billing questions first. A contact number in the email gives her the information she needs to call the office, and she is connected to a health navigator who pulls up her digital profile.

The health navigator answers her billing questions, asks if Ann would like help signing up for the consumer portal where she can see her balance online and then schedules her foot exam during the same phone call.

With the help of a CRM platform and a fellow care team member, Ann can complete multiple tasks in one seamless interaction.

[5]Jencks, Stephen, *et al.* “Rehospitalizations among Patients in the Medicare Fee-for-Service Program.” *New England Journal of Medicine 360,* 1418-1428 (2009). https://www.nejm.org/doi/pdf/10.1056/NEJMsa0803563

Monitoring the level of consumer engagement can also help organizations understand how to best communicate with individuals and create impactful touch points. Creating a definition for "engagement," which could include an individual completing a diabetic foot screening, answering a text message about their symptoms that day or attending a heart-healthy cooking class, is an important step for measuring success.

By collecting information about completed and missed checkpoints in the digital record, organizations can observe any correlation between low engagement and higher utilization of emergency services or hospital readmissions.

"Monitoring patient engagement data and utilization data allows us to see how our programs are bending the cost curve," explains Eakes. "We have used this information to start a new Stay Healthy program at BayCare Health System that focuses on closing gaps in care and engaging patients before they get sick."

Organizations may also benefit from monitoring additional measures such as Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) scores and market share or consumer loyalty metrics that could guide future efforts to engage individuals and craft impactful care management messaging.

For a care management strategy to fulfill its intended purpose, data needs to be viewed as an asset. Goals need to be clearly identified early on and program results, such as health outcomes, controlled costs, market share and consumer loyalty, should be continually monitored and measured to adjust strategy where necessary.

More than 90 percent of executives surveyed by the Health Care Transformation Task Force in 2018 stated that they are actively considering consumer input when designing new VBC programs.[6]

Key considerations for success with care management

A successful care management strategy requires planning and collaboration across the enterprise, and should include core components to serve as a foundation for success:

Setting clear goals around financial investment and resource use

Organizations must start by being clear about their financial goals and existing resources, and they may wish to explore VBP options to support enhanced services and care management initiatives.

VBC is accelerating quickly. In 2016, the Health Care Transformation Task Force reported 41 percent of payer and provider business was tied to value-based arrangements, representing a 40-percent increase over VBC adoption in 2014.[6]

Organizations are likely to continue along this upward trajectory as both public and private payers express continued commitment to transitioning away from FFS reimbursement models.

When exploring participation in VBPs, providers should try to avoid duplicative efforts by aligning multiple programs and sharing costs or personnel where appropriate. Shrewd use of resources will promote sustainability as traditional reimbursement methods give way to innovative

[6]Health Care Transformation Task Force. "Consumer Engagement Structures and Mechanisms." Jan. 25, 2018, https://hcttf.org/consumer-engagement-structures-and-mechanisms.

payment strategies.

Implementing comprehensive data governance strategies

Providers must work with their in-house IT teams, as well as their technical solutions vendors, to ensure seamless access to the data sources necessary to populate a longitudinal record and inform the longitudinal plan.

Data governance is an integral component of creating a meaningful, accurate and trustworthy record—and therefore an actionable plan. Enlisting the expertise of health information management (HIM) professionals can ensure data is standardized and shareable while prioritizing privacy.

Leveraging external care management resources

To accelerate the care management process further, organizations may consider utilizing third-party resources to augment their current staffing resources.

According to Stutz, contracting with an external care management team can ensure access to knowledgeable, experienced professionals who can manage existing staff, advise organizations about opportunities for improvement and handle the day-to-day tasks of managing populations.

"In an ideal world, individuals would have access to the full range of providers whenever they need help coordinating their care," she says.

"But realistically, most organizations do not have the capacity to develop those comprehensive teams on their own. When an organization taps into a centralized offering, it can take advantage of a full battery of experienced care professionals at a fraction of what it would cost to recruit them itself."

This option may be a pathway to success for organizations looking to shift away from unsustainable FFS models and toward a more consumer-centric, coordinated approach to care.

Reacting quickly to a rapidly changing environment

Above all, organizations must be willing to embrace emerging strategies, remain nimble and collaborate effectively to identify the approaches that best meet the needs of individuals under their care.

"There is sufficient business model alignment for organizations to start defining systemwide care management models," says Sutariya. "There is now technology that provides a longitudinal record and automates some of the management of a given high-risk population."

"With a multidisciplinary team and an enterprise view of data governance, quality measurement and engagement, organizations have an opportunity to move into more sustainable and consumer-friendly modes of financial success."

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Bharat Sutariya, MD
Vice President & CMO
Cerner

Conclusion

A multidisciplinary approach to data-driven care management is an effective way for organizations to rise to the challenges of the rapidly evolving industry, including engaging consumers, overcoming data siloes and transitioning to VBC.

To offer comprehensive and effective care management services, organizations will need to invest in architecting multidisciplinary care teams that have access to longitudinal health data and actionable, collaborative care plans that span across the care continuum.

These care teams can leverage innovative technologies, such as machine learning and predictive modeling, to foster a more-coordinated approach to consumer-centric care management and engagement.

With the support of VBPs and meaningful metrics that help to identify opportunities for improvement, organizations can help individuals stay healthier, avoid excess utilization and achieve quality outcomes alongside high levels of consumer satisfaction.

Success depends on deeply integrating comprehensive care management into the organization's culture. As value-based care puts financial pressure on health care providers, organizations simply cannot afford to miss opportunities to engage individuals and create a positive impact on their health.

"Care management is not a siloed program that you stand up somewhere in your organization," Sutariya says. "It needs to be a part of an overarching strategy of integrating population health into the everyday practice of medicine."

"Every touchpoint is an opportunity to manage an individual's health and well-being. Creating a longitudinal plan, and managing that plan in a methodical manner, is essential for both the organization and the individual to succeed."

About Cerner

We're continuously building on our foundation of intelligent solutions for the health care industry. Our technologies connect people and systems, and our wide range of services support the clinical, financial and operational needs of organizations of every size.

Contact us for more info

populationhealth@cerner.com

816.221.1024

cerner.com

2800 Rockcreek Pkwy.

Kansas City, MO 64117

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