

# Population Health Management

## ROADMAP FOR INTEGRATED DELIVERY NETWORKS



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# Introduction

## ➔ ABOUT NCQA AND JANSSEN SCIENTIFIC AFFAIRS, LLC

The National Committee for Quality Assurance (NCQA) is a leading not-for-profit organization dedicated to improving health care quality through measurement, transparency and accountability. Since its founding in 1990, NCQA has been central in driving improvement throughout the health care system, helping to elevate the issue of health care quality to the top of the national agenda.

NCQA created this Population Health Management Roadmap for Integrated Delivery Networks with sole sponsorship funding from Janssen Scientific Affairs, LLC (Janssen). Janssen provided no input into either the structure or the content of the Roadmap. Both Janssen and NCQA believe that the future of health care delivery requires collaboration between diverse areas of health care.

The Population Health Management Roadmap will help integrated delivery networks and similar organizations apply population health management concepts to move toward value-based care.

## ➔ ACKNOWLEDGMENTS

NCQA hosted a Leadership Roundtable in September 2019 to discuss the current landscape of value-based care and the challenges facing integrated entities and organizations assuming risk. Roundtable attendees contributed valuable “view-from-the-top” insights to the Roadmap.

NCQA and Janssen extend appreciation to Roundtable attendees for their contributions to the Resource Guide.

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NCQA’s extensive research to develop the Roadmap included interviews with 35 stakeholders: integrated delivery networks, accountable care organizations, provider groups, associations, health plans and health systems. These interviews were invaluable to our work.

### NCQA Integrated Delivery Network Leadership Roundtable

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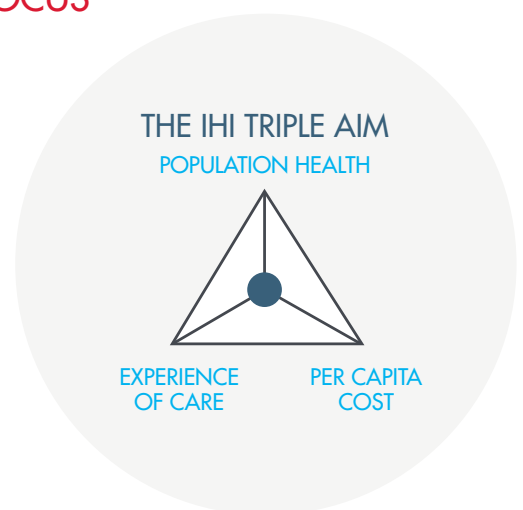


## ⊕ POPULATION HEALTH MANAGEMENT: A SHIFT IN FOCUS

Health care expenditures account for 17% of the gross domestic product (\$17 trillion) in the United States and are estimated to be 20% by 2020. <sup>[1]</sup> Although the United States health spending is the highest in the world, the U.S. life expectancy is significantly shorter than that of other industrialized nations. Guided by the Institute for Healthcare Improvement's (IHI) Triple Aim framework (right), the federal government, states, health plans and other stakeholders are tackling these challenges through various initiatives. The Triple Aim framework has three objectives: improve patient experience of care, improve the health of populations, reduce the per capita cost of health care. <sup>[1]</sup>

Population health management is a model of care that addresses individuals' health needs at all points along the continuum of care through participation, engagement and targeted interventions for a defined population. The goal of PHM is to maintain or improve people's physical and psychosocial well-being and address health disparities through tailored, cost-effective solutions. <sup>[2]</sup>

The Triple Aim framework shifted the focus from payment for services toward payment for quality, through value-based payment arrangements and the use of population health management to tackle issues in patient experience and quality of care.



## ⊕ NCQA AND POPULATION HEALTH MANAGEMENT

NCQA began by measuring and accrediting health plans, focusing on the care management they delivered to members. In the last 30 years, NCQA has continued to grow as the premier evaluator of quality in health plans, practices and other care organizations. NCQA flagship programs promote appropriate population health management through measurement, transparency and accountability:

- **Healthcare Effectiveness Data and Information Set (HEDIS):** More than 190 million people are enrolled in health plans that report quality results using HEDIS. HEDIS creates accountability and benchmarking to improve patients' health and the quality of care they receive. HEDIS is described in detail in Milestone 6.
- **Patient-Centered Medical Home (PCMH) Recognition:** NCQA's PCMH Recognition is the most widely used medical home model, with over 13,000 practice sites and 67,000 practitioners. The medical home model is a framework for organizing primary care so it is "the way patients want it to be." PCMH Recognition is described in detail in Milestone 5.



- **Health Plan Accreditation:** The only performance-based evaluation of a health plan's structures and processes for quality improvement, population health management, utilization management, network management, practitioner credentialing and member experience. More than 173 million people are enrolled in NCQA-Accredited health plans.

In 2018, NCQA built upon its past expertise and began assessing a health plan's comprehensive population health management strategy in the PHM category of standards in Health Plan Accreditation. This reflected a broader, population-wide focus on care management for the health plan.

Recognizing that other organizations beyond health plans also execute population health management, NCQA created the Population Health Program Accreditation (PHP) program for these organizations in 2019.

PHP Accreditation is for organizations that manage a population on behalf of a payer, such as a health plan, state or employer. Often, these organizations provide programs that address specific populations (defined by age, demographics or payer) or by chronic condition (diabetes, for example). Organizations eligible for this Accreditation include provider organizations, accountable care organizations (ACO), integrated delivery networks (IDN), health systems and other population health companies.

NCQA knows that population health is the past, present and future of health care. This Roadmap explores population health management and its use in value-based care.

## ⊕ POPULATION HEALTH MANAGEMENT DRIVERS

Population health management did not grow in a vacuum. While NCQA was promoting it through measurement and accountability of health care organizations, various federal policy was codifying population health and elevating value-based care to the forefront of the health care sphere.

### The Affordable Care Act

Passage of the Patient Protection and Affordable Care Act (ACA) in 2009 brought new types of value-based care models that provide the structures and systems to promote population health. These care models were bolstered by four ACA provisions that address issues surrounding PHM: <sup>[3]</sup>

- 1 Provisions for expanded insurance coverage to improve access to the health care delivery system.
- 2 Provisions for improving the quality of care delivered.
- 3 Provisions to enhance prevention and health promotion measures in the health care delivery system.
- 4 Provisions for promoting community- and population-based activities.

### The Medicare Access and CHIP Reauthorization Act (MACRA) of 2015

MACRA seeks to move health care from the fee-for-service payment structure to a model in which providers take financial responsibility for care while also improving care quality. MACRA required the Centers for Medicare & Medicaid Services (CMS) to implement an incentive program, known as the Quality Payment Program, which assesses practitioner performance on measures related to quality and cost. In this program, practitioners can qualify for two tracks designed to push the market toward value-based reimbursement:

- Merit-Based Incentive Payment System (MIPS): Practitioners earn a payment adjustment based on evidence-based, practice-specific quality data. MIPS focuses on quality improvement activities, advancing care information and costs. <sup>[4]</sup>





- Alternative Payment Models (APM) <sup>[5]</sup> <sup>[6]</sup>: APMs are any payment other than fee-for-service. Clinicians earn incentive payments for providing high-quality, cost-efficient care within the new payment and service delivery models. Advanced APMs include many different models with different levels of risk; for example:
  - Next Generation ACO Model <sup>[7]</sup>: An initiative for experienced ACOs to assume higher levels of financial risk and rewards than available under Medicare Shared Savings Program. With both financial risk and reward, Next Generation ACOs are in “two-sided” risk arrangements.
  - Bundle Payment for Care Improvement Advanced (BPCI) Model <sup>[8]</sup>: A payment methodology that combines the payment for practitioners, hospitals and other provider organizations into a single bundle amount for a specific care episode. The payment amount is calculated based on the expected cost of the care incurred by the patient. The bundle payments encourage coordinated, efficient care, as practitioners and providers may realize a savings (gain) or loss depending on how the payment is used to manage the episode of care. This payment model is considered a two-sided risk arrangement.
  - Comprehensive Primary Care + (CPC) model <sup>[9]</sup>: An advanced primary care medical home model with three payment elements to improve primary care, including a Care Management Fee (a per-member-per-month payment), Performance-Based Incentive Payments (performance-based bonuses) and regular payments under Medicare physician fees (fee-for-service).

These two tracks rate practitioners based on quality metrics that include measures from the NCQA Healthcare Effectiveness Data and Information Set (HEDIS), and directly reward practitioners who earn NCQA Patient-Centered Medical Home (PCMH) Recognition, Patient-Centered Specialty Practice Recognition (PSCP) and Patient-Centered Connected Care Recognition. MACRA also rewards practitioners for results they can achieve by being patient centered. <sup>[10]</sup>

Through the Quality Payment Program, MACRA incentives use population health management tools and concepts to achieve high-quality care. The Roadmap will describe how population health management can be used as a model of care to drive success in value-based payment arrangements, such as MIPS and APMs.

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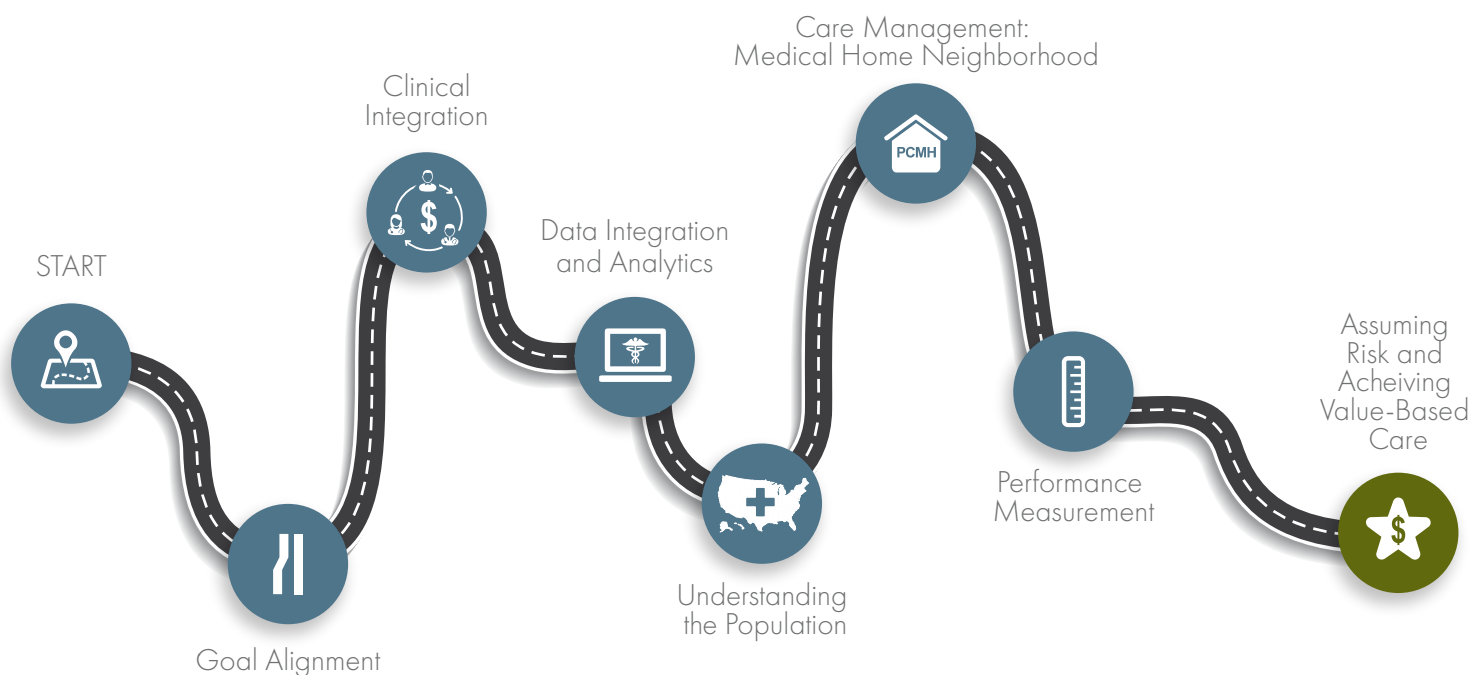
## Medicare Shared Savings Program

The MSSP alternative payment model facilitates the creation of ACOs that are held accountable for the quality, cost and experience of care of Medicare fee-for-service beneficiaries. <sup>[11]</sup>

MSSP ACOs assume financial risk for managing Medicare beneficiaries through different “tracks.” In the BASIC tracks, the MSSP ACO moves from Levels A and B, which are “upside only” (share in savings, but not in losses), through Levels C–E (shared savings and losses increase at each level). The ACO can also take the ENHANCED track, which has the highest risk and highest reward. <sup>[12]</sup> The tracks act as a pathway toward assuming full financial risk as the ACO becomes more experienced in managing beneficiaries.



## ➤ OVERVIEW: THE PHM ROADMAP FOR INTEGRATED DELIVERY NETWORKS



The *Population Health Management Roadmap for Integrated Delivery Networks (IDN)* is for IDNs, ACOs, health systems and similar provider organizations that are trying to understand population health and how it is used to achieve success in value-based care. The Roadmap combines NCQA's decades of expertise with information from provider organization interviews, the IDN Leadership Roundtable and the literature. It describes the structures and processes needed to support transitioning to value-based payment models. The Roadmap uses the PHM Conceptual Model as a framework to highlight the key activities needed for executing population health management. Although the Roadmap is intended for IDNs and other similar organizations, its information may be useful for any organization that wants to understand value-based care and population health management.

The Roadmap's Milestones are organized as a "path" to value-based care. The Milestones use the pieces of the PHM Conceptual Model to guide readers through the value-based care journey. Each answers these questions, with examples:

- What is this milestone?
- Why is this milestone important for moving to value-based care?
- How does this milestone relate to population health management?

Roadmap content is organized as follows:

Subset	Subset Description
<b>In-the-Field Examples and Tools</b>	Unique, component-specific best practices from use in the field.
<b>Views From the Top</b>	Insights shared at the IDN Leadership Roundtable.
<b>NCQA Products</b>	Relevant NCQA Accreditation or Recognitions.





## ➡ THE NCQA POPULATION HEALTH MANAGEMENT MODEL

The PHM Conceptual Model was developed by NCQA to highlight key activities for executing a comprehensive population health management strategy. It can be applied to any entity carrying out these functions.

The patient is at the center of the model. An organization's PHM program should provide care that addresses patients' needs, preferences and values. <sup>[13]</sup> The emphasis should be on the patient—on "whole-patient care," rather than disease-centered care.

The patients in the middle make up the "population," which could include the entire membership, patients with a specific disease or a specific population (for example, 65 and older or receiving long-term services and supports). The model is flexible: It lets the organization determine where and how to focus interventions.

The components critical to successful implementation surround the population: population identification, data integration, stratification, measurement, care delivery systems, health plans and payers and community resources. Together, they create a comprehensive approach to population health management.

These components will be discussed throughout the Roadmap, along with guidance for their use in the move to value-based care.





## ⊕ COMMON TERMS IN THE ROADMAP

The terms defined below appear throughout the Roadmap. “Provider organizations,” as defined below, is used throughout the Roadmap to refer to IDNs, CIN, ACOs, health systems and other similar organizations collectively.

<b>IDN</b>	Integrated delivery network. A formal system of providers and sites of care that provide both health care services and a health insurance plan in a defined geographic area. <sup>[14]</sup>
<b>CIN</b>	Clinically integrated network. A legal entity that facilitates collaboration between the health system and practitioners (employed/independent) to help facilitate the transition from volume to value. <sup>[15]</sup>
<b>ACO</b>	Accountable care organization. A network of practitioners and hospitals that shares financial and medical responsibility for providing coordinated care to patients. <sup>[16]</sup>
<b>health system</b>	Includes organizations combined horizontally (e.g., a hospital system) or vertically (e.g., a multihospital system that also owns practices and post-acute care facilities). <sup>[17]</sup>  There are three types of health system arrangements between two or more health care provider organizations: <ol style="list-style-type: none"> <li>1. Organizations with common ownership.</li> <li>2. Contractually integrated organizations (e.g., ACOs).</li> <li>3. Informal care systems, such as common referral arrangements.</li> </ol>
<b>VBP</b>	Value-based payment. Health care purchasers (government, employers, consumers) and payers (public and private) hold the health care delivery system (physicians, practitioners, hospitals and others) accountable for the quality and cost of care. <sup>[18]</sup>
<b>two-sided risk</b>	A two-sided risk arrangement results in rewards for cost savings (upside risk) compared to a benchmark and in losses for overspending or not meeting quality targets (downside risk).
<b>downside risk</b>	Providers incur financial losses for overspending or not meeting quality targets compared to a benchmark.
<b>upside risk</b>	Providers are rewarded for spending below a benchmark or for meeting quality targets, but are not penalized if they exceed the benchmark or do not meet the targets. <sup>[19]</sup>
<b>risk management</b>	Health care organizations proactively and systematically safeguard patient safety as well as organization assets, market share, accreditation, reimbursement levels, brand value and community standing. <sup>[20]</sup>
<b>provider organization</b>	The audience for this Roadmap, which includes IDNs, CINs, ACOs and health systems.
<b>practitioner</b>	A health care professional, or team of professionals (e.g., physicians, nurses, nurse practitioners, physician’s assistants), managing an individual’s care.
<b>clinical team</b>	A clinical team encompasses physicians, advanced practice registered nurses, other registered nurses, physician assistants, clinical pharmacists and other health care professionals <sup>[21]</sup>

# Milestone 1:

## Goal Alignment: Setting the Strategy

The pressure for IDNs and other provider organizations to deliver patient-centered, high-quality care continues to mount as health plans and public payers tie payment to outcomes. For provider organizations to be successful in value-based care, everyone in the organization needs to be on the same page. “Everyone” includes the C-suite leadership, the practitioners, the care managers and others making decisions or executing care delivery. The organization’s goals must align before it can successfully set and execute a population health management strategy.

Milestone 1 does not prescribe specific goals—only the organization can know what its population needs and what needs improving—rather, it highlights:

- The importance of leadership buy-in and strong organizational culture.
- Practitioner leadership.
- Goal setting and alignment.
- Creating and communicating a PHM strategy.

Note: The Roadmap does not replace the PHM category of standards in NCQA Health Plan Accreditation, Population Health Program Accreditation or any other NCQA Accreditation, Certification or Recognition; dictate any additional requirements that must be met for an NCQA survey; or dictate requirements for how value-based care should be implemented.







## ➔ LEADERSHIP BUY-IN AND CULTURE

NCQA heard from health plan payers and provider organizations that success in value-based contracting cannot happen without full buy-in from leadership and alignment of goals. The literature echoes this idea, noting that ACO leadership and culture are cited most often as characteristics that affect achieving goals of quality and cost. <sup>[22]</sup>

Dedication to change must be seen in the attitudes and priorities of C-suite executives, not only in an organization's mission vision statement. <sup>[23]</sup> Change is designed to achieve specific objectives and align with the organization's mission. When leadership embrace the overarching vision and goals and are willing to embrace financial risk as well, transformation occurs. <sup>[24]</sup> If leaders don't champion population health and value-based care, how can the clinical and operational staff fully commit to them?

In any organization, employees take cues from leadership.

## ➔ PHYSICIAN LEADERSHIP

One refrain heard both in NCQA's interviews with provider organizations and in the literature is that the best way to get buy-in across the network is to involve practitioners in leadership roles. <sup>[25]</sup>, <sup>[26]</sup> A cross-section study of Medicare ACOs demonstrated that practitioner leadership in the ACO and on governing boards had a higher correlation with savings per beneficiary. <sup>[22]</sup>

NCQA's PHM Conceptual Model includes a "piece" for the care delivery system, signifying the importance of practitioner involvement in care and in reaching population health goals.

Although it requires a significant investment of time and resources by the ACO and participating practitioners, <sup>[26]</sup> involving practitioners in leadership roles and cultivating collaborative partnerships with practitioners can increase alignment and autonomy and result in successfully setting and meeting goals.

## ➔ DEVELOPING A POPULATION HEALTH MANAGEMENT STRATEGY

A population health management strategy provides a framework for how the organization will set, communicate and achieve its goals, and how it will use its resources to meet the needs of its population. It is unique to the structure and needs of the organization and its population, but encompasses all aspects of the NCQA Population Health Management Conceptual Model by defining how each player is involved and how functions relate to strategic goals.

The strategy specifies how an organization assesses its population, how it uses data integration to execute population health management functions, how it stratifies its population for interventions. Functions should be measurable so they



can be tracked and improved.

The strategy should also describe how the network delivery system meets goals and executes interventions through the delivery system, which includes the patient-centered medical home as the locus of care and other patient-centered practices and sites within the medical home neighborhood. Finally, the strategy describes how the organization addresses community involvement and its approach to interacting with payers to support its populations.

NCQA's four areas of focus help organizations set comprehensive strategies by considering the entire population. Organizations can determine targeted population and goals for each area: <sup>[27]</sup>

- 1 Keep members healthy.
- 2 Manage people with emerging risks.
- 3 Patient safety or outcomes across settings.
- 4 Manage multiple chronic illnesses.

These areas cover the entire care continuum. Organizations can use them as a starting point for setting goals and creating targeted interventions.

## ➔ SETTING GOALS

Goals are objectives that are measurable, timebound and focused on specific areas or targeted populations. SMART goals can be used to set clear objectives that are: <sup>[28]</sup>

- **Specific:** Allow the organization to focus efforts appropriately.
- **Measurable:** Measurable goals can be used to track progress.
- **Achievable:** Realistic and attainable goals balance between maintaining motivation while stretching capabilities.
- **Relevant:** Important to the organization; aligns with other goals.
- **Time-bound:** Has a target date to work toward and an enforced deadline.

SMART goals have a methodological process for creating feasible objectives. The table below gives examples of original goals and corresponding SMART goals.

Original Goal	SMART Goal
Reduce obesity rates for children and adolescents.	By December 31, 2019, reduce the percentage of obese 9th graders in the ACO population from 8% to 7%.
Decrease patient wait times in the clinic.	Over the next 30 days, decrease clinic patient wait times by 25%.
Increase the number of patient satisfaction surveys collected.	By the second quarter of FY 2020, increase completion of patient satisfaction surveys by 30%.

SMART goals illustrate the objective and highlight issues that would otherwise go unnoticed, such as a time frame in which an activity will take place. Once a goal is set, the organization can use a PDSA (Plan-Do-Study-Act) cycle to test activities and achieve goals. Milestone 6 discusses the PDSA cycle. <sup>[29]</sup>

Within population health management, provider organizations must consider different factors when setting goals, including:

- The characteristics and needs of the population (see Milestone 4).
- Contractual obligations, such as alignment of performance measures across contracts.
- The Quadruple Aim, which encompasses Triple Aim components (improve patient experience of care, improve the health of populations, reduce the per capita cost of health care) and incorporates practitioner experience.<sup>[30]</sup>

## ➔ CREATING ALIGNMENT AND COMMUNICATING THE PHM STRATEGY

Interviewed provider organizations have many methods to involve practitioners, create aligned goals and communicate strategies:

- **Governance Structure:**
  - Unify all employed practice groups under one tax ID to align payment structure.
  - Have one governing board, including clinical teams, patients, and care givers, and one strategy and policies for all network participants.
  - Ensure that the governance board is composed primarily of practitioners (independent and employed) who represent different network interests.
  - Put practitioners in the role of committee chair (for example, in the Quality Improvement Committee and Care Management Committee); have each committee be led by a different practitioner, for a variety of experience and insight.
- **Strategy Development and Execution:**
  - Create and deploy one strategy across the entire organization, even if there are multiple sites or networks.
  - Meet with all practitioners (independent and employed by the IDN) to communicate goals and strategies and hear their concerns, needs and ideas.
  - Include the strategy and goals in the network participation agreement.
  - Conduct monthly care-team meetings at each site, reviewing clinical data to determine opportunities for improvement and progress against goals.
  - Use liaisons to communicate with practitioner practices and help track progress.
  - Provide color-coded monthly gap-in-care scorecards to practitioners, with each measure and goal, to help them determine which patients are at risk or missing care.

### VIEWS FROM THE TOP

IDN Leaders are setting goals around:

- **The patient:** As the Most Valuable Player, they should be at the center of all goals and strategies.
- **Behavioral health:** Behavioral health influences clinical outcomes and must be addressed.
- **Practitioner experience:** Adding resources to alleviate practitioner burden and improve their experiences.
- **Preventative care:** Incentivizing health, not sickness.

### VIEWS FROM THE TOP

IDN Leaders said that alignment, setting goals, and creating buy-in comes from:

- **Discovering a population need** and creating an ROI to address the need.
- **Going 'all-in' on risk.** Following both fee-for-service and risk arrangements is impossible.
- **Setting an organizational Roadmap.** Solicit input from practitioner leaders and socialize the roadmap during governance meetings.
- **Establishing the "What's in it for we?"** Listen to the clinical team and patients and consider goals as a 'we' not a 'me'.

An aligned strategy sets the stage for all population health management functions. The next milestones will demonstrate how a strategy and aligned goals can help organizations achieve success in value-based payment.





## Milestone 2: Clinical Integration

For IDNs and other provider organizations, clinical integration is necessary to deliver high-quality, coordinated care. This milestone describes:

- Requirements for successful clinical integration.
- Necessary governance and communication.
- The importance of population health management in clinical integration.

Note: The Roadmap does not replace the PHM category of standards in Health Plan Accreditation, Population Health Program Accreditation or any other NCQA Accreditation, Certification or Recognition; dictate any additional requirements that must be met for an NCQA survey; or dictate requirements for how value-based care should be implemented.





## ➤ CLINICAL INTEGRATION

Clinical integration is constantly evolving. An organization needs a structure that allows communication and data flow across all providers, practitioners and payers. The American Medical Association describes clinical integration as “the means to facilitate the coordination of patient care across conditions, providers, settings, and time in order to achieve care that is safe, timely, effective, efficient, equitable, and patient-focused.” [25]

There are many facets to successful clinical integration that delivers coordinated, patient-focused care. The literature, a Federal Trade Commission (FTC) Opinion and provider organization interviews cite the following for creating or organizing a clinically integrated network (CIN). [31], [32] [33] The FTC Opinion clarified CINs’ legal structures to comply with anti-trust laws:

- **Strong governance that includes practitioner leaders and creates collaboration across the organization.** (Milestone 2) The FTC Opinion emphasizes an infrastructure and legal arrangement that creates a collaborative environment for participating practitioners such as one that requires participating practitioners to serve on governing boards.
- **Aligned goals and incentives.** (Milestone 1) The FTC Opinion states that successful CINs need buy-in from participating practitioners through demonstrated investment in and commitment to the network’s goals and standards, including financial membership and investment in technology infrastructure.
- **Nonexclusionary contracting.** When establishing contracts with payers, practitioners are obligated to participate in the contract but may also enter into contracts outside this arrangement.
- **Supportive technology and data analytics.** (Milestone 3) Interoperable electronic platforms to help evaluate and treat patients, reduce errors, facilitate communication and evaluate performance.
- **Patient-centered interventions.** (Milestone 5) Care delivered by the medical home neighborhood reduces costs and improves quality.
- **Clinical practice guidelines.** Evidence-based clinical practice guidelines that are agreed on by participating practitioners.
- **Ability to measure and deliver improvements.** (Milestones 6, 7) Fosters an environment of quality improvement and performance measurement that are required in most value-based contracts.



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## IN-THE-FIELD EXAMPLE:

### Princeton HealthCare System and Lightbeam Health Solutions

Princeton HealthCare System, based in Plainsboro, New Jersey, is participating in the Medicare Shared Savings Program and has an ACO and a commercial CIN.

Princeton has partnered with Lightbeam Health Solutions, a PHM vendor, to reduce unnecessary spending and improve patient outcomes. Since implementation, Princeton has found success by introducing new workflows that align with the following operational strategies:

- **Identify trends in spending.** Find high-cost patients and high-cost practices, then use claims data to focus on high-risk, high-cost patients for better care management.
- **Use data to produce dashboards.** Share utilization and expenditure analysis results with practices so they know how they compare with other practices and can present information via their own dashboard.
- **Aggregate clinical and claims data from different sources.** Lightbeam combines data from different sources on one platform. Now claims analysis, care management, quality metrics and group practice reporting option data are in one place.
- **Track specific admissions.** Leverage HL7 feeds and ADT messages to know when patients visit the hospital and when they need support through transitions of care.
- **Aggregate and monitor disparate quality metrics.** Establish clinical feeds from different EHR sources to monitor practices' quality performance, in addition to ACO and MIPS reporting.

Princeton administrators use data from Lightbeam to guide provider efforts, updating them on patient expenditures and hospital admissions, and about gaps in care.

**Results:** Since focusing on these initiatives, Princeton HealthCare has reduced inpatient admissions by 1.5%, inpatient spending by 4% and readmissions by 6%. It has also achieved the highest quality tier in its commercial contract.

*\*Results and claims were not independently verified. NCQA makes no representations or warranties and has no liability to anyone who relies on results and claims.*

## GOVERNANCE AND COMMUNICATION

As described in Milestone 1, the literature and interviews with provider organizations recommend involving practitioners in leadership roles. <sup>[25], [26], [23]</sup> Practitioner leadership is closely tied to the governance structure, which can dictate the organizational arrangement and drive clinical integration.

Interviewed provider organizations stressed governance and communication across the network as vital to clinical integration. Their governance comprises of boards and committees with clinical team members who are primarily from network practices, so the organization's goals and initiatives are disseminated throughout network practices. In some organizations, practitioners are elected to committees, which allows the entire network to feel represented within governance. This is especially important for organizations that contract with independent practitioners.

Provider organizations have a variety of committees with different concentrations; for example, a Clinical Oversight Committee might focus on gaps in care; a Finance Committee might manage value-based contracts; a Patient-Engagement Committee might focus on the patient perspective. All committees need a clear understanding of the organization's goals, strategy and priorities across value-based contracts. This may require an oversight structure with committee liaisons who can communicate priorities to their peers, allowing a proactive approach to addressing patient needs and accountability for outcomes.





Many organizations are also trying to increase clinical teams and care coordinators in their health systems. Social workers can find issues that need to be addressed, particularly involving social determinants of health. Care coordination can improve the effectiveness, safety and efficiency of the health care system. Well-designed, targeted care coordination can improve outcomes for patients, providers and payers. <sup>[34]</sup>

Overall, clinical integration is needed to support population health management for provider organizations. Provider organizations can use the PHM Conceptual Model to consider the activities and stakeholders needed to bring practitioners together to deliver coordinated, high-quality care. Patients treated in a clinically integrated organization enjoy increased access to care, reduced medical errors, earlier disease detection and treatment, better communication across treating practitioners and timely referrals and appointments. <sup>[33]</sup>

Clinical integration reduces practitioners' overall administrative burden, increases participation and communication, aligns practice guidelines and patient care plans and may lead to bonuses or incentives through value-based contracting. <sup>[35]</sup> The PHM Conceptual Model highlights another type of integration, data integration, which is addressed in Milestone 3.





## Milestone 3: Data Integration and Analytics

Data integration is one of the most important aspects of population health management. Successful data integration improves care management.

This milestone describes:

- Integrating different data sources.
- Data integration across the network.
- Different uses of data.
- Challenges in data integration.



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### ⌕ DATA INTEGRATION

Data integration combines data from multiple systems and sources (e.g., claims, pharmacy, EHRs) across care sites (e.g., inpatient, ambulatory, home) and domains (e.g., clinical, business, operational). Access to different data sources can be helpful for assessing populations and stratifying members based on risk.

It takes a variety of data sources to build a comprehensive picture of an individual; for example:

- Electronic health records.
- Social determinants of health data sets.
- Data supplied by providers or practitioners.
- Data supplied by members.
- Health information exchanges.
- State or regionwide immunization registries.
- Medical and behavioral claims.
- Laboratory data.
- Pharmacy claims.
- Wellness and prevention programs.
- Demographic and census data.
- Health appraisals.
- Utilization management and processes.
- All-payer data warehouse.

Thus, a basic EHR may not fit all the needs of an integrated network. Organizations should consider implementing comprehensive EHRs that are certified by the office of the National Coordinator for Health Information Technology.<sup>[36]</sup> For organizations with multiple EHRs across the network, data integration tools that can integrate from various EHRs and other sources may be helpful. Often, these tools have a data-display dashboard that can provide output on patient care processes and outcomes and can calculate and record measures. NCQA's PHM Prevalidation evaluates data integration tools for these



capabilities. Find a list of prevalidated tools on the NCQA website.

A dependable data collection process is key to assessing whether performance standards have been met—whether a program or intervention is working. In addition, organizations must thoughtfully consider how to report data most effectively, and to whom. To allow comparison, data should be usable across all systems. <sup>[37]</sup>

## ➔ NETWORK INTEGRATION

Network integration is the ability to use or combine data from multiple sources while maintaining data integrity and reliability. <sup>[38]</sup> As with most technology, data systems are continually updated to provide the most accurate information.

Many IDNs contract with independent practitioners (not “fully employed by” the system) who may use a different EHR or other tools to manage patients. For this reason, it is important to strive toward interoperability, as well as integration. “Interoperability” is the ability of health information systems to work together, within and across organizational boundaries, to advance effective delivery of care. Standardization of content eliminates ambiguity. <sup>[37]</sup>





## ➔ USES OF DATA

The organizations interviewed have different methods for interpreting and using integrated data. Some have a Population Health Committee that works with practitioners, community providers, a primary care practitioner network and a chronic-care team to determine how to pull data based on diseases in a specific patient population. They stratify—assign groups and interventions based on the data—and then help patient-centered medical homes manage different patient groups and track patient progress.

Data integrated from a variety of sources is the best way to get a full picture of a population and a true understanding of its characteristics and needs. Aggregated data can be used to conduct measurement and improve coordination of care. Having a single location for aggregated data is important to population health management.

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### Using Data to Assess and Understand the Population

Data can improve care coordination and give insights into the whole person, especially when integrated from a variety of sources. For example, the Diabetes Clinical Community of Johns Hopkins Medicine's Armstrong Institute for Patient Safety and Quality developed a gap analysis tool that identifies priority areas, in order to integrate diabetes care resources and improve the quality of care for the population. <sup>[39]</sup>

Milestone 4 discusses using data to identify and understand the population; Milestone 5 discusses care coordination.

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### Social Determinants of Health

Information about social determinants of health is important for promoting global health equity and for defining and fully understanding a population. Data help practitioners identify gaps in care (such as lack of transportation or food insecurity).

A study <sup>[40]</sup> determined that this data in EHRs positively effects member health and can lead to improved patient/population health outcomes, but it is largely absent from many data sets. Few care settings have developed or reported on systematic screening approaches, which means there is a lack in standardized workflow/screening tools. <sup>[41]</sup>

Milestone 4 discusses social determinants of health in detail.

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### Risk Stratification

Risk stratification is the process of separating populations into risk groups or categories, <sup>[42]</sup> which are then used to assign patients to tiers or subsets, with the goal of determining member eligibility for programs or services. There are many common risk stratification models; for example: <sup>[43]</sup>

- **Adjusted Clinical Groups.** Uses the presence/absence of a specific diagnosis to predict utilization of medical resources for a specified period by age and sex. Individuals are classified into 1 of 93 discrete categories with similar expected utilization patterns.





- **Hierarchical Condition Categories.** Uses 70 condition categories from selected ICD codes; includes expected health expenditures.
- **Elder Risk Assessment.** Uses age, gender, marital status, number of hospital days over the previous 2 years and selected comorbidities to assign an index score to members over 60 years of age.
- **Chronic Comorbidity Count.** Based on publicly available information from the Agency for Healthcare Research and Quality's Clinical Classification software, uses the total count of selected comorbid conditions spanning six categories.
- **Minnesota Tiering.** Groups members into one of five tiers based on the number of conditions across each condition group (e.g., Tier 1 = 1–3 condition groups, Tier 2 = 4–6 condition groups).
- **Charlson Comorbidity Measure.** Predicts the risk of 1-year mortality for members with a range of comorbid illnesses. Uses the presence/absence of 17 comorbidity definitions to assign a score of 1–20, increasing in comorbid complexity.
- **Identification of Febrile, Neutropenic Children With Neoplastic Disease.** Predicts severe infections in pediatric cancer patients using chills, hypotension and leukemia/lymphoma diagnosis as predictors. <sup>[44]</sup>

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## Predictive Analysis

Predictive analysis uses technology and statistical methods to search and analyze data for outcomes. Predictive analysis helps reveal associations in data that might have otherwise gone unnoticed. <sup>[42]</sup> It can increase the accuracy of diagnoses, identify at-risk patients, assist in treatment decisions, figure out future medical costs and more.

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## Data in Measurement and Quality Improvement

Data that help support patient care can also be used for measurement and quality improvement. Without measurement, organizations cannot understand what is working and what needs to improve. Milestone 6 discusses measurement in value-based care.

## ➔ DATA INTEGRATION CHALLENGES

Challenges with data and data integration can affect organizations' success in value-based payments and population management:

- Disparate EHRs across the organization, especially among independent practitioners, can make it difficult to share and



communicate patient care needs. Insufficient interoperability can lead to medical errors, disrupted care and an incomplete understanding of a patient's history.

- Issues can be mitigated by a data aggregation tool that integrates data from the different EHRs into one large data pool, then turns it into actionable information.
- Communication and care planning can be improved by collaborating with practitioner groups about how the information will be shared and how to use the data analysis.
- Using HL7's FHIR (Fast Healthcare Interoperability Resources) specifications can lead to better interoperability across the industry and between EHRs. FHIR standardizes electronic health care data for use in various EHRs and other data analytic tools.<sup>[45]</sup>
- Data are integrated only from the primary care practitioner and specialists.
  - Integrating data for all network practitioners leads to a whole-person picture of the patient.
- The amount of available data is overwhelming.
  - Good population health data analytic tools can transform data into actionable information.
- Claims processing or payer data are not timely.
  - Organizations need access to timely claims data or other supplemental data sources to understand what is happening with their patients. If a claim takes months to process, the practitioner might miss an opportunity to follow-up with a patient after an ED admission. If data are integrated from an HIE or a hospital's admission-discharge-transfer feed, the practitioner might know about the admission months before it appears in the claims, leading to better follow-up care.

## VIEWS FROM THE TOP

IDN Leaders need actionable data:

- **Correct practitioner rosters:**

Payer rosters may not correctly attribute practitioners to the IDN, resulting in financial statements that do not reflect costs, resource use and patients associated with the network and creating problems in reimbursement and patient care.

- **Correct patient panel data:**

Organizations often send patient data to practitioners to help them understand their patient panel, but if the attribution models are incorrect, the information is meaningless to the practitioner.

- **Coding:**

"Garbage in, garbage out."

Challenges are a good starting point for understanding how the industry can improve and create actionable, useful data.

## NCQA PRODUCTS

- **Population Health Management (PHM) Prevalidation:** PHM Prevalidation supports four Accreditation programs (Health Plan, Managed Behavioral Healthcare Organization, Case Management, Population Health Program). IT systems that earn NCQA PHM Prevalidation meet NCQA PHM-related standards. Being a Prevalidated vendor lets Accredited organizations know that the health IT solution supports their goals and Accreditation.
- **Patient-Centered Medical Home (PCMH) Prevalidation:** The most widely used PCMH evaluation program in the U.S., with more than 13,000 NCQA-Recognized practices looking for health IT vendors that align with the PCMH model of care. Identifies health IT solutions that support primary care and specialty practices seeking NCQA PCMH or Patient-Centered Specialty Practice Recognition.



## ➔ DATA INTEGRATION AND POPULATION HEALTH MANAGEMENT

Timely and actionable data fuels all aspects of population health management, including conducting population assessments, care management and coordination and measurement and quality improvement. Milestone 4 discusses the importance of using data to conduct population assessments and how this process drives population health management.

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### IN-THE-FIELD EXAMPLE: Lurie Children's Pediatric Partners

**PROBLEM:** Analysis of claims data from 90,000 members revealed opportunities to reduce ED visits and inpatient admissions. 64% of laboratory tests were done at higher-cost facilities, even though lower-cost options were available. Lurie estimated the network could save up to \$5 million if physicians collectively worked to decrease ED utilization and inpatient admissions and ordered labs through lower-cost, non-hospital-based facilities.

**APPROACH:** The LCPP team created a message that can be easily interpreted and remembered by community pediatricians: "ABC-123" (accelerating better care by preventing 1 inpatient admission, 2 ED visits and sending 3 lab orders to a lower-cost facility).

It used claims to derive a novel index, the "Outpatient:ED Ratio," to help pediatricians understand their performance relative to their peers. The ratio is determined by dividing the number of outpatient encounters by the number of ED visits for patients attributed to each practice, risk-adjusted for the attributed patient's risk scores. Practice-level reports were presented in face-to-face meetings. Pediatricians whose risk-adjusted ratio was lower than two standard deviations were targeted for intervention.

**RESULTS:** ED visits/1,000 decreased to 136.7 in 2018 from 143.9 in 2017. Inpatient admissions/1,000 showed less change: 55.4 in 2018 from 55.9 in 2017. There was no change in lab ordering. Practices who were actively engaged in increasing their Outpatient:ED ratio did so at a higher rate than non-engaged practices from baseline (11.2% vs. 5.6%).

**IMPLICATIONS:** Using analytics to identify performance improvement targets in value-based arrangements can support health system leadership in creating actionable messages to drive change in ED visits.

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## Milestone 4: Understanding the Population

Understanding the population and having the resources to serve it adequately are crucial to population health management and successful value-based care.

As described in Milestone 3, data can be used to assess a population and stratify it for planned interventions. This milestone elaborates on:

- Conducting and using a population assessment.
- Social Determinants of Health, including assessing and addressing social determinants of health.



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## ➔ UNDERSTANDING THE POPULATION

### Conducting a Population Assessment

Population assessment is systematic assessment of a population's significant defining characteristics, including its needs and social determinants of health.

Population assessment is part of several NCCQA Accreditation products; for example, PHP Accreditation, which requires annual assessment of an entire population and a closer look at the relevant characteristics of its subpopulations (demographics, health insurance carriers, conditions, language and other features).

### Community Resources Integration

Assessment goes beyond raw data collection. The organization uses the data it collects to make changes to the services and programs it offers, update the activities it undertakes and resources needed to meet the population's need. In short, population assessment tells the organization what resources it needs.

Not all population needs can be met by a provider organization's in-house resources, but the organization can leverage the services offered by external community resources into its scope of services. Patients can be connected to these resources through referral services and community health workers, and by other methods. Community and community resources are integral to serving a population.



The federal government began supporting community health worker programs as a way of expanding health care access to underserved populations. Its support has decreased significantly in past years, but community health workers can still increase access to health care services. Organizations can collaborate with, hire and integrate them to serve hard-to-reach populations. For example, community health workers can: <sup>[46]</sup>

- Connect at-risk patients with shelters.
- Sponsor or set up fresh food markets in communities lacking access to fresh produce.
- Connect food-insecure members with food security programs.
- Connect elderly members without social support to Area Agencies on Aging for help with transportation and meals.
- Partner with organizations that promote healthy behavior learning opportunities (such as nutritional classes or free fitness classes).
- Utilize social workers and other community health workers who can also connect patients with community resources.
- Connect patients with community support groups for substance use issues.







## ⊕ SOCIAL DETERMINANTS OF HEALTH

Social determinants of health have a significant impact on health—even more than delivery of medical care. U.S. states with a higher ratio of social spending to health spending have significantly better health outcomes. <sup>[47]</sup>

Healthy People 2020 defines social determinants of health as “conditions in the environments in which people are born, live, learn, work, play, worship, and age that affect a wide range of health, functioning, and quality-of-life outcomes and risks,” <sup>[48]</sup> for example, safe and affordable housing, access to education, public safety, availability of healthy foods, local emergency/health services, environment free of life-threatening toxins.

### Assessing Social Determinants of Health

Understanding the prevalent SDOH affecting a patient or population is vital to implementing whole-person care. Assessing, addressing and connecting SDOH to outcome data is a struggle for many organizations; for example:

- Many basic EHRs do not have fields to enter SDOH information.
- Practitioners are uncomfortable asking SDOH questions if they cannot immediately solve a problem; for example, a patient says they are food insecure, but there is no intervention to provide healthy food.
- Organizations are often unsure of the assessment tool to use and whom to assess.

To address these and other challenges, there are efforts within the industry to standardize assessments and data collection and to emphasize promoting interventions or community connections to address social determinants.

Social determinants of health can be assessed through patient surveys or ZIP code meta-analysis based on county or federal data sets. The CDC has many data resources:

- Chronic Disease Indicators.
- The National Environmental Public Health Tracking Network.
- The Social Vulnerability Index.
- The Vulnerable Populations Footprint Tool.
- Community needs assessments.
- Census data.
- Demographic data.

### VIEWS FROM THE TOP

IDN leaders had many terms for social determinants of health, agreeing overall:

- **The impact of “social risks,” “social determinants of health,” “social influencers”** requires dedication and community engagement to overcome.
- **Behavioral/mental health** contribute to and exacerbate social determinants of health and need to be considered.

### VIEWS FROM THE TOP

IDN Leaders are assessing many social determinants of health, including:

- **Food insecurity.**
- **Transportation.**
- **Housing/Homelessness.**
- **Social isolation.**

### VIEWS FROM THE TOP

For assessing SDOH, IDN Leaders recommend:

- **Testing assessment questions with the population:** Patients may not understand the question asked or interpret it differently, which may compromise the assessment results (i.e. “Do you have trouble reading medical material?” Is not asking about eye sight, but reading comprehension).
- **Deploying the same assessment across local care sites:** This creates better data from the assessment, comparability, and tracking for the patient.



Because the primary care practitioner or patient-centered medical home is the center of patient care, patient screenings are often done in the primary care office. CMS recommends screening on 5 social determinant domains that can be addressed through community services: housing instability, food insecurity, transportation difficulties, utility assistance needs and interpersonal safety. <sup>[49]</sup> The IOM recommends 11 domains: alcohol use, depression, education, financial resources strain, intimate partner violence, physical activity, race or ethnic group, residential address, social connection and isolation, stress and tobacco use. <sup>[50]</sup>

Common screening methods include:

- **The Accountable Health Communities Health-Related Social Needs Screening Tool.** <sup>[51]</sup> A 10-item screen in 5 domains (housing instability, food insecurity, transportation problems, utility help needs), developed for Medicare and Medicaid beneficiaries in the AHC Model. Patients or caregivers can answer questions, and the tool can also be used by practitioners in their workflow. There are also 8 supplemental domains, for additional questioning.
- **The Protocol for Responding to and Assessing Patients' Assets, Risks and Experiences.** <sup>[52]</sup> Includes a set of core and optional measures based on community priorities to capture these data in the population. It includes a social determinants screening tool and an implementation and action process that can be customized to organization and community needs. PRAPARE is also compatible with many widely used EHR systems.
- **"Homegrown" Tools.** Literature suggests that organizations often develop their own screening tools to meet specific perspectives, needs and goals. <sup>[50]</sup> Organization-developed tools should consider standardization through use of IOM- and -recommended social determinant domains and should be available in formats readily available to patients: paper, patient-facing portal, EHR. EHR screeners are easiest to incorporate into overall data sets and can be tailored to the organization's needs.

Interviewed provider organizations suggested that screening can be conducted by case workers, nurses or clinical social workers—it does not have to be the practitioner's responsibility. This not only relieves practitioner burden, it allows assessment by those who may be able to intervene. Organizations also suggest using standardized, networkwide tools to collect and assess these data.

## VIEWS FROM THE TOP

IDN Leaders' organizations are assessing and addressing SDOH in a variety of methods, including:

- **Addressing food insecurity:**
  - Focus on food quality and insecurity by hosting grocery shopping sprees with registered dietitians to teach patients how to select food that is affordable and healthy.
  - Host farmers markets in clinic areas and have demonstrations on how to cook produce.
- **Addressing housing/homelessness:**
  - Track where ED patients go upon discharge and reserve two beds nightly in local shelter for homeless patients upon discharge.
- **Addressing social isolation:**
  - Offer community spaces for socializing, such as recreation centers.
  - Allow patients to appoint decision maker that must attend all important appointments; coordinate with decision maker and their employer so the patient is supported throughout their care.
- **Using Community Health Workers (CHWs):**
  - If someone screens positive, have a CHW immediately enter the room to connect the patient to community resources.
    - This makes it easier for the practitioners to conduct assessment if they know issues will be immediately addressed.
    - By doing it as soon as a need is identified and the patient requests assistance, the patient is more likely to follow-through and receive the help they need.
    - CHWs are in the patient's community; they understand the resources available and how to access them.



The industry agrees with the interviewees. ICD-10 coding guidelines allow the entire clinical care team (including case managers, community health workers, nurses, behavioral health practitioners and medical assistants) to document social risk in the EHR. <sup>[53]</sup> “Z-codes” are used to code social determinants of health (e.g., Z59.0 indicates “lack of housing”); they give insight into the reason for a diagnosis or visit. <sup>[54]</sup> Z-codes can help standardize data collection of this information for better integration with other data sources and viewing at the population level. <sup>[55]</sup>

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## Addressing Social Determinants of Health

Effectively screening and addressing social determinants of health requires the efforts of both health care and community service organizations. However, the differences in size, power and resources between these sectors can be a barrier to collaboration. Addressing social determinants is often a struggle for organizations with limited resources. IDNs or provider organizations may not feel it is their place to provide interventions (such as permanent housing for house-insecure members).

Still, more than two thirds of health care organizations report that they now assess and address populations for social determinants as part of ongoing care management. The two most frequent interventions cited are referral to community service agencies (78.1%) and help navigating services (76.6%). <sup>[56]</sup>

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### IN-THE-FIELD EXAMPLE:

#### Geisinger Health Plan (GHP) 4ride Transportation Pilot

The first phase of a transportation pilot for medically complex patients who have a transportation barrier provides coordinated rides to clinical appointments, as well as to necessary social needs such as grocery stores, pharmacy or senior centers. Patients are referred to the program by a community health assistant.

A mobility service vendor contacts patient for assessment and screening of transportation barriers and coordinates rides with appropriate transit: public transportation, taxis, ride service carriers such as Lyft or other Medicare/Medicaid services. Patients have ongoing follow-up and other social obstacles are addressed.

Target locations range from urban (Scranton, PA, within 25 miles) to rural (Danville, PA, within 50 miles). GHP hopes to expand the program’s eligibility and geographic reach through increasing mobility management, artificial intelligence and technology solutions, and community partner integration.

During the first year, and in a limited scope of eligibility, Geisinger provided 10,600 one-way rides (5,300 round trips). 86% of referred patients use the service for a medical appointment; the remaining 14% use it for nonclinical needs, including food pick-up, social services and pharmacy.

Geisinger’s transportation pilot is undergoing rigorous evaluation to determine if providing transportation to clinical and nonclinical services can impact health. Anticipated outcomes include changes in health status, improvement in appointment attendance and reduction in hospital admissions/ED visits. Outcomes being measured include no-show rate, fill rate, ED utilization, length of stay, unplanned readmissions and change in health status.

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Other initiatives come from the Center of Medicare and Medicaid Innovation (CMMI) State Innovation Models Initiative (SIM), which encourages states to recognize the role of social determinants in population health. SIM Round 2 state grantees are establishing links between primary care and community-based organizations and social services, incorporating the use of community health workers in care teams and expanding data collection to include social determinants of health. <sup>[57]</sup>

Interviewed provider organizations recommended employing additional social workers and care managers—who are often better equipped to interact with patients and understand their needs—to assess and connect members with interventions that address social determinants:

- Offer ride-sharing services to patients who need transportation.
- Build a kitchen space for patients to practice cooking.
- Offer jobs in the clinic or job training.
- Develop a medical food pantry and “prescribe” patients to receive food from it.
- Work with transitional housing groups so homeless patients have a place to sleep after being discharged.
- Provide space in clinics for socialization and hosting community events.
- Send nurses and social workers to patients’ homes to provide necessary care for those with access issues.

## ➡ UNDERSTANDING YOUR POPULATION AND POPULATION HEALTH MANAGEMENT

Comprehensive understanding of a population, including factors related to social determinants of health, helps an organization determine services and programs for successful population health management—and helps providers identify gaps in care and care services. Community resources and supports can often fill service gaps cost-effectively.

Milestone 5 addresses how the medical home neighborhood manages the population through data collected during population assessment.





## Milestone 5: Care Management: Medical Home Neighborhood

Population health management cannot occur without the care delivery system or its frontline providers, including the IDNs, ACOs, health systems and practitioners. The care delivery system conducts care management that influences outcomes, utilization and quality. When practitioners in the system are organized as a medical home neighborhood, outcomes and quality can improve.

This milestone describes:

- The components of the medical home neighborhood, focusing on the patient-centered care home as the locus of care.
- How the medical home neighborhood can execute care management, care coordination and care transitions.
- NCQA Recognition programs that can help standardize the medical home neighborhood.
- In-the-field examples of how the medical home neighborhood produces high-quality care.



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## ➤ THE PATIENT-CENTERED MEDICAL HOME

Patient-centered medical homes put patients at the forefront of care and build relationships between patients and clinical care teams. They are reforming the delivery of health care by streamlining care coordination, improving patient outcomes, reducing hospital and ED visits <sup>[58]</sup> and making the patient and family/caregiver partners in managing care. <sup>[59]</sup>

NCQA PCMH Recognition is based on principles suggested by the American Academy of Family Physicians, the American Academy of Pediatrics, the American College of Physicians and the American Osteopathic Association and endorsed by a variety of other practitioner organizations: <sup>[60]</sup>

- Each member has an ongoing relationship with a personal practitioner.
- The personal practitioner leads a team of individuals at the practice level who collectively take responsibility for the ongoing care of members.



- The personal practitioner is responsible for providing all the member's health care needs or for taking responsibility for appropriately arranging care with other qualified professionals. This includes care for all stages of life; acute care; chronic care; preventive services; and end of life care.
- Care is coordinated and/or integrated across all elements of the health care system and the member's community.
- Practices advocate for quality and safety as the hallmark of the medical home.
- Enhanced access to care is available through systems such as open scheduling, expanded hours and new option for communication between members, their personal practitioners and practice staff.
- Payment appropriately recognizes the added value provided to patients who have a PCMH.

Literature shows that patient-centered medical homes provide better support for patients and better communication among practitioners, can lower costs, create stronger relationships between patients and providers <sup>[61][62]</sup> and:

- Reduce Medicare ED use.
- Lower the total cost of care for Medicare fee-for-service beneficiaries and Medicare spending overall.
- Increase office visits while reducing hospital visits.
- Lower overall health costs.
- Pair with integrated behavioral health, improve quality and utilization and demonstrate the future of team-based practice.
- Drive quality improvement and effective utilization of primary care.
- Provide a common framework for helping practitioners work at the top of their license.
- Create opportunities for integration of behavioral health.

## ⊕ CARE COORDINATION AND THE MEDICAL HOME NEIGHBORHOOD

Care coordination can improve the effectiveness, safety and efficiency of the health care system. Well-designed, targeted care coordination can improve outcomes for patients, providers and payers. <sup>[34]</sup> The Patient-Centered Primary Care Collaborative defines "medical neighborhood" as a clinical-community partnership that includes the medical and social supports necessary to enhance health. Within the medical neighborhood, the PCMH serves as the patient's primary "hub" and coordinator of health care delivery. A PCMH and its medical neighbors—hospitals, home health, long-term care, practitioners, specialists, primary care practitioners—work together to increase the flow of information across and between practitioners and patients in order to build integration. <sup>[61]</sup>

High-functioning successful medical neighborhoods share six components: <sup>[63]</sup>

- 1 Clinical data-sharing.
- 2 Patient-centered focus.
- 3 Strong community links.
- 4 Carefully managed care transitions.
- 5 Clear agreement on neighbors' roles.
- 6 Individualized care plans for complex patients.

According to the Center for Health Care Strategies, "care management programs apply systems, science, incentives, and information to improve medical practice and assist consumers and their support system to become engaged in a collaborative process designed to manage medical/social/mental health conditions more effectively. The goal of care management is





## NCQA PRODUCTS

**Patient-Centered Medical Home Recognition:** For primary care practitioners and practice sites. This model of care puts patients at the forefront of care and builds better relationships between patients and clinical care teams. Research shows that PCMHs improve quality and the patient experience and increase staff satisfaction—while reducing health care costs. Practices that earn Recognition have made a commitment to continuous quality improvement and a patient-centered approach to care.

**NCQA Distinction in Behavioral Health Integration:** Recognizes primary care practices with resources, protocols, tools and quality measures in place to support patients with behavioral health-related conditions.

**Patient-Centered Specialty Care Recognition:** Builds on the success of the PCMH Recognition program by recognizing specialty practices that excel in delivering high-quality, patient-centered care. It focuses on proactive coordination and sharing information. Everyone in the practice works as a team to coordinate care with primary care, other referring clinicians and community resources.

**Patient-Centered Connected Care Recognition:** For care sites delivering episodic care or outpatient treatment, such as urgent care centers, retail clinics and worksite health clinics. It builds on the medical home model of care to support patient navigation through the medical home neighborhood. This program sets standards for sites delivering episodic or outpatient treatment to ensure that delivery of care is communicated and that patients are connected back to primary care.

to achieve an optimal level of wellness and improve coordination of care while providing cost effective, non-duplicative services.” [64]

The medical home neighborhood model can offer care management in an IDN or other provider organization. Because they are community based, medical home neighborhoods are uniquely positioned to conduct care management for their populations. A well-coordinated medical home neighborhood works across all partners to improve outcomes and experience for the population.

Programs such as NCQA’s Patient-Centered Specialty Practice Recognition and Patient-Centered Connected Care Recognition build on the PCMH model to deliver a high-functioning medical neighborhood that offers integrated care across the entire organization.

Every member population includes patients with complex needs. A care management model for this high-needs, high-cost subpopulation should emphasize engaging patients to assess care needs, developing patient-centered care plans and coordinating with other entities to close care gaps. In many cases, these patients are seen by multiple primary and specialty care practitioners—not all of whom share health information. Establishing a medical home neighborhood can help coordinate and integrate care from multiple practitioners. [65]



## IN-THE-FIELD EXAMPLE: Ascension Care Management, Nashville, TN

**ISSUE/PROBLEM:** Patient engagement is the first necessary step to improving health outcomes. Despite this, patient engagement is an industrywide health care challenge. Acknowledging the importance and difficulty of successfully engaging patients in their care, the Ascension Care Management (ACM) Clinical Operations team of nurses, social workers, counselors, health promoters, managers and leadership, posed the question, “How can the organization better engage patients in care management services initially and over time?”

**SOLUTION:** Clinical Operations approached this question using design principles to ground the work in the patient’s perspective through a series of design-centered research activities. Information was gathered through care team peer interviews, small group activities (empathy and journey mapping) and patient interviews.

From there, key insights were identified:

- From the patient’s perspective, ACM’s primary value includes person centered interactions, education and community resource support.
- Physician awareness, buy in and willingness to partner with ACM affects its ability to engage patients.
- Care management processes are at times in conflict with the patient’s priorities and experiences.

These findings were used to brainstorm ideas on how to engage members. Solutions were identified, prioritized and scoped.

**OUTCOMES:** A Patient Engagement Workgroup of nurses, social workers and care team managers is developing and implementing deliverables to support increased patient engagement. A library of training materials, including conversational guides to collecting assessment data, is available to support identified barriers to engagement. The workgroup also evaluated the current state of community resource information to streamline the care team’s access to relevant, up-to-date community resources for patient needs. In addition, the workgroup is focused on strengthening integration with ACM’s medical group partners to better align with providers and to create a more streamlined experience for patients and providers.

*\*Results and claims were not independently verified. NCQA makes no representations or warranties and has no liability to anyone who relies on results and claims.*





## ➡ CARE COORDINATION AND CARE TRANSITIONS

Care transition is movement from one health care setting to another or to home, between health care practitioners and settings during the course of an illness. Successful care transitions require interdisciplinary teamwork from the PCMH, the other members of the medical home neighborhood, community-based organizations, and the patient and caregivers.

In 2011, poor care coordination, including inadequate management of care transitions, was responsible for \$25 billion–\$45 billion in unnecessary spending through avoidable complications and hospital readmissions. Care coordination and transitions are particularly important for ACOs in the Medicare Shared Savings Program (MSSP), which includes quality metrics that can be improved through successful care transitions, such as hospital readmission measures. <sup>[66]</sup>

Patient-centered medical homes are uniquely equipped to coordinate high-quality care delivered from multiple providers and specialists. <sup>[67]</sup> They connect with other sources of services to communicate information appropriately, consistently and without delay; <sup>[68]</sup> and to the wider medical neighborhood—and to the ACO and IDN—to act as the director of patient care. Good care coordination also leads to improved care transitions.

Well-integrated entities can execute high-performing care transition programs by communicating with the medical home when a patient is hospitalized and discharged and by transmitting post-discharge information through integrated data systems or other communication methods. Active communication and partnership, such as collaborating on the post-discharge care plan, <sup>[69]</sup> are needed to manage the transition well. The PCMH and hospital (or other provider location) should create a care transition plan with the involvement of the patient and/or caregivers, especially with regard to setting goals and agreeing to treatment plans. Patient engagement encourages a successful care transition.

Overall, successful care management and transitions can lead to improved patient experience, higher-quality care and lower costs. In addition to the MSSP, other value-based contracts include measures that may be affected by care management and medical home neighborhoods.

Milestone 6 discusses the role of measurement in the medical home neighborhood and the larger IDN.



## Milestone 6: Performance Measurement

Performance measurement is defined as “evaluating how well organizations are managed and the value they deliver for customers and other stakeholders.”<sup>[70]</sup> For IDNs and provider organizations, performance measurement drives internal population health management and improvement. It is also how many value-based payment arrangements evaluate success.

Performance measurement allows assessment of the effects of population health management on provider organization performance. To determine if resources or services benefit an organization, measures are created and adhered to by specialists and primary care practitioners; they are formalized when written into contracts. Performance measurement provides many benefits—and challenges—to organizations.

This milestone explores:

- Types of performance measures.
- Using performance measures.
- Strategies and tools for quality improvement.
- The future of HEDIS®<sup>[71]</sup> (including allowable adjustments, digital measures and HEDIS Electronic Clinical Data System [ECDS] reporting).

Note: The Roadmap does not replace the PHM category of standards in Health Plan Accreditation, Population Health Program Accreditation or any other NCQA Accreditation, Certification or Recognition; dictate any additional requirements that must be met for an NCQA survey; or dictate requirements for how value-based care should be implemented.







## ⊕ PERFORMANCE MEASURES

Performance measurement is the standardized measurement of outcomes and results, which generates reliable data on the effectiveness and efficiency of programs. <sup>[72]</sup> Performance measurement in health care is subject to the disparate nature and variable perspectives among the many stakeholders, including practitioners, patients and payers.

There are different types of measures and measure sets; measures should be chosen based on an organization's goals and should align with contract requirements.

### Measure Types

Measures can be divided into different types:

- **Process measures.** Measures of clinical performance based on objective clinical criteria, defined by practice guidelines or other clinical specifications (e.g., immunization rates).
- **Outcome measures.** Assess incidence or prevalence rates for desirable or undesirable health status outcomes (e.g., members with controlled hypertension).
- **Utilization measures.** Capture frequency and rates of services and procedures through a wide range of care settings and provide information about how an organization manages and expends resources, and how efficiently and effectively it uses services and resources (e.g., total cost of care, all-cause readmission).
- **Experience measures.** <sup>[73]</sup> Evaluate interactions between patients and the health care system, including practitioners and facilities. Positive experience is associated with patient adherence, better outcomes, improved patient safety practices and lower utilization of unnecessary health care services.
- **Patient-reported outcome measures.** <sup>[74]</sup> Capture a patient's perception of their health. Often these are self-completed questionnaires that can measure a variety of global and disease-specific outcomes. They are the gold standard when quantifying post-treatment patient experience.

### Process/Structure, Outcome and Utilization Measures: HEDIS

HEDIS is a group of standardized process, outcome and utilization measures designed to ensure that policy makers, payers and the public have the information they need to compare health care organization performance. HEDIS measures and specifications were developed by and are owned by NCQA. <sup>[75]</sup> Performance on HEDIS measures is often the basis of value-based payment contracts. Meeting a HEDIS benchmark may determine the loss, bonus or incentive awarded in the contract. HEDIS measures cover the following domains of care:

- Effectiveness of Care.
- Access/Availability of Care.
- Experience of Care.
- Utilization and Risk Adjusted Utilization.
- Health Plan Descriptive Information.
- Measures Collected Using Electronic Clinical Data Systems

### Experience Measures: CAHPS® <sup>[74]</sup>

CAHPS (Consumer Assessment of Healthcare Providers and Systems) surveys evaluate patients' experience with health care. Practitioners use CAHPS measures during PCMH transformation to track quality improvement initiatives, promote and maintain





a focus on patient experience, monitor changes and trends and monitor and coach practitioners. <sup>[77]</sup> Tracking and evaluating CAHPS results can help practitioners and provider organizations understand their patients and create quality initiatives.

## ➔ USING PERFORMANCE MEASURES

Performance measures are often used to develop and track quality improvement initiatives and monitor network performance within value-based payment arrangements. Milestone 7 discusses managing measures across various value-based payment arrangements.

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### Quality Improvement and Monitoring Network Performance

The organizations interviewed use measurement to monitor performance and improve quality in different ways; for example:

- To evaluate practitioner performance and implement incentives and bonuses based on measure results. Practitioners are invited to quarterly meetings that discuss performance across the network.
- Use a scheduled measure reassessment to determine if pilot initiatives are having the desired effect. A quick turnaround leads to rapid quality improvement because small changes to programs can be assessed quickly.
- Use performance measurement data to help practitioners understand their impact on patient care and quality. Preparing data to back conversations, especially with independent practitioners, helps connect practitioners to larger overall goals.

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### Risk-Adjusted Measures

Risk-adjusted measures account for variations in population and patient characteristics. Outcome and utilization measures are often risk-adjusted to improve comparability across organizations. <sup>[78]</sup> It may be necessary to use risk-adjusted measures in value-based payment arrangements to set benchmarks and quality targets that align with the population.

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### Tools for Quality Improvement

As described in Milestone 1, SMART goals provide clarity and focus for activities and encourage a methodological process for creating feasible objectives. Provider organizations can use measures to evaluate the SMART goals in their population health management strategy and track progress.

Once the goal is understood and measured, progress can be made through the PDSA cycle.



### Plan-Do-Study-Act

- **Plan:** Develop a plan to test the change.
  - Plan the test. What question is being answered? What is the predicted outcome? What data must be collected?
- **Do:** Carry out the test.
  - Perform the test on a small scale; document problems and unexpected observations.
- **Study:** Observe and learn from the consequences.
  - Analyze results and compare to predictions.
- **Act:** Determine what modifications should be made to the test.
  - Make a plan for next steps, based on results.

The PDSA Cycle can be used through many iterations. In some cases, an action may require several cycles and new information is learned during processes.

## ➔ THE FUTURE OF HEDIS

In 2019, NCQA announced its vision for the future of HEDIS. This vision was informed by research emphasizing the burden of measurement and NCQA's understanding that better data is needed to evaluate the rapidly changing health care system. NCQA proposed strategies to address these issues through gradual change: <sup>[79]</sup>

- **Create allowable adjustments to HEDIS measures.** Allowable adjustments let organizations, practitioners, health care systems and health plans adjust measures without compromising the measures' clinical intent. This creates flexibility that expands the user pool and how measures are used.
  - Numerator logic and changes to value sets may not be adjusted.
- **Require license and certification.** Organizations that use HEDIS specifications for commercial purposes (such as a vendor that calculates HEDIS measures on behalf of an organization) must be HEDIS Certified and have a license agreement with NCQA. These requirements reduce variation, increase the accuracy of HEDIS calculations and increase trust in comparability between organizations—especially important when evaluating performance in value-based payment arrangements.
- **Create digital measures.** As of 2019, there are eight HEDIS measures. Digitized measures are easier for an organization to read and conduct valid measurement. More digital measures will be released during future HEDIS reporting years.
- **ECDS reporting.** ECDS reporting has the validity of digital measures but incorporates more electronic clinical data. Data are collected from many sources, including EHRs, for information that more accurately reflects risk profiles and patient preferences. ECDS reporting for measures can make it easier to incorporate clinical data collected by practitioners into the HEDIS measure results.

## ➔ PERFORMANCE MEASUREMENT AND POPULATION HEALTH MANAGEMENT

An IDN or other provider organization cannot fully execute population health management without collecting and evaluating performance measures. Measurement completes the PHM Conceptual Model because it helps organizations determine the impact of their population health management strategy.

A common industry refrain is, "You can't improve what you don't measure." This is particularly true in value-based payment arrangements that track performance to determine payment. Provider organizations must understand their baseline, set measurable goals and meet targets if they want to succeed in these contracts.

Milestone 7 discusses how provider organizations navigate value-based payment arrangements.



## Milestone 7: Value-Based Arrangements and Assuming Risk

Succeeding in value-based contracting is the ultimate goal for many provider organizations. The Roadmap demonstrates how population health management can be a model of care for managing populations in value-based contracts.

This milestone discusses:

- Types of value-based payment arrangements.
- What it means to take on financial risk.
- Lessons learned from managing value-based payment arrangements.



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## ➤ VALUE-BASED PAYMENT ARRANGEMENTS

Value-based payment arrangements shift from the traditional fee-for-service model (which focuses on volume of services) toward a model that focuses on appropriate, cost-effective care that delivers positive outcomes.

CMS defines these common value-based payment arrangements: <sup>[80]</sup>

- **Pay-for-performance.** Payment is for individual units of service and is triggered by delivery of care (as with fee for service), but providers or practitioners can qualify for bonuses or be subject to penalties for cost and/or quality related to performance. Foundational payments or payments for supplemental services also fall under this payment approach.
- **Shared savings.** Payments are fee for service, but providers/practitioners who keep medical costs below established expectations retain a portion (up to 100%) of the savings generated. Providers/practitioners who qualify for a shared savings award must also meet standards for quality of care, which can influence the proportion of total savings.
- **Shared risk.** Payments are fee for service, but providers/practitioners whose medical costs are above established expectations are liable for a portion (up to 100%) of cost overruns.
- **Two-sided risk sharing.** Payments are fee for service, but providers/practitioners agree to share cost overruns in exchange for the opportunity to receive shared savings.
- **Capitation/population-based payment.** Payments are not tied to delivery of services, but take the form of a fixed per member, per unit of time sum paid in advance for delivery of a set of services (partial capitation) or all services (full or global capitation). The provider/practitioner assumes partial or full risk for costs above the capitation/population-based payment amount and retains all (or most) savings if costs fall below that amount. Payments, penalties and awards depend on care quality.





MACRA and the ACA established incentives to move from volume-based payments to paying for the right care, at the right time, at the right place. By 2018, 12 million Medicare beneficiaries were attributed to a Medicare ACO (10.5 in MSSP ACOs; 1.4 million in Next Generation ACOs).<sup>[81]</sup>

These models vary by the level of financial risk they assume. Next Generation ACOs assume more financial risk and have the potential for higher losses and higher rewards than traditional MSSP ACOs.

As noted at the beginning of the Roadmap, the MSSP is transforming to “Pathways to Success” by including payment models in a BASIC track that glides to an ENHANCED track.<sup>[82]</sup> The ENHANCED track assumes the most risk and offers the highest rewards under MSSP. To achieve success in this payment model, organizations must be highly coordinated and diligent in managing their patients to reduce costs and improve outcomes and the patient experience.

CMS hosts other payment models, such as the Bundled Payment for Care Improvement (BPCI) Initiative.<sup>[83]</sup> Bundled payments can help align practitioners and providers across care sites and specialties through common incentives and goals. Participating practitioners receive retrospective payments based on a specific episode of care (such as cervical spinal fusion, knee procedures, pacemaker implantation), but if the cost of that care exceeds the quality-adjusted target price, the practitioner repays a portion as a financial loss.

Organizations should consider three factors when developing a value-based payment arrangement:<sup>[84]</sup>

- 1 External environment.** Regulations, payment policies, patient preferences and quality improvement initiatives.
- 2 Provider characteristics.** Health care system structure, organization culture, available resources and capabilities, population served.
- 3 Program features.** The defined population, program goals, measures, financial incentive and risk structure.

These factors can have far-reaching effects on designing, evaluating and implementing a value-based payment arrangement and can affect its success.

## ⊕ ASSUMING FINANCIAL RISK

Many in the industry note that paying bonuses or offering incentives for meeting goals emphasizes outcomes, but are not the true assumption of risk.

During the interviews, provider organizations and payers said that assuming “real” risk is accepting and managing downside risk in a two-sided risk arrangement. A two-sided risk arrangement results in rewards for cost savings (upside risk) compared to a benchmark and results in losses for overspending or not meeting quality targets (downside risk).

Although most provider organizations prefer upside risk-only arrangements to insulate them from losses if care costs exceed the benchmark or budget,<sup>[85]</sup> the market is moving toward two-sided risk and organizations must prepare.

The MSSP Pathways to Success model indicates that CMS wants Medicare ACOs to shift to downside risk quickly. In 2017, 34% of the total U.S. health care payments were tied to alternative payment models, a 12% increase from 2015; 12.5% were in downside risk arrangements.<sup>[86]</sup> In 2018, 33% of commercial, Medicare and Medicaid ACOs reported having at least one downside risk contract.<sup>[87]</sup>



## Challenges with Assuming Risk

Some organizations interviewed described the challenges with value-based arrangements and assuming financial risk:

- PHM systems that do not collect, integrate or display claims data, which makes it difficult to set cost benchmarks and calculate savings and losses.
- Sometimes there is difficulty with data provided by a payer; for example, delayed (claims data can be 3–6 months behind actual encounters), not in a useable format or associated with practitioners or patients that are not attributed to the provider organization.
- Special populations can be difficult to manage or make progress on quality metrics, such as medication adherence.
- Some SDOH and other impacts on quality and care are out of the provider organization's control.
- The cost of operating a hospital or other system exceeds reimbursements offered in value-based care arrangements, which means constant discussions about pricing.
- Practitioners and providers leave the ACO or IDN because they are not willing to accept downside risk and aren't fully aware of the benefits.

Some organizations gave helpful suggestions:

- Partner with payers to discuss resources, challenges and priorities in the provider organization, such as:
  - Understand the data source for the measure: If the measure uses clinical data and the payer does not have access to the clinical data, the measure might appear underachieving.
  - Clarify patient attribution models and the enrollment timeline in the contract so the payer and provider organization are both working on the same patient population.
  - Clarify the participating practitioners in the contract: Some payers have legacy systems or are not informed when a practitioner leaves the network, which can create errors in quality reporting and data.
  - Be mindful of the number of measures and rigor of the threshold. If the contract has five measures but all thresholds are 95%, it may still be unrealistic for the provider organization.

## VIEWS FROM THE TOP

IDN Leaders' strategies for assuming financial risk include:

- **Sustainability:** Moving towards a model that is sustainable for operations and continuous quality improvement activities by adding shared savings into the base payment.
- **Downside risk proportionate to the expense of primary care:** Expense of primary care can act as a baseline to guide benchmarking and determine the amount of risk assumed.
- **Create preferred networks:** Manage networks to decrease ED utilization, consistency with care, and consistency with reporting.

## VIEWS FROM THE TOP

IDN leaders said successful relationships with payers require:

- **Coming to the table as friends:** Negotiate together for contracts that consider IDN capabilities and conflicting priorities across multiple payers.
- **Viewing the contract as partnership:** Let go of some control and let the provider organization manage its network and determine patient care (no prior authorization).
- **Agreeing on contract foundations:** The IDN and payer should agree on definitions, expected costs and how the contract will be evaluated, including the measures that will be used, the benchmarks and the methodology.



## IN-THE-FIELD EXAMPLE: Mercy Kansas City

**PROBLEM:** Although clinical integration is often necessary to initiate value-based contracts, the true test is in a network's ability to improve quality and lower costs. A CIN must build on foundational components to advance primary and specialty care through care model transformation, population health technology and effective provider engagement and communication. Many practices had no quality improvement or medical home infrastructure before joining CHN and there was minimal coordination and collaboration across primary care practices.

**SOLUTION:** Children's Mercy Kansas City launched the Children's Health Network (CHN) in September 2015 as a CIN focused on commercial pediatric value-based lives. The network includes 24 primary care practices, nearly 200 primary care providers and 750 pediatric specialists.

CHN has become a leader in redesigning what pediatric care looks like in a metropolitan area that has had very little awareness of value-based care. Today, CHN has upside-only shared savings agreements with three of the four major commercial payers in the metro area and includes over 75,000 lives.

The success of the network is rooted in CHN's five guiding and founding principles: 1.) Focus on the patient and achieving the Triple Aim of better care, smarter spending and healthier children; 2.) Be provider led and professionally managed; 3.) Encourage transparency and trust: "We are in this together"; 4.) Use data-driven strategy and decision making; 5.) Have collaboration and open communication.

**RESULTS:** From December 2015–October 2018, the network increased performance:

- Across four screening measures by 48–57 percentage points.
- Across four immunization measures by 9–23 percentage points.
- Across three wellness visit measures by 7–14 percentage points.
- In asthma management (2+ office visits/year) from approximately 20% to 40%.

Overall, the network's increased quality and cost performance has contributed to better care for over 190,000 children!

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## Assuming risk and managing multiple contracts

Many strategies and concepts discussed in the Roadmap could be used to overcome challenges. Aligning goals and involving practitioner leaders can help improve practitioner engagement and trust in value-based payment and make it easier to negotiate arrangements with payers.

Organizations offered some approaches to assuming risk:

- Listen to practitioner concerns about assuming downside risk; offer support through resources and technology and prepare glide paths to assuming risk through incentives and bonuses.
- Share performance data, gaps in care and other data that help practitioners manage their patient population and strive to improve performance.
- Have regular one-on-one conversations with independent practitioners to communicate priorities, gaps in care and other performance information.
- Implement robust care management by identifying patients with chronic conditions and offering additional management to improve quality measure scores.
- Work with payers to create bundle payments or other models that consider resources and network.
- Implement care management technology such as telehealth or remote monitoring, which can improve network breadth and depth in a rural area.
- Determine how many lives per practitioner are required for the practitioner to be invested in incentives and payments (one organization suggested this is around 1,000 ACO lives per practitioner).

Regardless of the level of risk, value-based payment arrangement performance evaluation metrics often come through quality measures. Measures can add up quickly—some organizations cited more than 100 across all contracts. Measurement burden can create challenges and threaten a contract's success. Interviewed organizations offered strategies for managing measures in multiple value-based payment arrangements:

- Examine all measures across all contracts and determine overlap, then choose 5–10 measures or measure areas on which to focus resources. For example, seeing that ED utilization is a common measure area across contracts, an organization may implement care management programs to reduce readmission and prevent ED visits.
- Consider areas where measures can have the biggest impact; prioritize initiatives by analyzing financial data and using predictive modeling of the patient population.
- Allow practitioner-led committees to determine the measure areas of focus and set the organizational goals and strategy based on those measures.
- Socialize measures and goals to payers; demonstrate why they were chosen and how they will be prioritized over other monitored measures. This may help create more negotiation power, leading to a better partnership between the payer and the provider organization.

As noted in Milestone 1, aligning goals can create better communication across the organization and lead to improved population health management outcomes.





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### **IN-THE-FIELD EXAMPLE:** **CHOC Children's Hospital**

**ISSUE:** With the evolution of value-based payment programs, funding for care coordination, especially for high-risk children, can be challenging. Appropriate staffing, risk stratification and demonstrating an appropriate quality and financial return on investment have been difficult.

**SOLUTION:** CHOC evaluated the impact of a pediatric-specific care coordination program for Medicaid children with special health care needs under a fully capitated payment model and assessed whether sufficient savings could be achieved to offset its cost. Of children with special health needs receiving care under a Medicaid capitation payment program, 442 were enrolled in a care coordination program. ED and inpatient utilization were measured for one year pre- and post-intervention.

The program included a personal care coordinator (concierge role), RN case manager, social worker and connections to community-based resources for each high-risk child/family. An interdisciplinary care team meeting that included the family was convened and a care plan was developed for use across the entire care continuum.

**RESULTS:** There was a statistically significant reduction in ED utilization (31% reduction,  $P < .0001$ ), inpatient admissions (38% reduction,  $P = .0002$ ) and inpatient length of stay (34% reduction,  $P = .0112$ ) comparing pre- and post-intervention periods. Medical cost savings were approximately three times program costs.

Under a fully capitated Medicaid model, cost savings greatly exceeded intervention costs. Results highlight the clinical and economic efficacy of pediatric-specific care management programs for children with special health care needs. Models such as this one can inform other interventions and contracting strategies to ensure that children receive the care they deserve, in a sustainable cost model.

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## ➔ VALUE-BASED PAYMENT, ASSUMING RISK AND POPULATION HEALTH MANAGEMENT

Population health management provides a framework for success in value-based care and assuming risk by requiring organizations to:

- Create a framework for a comprehensive strategy that aligns goals across the organization and incorporates the care delivery system as a primary player. (Milestone 1)
- Support clinical integration through a common framework, aligned goals and data. (Milestone 2)
- Integrate data for use in a variety of population health functions, such as understanding the population, stratifying the population into interventions, managing patients' conditions and reporting on performance. (Milestones 3, 4, 6)
- Identify the population through data and other assessments to understand the population and offer appropriate interventions; consider how the community can be incorporated to address SDOH. (Milestone 3)
- Incorporate a strong care-management delivery system through the medical home neighborhood that delivers patient-centered interventions. (Milestone 5)
- Use measurement to determine if goals were met and create insights into the organization's performance. (Milestone 6)
- Work with payers/health plans to establish value-based contracts with goals and performance measures that fit the needs of the population. (Milestone 7)

This Roadmap explains the facets of population health management and how they fit into a provider organization's pursuit of value-based care. For IDNs, ACOs, health systems and other provider organizations whose ultimate goal is assuming financial risk, the path is winding and can be bumpy—but applying population health management concepts can help smooth it, facilitate alignment across the organization and help achieve the Triple Aim of better health, better care and better value.



# Works Cited

- [1] Centers for Medicare & Medicaid Services, "CMS Strategy: The Road Forward 2013-2017.," [Online]. Available: <https://www.cms.gov/About-CMS/Agency-Information/CMS-Strategy/Downloads/CMS-Strategy.pdf> .
- [2] "NCQA's definition is based on Population Health Alliance's PHM definition.," [Online]. Available: <http://www.populationhealthalliance.org/research/understanding-population-health.html>.
- [3] M. A. Stoto, "Population Health in the Affordable Care Act Era," AcademyHealth, 2013 February 2013. [Online]. Available: <http://www.gih.org/files/FileDownloads/Population%20Health%20in%20the%20Affordable%20Care%20Act%20Era.pdf>.
- [4] Centers for Medicare & Medicaid Services, "MIPS Overview," [Online]. Available: <https://qpp.cms.gov/mips/overview>.
- [5] Centers for Medicare & Medicaid Services, "Innovation Models," [Online]. Available: [https://innovation.cms.gov/initiatives/#views=models&stg=accepting letters of intent,accepting applications,ongoing](https://innovation.cms.gov/initiatives/#views=models&stg=accepting%20letters%20of%20intent,accepting%20applications,ongoing) .
- [6] Centers for Medicare & Medicaid Services, "Quality Payment Program: APMs Overview," [Online]. Available: <https://qpp.cms.gov/apms/overview>.
- [7] Centers for Medicare & Medicaid Services, "Next Generation ACO Model," [Online]. Available: <https://innovation.cms.gov/initiatives/Next-Generation-ACO-Model/>.
- [8] Centers for Medicare & Medicaid Services, "BPCI Advanced," [Online]. Available: <https://innovation.cms.gov/initiatives/bpci-advanced/>.
- [9] Centers for Medicare & Medicaid Services, "CPC +," [Online]. Available: <https://innovation.cms.gov/initiatives/comprehensive-primary-care-plus/>.
- [10] National Committee for Quality Assurance, "MACRA Toolkit," [Online]. Available: <https://www.macratoolkit.com/about-macra/about-macra-section-title-3/>.
- [11] Centers for Medicare & Medicaid Services , "Shared Savings Program," [Online]. Available: <https://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/sharedsavingsprogram/about.html>.
- [12] Centers for Medicare & Medicaid Services, "Share Savings Program Participation Options," [Online]. Available: <https://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/sharedsavingsprogram/Downloads/ssp-aco-participation-options.pdf>.
- [13] Committee on Quality of Health Care in America; Institute of Medicine, "Crossing the Quality Chasm: A New Health System for the 21st Century," National Academy Press, Washington, DC, 2001.
- [14] J. Landis, "Post-Acute Care Cheat Sheet: Integrated Delivery Networks," Advisory Board, [Online]. Available: <https://www.advisory.com/research/post-acute-care-collaborative/members/resources/cheat-sheets/integrated-delivery-networks>.
- [15] Southern Medical Association, "Clinically Integrated Networks," [Online]. Available: <https://sma.org/courses/clinically-integrated-networks/>.
- [16] J. Gold, "Accountable Care Organizations, Explained," Kaiser Health News, 14 September 2015. [Online]. Available: <https://khn.org/news/aco-accountable-care-organization-faq/>.



- [17] Agency for Healthcare Research and Quality, "Defining Health Systems," September 2017. [Online]. Available: <https://www.ahrq.gov/chsp/chsp-reports/resources-for-understanding-health-systems/defining-health-systems.html>.
- [18] American Academy of Family Physicians, "Value-Based Payment," 2016. [Online]. Available: <https://www.aafp.org/about/policies/all/value-based-payment.html>.
- [19] D. Clayton, "Selecting a Downside-Risk Payment Model," 26 March 2019. [Online]. Available: <https://healthcare.rti.org/selecting-a-downside-risk-payment-model/>.
- [20] NEJM Catalyst, "What Is Risk Management in Healthcare?," New England Journal of Medicine.
- [21] B. R. C. A. R. Doherty, "Principles Supporting Dynamic Clinical Care Teams: An American College of Physicians Position Paper," *Annals of Internal Medicine*, 2013.
- [22] Y. Jabbarpour, M. Coffman, A. Habib, Y. Chung, W. Liaw, S. Gold, H. Jackson, A. Bazemore and W. D. Marder, "Advanced Primary Care: A Key Contributor to Successful ACOs," Patient-Centered Primary Care Collaborative, 2018.
- [23] Health Care Transformation Task Force, "Levers of Successful ACOs," [Online]. Available: <https://hcttf.org/wp-content/uploads/2018/01/LeversofSuccessfulACOs6.pdf>.
- [24] Press Ganey, "2018 Strategic Insights Report: A Strategic Blueprint for Transformational Change," 29 March 2018. [Online].
- [25] Athena Health, "Clinical integration knowledge hub," 2019. [Online]. Available: <https://www.athenahealth.com/knowledge-hub/clinical-integration/physician-alignment>.
- [26] S. Zainulbhai, M. Skillman and G. W. Torres, "Physician Engagement Across Accountable Care Initiatives: Payment and Delivery System Reform Evaluations," [Online]. Available: <http://www.norc.org/PDFs/Arnold%20Foundation/physicianengagement.pdf>.
- [27] National Committee for Quality Assurance, "Health Plan Accreditation: 2020 Update," 2019. [Online]. Available: <https://www.ncqa.org/programs/health-plans/health-plan-accreditation-hpa/current-customers/hpa2020/>.
- [28] University of California, "Performance Appraisal Planning 2016-2017," [Online]. Available: [https://www.ucop.edu/local-human-resources/\\_files/performance-appraisal/How%20to%20write%20SMART%20Goals%20v2.pdf](https://www.ucop.edu/local-human-resources/_files/performance-appraisal/How%20to%20write%20SMART%20Goals%20v2.pdf).
- [29] Institute for Healthcare Improvement, "Plan-Do-Study-Act (PDSA) Worksheet," 2019. [Online]. Available: <http://www.ihl.org/resources/Pages/Tools/PlanDoStudyActWorksheet.aspx>.
- [30] T. Bodenheimer and C. Sinsky, "From Triple to Quadruple Aim: Care of the Patient Requires Care of the Provider," 2014. [Online]. Available: <http://www.annfammed.org/content/12/6/573.full.pdf+html>.
- [31] Becker Hospital Review, "The 4 Pillars of Clinical Integration: A Flexible Model for Hospital-Physician Collaboration," 14th November 2012. [Online]. Available: <https://www.beckershospitalreview.com/hospital-physician-relationships/the-4-pillars-of-clinical-integration-a-flexible-model-for-hospital-physician-collaboration.html>.
- [32] Becker Hospital Review, "The 7 Components of a Clinical Integration Network," 19 October 2012. [Online]. Available: <https://www.beckershospitalreview.com/hospital-physician-relationships/the-7-components-of-a-clinical-integration-network.html>.
- [33] Federal Trade Commission, "Bureau of Competition Health Care Division," 13 February 2013. [Online]. Available: [https://www.ftc.gov/sites/default/files/documents/advisory-opinions/norman-physician-hospital-organization/130213normanphoadvltr\\_0.pdf](https://www.ftc.gov/sites/default/files/documents/advisory-opinions/norman-physician-hospital-organization/130213normanphoadvltr_0.pdf).
- [34] Agency for Healthcare Research and Quality, "U.S. Department of Health & Human Services," August 2018. [Online]. Available: <https://www.ahrq.gov/ncepcr/care/coordination.html>.



- [35] Gulf South Quality Network, "Benefits of Clinical Integration," [Online]. Available: <https://www.gsqn.org/clinical-integration/benefits/>.
- [36] The Office of the National Coordinator for Health Information Technology, "Health IT Certification Program Overview," [Online]. Available: <https://www.healthit.gov/sites/default/files/PUBLICHealthITCertificationProgramOverview.pdf>.
- [37] Health Information and Management Systems Society, "What is Interoperability?," 2019. [Online]. Available: <https://www.himss.org/library/interoperability-standards/what-is-interoperability>.
- [38] Wikia.org, "IT Law Wiki," [Online]. Available: [https://itlaw.wikia.org/wiki/Network\\_integration](https://itlaw.wikia.org/wiki/Network_integration).
- [39] S. H. Golden, D. Hager, L. J. Gould, N. Mathioudakis and P. J. Pronovost, "A Gap Analysis Needs Assessment Tool to Drive a Care Delivery and Research Agenda for Integration of Care and Sharing of Best Practices Across a Health System," National Institutes of Health, 2018.
- [40] R. Gold, E. Cottrell, A. Bunce, M. Middendorf, C. Hollombe, S. Cowburn, P. Mahr and G. Melgar, "Developing electronic health record (EHR) strategies related to health center patients' social determinants of health," National Institutes of Health, 2017.
- [41] K. e. a. LaForge, "How 6 Organizations Developed Tools and Processes for Social Determinants of Health Screening in Primary Care," National Institutes of Health, 2018.
- [42] L. A. Winters-Miner, "Seven ways predictive analytics can improve healthcare," Elsevier, 2014.
- [43] E. Just, "Understanding Risk Stratification, Comorbidities, and the Future of Healthcare," [Online]. Available: <https://www.healthcatalyst.com/understanding-risk-stratification-comorbidities/>.
- [44] R. S. Phillips, A. J. Sutton, R. D. Riley, J. C. Chisholm, S. V. Picton and L. A. Stewart, "Predicting infectious complications in neutropenic children and young people with cancer (IPD protocol)," National Institutes of Health, 2012.
- [45] HL7, "FHIR R4," [Online]. Available: <https://www.hl7.org/fhir/overview.html>.
- [46] A. Winter, "Community Health Workers: Integral Members of the Health Care Work Force," American Journal of Public Health.
- [47] Robert Health Solutions, "Population Health Strategies," 2017. [Online]. Available: <https://robertshealthsolutions.com/>.
- [48] Office of Disease Prevention and Health Promotion, "Social Determinants of Health," 2014. [Online]. Available: <https://www.healthypeople.gov/2020/topics-objectives/topic/social-determinants-of-health>.
- [49] A. Billioux, K. Verlander, S. Anthony and D. Alley, "Standardized Screening for Health-Related Social Needs in Clinical Settings," 30 May 2017. [Online]. Available: <https://nam.edu/wp-content/uploads/2017/05/Standardized-Screening-for-Health-Related-Social-Needs-in-Clinical-Settings.pdf>.
- [50] K. e. a. LaForge, "How 6 organizations developed tools and processes for social determinants of health screening in primary care: An overview," [Online]. Available: <https://sirenetwork.ucsf.edu/tools-resources/resources/how-6-organizations-developed-tools-and-processes-social-determinants>.
- [51] "The Accountable Health Communities Health-Related Social Needs Screening Tool," [Online].
- [52] National Association of Community Health Centers, "PRAPARE: Protocol for Responding to and Assessing Patients' Assets, Risks, and Experiences," 2019. [Online]. Available: [www.nachc.org/research-and-data/prapare/](http://www.nachc.org/research-and-data/prapare/).
- [53] Centers for Medicare and Medicaid Services, "ICD-10-CM Official Guidelines for Coding and Reporting," 2018. [Online]. Available: <https://www.cms.gov/Medicare/Coding/ICD10/Downloads/2019-ICD10-Coding-Guidelines.pdf>.

- [54] Kaiser Permanente, "TIP #28: ICD 10 CM –Health Factors (Z Codes)," [Online]. Available: [https://www.providers.kaiserpermanente.org/info\\_assets/cpp\\_cod/ICD-10\\_Health\\_Factors\\_Z\\_Codes.pdf](https://www.providers.kaiserpermanente.org/info_assets/cpp_cod/ICD-10_Health_Factors_Z_Codes.pdf).
- [55] D. P. Olson, B. J. Oldfield and S. M. Navarro, "Standardizing Social Determinants Of Health Assessments," 18 March 2019. [Online]. Available: <https://www.healthaffairs.org/doi/10.1377/hblog20190311.823116/full/>.
- [56] C. Deculus, L. Garber, A. Iivanainen, T. Stentoft and K. Winright, "Addressing Social Determinants of Health: Case Studies from Epic's Population Health Steering Board," Population Health Management, vol. 22, no. 1, 2019.
- [57] S. Artiga and E. Hinton, "Beyond Health Care: The Role of Social Determinants in Promoting Health and Health Equity," 2018. [Online]. Available: <https://www.kff.org/disparities-policy/issue-brief/beyond-health-care-the-role-of-social-determinants-in-promoting-health-and-health-equity/>.
- [58] National Committee for Quality Assurance (NCQA), "Patient-Centered Medical Home (PCMH)," [Online]. Available: <https://www.ncqa.org/programs/health-care-providers-practices/patient-centered-medical-home-pcmh/>.
- [59] National Committee for Quality Assurance, "Standards and Guidelines for NCQA's PCMH," [Online]. Available: [www.acofp.org/acofpimis/Acofporg/Apps/2014\\_PCMH\\_Finals/Tools/1\\_PCMH\\_Recognition\\_2014\\_Front\\_Matter.pdf](http://www.acofp.org/acofpimis/Acofporg/Apps/2014_PCMH_Finals/Tools/1_PCMH_Recognition_2014_Front_Matter.pdf).
- [60] American Academy of Family Physicians (AAFP), "Joint Principles of the Patient-Centered Medical Home," March 2007. [Online]. Available: [https://www.aafp.org/dam/AAFP/documents/practice\\_management/pcmh/initiatives/PCMHJoint.pdf](https://www.aafp.org/dam/AAFP/documents/practice_management/pcmh/initiatives/PCMHJoint.pdf).
- [61] Patient-Centered Primary Collaborative, "Defining the Medical Home," [Online]. Available: <https://www.pcpcc.org/about/medical-home>.
- [62] National Committee for Quality Assurance, "Benefits of NCQA Patient-Centered Medical Home Recognition," [Online]. Available: [https://www.ncqa.org/wp-content/uploads/2018/08/20171017\\_PCMH\\_Evidence\\_Report.pdf](https://www.ncqa.org/wp-content/uploads/2018/08/20171017_PCMH_Evidence_Report.pdf).
- [63] D. Feeney, E. Dzwierzynski, K. Sanzen and S. Thompson, "The Changing Face of Pharmacy: Advancement of Pharmacist Services in Rhode Island," [Online]. Available: <http://www.ohic.ri.gov/documents/HIAC-April-2015-ChangingFaceofPharmacy.pdf>.
- [64] Center for Health Care Strategies, Inc., "Care Management Definition and Framework," [Online]. Available: [https://www.chcs.org/media/Care\\_Management\\_Framework.pdf#targetText=Care%20Management%20Definition,The%20goal%20of%20care](https://www.chcs.org/media/Care_Management_Framework.pdf#targetText=Care%20Management%20Definition,The%20goal%20of%20care).
- [65] K. Coburn, C. Grinberg, S. Demuynck and M. Hawthorne, "Replicating Effective Models Of Complex Care Management For Older Adults," 7 June 2017. [Online]. Available: <https://www.healthaffairs.org/doi/10.1377/hblog20170607.060440/full/>.
- [66] R. Burton, "Improving Care Transitions," 13 September 2012. [Online]. Available: <https://www.healthaffairs.org/doi/10.1377/hpb20120913.327236/full/>.
- [67] NEJM Catalyst, "What Is Care Coordination?," 1 January 2018. [Online]. Available: <https://catalyst.nejm.org/what-is-care-coordination/>.
- [68] Safety Net Medical Home Initiative, "Care Coordination," [Online]. Available: <http://www.safetynetmedicalhome.org/change-concepts/care-coordination>.
- [69] Mathematica Policy Research, "Coordinating Care in the Medical Neighborhood: Critical Components and Available Mechanisms," June 2011. [Online]. Available: <https://pcmh.ahrq.gov/sites/default/files/attachments/Coordinating%20Care%20in%20the%20Medical%20Neighborhood.pdf>.

- [70] M. Moullin, "Performance measurement definitions: Linking performance measurement and organisational excellence," *International Journal of Health Care Quality Assurance*.
- [71] NCQA, "HEDIS and Performance Measurement," [Online]. Available: <https://www.ncqa.org/hedis/>.
- [72] Evaluation Division: Bureau of Educational and Cultural Affairs, "Performance Measurement Definitions," [Online]. Available: [https://eca.state.gov/files/bureau/performance\\_measurement\\_definitions.pdf](https://eca.state.gov/files/bureau/performance_measurement_definitions.pdf).
- [73] AHRQ, "What Is Patient Experience?," [Online]. Available: <https://www.ahrq.gov/cahps/about-cahps/patient-experience/index.html>.
- [74] R. Verma, "Overview: What are PROMs and PREMs?," [Online]. Available: [https://www.aci.health.nsw.gov.au/\\_\\_data/assets/pdf\\_file/0003/253164/Overview-What\\_are\\_PROMs\\_and\\_PREMs.pdf](https://www.aci.health.nsw.gov.au/__data/assets/pdf_file/0003/253164/Overview-What_are_PROMs_and_PREMs.pdf).
- [75] NCQA, "HEDIS Volume 1," 2018. [Online]. Available: <http://store.ncqa.org/index.php/catalog/product/view/id/2870/s/hedis-2018-volume-1-epub/>.
- [76] AHRQ, "CAHPS," [Online]. Available: <https://www.ahrq.gov/cahps/about-cahps/using-cahps-name/index.html>.
- [77] D. Quigley, "Use of CAHPS® patient experience survey data as part of a patient-centered medical home quality improvement initiative," 2015.
- [78] Centers for Medicare and Medicaid Services, "Measures Management System," [Online]. Available: <https://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/MMS/Downloads/Risk-Adjustment.pdf>.
- [79] P. O'Kane and M. S. Barr, "The Future of HEDIS," 12 July 2019. [Online]. Available: [https://www.ncqa.org/wp-content/uploads/2019/08/20190712\\_Future-of-HEDIS\\_Webinar\\_Transcript\\_with\\_slides.pdf](https://www.ncqa.org/wp-content/uploads/2019/08/20190712_Future-of-HEDIS_Webinar_Transcript_with_slides.pdf).
- [80] CMS, "Report to Congress: Alternative Payment Models and Medicare Advantage," [Online]. Available: <https://www.cms.gov/Medicare/Medicare-Advantage/Plan-Payment/Downloads/Report-to-Congress-APMs-and-Medicare-Advantage.pdf>.
- [81] Kaiser Family Foundation, "Medicare Delivery System Reform: The Evidence Link," [Online]. Available: <https://www.kff.org/faqs-medicare-accountable-care-organization-aco-models/>.
- [82] CMS, "Shared Savings Program Participation Options," [Online]. Available: <https://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/sharedsavingsprogram/Downloads/ssp-aco-participation-options.pdf>.
- [83] CMS, "Bundled Payments for Care Improvement (BPCI) Initiative: General Information," [Online]. Available: <https://innovation.cms.gov/initiatives/bundled-payments/>.
- [84] T. T. Chee, A. M. Ryan, J. H. Wasfy and W. B. Borden, "Current State of Value-Based Purchasing Programs," *American Hospital Association Journals*.
- [85] "Exploring Two-Sided Financial Risk in Alternative Payment Models," [Online]. Available: <https://revcycleintelligence.com/features/exploring-two-sided-financial-risk-in-alternative-payment-models>.
- [86] HCP LAN, "Measuring Progress: Adoption of Alternative Payment Models in Commercial, Medicaid, Medicare Advantage, and Fee-for-Service Medicare Programs," *Health Care Payment Learning & Action Network*, 2018.
- [87] K. A. Peck, B. Usadi, A. J. Mainor, E. S. Fisher and C. H. Colla, "ACO Contracts With Downside Financial Risk Growing, But Still In The Minority," *Health Affairs*, 2019.



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