

ROADMAP



Population Health Roadmap for Chronic Kidney Disease





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Introduction

Chronic kidney disease (CKD) is a progressive, often asymptomatic disease associated with increased morbidity, mortality and health care costs, as well as decreased quality of life.¹ CKD is the progressive loss of kidney function that begins with asymptomatic kidney damage and, in a small number of cases, can lead to kidney failure—also called end-stage renal disease (ESRD). Nearly 40 million adults in the United States have CKD, but most are unaware of their condition. CKD increases the risk of heart disease, heart failure, stroke and early death. In fact, among patients with advanced CKD (stages 4 and 5), 50% have cardiovascular disease (CVD) and CVD accounts for 40%–50% of deaths.² CKD is the ninth leading cause of death in the United States, and Medicare spends approximately \$153 billion annually—up to 20% of total spending—on patients with kidney disease.^{3,4}



Figure 1: Prevalence of CKD
Source: Centers for Disease Control and Prevention. (2022, February 28).⁵

Diabetes and hypertension are the leading causes of CKD. Other risk factors for CKD include obesity, family history of CKD, history of smoking, being older than 60 years of age and being a member of a minority race or ethnicity. Diabetes and hypertension are increasingly common conditions: About 9% of Americans have been diagnosed with diabetes and nearly half of American adults have hypertension.^{6,7}

Despite clinical guidance that people at risk should have their kidneys evaluated, less than 40% of people with diabetes and less than 10% of people with hypertension receive the recommended tests.⁸ Early identification of CKD in at-risk patients creates the opportunity to slow or prevent progression of disease. Care for CKD may include medications to control underlying diabetes, hypertension or cardiovascular disease; avoiding nephrotoxic medications; and nutritional guidance and lifestyle modification.

Although less than 2% of patients with CKD progress to kidney failure, this translated into over 134,000 new cases of kidney failure in 2019. While ESRD affects only 1% of Medicare beneficiaries, it accounts for about 7% of total Medicare spending.⁹

Treatment options for kidney failure include transplant, dialysis or conservative management—which all have tremendous impact on a patient’s life. Statistics about ESRD paint a grim picture: Only 33% of CKD patients previously received care from a nephrologist,¹⁰ and between 40% and 60% of patients start experience unplanned dialysis starts.¹¹ Patients who “crash into” dialysis do not have the opportunity to learn about their diagnosis and participate in shared decision making about treatment options before needing them.

ADVANCING AMERICAN Kidney Health

- Reduce ESRD cases by 25% by **2030**.
- Have 80% of new ESRD patients receive home dialysis or a transplant by **2025**.
- Double the number of kidneys available for transplant by **2030**.

1 United States Department of Health and Human Services (HHS). (n.d.). Advancing American Kidney Health. Retrieved August 17, 2022, from <https://aspe.hhs.gov/sites/default/files/private/pdf/262046/AdvancingAmericanKidneyHealth.pdf>

Early diagnosis and management of CKD can prevent or delay its progression and complications. Population health strategies can help improve care for patients with CKD at every stage of the disease.

POPULATION HEALTH AND CKD

Population health addresses the health status and outcomes for a group of people (rather than focusing on the health of the individual).¹² Population health management aims to improve the burden of disease for all patients. **Key components include:**

- Using data to identify patients at highest risk.
- Tailoring interventions to the risk of disease or complications.
- Providing services based on clinical guidelines.
- Educating and engaging patients to play an active role in their care.
- Coordinating care across teams and settings.
- Measuring outcomes.

NCQA defines population health management as “a model of care that strives to address individuals’ health needs at all points along the continuum of care, including the community setting, by increasing patient participation and engagement and targeting interventions.” Population health management includes stratifying the population according to needs, and creating tailored care strategies based on those needs to improve or maintain health outcomes and address health care disparities.



Figure 2: Population Health Management
Source: National Committee for Quality Assurance (NCQA). (2018).¹³

Population health management can improve care for patients with CKD. Early identification of CKD creates the opportunity to prevent or slow disease progression by controlling blood pressure and blood glucose, reducing the amount of protein in urine (albuminuria), eating a healthy diet and maintaining a healthy lifestyle.

As the front line of health care, primary care is especially important for conditions such as CKD, which may not cause symptoms until the late stages of disease. Primary care teams that apply population health strategies can improve identification of individuals with CKD, improve care for patients with CKD and slow progression of CKD. Read the cases below for examples of organizations that have used population health management to improve CKD-related care.

FROM THE LITERATURE:**Indian Health Service Cut Rate of Kidney Failure in Half¹⁴**

The Indian Health Service (IHS) halved the rate of kidney failure for Native Americans with diabetes by applying population health approaches. In 1996, among racial and ethnic groups in the US, American Indians and Alaska Natives adults had the highest rates of new cases of diabetes-related ESRD (57.3 per 100,000 population). By 2013, the incidence of diabetes-related ESRD for the group had decreased to 26.5 per 100,00 population (a 54% decrease), and follow-up analyses confirm a continued decline through 2015.¹⁵

IHS attributes the decrease in part to incorporating CKD screening and treatment into standards for managing diabetes.

Revised standards incorporated:

- + Routine laboratory reporting of glomerular filtration rate (GFR) in the electronic medical record (EMR).
- + Annual monitoring of urine albumin excretion.
- + Prescribing angiotensin converting enzyme (ACE) inhibitors and angiotensin II receptor blockers (ARB).

To improve diabetes care, IHS also developed clinical education programs and tools, culturally relevant patient-education materials and EMR-based population management tools. Through these efforts, IHS reduced the age-adjusted incidence of diabetes-related ESRD for patients by 54%. Notably, IHS achieved this outcome in a population with well-documented socioeconomic disparities, including poverty, limited health care resources and disproportionate burden of comorbidities.

FROM THE LITERATURE:**CareFirst CKD Intervention Decreased Hospitalizations and Reduced Costs¹⁶**

CareFirst BlueCross BlueShield, a non-profit health plan, tested a CKD quality improvement intervention in its Patient-Centered Medical Home (PCMH) model. The intervention included the following key elements:

- + Testing the population at risk for diabetes and/or hypertension.
- + Detecting and diagnosing CKD.
- + Implementing individualized care plans based on risk stratification by estimated GFR (eGFR) and urine albumin-to-creatinine ratio (uACR).

Participating primary care clinicians, registered nurse care coordinators and local care coordinators worked together to identify and manage members with CKD. Members were assigned to a CKD category (defined by Kidney Disease Outcomes Quality Initiative guidelines), which helped guide the appropriate course of treatment, including the need for a care plan, the frequency of kidney function monitoring and the timing of referral to nephrology or community-based resources. For example, patients with moderately to severely decreased kidney function and normal to mildly increased uACR were assigned to Class 3 category. Those patients, in addition to receiving interventions recommended for patients in Class 1 and Class 2, received semiannual kidney-function screening; initiation of a PCMH care plan, coordination between the patient's primary care clinician and nephrologist; and consideration for further specialist consultation. The intervention also educated clinicians on the importance of early CKD screening and management.

The intervention resulted in increases in uACR testing and reduction in hospital admissions and 30-day readmissions. After examining the preliminary results, CareFirst expanded the intervention to all PCMH members in Maryland, northern Virginia and the District of Columbia.



FROM THE LITERATURE:

UCLA Health Uses Population Health to Reduce Hospitalizations Among CKD Patients¹⁷

In response to internal analyses indicating high morbidity and costs for patients with CKD stages 4–5, along with national findings that many late-stage patients had never seen a nephrologist, UCLA Health developed a Population Health Value CKD Intervention and gathered a multispecialty leadership team that used available data to risk-stratify CKD patients and identify improvement opportunities.

The team recognized the difficulty for multiple care coordinators to understand CKD clinical workflows, especially when their panels only occasionally included late-stage CKD patients. It designed an intervention that consolidated CKD care coordination into one position, redesigning pathways to encompass both primary and specialty care for rapid coordination of patients who progressed to stages 4–5.

The intervention resulted in reduced hospitalization rates and emergency department visits, particularly for more complex patients. UCLA Health attributes its success to a systemwide strategy; a multi-source data infrastructure to identify patients; and a coordinated, team-based, multispecialty approach.

NCQA PROGRAMS THAT ADDRESS POPULATION HEALTH MANAGEMENT

NCQA promotes population health management through multiple initiatives, including Recognition and Accreditation.



Patient-Centered Medical Home Recognition

Patient-centered medical homes transform primary care practices into what patients want: health care that focuses on them and their needs. A growing body of evidence documents the many benefits of medical homes, including better quality care, patient experience, continuity, prevention and disease management. Studies show lower costs from reduced emergency department (ED) visits and hospital admissions, fewer disparities in care and lower rates of provider burnout. The ability of medical homes to improve the quality, cost and experience of primary care lays the foundation for the broad changes needed for our national health care system. Providers and facilities can build on this foundation to establish patient-centered care.

Patient-Centered Specialty Practice Recognition

Specialty practices play a key role in achieving health care's triple aim: better quality, better patient experience and reduced cost. NCQA's PCSP Recognition program is designed to improve quality while reducing the redundancies and negative patient experiences associated with poorly coordinated care. PCSP Recognition focuses on proactive coordination and sharing of information among specialists and primary care practices, and requires specialty practices to consider care across all care settings a patient visits—centering care on the patient, instead of on the practice setting. The patient and family or other caregivers are partners in managing conditions treated by specialists.

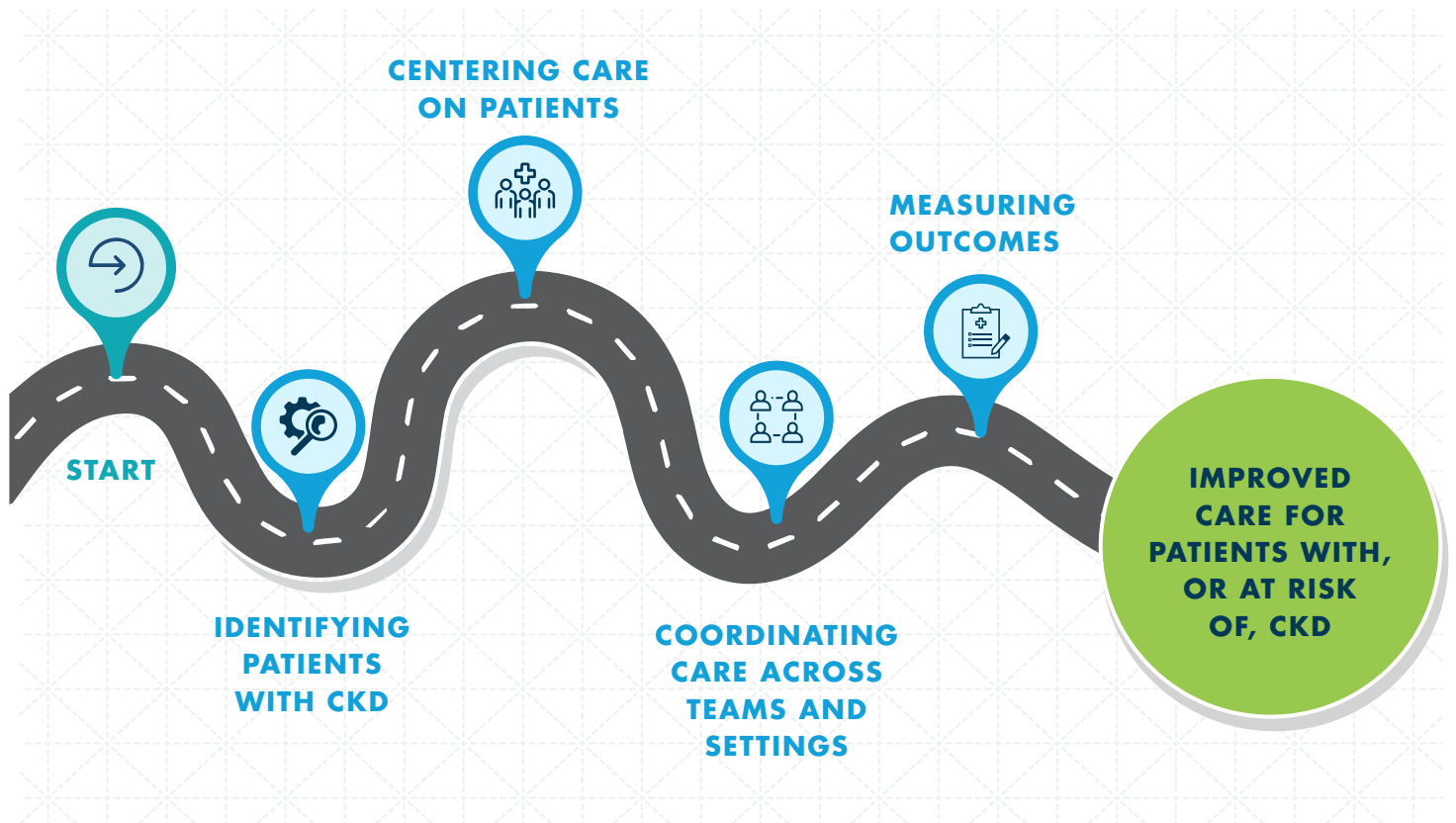


Population Health Program Accreditation

NCQA Population Health Program Accreditation aligns with Health Plan Accreditation and evaluates the operations of population- or disease-specific population health management programs. NCQA-Accredited organizations demonstrate they have the processes to provide person-centered services to a defined population. Population Health Program Accreditation helps organizations align their operations with the industry's best population health management practices. Having a solid population health strategy confirms an organization's ability to monitor its populations and address opportunities to improve care.

ORGANIZATION OF THE ROADMAP

This Roadmap is written for health plans and health systems that are interested in using population health management strategies to improve care for patients with CKD or at risk of CKD.



The Roadmap’s Landmarks represent key steps along the path to improved care for CKD patients. The Landmarks guide readers through the population health journey and highlight key strategies for improving the quality of care for CKD. Each describes the importance of population health management for CKD and includes a crosswalk analysis comparing requirements across NCQA’s PCMH/PCSP Recognition and Population Health Program Accreditation programs.

The Roadmap also highlights organizations’ experience using population health strategies to improve care for patients with CKD. Throughout the Roadmap, the In-the-Field examples spotlight NCQA-Accredited or Recognized organizations that responded to a request for submissions of best practices showcasing and inspiring quality improvement activities for patients with CKD. Their stories highlight the variety of approaches to improving care for these patients. The Roadmap ends with tips to get started managing populations with CKD which summarizes potential approaches for improving care for patients at risk of CKD.

Health plans and systems can use this Roadmap to educate themselves, understand how their processes align with NCQA program requirements and, ultimately, encourage development and use of population health management strategies to improve care of CKD.



Landmark 1: Identifying Patients With CKD

Because CKD is often asymptomatic, many patients are unaware they have the disease until it has progressed to later stages. In addition, limited awareness of CKD risk factors and clinical guidelines in primary care settings may result in missed or delayed diagnoses. Beyond progression to ESRD, unmanaged CKD can lead to other adverse health effects, such as cardiovascular disease, hypertension, anemia and hypoglycemia, and to increased costs for both patients and payers.

Some patients remain unaware they have CKD until their kidneys fail and they need dialysis or a kidney transplant. As a result, many patients “crash into” dialysis, unexpectedly starting dialysis during an inpatient hospital stay, with limited ability to receive education about treatment options or full consideration of their preferences or goals in selecting dialysis mode, access type and setting. These patients typically have lower quality of life, increased morbidity and decreased survival compared with patients who have planned dialysis starts.¹⁸

Improving identification of CKD creates the opportunity to do something about it. Despite clinical guidance that patients at risk should receive both a blood and urine test to monitor kidney health, evidence shows that most patients with diabetes—the leading cause of CKD—do not receive the recommended tests.¹⁹ Understanding who has CKD allows organizations to engage with patients to provide education and develop treatment plans that can slow or prevent disease progression, which in turn may reduce the number of patients who develop complications or progress to later-stage CKD.

Clinical practice guidelines by the American Diabetes Association (ADA) and the Kidney Disease: Improving Global Outcomes (KDIGO)²⁰ include guidance on identifying CKD using eGFR and uACR tests (also known as the Kidney Profile).²¹ Its “Heat Map” is a tool for staging, risk stratifying and monitoring kidney disease based on these test results.^{22,23}

Risk of progression by intensity of coloring + Frequency of screening or monitoring (number of times per year) + Treatment and referral decision making by GFR and albuminuria category				Albuminuria categories		
				Description and range		
				A1	A2	A3
				Normal to mildly increased	Moderately increased	Severely increased
				<30 mg/g <3 mg/mmol	30-299 mg/g 3-29 mg/mmol	≥300 mg/g ≥30 mg/mmol
GFR categories (mL/min/1.73m ²) Description and range	G1	Normal or high	≥90	Screen 1	Treat 1	Treat and refer 3
	G2	Mildly decreased	60-89	Screen 1	Treat 1	Treat and refer 3
	G3a	Mildly to moderately decreased	45-59	Treat 1	Treat 2	Treat and refer 3
	G3b	Mildly to severely decreased	30-44	Treat 2	Treat and refer 3	Treat and refer 3
	G4	Severely decreased	15-29	Treat and refer* 3	Treat and refer* 3	Treat and refer 4+
	G5	Kidney failure	<15	Treat and refer 4+	Treat and refer 4+	Treat and refer 4+

■ Low risk (if no other markers of kidney disease, no CKD)
 ■ High Risk
 ■ Moderately increased risk
 ■ Very high risk

CROSSWALK OF NCQA PROGRAM REQUIREMENTS

NCQA’s PCMH/PCSP Recognition and Population Health Program Accreditation programs acknowledge the importance of knowing a patient in order to provide high-quality health care. They require that organizations capture and analyze information about the patients and communities they serve, and that they use this information to deliver evidence-based care that supports population needs.

The crosswalk below compares requirements across NCQA programs in the following areas:

- Full health assessment for identification.
- Use of evidence-based guidelines to develop services.
- Pre-visit planning.

NCQA PCMH RECOGNITION ALIGNED CRITERIA	NCQA PCSP RECOGNITION ALIGNED CRITERIA	NCQA POPULATION HEALTH PROGRAM ACCREDITATION FACTORS
FULL HEALTH ASSESSMENT FOR IDENTIFICATION		
<p>KM 01: Problem Lists</p> <p>KM 02: Comprehensive Health Assessment</p> <p>KM 03: Depression Screening</p> <p>KM 04: Behavioral Health Screening</p>	<p>KM 02: Medical History and Problem List Documentation</p> <p>KM 04: Specialist Comprehensive Health Assessment</p> <p>KM 05: Behavioral Health Screening</p>	<p>1A2: The organization's program description includes criteria for identifying individuals who are eligible for the program</p> <p>2A1: The organization integrates the data to use for population health functions: medical and behavioral claims or encounter data</p>
USE OF EVIDENCE-BASED GUIDELINES TO DEVELOP SERVICES		
<p>TC 09: Medical Home Information</p> <p>KM 20: Clinical Decision Support</p>	<p>TC 08: Specialty Practice Information</p> <p>KM 17: Clinical Decision Support</p> <p>KM 19: Pathways For Symptom Management</p>	<p>1A1: The organization's program description includes evidence used to develop the program.</p> <p>1A3: The organization's program description includes services offered to individuals.</p> <p>1A4: The organization's program description includes defined program goals.</p> <p>1C1: For its programs, the organization reviewed program content against evidence used to develop the program.</p> <p>1C2: For its programs, the organization assesses whether program materials are consistent with current evidence, and if they are not, that it took action to make them consistent.</p> <p>1C3: For its programs, the organization assesses whether staff training materials are consistent with current evidence, and if they are not, that it took action to make them consistent.</p> <p>1B1: Every 2 years, the organization performs a systematic review of evidence used to develop the program.</p> <p>1B2: Every 2 years, the organization performs a systematic review of new evidence (including clinical or technical literature or government research sources) by at least two appropriate practitioners.</p>
PRE-VISIT PLANNING		
<p>TC 06: Individual Patient Care Meetings/Communication</p>	<p>TC 06: Individual Patient Care Meetings/Communication</p>	

IN-THE-FIELD EXAMPLE:**SOMATUS, INC***NCQA-Accredited Population Health Program***USING RISK STRATIFICATION TO
TAILOR CARE TO PATIENT NEEDS**

Somatus' Care Management model takes a population health approach to determine patients' risk of CKD progression and poor outcomes, and to deliver personalized care coordination and individualized care plans that align with a patient's needs, values and lifestyle. The model uses a collaborative, multidisciplinary approach to engage both patients and payers with the entire care team.

Somatus uses several data sets (e.g., pharmacy/medical claims, labs, authorization/attribution/eligibility, hospital census/authorization, social determinants of health) to stratify patients into risk levels (highest, high, medium, low). Risk stratification levels are based on the output of two models: one that predicts the likelihood of an unplanned patient admission, one that predicts the likelihood of mortality. These models are built on data related to patients' health care utilization, medical history, demographic information and chronic conditions. After the risk level is defined, the technology platform alerts the care team to the most vulnerable patients and encourages use of evidence-based clinical programs tailored to the patient's unique needs. Clinicians can adjust the risk level in response to new information from patient assessments.

Somatus regularly conducts qualitative and quantitative analyses and surveys to evaluate the efficacy of the program, ensure ongoing transparency and sustainability and develop goals for upcoming years. Somatus has also used feedback collected during past evaluation cycles to build additional tools and programs, including a 24/7 nurse line, a value-based care network initiative with community providers, a highest intensity model, a patient activation measure and coaching for activation. Somatus reports that the model has resulted in increased planned dialysis starts, reduced infections and complications, increased utilization of home dialysis and increased pre-emptive kidney transplants.

"...APPROPRIATELY STRATIFYING PATIENTS BY RISK LEVEL ALLOWS US TO INTERVENE AND ALLOCATE APPROPRIATE RESOURCES TO THE HIGHEST-RISK PATIENTS."

ABOUT THE ORGANIZATION

Somatus is a healthcare technology and service company that delivers comprehensive and value-based kidney care to patients throughout the United States. Somatus aims to tailor evidence-based clinical care according to individual patient needs and CKD stage.

IN-THE-FIELD EXAMPLE:**FRESENIUS HEALTH PARTNERS—
INTERWELL HEALTH***NCQA-Accredited Population Health Program***COORDINATING CARE WITH NEPHROLOGY PARTNERS**

Fresenius Health Partner's KidneyCare:365 CKD Health Program focuses on improving outcomes and the patient experience across the continuum of renal care from CKD through ESRD. Fresenius fosters provider partnerships and industry relationships to support patients with kidney disease. One such partnership is with InterWell Health, a leading provider-led nephrology network focused on performance-based care delivery. Through the KidneyCare:365 program, Fresenius and InterWell Health work together to deliver patient education, support and interventions to slow the progression of CKD, and, if necessary, work with nephrologists to facilitate optimal starts for patients transitioning to ESRD.

Patients referred to the KidneyCare:365 program are paired with a registered nurse who completes an initial assessment that includes a behavioral health screening and the PHQ-9 Questionnaire. The nurse provides verbal and written education on topics such as the importance of working with a nephrologist, the need to decrease sodium and increase phosphorous intake and the need to avoid NSAIDs. After initial assessment and education, patients have the opportunity to choose a nephrologist (if they do not already have one). If necessary, patients are also referred to a social worker who completes additional assessments and provides ongoing psychosocial support and monitoring.

Patients who progress to ESRD are referred to additional educational classes on options for dialysis mode and setting. InterWell Health nephrologists focus on cultivating a strong patient-provider relationship to facilitate a smooth transition to dialysis, underscoring the importance of self-management to help patients improve their sense of self-efficacy and achieve their best possible quality of life.

The KidneyCare:365 program measures its success by tracking performance on patient satisfaction, administrative metrics (e.g., collaboration with social worker, appointment attendance) and clinical-related measures (e.g., dialysis access type, mode and setting, avoiding adverse events and complications, decreasing sodium intake). Fresenius reports that a large majority of participating patients report satisfaction with both the program and its staff, and that the program helped them achieve their health goals and adhere to their treatment plan.

"...THE PROGRAM IS COMMITTED TO INNOVATIVE CARE FOR RENAL PATIENTS AND ACHIEVING IMPROVED CLINICAL OUTCOMES AND PATIENT QUALITY OF LIFE."

ABOUT THE ORGANIZATION

Fresenius Health Partners works in partnership with InterWell Health—the nation's largest network of independent nephrologists—to offer value-based care programs to improve kidney care and reduce the overall cost of care. Fresenius Health Partners uses data analytics, technology platforms and artificial intelligence to support patients across the full spectrum of kidney care from CKD through dialysis and transplant.



Landmark 2: Centering Care on Patients

In patient-centered care, health plans and systems work to identify needs at the patient and population level to effectively plan, manage and coordinate the patient experience. Health care organizations understand a patient's level of risk, and target interventions specific to that level. Patient-centered care lets the patient collaborate with the care team to broadly address the effects of their condition. Rather than passively waiting for a doctor's instructions, patients are actively involved in decisions about their treatment as members of the care team. Patients are also encouraged to include family and friends (if their inclusion helps the patient).

Patient-centered care is important for a CKD diagnosis, especially at later stages, when it can be life changing for patients. The emotional response to receiving a diagnosis of a potentially life-threatening disease can impede a patient's ability to absorb information about their condition. Patients need time and targeted educational interventions to understand the causes, stages and consequences of CKD and how to manage them. For individuals facing kidney failure, shared decision-making processes and patient decision aids can be invaluable to aligning treatment with patient preferences.



Figure 3: Patient-Centered Care
Source: New England Journal of Medicine (NEJM) Catalyst. (2017, January 1).²⁴



CROSSWALK OF NCQA PROGRAM REQUIREMENTS

NCQA's PCMH/PCSP Recognition and Population Health Program Accreditation programs highlight patient-centered care management and support as a key population health principle to improve health care quality. They require that organizations identify patient needs at the individual and population level to effectively plan, manage and coordinate care. Organizations should also focus on patients at highest risk and provide appropriate targeted interventions.

The crosswalk below compares requirements across NCQA programs in the following areas:

- Medication management and planning.
- Assessing social determinants of health.
- Connections to community-based services.
- Shared decision making.
- Patient outreach.
- Patient-centered support.

NCQA PCMH RECOGNITION ALIGNED CRITERIA	NCQA PCSP RECOGNITION ALIGNED CRITERIA	NCQA POPULATION HEALTH PROGRAM ACCREDITATION FACTORS
MEDICATION MANAGEMENT AND PLANNING		
<ul style="list-style-type: none"> KM 14: Medication Reconciliation KM 15: Medication Lists KM 16: New Prescription Education KM 17: Medication Responses and Barriers 	<ul style="list-style-type: none"> KM 09: Document and Reconcile Medications KM 10: New Prescription Education KM 12: Medication Responses and Barriers KM 11: Managing Medication With The Care Team PM 13: Plan For Managing Complex Medications 	<p>2A3: The organization integrates the following data to use for the population health functions: pharmacy data</p>
ASSESSING SOCIAL DETERMINANTS OF HEALTH		
<ul style="list-style-type: none"> KM 02: Comprehensive Health Assessment KM 07: Social Determinants of Health CM 01: Identifying Patients for Care Management 	<ul style="list-style-type: none"> KM 04: Specialist Comprehensive Health Assessment 	<p>3A1: The organization annually assesses the characteristics and needs of the population, including social determinants of health</p>
CONNECTIONS TO COMMUNITY-BASED SERVICES		
<ul style="list-style-type: none"> KM 21: Community Resource Needs KM 26: Community Resource List 	<ul style="list-style-type: none"> PM 16: Connects to Services in the Community 	<p>3B3: The organization annually uses the population assessment to integrate community resources into program offerings to address individual's needs</p>
SHARED DECISION MAKING		
<ul style="list-style-type: none"> KM 24: Shared Decision-Making Aids 	<ul style="list-style-type: none"> KM 21: Shared Decision-Making Aids PM 07: Shared Decision-Making Process 	
PATIENT OUTREACH		
<ul style="list-style-type: none"> KM 12: Proactive Outreach 	<ul style="list-style-type: none"> KM 15: Proactive Reminders 	
PATIENT-CENTERED SUPPORT		
<ul style="list-style-type: none"> CM 07: Patient Barriers to Goals CM 06: Patient Preferences and Goals CM 08: Self-Management Plans KM 22: Access to Educational Resources CC 04: Referral Management CC 05: Appropriate Referrals CC 11: Referral Monitoring 	<ul style="list-style-type: none"> PM 05: Discusses Barriers to Treatment with the Primary Care Clinician PM 11: Specialist's Care Plan KM 19: Pathways for Symptom Management PM 09: Self-Management Support CC 03: Secondary Referral Management 	<p>5A2: The organization demonstrates that interventions include person-centered goals</p> <p>5A1: The organization demonstrates that interventions are delivered to individuals based on their intervention plan</p>

IN-THE-FIELD EXAMPLE:**RENALOGIC***NCQA-Accredited Population Health Program***SETTING MEMBER-CENTERED GOALS AND DELIVERING TARGETED INTERVENTIONS TO AT-RISK POPULATIONS**

Renalogic's program provides specialized interventions based on evidence-based practices for members with or at risk of CKD. The program uses an algorithm to risk-stratify patients, and employs clinical decision support to guide care. Patients and their families are paired with a dedicated nurse who provides education about CKD, advocates for patients as they navigate the health care system and helps them develop self-management goals. Member-centered goals are shared across the program's documentation system, to be assessed and acted on by the multidisciplinary care team. Renalogic also works in partnership with the patient's existing care teams of nephrologists, primary care clinicians, cardiologists, transplant teams and other care management entities to improve coordination across the continuum of care.

Renalogic uses a Clinical Governance Committee to identify potential improvements. Its Member Services department works with clients to implement targeted interventions, ensuring access to resources and providing education to members. When a population health assessment in Alaska identified access to nephrologists as an issue, Member Services worked to implement telehealth options as part of the solution. When an assessment in Kansas identified the cost of medications as a barrier for Spanish-speaking patients, Member Services worked to improve access to low cost or free medications. Renalogic aims to ensure that all patients with late stage CKD are educated on Medicare coverage, dialysis options in addition to in-center hemodialysis and steps for a planned start to dialysis.

Renalogic evaluates program success by conducting member satisfaction surveys, tracking health intervention measures such as medication adherence and lifestyle changes and addressing barriers to care. In 2021, Renalogic reported a reduction in per member per year utilization costs and high levels of patient satisfaction.

"...EARLY IDENTIFICATION, COMBINED WITH SPECIALIZED INTERVENTION AND MANAGEMENT, CAN SIGNIFICANTLY DELAY PROGRESSION OF CKD WHILE ALSO REDUCING SUBSEQUENT COSTS."

ABOUT THE ORGANIZATION

Renalogic is a data-driven organization that aims to manage risk associated with CKD and ESRD. Renalogic delivers CKD care management through renal risk analytics, cost containment services, risk stratification and member education services.

IN-THE-FIELD EXAMPLE:**HEALTHMAP SOLUTIONS***NCQA-Accredited Population Health Program***STRATIFYING BY RISK AND ADDRESSING SOCIAL DETERMINANTS OF HEALTH**

Healthmap Solutions' Kidney Health Management program employs both a patient and clinician-focused approach to improve outcomes for patients with CKD. The program uses an algorithm to risk-stratify patients based on the likelihood that they will experience a preventable adverse event such as an ED admission or readmission within the next 12 months. The program uses predictive analytics, data capture (e.g., claims, laboratory, pharmacy) and additional algorithms based on patient characteristics (e.g., comorbidities, age, sex) to identify and address gaps in care. Healthmap reevaluates the algorithm annually to ensure that the inputs correctly assess patient risk.

Information from the algorithm is displayed in a clinician-facing dashboard that flags patients at risk for an adverse event, to help inform the direction of care. Healthmap's care team also works with patients to tailor interventions and engage them in self-management and collaboration with their care team.

The program also aims to identify and address health disparities to achieve improved clinical outcomes and patient satisfaction. Healthmap assesses a patient's personal social determinants of health (e.g., ease of transportation, stress from caregiving) and larger, population-based disparities in transplant rates, prescribing recommended medications, use of home dialysis and route of dialysis access. If necessary, the team delivers both patient- and provider-facing support and education to address the patient's specific needs.

Healthmap reports that the Kidney Health Management program has increased education about transplants and home dialysis, and reduced unplanned dialysis starts, ED visits, hospital admissions and per member per month costs. Healthmap collects ongoing feedback from participating patients, clinicians and staff members via surveys to identify and implement program improvements.

"...A COMPREHENSIVE AND COLLABORATIVE APPROACH—WORKING WITH BOTH PATIENTS AND PROVIDERS—IS A COMPLETE AND EFFECTIVE WAY TO CLOSE CARE GAPS AND OVERCOME SOCIAL AND BEHAVIORAL BARRIERS TO CARE."

ABOUT THE ORGANIZATION

Healthmap Solutions is a kidney population health management company that serves provider groups and health plans. Healthmap Solutions uses data and analytics to deliver value-based solutions to improve clinical care and financial performance.



Landmark 3: Coordinating Care Across Teams and Settings

According to the Agency for Healthcare Research and Quality, care coordination includes organizing care and sharing information among all participants in a patient’s care to achieve safer, more effective care.²⁵ To provide high-quality care, a patient’s needs and preferences must be known and communicated to the right people, in the right way and at the right time. Care coordination is especially important for individuals with multiple conditions or who see multiple providers.

Risk stratification is a key component of care management and is essential to caring for patients with CKD. The In-the-Field examples in this guide include strategies for determining which patients are at the highest risk and tailoring interventions based on risk level. Because interventions can involve multiple care team members, the care plan is central to collaboration and ensuring that the patient’s needs are addressed.



CKD is considered a “disease multiplier” because it often occurs with other chronic conditions such as diabetes, hypertension and cardiovascular disease. Due to its complexity and links to other conditions, close coordination and sharing of care responsibilities across specialties (e.g., primary care, nephrology, cardiologists, specialists, dieticians) is vital when treating a patient with CKD. Medication safety is also paramount in these patients because almost half of all medications are eliminated from the body through the kidneys.²⁶

To avoid the risk of further injury to the kidneys, providers must be aware of a patient’s CKD status.

Patients with CKD are also more likely to be hospitalized—and are more likely to be readmitted after hospitalizations than patients without CKD.²⁷ These facts underscore the importance of managing transitions across care settings.

CROSSWALK OF NCQA PROGRAM REQUIREMENTS

NCQA’s PCMH/PCSP Recognition and Population Health Program Accreditation programs emphasize coordinated care as a core population health principle to improve health care quality. They require that organizations systematically track tests, referrals and care transitions to achieve high-quality care coordination and lower costs, and improve patient safety. Organizations should also ensure effective communication with specialists and other providers on the multidisciplinary care team.

The crosswalk below compares requirements across NCQA programs in the following areas:

- Care management.
- Care coordination and transitions.

NCQA PCMH RECOGNITION ALIGNED CRITERIA	NCQA PCSP RECOGNITION ALIGNED CRITERIA	NCQA POPULATION HEALTH PROGRAM ACCREDITATION FACTORS
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CARE MANAGEMENT

CM 01: Identifying Patients for Care Management	PM 01: Risk Status Identification
CM 03: Comprehensive Risk Stratification	PM 02: Comprehensive Risk Stratification
CM 04: Person-Centered Care Plans	PM 11: Specialist's Care Plan
CM 05: Written Care Plans	PM 03: Written Treatment Plan
	PM 12: Written Care Plan

CARE COORDINATION AND TRANSITIONS

CC 01: Lab and Imaging Test Management	CC 05: Diagnostic and Lab Test Management	2A4: The organization integrates the following data to use for population health functions: laboratory results
CC 03: Appropriate Use for Labs and Imaging	CC 06: Lab and Imaging Appropriateness	
CC 04: Referral Management	KM 01: Patient-Specialist Relationship	
CC 05: Appropriate Referrals	CC 03: Secondary Referral Management	
CC 08: Specialist Referral Expectations	RM 01: Setting Expectations With Referring Clinicians	
CC 09: Behavioral Health Referral Expectations	CC 01: Information When Referring	
CC 11: Referral Monitoring		
CC 12: Co-Management Arrangements		
CC 14: Identifying Unplanned Hospital and ED Visits	CC 07: Identifying Unplanned Hospital and ED Visits	
CC 15: Sharing Clinical Information	CC 08: Sharing Clinical Information	
CC 16: Post-Hospital/ED Visit Follow-Up	CC 09: Post-Hospital/ED Visit Follow-Up	
CC 17: Acute Care After-Hours Coordination	CC 10: After-Hours Acute Care Coordination	
CC 18: Information Exchange During Hospitalization	CC 11: Information Exchange During Hospitalization	
CC 19: Patient Discharge Summaries	CC 12: Patient Discharge Summaries	
	PM 06: Communication Plan for Co-Managed Plans	

IN-THE-FIELD EXAMPLE:**ACCORDANT HEALTH SERVICES***NCCA-Accredited Population Health Program***PREDICTING TIME TO RENAL REPLACEMENT**

Accordant Health Services' CKD-focused program aims to slow or delay the progression of CKD, support treatment of comorbidities, educate members on renal replacement therapy options and support caregivers.

Accordant uses a patient identification algorithm based on claims and diagnosis codes to recognize members with CKD stages 4 and 5. After patients are identified, specialized nurses conduct a risk-assessment phone call to determine the patient's baseline level of activation and understanding of key topics. Nurses perform a second call about 2 weeks later to provide education and resources that supplement knowledge and to offer additional instruction. To reduce burden on the patient's primary care clinician, the nurse also conducts outreach to the patient's nephrologist, to introduce the program and offer resources that support the care plan.

The specialized nurse team provides ongoing care management based on a kidney care risk score based on predictive modeling, via laboratory results and patient characteristics (e.g., age, sex, comorbidities). The score indicates a window (within 36 months) in which a member is likely to need renal replacement therapy. This gives nurses the opportunity to prioritize care and provide targeted interventions to slow the progression of CKD and delay or prevent the need for renal replacement therapy. It also allows them to focus on patients with the highest risk of unplanned dialysis and educate them about treatment options.

Accordant reports that members who participate in the program have shown improvement in recognizing CKD signs and symptoms, understanding the cause of their CKD, engaging with a nephrologist and renal dietitian, getting early education on renal replacement therapy options and developing an action plan.

"...KNOWING A PATIENT'S CKD STATUS AND RISK HELPS DETERMINE THE APPROPRIATE TIME FOR EDUCATION ABOUT RENAL REPLACEMENT THERAPY OR CONSERVATIVE CARE."

ABOUT THE ORGANIZATION

Accordant Health Services is a subsidiary of CVS Caremark that supports individuals with complex health conditions. AccordantCare offers 1:1 support from specialized services, proactive disease monitoring and population-based care management.

IN-THE-FIELD EXAMPLE:**DAVITA INTEGRATED KIDNEY CARE***NCCQA-Accredited Population Health Program***DEMONSTRATING THE IMPACT OF CKD EDUCATION**

DaVita Integrated Kidney Care delivers early CKD patient education via its Kidney Smart program, which aims to increase CKD knowledge early in the course of the disease to facilitate comprehensive care and complex chronic condition management.

Patients with CKD stages 3–5 are encouraged by their integrated care teams to attend a Kidney Smart education class to learn about their condition and steps they can take to slow CKD progression and delay or prevent the need for renal replacement therapy. Classes are offered in 10 languages, to help foster attendance and understanding among non-English speaking populations. The program is available at no cost to the patient and can be attended either in person or virtually. Care partners are also encouraged to attend the classes, to help support patients in managing CKD.

After patients attend a Kidney Smart class, DaVita’s care team reaches out to ask them about their experience, answer questions, identify potential knowledge gaps and align patients with providers and additional support. Patients are also encouraged to attend additional classes on health insurance coverage, working with late-stage CKD and at-home dialysis. For patients whose CKD progresses, DaVita helps them find a nephrologist and prepare for a smooth transition to dialysis or transplant.

DaVita reports that patients who attended a Kidney Smart class were more likely to be on home dialysis (38.5% vs. 12.6%) and to use a permanent vascular access (57.9% vs. 33.8%) at dialysis initiation. They also were less likely to be hospitalized (1.00 vs. 1.38 admissions per patient year) and had lower mortality during their first year on dialysis. DaVita captures feedback from both participating patients and clinicians, to assess their satisfaction with the program and to implement annual adjustments to the program’s curriculum.³³

“...REFERRING CKD PATIENTS TO LEARN MORE ABOUT THEIR DISEASE AT THE RIGHT TIME HELPS CLOSE THE GAP IN KIDNEY DISEASE EDUCATION, EMPOWERS THEM TO MAKE INFORMED DECISIONS AND PROVIDES THEM WITH PERSONALIZED SUPPORT.”

ABOUT THE ORGANIZATION

DaVita Integrated Kidney Care provides complex condition management to patients with early-stage CKD, those on dialysis and those seeking a kidney transplant. It aims to provide coordinated care to delay the progression of CKD, ease the transition to renal replacement therapy and optimize ESRD treatment.

Landmark 4: Measuring Outcomes

Measuring outcomes of population health programs is integral to engaging care team members, staff and organizational leadership, to ultimately improve the care delivered to patients. Examining results of organizational initiatives allows teams to determine which strategies have been most successful and may have broad application, and which strategies have not succeeded.



Figure 4: Plan-Do-Study-Act (PDSA) Cycle
Source: Institute for Healthcare Improvement (IHI).²⁷

It is especially important to measure outcomes for patients with CKD, which can be asymptomatic at early stages, because kidney damage is permanent and because the disease can have a significant impact on patients' lives through kidney failure, cardiovascular disease or death. Measuring outcomes allows teams to broaden their understanding of CKD, engage in improvement activities and improve patient care.

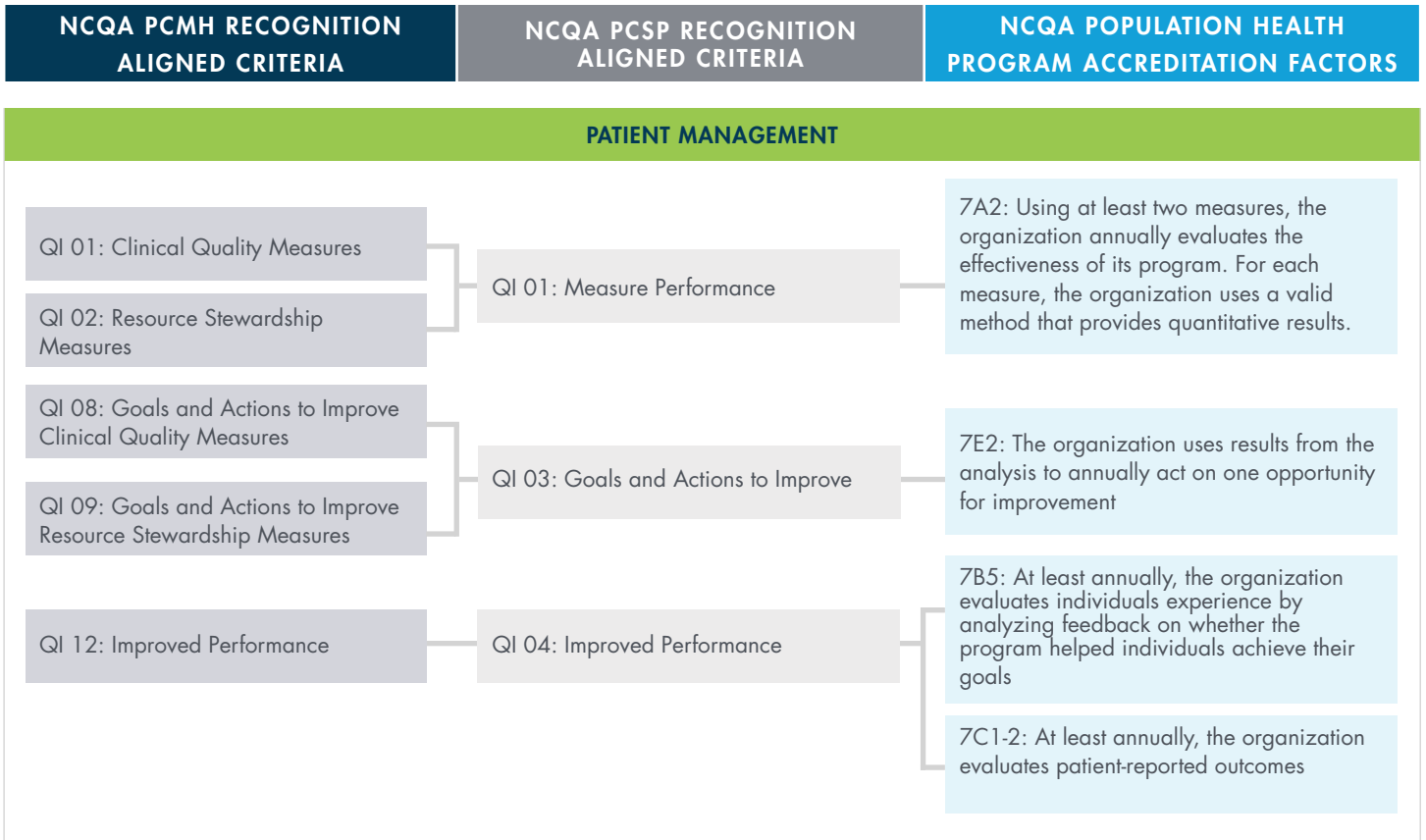
NCQA's HEDIS measure set includes two measures related to CKD:²⁹ The first, [Kidney Health Evaluation for Patients With Diabetes](#), aligns with clinical guidelines for CKD testing among adults with diabetes.³⁰ The American Diabetes Association and the National Kidney Foundation recommend annual screening for patients with diabetes, using eGFR and uACR. (Patients with diabetes can have changes in either or both, so it is important to track both.^{31,32}) Together, the two tests provide key information about kidney health, including determining CKD stage and risk of progression.

The second HEDIS measure, [Potentially Harmful Drug-Disease Interactions in Older Adults](#), assesses whether patients with CKD are prescribed Cox-2 selective non-steroidal anti-inflammatory drugs (NSAID) or non-aspirin NSAIDs, which are not recommended. NCQA continues to explore new measure concepts to assess kidney health evaluation and management.

CROSSWALK OF NCQA PROGRAM REQUIREMENTS

NCQA's PCMH/PCSP Recognition and Population Health Program Accreditation programs underscore patient-centered quality outcomes as a key population health principle to improve health care quality. They require that organizations establish a culture of data-driven performance on clinical quality, efficiency and patient experience. Organizations should also engage staff, patients, families and caregivers in quality improvement activities.

The crosswalk below compares patient-centered quality outcomes criteria across NCQA programs.



IN-THE-FIELD EXAMPLE:**SAINT LUKE'S UNIVERSITY
HEALTH NETWORK***NCQA-Recognized Patient-Centered Specialty Practice***REDUCING ACUTE KIDNEY INJURY AND
INCREASING ADVANCE CARE PLANNING**

Saint Luke's University Health Network identified acute kidney injury as an increasingly common driver of new or exacerbated cases of CKD and other complications. It developed a nurse-driven program to decrease rates of post-operative acute kidney injury and hypotension, which affects approximately 9% of patients in the elective post-operative total hip and knee replacement population. Analysis found that these patients were often prescribed nephrotoxic medications, had excessively low systolic blood pressure and were under-resuscitated with fluids post-operatively.

Saint Luke's multidisciplinary team designed interventions that included defining high-risk criteria; arranging pre-operative nephrologist visits for high-risk patients and follow-up care with the primary care clinician and a nephrologist; use of best practices when nephrotoxic medications were ordered for high-risk patients; and adjusting protocols to encourage early treatment of hypotension. Saint Luke's reports that these interventions resulted in a 35% reduction in acute kidney injuries and a 72% reduction in hypotension in a 1-year period, and that they continue to see decreases in complication rates over time. The team has now implemented interventions in other post-surgical populations across 11 networks, including non-elective hip and knee procedures, vascular surgery, urology procedures and general surgeries.

In another project, Saint Luke's nephrology team identified a need to expand advance care-planning services for renal patients. The team set a target to increase nephrology advance care meetings, facilitate increased dialysis access placement and reduce ED utilization and readmissions. Saint Luke's worked with the palliative care team to educate nephrology clinicians about the importance of advance care planning and how to identify patients who are candidates for that service. The team created an order in the electronic health record for advance care planning visits, distinct from standard follow-up visits, that allowed them to track metrics and ensure proper documentation. During visits, clinicians offered education, developed treatment plans informed by the patient's wishes and long-term goals and referred patients to additional services for access placement, palliative care, nutrition and hospice. Saint Luke's reports that so far, the initiative has resulted in 275 referrals and 101 completed advance care planning visits.

"...THE TEAM TOOK A NOVEL APPROACH TO TACKLE COMMON ISSUES THAT WERE NOT BEING ADEQUATELY ADDRESSED IN THE CKD AND ESRD POPULATION."

ABOUT THE ORGANIZATION

Saint Luke's University Health Network is a non-profit health care network that includes hospitals and outpatient services. It is headquartered in Bethlehem, Pennsylvania, and serves the Lehigh Valley region of eastern Pennsylvania.

Tips to Get Started Managing Populations with CKD



IDENTIFY PATIENTS WITH CKD

- Use health information systems and EMRs to identify at-risk patients for CKD detection (e.g., diabetes, hypertension, family history of kidney failure, race/ ethnicity, obesity, history of smoking).
- Integrate CKD detection into care management programs for diabetes and heart disease.
- Use the Kidney Profile (urine test [uACR] and blood test [eGFR]) to detect CKD.
- If tests indicate CKD, determine the CKD stage and inform the patient.



CENTER CARE ON PATIENTS

- Assess patient needs related to social determinants of health and connect patients to services and supports in the community.
- Periodically review current prescriptions and educate patients on the purpose of medications and special considerations.
- Use shared decision-making tools to incorporate patient and caregiver values and goals.
- Support and encourage patient self-management.



COORDINATE CARE ACROSS CARE TEAMS AND SETTINGS

- Tailor treatment to CKD stage and risk of progression to ESRD.
- Assess patients for additional care needs and refer them to appropriate specialists and support services (e.g., dietitians, diabetes educators, social workers, cardiologists).
- Determine roles and expectations for primary care clinicians, specialists and supporting professionals.
- Share clinical information and person-centered care plans across clinicians and care settings.
- Proactively manage and monitor laboratory and imaging tests.



MEASURE OUTCOMES

- Complete population health assessments to identify disparities, gaps and needs.
- Determine the desired outcome and develop specific, measurable, achievable, relevant and time-bound goals.
- Establish systems to measure, track and improve CKD screening rates.
- Examine performance over time to evaluate improvement and act on findings.
- Collect patient and clinician input and adjust programs and procedures based on feedback.



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