NATIONAL KIDNEY FOUNDATION® of Michigan

Building Bridges: Lessons Learned from Chronic Kidney Disease Learning Collaboratives

Key Facts

Around 1 in 7 Michigan adults have chronic kidney disease.[1]

CKD prevalence was highest in Black individuals (18.8%) and lowest in Hispanic individuals (12.0%).[2]

Without increased investment in prevention, the total number of patients with kidney failure (ESKD) will likely exceed 1 million by 2030.[3]

12 people die every day while on a waiting list for a kidney transplant.[4]

CKD testing rates for people with HTN is low (10.5%), while patients with both HTN & DM had the highest (41.4%).[5]

Overview: Chronic kidney disease (CKD) is common, serious, costly, and often preventable. Awareness is low, and the importance of its consequences and significance in an array of major chronic conditions is often neglected in clinical practice and by policy makers. Early screening and diagnosis matter because they allow CKD to be identified and managed early with medications and lifestyle changes, allowing for improved health outcomes. Individualized care that tailors CKD interventions proportional to the adverse outcome risk or the estimated glomerular filtration rate (eGFR) and urine albumin-creatinine-ratio (uACR), as shown in the Kidney Disease Improving Global Outcomes (KDIGO) Heat Map, is a major challenge for primary CKD care because the condition is heterogeneous in terms of both the cause and the severity.[6]

More than half the people on dialysis don't see a nephrologist before they begin their treatment. Only 10% of people with a CKD diagnosis are getting the proper treatment to slow their progression and reduce cardiovascular risk. Thus, these factors prompt the development of a quality improvement initiative aimed at enhancing the early detection and management of CKD in primary care settings, with a focus on reaching high-risk and Medicaid-eligible populations in Michigan, as well as patients with diabetes (DM), hypertension (HTN), and those over 60 years of age.

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Purpose of this Document: To summarize the successes, barriers, and lessons learned from NKFM's CKD learning collaboratives.

What is a Learning Collaborative?

A learning collaborative is a learning system that brings together teams of peers to study and apply quality improvement methodology to a focused topic area. This collaborative is meant to build bridges between primary care practices to address the gaps in CKD detection and treatment due to low awareness and barriers faced by primary care providers.[7]

The CKD learning collaborative is designed to increase education, recognition, and CKD screening rates, as well as demonstrate changes in processes and policies across interdisciplinary teams of health care professionals. The National Kidney Foundation's CKD change package was utilized as it offers an array of tools that can be incorporated into healthcare practice.[8]

Goals of the CKD Learning Collaborative:

1. Increase screening and early diagnosis of CKD through engagement and technical assistance with healthcare systems, federally qualified health centers (FQHC), rural health clinics (RHC), and associations.
    a. Patient focus: increase patient engagement and awareness of CKD testing.
    b. Provider focus: improve management of CKD to slow progression through early staging, guideline-concordant medications, and evidence-based interventions.
2. Implement the use of CKD clinical decision support tools to ensure routine testing of people at risk for CKD and understanding when to refer to a nephrologist.
3. Connect partners to NKFM evidence-based programs and services to improve self-management of chronic conditions and/or prevent CKD.

Partners: Clinics were selected based on their organizational capacity, interest, and their quality improvement expertise in areas with high risk and low screening rates for CKD. These clinics provide care for underserved and underinsured populations across Michigan.

- Michigan Primary Care Association (6 FQHCs)
    - Western Wayne Family Health Centers
    - Cherry Health
    - Honor Community Health
    - Packard Health
    - Isabella Citizens for Health
    - Covenant Community Care
- Michigan Center for Rural Health
    - McLaren Central (2 RHCs)

  - Aspire Rural Health System (2 RHCs)
- Thumb Community Health Partnership
  - Aspire Rural Health System (2 RHCs)
  - Great Lakes Bay Health Centers (2 Centers)
- Authority Health (1 clinic)
  - Popoff Clinic Detroit




15 clinics or health centers

29 providers

28 trainings

74 total participants

CKD Learning Collaborative Timeline[8]

1. **Planning Phase (3-4 Months)**
   a. Practice Agreement signed. Clinics completed practice assessment to understand their current state of CKD screening, recognition and existing workflows, and training needs.
   b. Each team selected a lead for these roles: Provider champion, quality lead, data lead, patient educator lead. Project champions demonstrated a strong case for improving CKD care, gathered input, and built their team with those ready to implement change.
   c. Data Analysis was conducted at practice level to identify and illuminate CKD screening and diagnosis practice gaps.
2. **Implementation Phase (5-7 Months)**
   CKD Workflow Review: NKFM identified specific CKD measures to track improvement over the project period. Each clinic team chose specific CKD interventions, evaluated existing workflow, and identified opportunities for integration. NKFM provided regular technical support with each clinic to address questions, build engagement, and ensure the achievement of desired outcomes.
   a. Individual Clinic Meetings: With project champions and the team, NKFM provided technical assistance, discussed success/challenges, gathered input, and benchmarked progress.
   b. All-Teams Meetings: This was an opportunity for participating clinics within each association to share their progress, discuss challenges and how they were overcome, and benchmark their performance.
3. **Evaluation Phase: (1-2 Months)**

a. Program outcomes reported and evaluated for increases in CKD testing, diagnosis, awareness within patient populations, and risk stratification for people living with CKD.
b. Final screening data was collected to determine change in screening and diagnosis of CKD. Clinics completed a post-test.

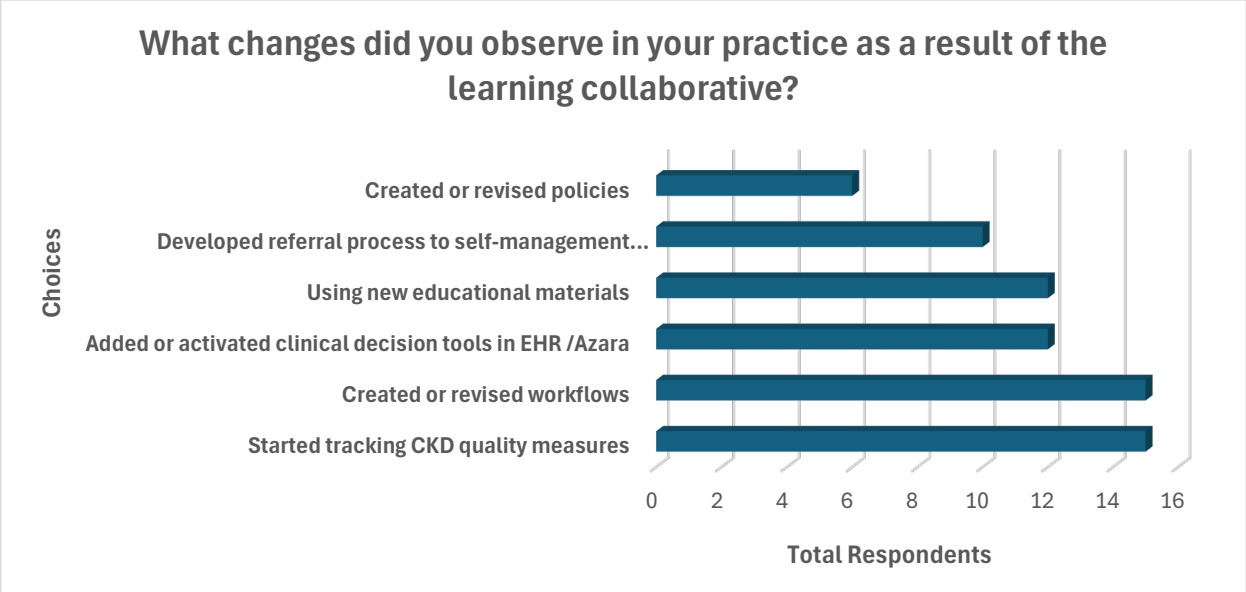
Strategies used by NKFM:

- Conducted baseline assessment of CKD prevalence, underdiagnosis, and CKD screening rates in patient population.
- Delivered one-hour tailored clinical education sessions on:
  - diagnosis & staging of CKD
  - technology and workflows
  - prevention of CKD progression from a pharmaceutical and nephrologist perspective
  - lifestyle and nutrition approaches to prevent and/or manage CKD
- Developed protocols and policies to screen and diagnose patients for CKD.
- Supported implementation of clinical decision tools into EHR and screening into workflow.
- Empowered healthcare team and patients with actionable recommendations.
- Created culturally adapted and low literacy patient education materials to raise awareness of CKD and its risk factors.

Successes:

- The NKFM and partnering organizations adapted the training to each clinic based on identified needs, capabilities, and goals.
- The NKFM and partnering organizations developed templates and shared folders to utilize across various participants.
- Clinic champions were identified, and they closed outstanding care gaps through QI PDSA (plan, do, study, act) cycles.
- Clinic teams had the opportunity to share with and learn from each other's approaches, successes, and challenges.
- Through strong engagement and motivation of clinic champions, clinics made the following changes (see image below):
  - Began tracking CKD quality measures
  - Enhanced the education of team members, patients, and caregivers in the importance of annual testing of eGFR and uACR
  - Implemented EHR enhancements to include registry, clinical decision support, prompts to order appropriate tests, and dashboard for population health management
  - Created or revised clinic policies and workflows
  - Developed referral process to evidence based self-management programs

Survey Responses:



100% (16 of 16) of respondents would recommend the learning collaborative to other health centers.

96.6% (18 of 18) respondents agreed we met the following objectives:

- Implement processes to diagnose and stage kidney disease
- Understand when to refer to nephrologist

When asked about the "most helpful parts of the learning collaborative," responses included:

- gained confidence
- importance of uACR screening for HTN patients
- learning materials/flyers from NKFM
- the team effort to improve CKD screening rates
- medication management learning session
- increase education and resources available in Azara
- assistance and steps toward early screening of CKD

The Director of Programs and Quality of Authority Health summed up their experience with the learning collaborative:

"Clinical training in the early detection of chronic kidney disease through the National Kidney Foundation of Michigan at Authority Health's Popoff Family Health Center has **enhanced our ability to prevent the secondary effects of the disease and provide a**

better quality of life for our patients. The NKFM staff has designed the training with a thorough understanding of our organization's community health mission. This collaboration has been instrumental in **guiding our primary care team in building the capacity to improve our primary care services**." -Dr. Prashanti Boinapally

Barriers:

- Three clinics had difficulty pulling baseline data, leading to a delay in data analysis.
- Low rates of completing session evaluation.
- Staff turnover slowed implementation at one clinic. The clinic oriented new staff to the project through meetings and recorded training sessions.
- We shortened the project period with one partner due to grant timeline and partnership development.
- In one health system, lab results are reported as a range rather than specific number, making a correct diagnosis difficult.
- There was hesitation and/or confusion around screening guidelines and accurate coding for diagnosis.
- Project teams identified patient barriers of transportation, medication cost, and access to nephrologists, which can lead to disruption of care continuum especially within rural areas.

Lessons Learned:

- The project timeline needs to be adjusted to build in time to develop buy-in to the project and extract baseline data.
- Identifying data/quality and clinic champions are the keys to success. Enthusiastic champions can keep kidney disease screening on the agenda and provide regular reminders and support to staff.
- Engaging a laboratory representative from the beginning of project to identify and overcome challenges with ordering and reporting of labs is important.
- Coaching frontline staff and primary care providers including medical residents is vital to sustainability.
- Allow for flexibility around which interventions each clinic team selects, based on their abilities, staffing, and existing workflows and EHR documentation.
- Data collection halfway through the project would be helpful to make sure clinics are on track or need to adjust course. When possible, pull data by provider to share individualized feedback and ask providers with best screening rates to share strategies with others.
- Creating and/or translating easy to read, culturally inclusive and appropriate educational materials lead to increased kidney disease literacy and awareness in high-risk populations.
- Providing clinics with a stipend supports buy-in and compensates project champions for their time and effort in implementing change within the clinic.

- Build out or create order sets that are commonly used among staff for diabetes or blood pressure control to include CKD testing and streamline the process.
- Link CKD screening and quality measures with other priority population health initiatives for greater reach.
- Quality improvement requires time and sustained focus. Ongoing support for clinics beyond the project timeframe can lead to further increases in early detection.

Data/Outcomes:

Each health center gathered baseline data to understand the risk of CKD among their adult population by looking at the percentage of patients diagnosed with diabetes and with hypertension. They also determined the percentage of adult patients already diagnosed with CKD. Based on a national study, around 15% of the US population has CKD, so a rate lower than 10% was an indication of underdiagnosis.

Finding 1: Overall Increase in CKD Screening Rates:

The CKD screening rate was assessed at baseline and at the end of the project using these definitions:

- The % of adult patients with diabetes who received the 2 tests (eGFR+ uACR) in the prior 12 months; and
- The % of adult patients with hypertension who received the 2 tests (eGFR+ uACR) in the prior 12 months.

	CKD Screening in Diabetes			CKD Screening in HTN		
Clinic or Cohort	**Baseline**	**Final**	**% Change**	**Baseline**	**Final**	**% Change**
Clinic A	N/A	N/A	N/A	N/A	N/A	N/A
Clinic B	11.5%	40.2%	28.7%	12.1%	41.8%	29.7%
Clinic C	3.2%	35.4%	32.2%	17.0%	31.4%	14.4%
Clinic D	8.6%	41.4%	32.8%	1.7%	14.4%	12.7%
Clinic E	26.2%	40.6%	14.4%	2.5%	13.9%	11.4%
Clinic F	13.0%	19.6%	6.6%	3.5%	8.9%	5.4%
Clinic G	72.0%	78.9%	6.9%	21.8%	25.0%	3.2%
Clinic H	32.8%	32.8%	0.0%	7.0%	7.3%	0.3%
Cohort 1	40.6%	44.8%	4.2%	17.7%	22.2%	4.5%
Cohort 2	45.4%	49.5%	4.1%	30.6%	37.9%	7.3%
Average	**28.1%**	**42.6%**	**14.4%**	**12.7%**	**22.5%**	**9.9%**

The average baseline screening rate for people with diabetes was 28.1%, with great variation between clinics, from 3.2% to 72.0%. The baseline screening rate for those with hypertension was lower at 12.7% (variation of 1.7% to 30.6%). This difference in screening rates is likely due to the emphasis on the "kidney health evaluation in people with diabetes" NCQA HEDIS measure, which began in 2022. There is no corresponding quality metric for

hypertension, although the NKF/KDIGO and KDOQI guidelines recommend screening for patients with hypertension (or other risk factors of CKD). One clinic, clinic A, was unable to capture uACR testing data, and therefore did not report screening rates.

Following the education focused on the importance of ordering both the eGFR and uACR to detect CKD among people at risk and building in CKD testing as a routine part of the teams' workflow and EHR documentation, the CKD screening rates increased. Final data showed that CKD screening rates increased at 8 of the 9 clinics and remained steady at one clinic. The average **increase was 14.4% for people with diabetes, and 9.9% for people with hypertension**.

Finding 2: Overall Increase in CKD Diagnosis:

At baseline, the average percent of adults with CKD was 5.2% among the 10 participating clinics or cohorts, with great variation (from 0.6% to 18.3%). The variation may be due to many factors including population age, risk factors like diabetes and hypertension, differences in CKD testing rates, and documentation habits. The final data collection showed an average of 9.7% diagnosed with CKD. This represents an **increase in diagnosis of 4.6%** on average, ranging from 0.7% decrease to an increase of 17.3%. Considering CKD diagnosis requires the presence of kidney damage or abnormal kidney function for 3 or more months, this is a substantial increase over a short implementation period.

The vast majority (90%) of participating clinics/cohorts had a baseline percent of CKD diagnosis less than 10%, which indicates underdiagnosis of the condition. By the end of the project, 7 of the 10 (70%) of clinics had CKD diagnosis of less than 10%.

CKD Learning Collaborative - % Diagnosed with CKD			
Clinic or Cohort	**Baseline**	**Final**	**% Change**
Clinic A	1.0%	4.0%	3.0%
Clinic B	5.2%	6.6%	1.4%
Clinic C	3.9%	4.1%	0.2%
Clinic D	9.1%	16.3%	7.2%
Clinic E	5.0%	22.3%	17.3%
Clinic F	4.8%	4.1%	-0.7%
Clinic G	3.1%	5.4%	2.3%
Clinic H	18.3%	29.6%	11.3%
Cohort 1	0.7%	1.7%	1.0%
Cohort 2	0.6%	3.3%	2.7%
Average	**5.2%**	**9.7%**	**4.6%**

Conclusion and Future Opportunities

Improving CKD testing and management requires changing the way health care teams work. Workflow redesign and integrated clinical decision tools hold promise to assist the

primary care clinician to test and manage patients with CKD using coordinated care within the interdisciplinary team.[6] Prioritizing CKD management through lifestyle changes and medication can significantly improve health outcomes, reduce the burden on nephrologists, and lower overall health care expenditures.

Best practices and educational videos from these learning collaboratives have been captured in a CKD "toolkit" to be disseminated throughout rural health clinics and FQHCs, particularly in areas of highest need or risk of CKD. We're exploring how to adapt this model into a "maintenance of certification" (MOC) quality improvement format for Medical Board Certification. We will incorporate lessons learned into that approach.

In the future, the NKFM plans to go beyond education and awareness to recognize the root causes within systems that are contributing to low rates of early detection, like lab confusion around uACR testing and how results are presented, correct mapping of codes within EHRs, and medication costs and coverage barriers. If feasible, the data analysis could include a deeper dive into equity to determine current gaps in screening by racial/ethnic groups.

We hope that insights from these collaboratives will help optimize CKD diagnosis and care delivery and result in increased recognition of CKD and its serious impact on health and wellbeing in Michigan.

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