EvidenceNOW
BUILDING STATE CAPACITY
AN AHRQ INITIATIVE

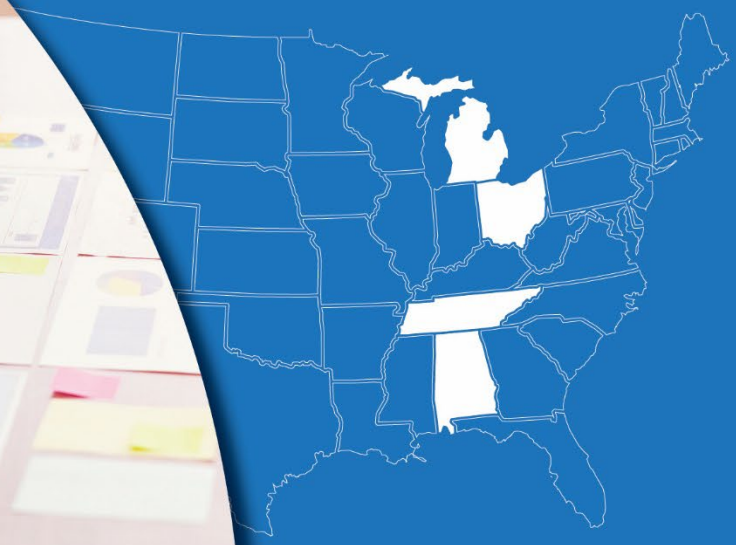
Agency for Healthcare Research and Quality

AHRQ EvidenceNOW: Building State Capacity

Technical Assistance to and Evaluation of Grant Initiative to Develop State-Level Capacity for Dissemination and Implementation of Patient-Centered Outcomes Research into Primary Care

FINAL EVALUATION REPORT

January 2025



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Final Report

AHRQ EvidenceNOW Technical Assistance (TA) to and Evaluation of Grant Initiative to Develop State-Level Capacity for Dissemination and Implementation of Patient-Centered Outcomes Research into Primary Care

Prepared For:
Agency for Healthcare Research and Quality (AHRQ)
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Exhibits

Acronyms

ACC	Alabama Cardiovascular Cooperative
AHRQ	Agency for Healthcare Research and Quality
APHCA	Alabama Primary Health Care Association
CDC	Centers for Disease Control and Prevention
CEU	Continuing Education Unit
CME	Continuing Medical Education
CVD	cardiovascular disease
EHR	electronic health record
EN:BSC	EvidenceNOW: Building State Capacity
FQHC	federally qualified health center
HH4M	Healthy Hearts for Michigan
HHOI	Heart Healthy Ohio Initiative
HIE	health information exchange
HIT	health information technology
MCO	managed care organization
MOC	maintenance of certification
PF	Practice Facilitator
PHE	public health emergency
QI	quality improvement
SDOH	social determinants of health
THHN	Tennessee Heart Health Network

Executive Summary

In 2021, the Agency for Healthcare Research and Quality (AHRQ) funded four grantees to develop sustainable, multi-organizational, state-level cooperatives and recruit at least 50 practices to participate in an evidence-based quality improvement (QI) project to improve heart health. The four grantees are Alabama Cardiovascular Cooperative (ACC), Healthy Hearts for Michigan (HH4M), Heart Healthy Ohio Initiative (HHOI), and Tennessee Heart Health Network (THHN). This is the final report of the mixed-method evaluation of EvidenceNOW: Building State Capacity (EN:BSC). We report on the QI support strategies that cooperatives used to improve heart health in practices, how the cooperatives and QI programs will be sustained after the project ends, and the lessons learned.

QI Support Strategies

Each grantee's QI goal was to improve the heart health of patients in its state. Each grantee partnered with primary care practices to implement evidence-based interventions and clinical innovations that are shown to improve heart health. These QI support strategies are the methods or techniques used by practice change leaders to motivate, guide, and support practices in adopting, implementing, and sustaining evidence-based changes and QI.

Practice Facilitation. The grantees relied heavily on practice facilitation to provide QI support to practices. Each grantee's practice facilitation approach varied, but there were several considerations consistent to all grantees, including the timing and format of practice facilitation sessions and tailoring the practice facilitation approach to individual practices. Respondents indicated that maintaining regular contact with practices was especially important, and Practice Facilitators (PFs) from all grantees met with practices at least monthly.

Health IT Support. All grantees provided health IT support as part of their QI support. PFs helped practices obtain, review, and understand data in order to apply the data to QI strategies. Cooperative partners and PFs used data available in EHRs to create dashboards and QI reports. PFs coached practices in reviewing and applying the data to their QI activities and their general practice and patient management approaches.

Education and Training. Two grantees (THHN and HHOI) created opportunities for practices to hear from experts, share challenges, and engage in peer learning. Cooperative leadership selected topics for training and discussion based on feedback from practices and practice data, such as hypertension management and medication algorithms. Respondents from both grantees noted the importance of maintaining a casual atmosphere with an intentional focus on fostering a safe space to ask questions and be open about challenges with no judgement and no critique.

Incentives. Two grantees (HH4M and HHOI) used incentives to encourage sustained engagement among practices. Respondents from both grantees reported that practices appreciated the incentives, but they did not alone encourage participation in EN:BSC. PFs reported that the incentives were not enough to compensate practices for the among of effort the project required and that practices participated because they saw the project as something that was beneficial to their practice and their patients. Respondents agreed, however, that providing the incentive was important and respectful, particularly because practices were not obligated to use the money in any particular way.

Cooperative and Program Sustainability

When asked about how their work would be sustained, respondents used a broad definition of sustainability. The research team asked questions specifically about the sustainability of the cooperative, the sustainability of the QI support work developed and implemented as part of their projects, and whether the practices themselves would continue to engage in QI after the project ends.

Cooperative Sustainability. Members of all four of the cooperatives have received additional funding to sustain some of the work begun by the EN:BSC project. THHN and HHOI, but through their previous collaborative Cardi-OH, are both prime recipients of the Centers for Disease Control and Prevention (CDC) grant Innovative Cardiovascular Health Program focused on social determinants of health for cardiovascular care. In addition, partners from the ACC and HH4M cooperatives have been subcontracted with agencies in their states that received the CDC grant. EN:BSC project partners continue to work together to seek out new opportunities for funding in related areas. In all cooperatives, members described the important work that EN:BSC did to build and foster relationships across the state to support future investments and engagement. All four grantees sought to engage diverse partners across the state, including leaders in QI; academic organizations; public health, healthcare, or professional organizations; and payers. Though some of these relationships existed prior to the launch of EN:BSC, across all four cooperatives respondents explained that relationships expanded and deepened through this project. By building strong relationships and partnerships across the state, respondents from all grantees believe they are able to better respond to future related opportunities.

QI Support Sustainability. Some interview respondents described how the important work implemented and completed by the collaboratives to expand QI support within the state will continue to affect the health of the residents of their state after the funding ends. In particular, respondents from HH4M explained that one of its lasting legacies was to integrate the state tobacco quit line into EHRs. The state identified a vendor to support the EHR integration, and as of the interviews for this project (Fall 2023), practices were piloting the new workflow. Integrating the quit line through EHRs will reduce paperwork and ultimately increase the number of patients who receive smoking cessation counseling. Similarly, respondents from THHN believe the project's wins related to health coach reimbursement was one of the largest impacts of the EN:BSC project. THHN partnered with the state managed care organizations (MCOs) to jointly agree on terms to reimburse community health workers and health coaches to support team-based care. Across all four grantees, respondents planned to continue to support the QI work within local practices, such as by continuing to provide a website with specific heart health and QI materials.

QI Project Sustainability Within Practices. When asked whether respondents from each cooperative believe that the QI work that was started through EN:BSC within each practice will continue, respondents described a range of perceptions. Some respondents were optimistic that the fundamentals of QI, including regularly reviewing metrics and targeting areas for improvement, would continue after the project ends. Respondents from ACC and HHOI, which included several federally qualified health centers (FQHCs), believe that the FQHCs could be in a stronger position to have their QI work continue, in large part because of QI requirements and additional supports provided to those clinics. However, many respondents described the competing challenges within a busy clinical setting and recognized the challenges with continuing QI interventions without the practice facilitation and other supports provided by the project.

Additional Lessons Learned

Besides the lessons learned related to QI support or sustainability, grantees shared additional lessons learned that could be integrated into future QI initiatives. Three themes emerged: thoughtfully consider your members and how to manage your cooperative, building QI infrastructure and supporting practices takes time, and obtaining data for QI can be challenging and should be anticipated.

Conclusions

Combined with findings from previous reports, we offer the following conclusions or recommendations:

Multistakeholder engagement to co-develop, coordinate, and align primary care improvement.

- **Building on and strengthening existing relationships with state partners is essential for forming and sustaining a primary care improvement Cooperative.** Grantees were already well-networked

across their states, having previously led and implemented similar QI initiatives. Grantees also sought to identify and expand partnerships to ensure representation across their state. Where the cooperative had existing ongoing funding to sustain – in Ohio and Tennessee – the critical partners were secured and engaged early in the process. In comparison, Michigan and Alabama struggled to align state partners including funders to sustain the work.

- **Both academic medical centers and quality improvement (QI) organizations are capable of effectively leading Cooperatives designed to support state-level improvements in primary care capacity.** Though our data are limited to the four cooperatives in EN:BSC, two academic-led cooperatives plan to sustain their work as a cooperative in some form. When asked about what types of organizations would be best to lead state-level capacity improvement efforts like this one, respondents often explained that academic medical centers had the topic expertise and legitimacy, as well as the experience competing for grants. On the other hand, QI organizations often had on-the-ground experience with practices.
- **Engaging employers and payers early in the Cooperative development process helps build ongoing support.** The model of practice facilitation to support quality improvement is well-received by practices and cooperative partners, but sustaining this approach is challenging. Working with employers and payers supported some of these activities. In future initiatives, planning for sustainability should begin as early as possible.

Collecting and sharing data to drive and track improvement.

- **Given the challenges obtaining practice data for feedback and benchmarking, other approaches and contingency plans should be anticipated.** Three grantees intended to create data dashboards or provide reports as part of their data, feedback, and benchmarking tasks, and all three struggled for various reasons. Documentation and data use agreements required significant communication and coordination between the grantee and practice, and ultimately different practices reported varying levels of comfort reporting patient-level data. Not all grantees required that practices had certified EHRs, and even some of the certified EHRs had inconsistencies in report output and requirements. Participating practices had varying levels of operational support to pull data and reports. PFs across grantees assisted practices in generating reports that were functional and usable for their practice, especially where the data dashboard or registry was not an option.

Other conclusions

- **Given capacity challenges within primary care, future initiatives should allow enough time to conduct meaningful practice improvement and set realistic expectations for practices' improvement in consideration of their resources and capacity.** Practice engagement in the QI project was challenging for all grantees, especially in the context of primary care during and after the COVID-19 public health emergency. Though practices were interested in improving care quality and the heart health of their patients, practice staff also needed to balance their ability to implement QI projects amidst commonly reported staffing shortages. PFs sought to meet practices where they were and make improvements incrementally based on their capacity and ability to make changes. For long-term sustained improvements, PFs recommended more time (i.e., 18 or 24 months) or more intensive engagement was necessary.
- **Use of stepped wedge design poses challenges for practice recruitment and retention. They can also compress time for other activities, like cooperative development within a three-year grant.** Ultimately, two of the grantees were unable to do a true stepped wedge design because of challenges recruiting all practices prior to randomization. The two grantees that used a stepped wedge design recognized the potential for bias in how they randomized practices. For example, when all practices within a health system were randomized together, if they were in a later wave, those practices struggled to maintain interest and remain in the intervention until the last wave. Conversely, when

practices within a health system were not randomized together (i.e., receive the intervention at different time points), there can be spillover across practices, especially if there is a shared QI lead.

1. Introduction

To advance its mission, AHRQ issued a Request for Applications (RFA) entitled *Supporting Primary Care to Advance Cardiovascular Health in States with High Prevalence of Preventable CVD (cardiovascular disease) Events*.[1] AHRQ calls the resulting project "EvidenceNOW: Building State Capacity" (EN:BSC), advancing equity in heart health.[2]

In late 2020 to early 2021, AHRQ funded four grantees for this initiative to advance equity in heart health – one each from Alabama, Michigan, Ohio, and Tennessee. It charged grantees with building sustainable, state-level cooperatives including a network of primary care practices and enlisting at least 50 practices to participate in a quality improvement (QI) project to improve heart health.

- **Alabama Cardiovascular Cooperative (ACC)** is led by an academic institution in collaboration with another academic institution, a primary care association, and a QI organization from outside of Alabama. The ACC's guiding framework (Community-Academic Partnerships) calls for equal partnership between academic researchers and community stakeholders. The practices the ACC has recruited for its heart health QI project are part of federally qualified health center networks.

- **Healthy Hearts for Michigan (HH4M)** is led by a QI organization in collaboration with an academic partner leading the evaluation (with prior EvidenceNOW experience), as well as two other regionally distributed organizations to recruit practices and provide QI support.

- **Heart Healthy Ohio Initiative (HHOI)** is led by an academic institution with support from regional QI organizations and the state department of public health. HHOI builds on Cardi-OH, a statewide collaborative to advance heart health. HHOI is rooted in the collective impact model and is using a codesign process to engage stakeholders.

- **Tennessee Heart Health Network (THHN)** is led by an academic institution with support from a QI organization and other academic partners. THHN draws on best practices of the Agile Implementation Playbook to understand, predict, and steer behaviors of individuals and groups in project activities. THHN is using an existing population health data network to recruit practices and provide data to practices for their QI projects. THHN is implementing a range of interventions to improve the blood pressure and tobacco cessation of heart health in small primary care practices to reduce/eliminate disparities in cardiovascular disease outcomes.

AHRQ awarded a contract to Abt Global LLC to provide technical assistance to grantees and conduct an independent evaluation of EN:BSC, evaluating the grantees' development of cooperatives, recruitment,

[1] Grants.gov. 2022, February 21. *Agency for Healthcare Research and Quality - Supporting Primary Care to Advance Cardiovascular Health in States with High Prevalence of Preventable CVD Events (U18).* https://grants.nih.gov/grants/guide/rfa-files/RFA-HS-20-002.html

[2] Agency for Healthcare Research and Quality. 2021, March. *EvidenceNOW: Building State Capacity.* https://www.ahrq.gov/evidencenow/projects/state/index.html

and QI implementation. For the evaluation, Abt used a mixed-methods design collecting both primary and secondary data, including:

- Key informant interviews and member checking sessions with project respondents and knowledgeable nonrespondents;
- Administrative records (grant applications, grantee progress reports); and
- Data on grantee needs and challenges from the Abt technical assistance team.[3]

In this final evaluation report, we describe how grantees implemented their QI support projects, the sustainability of the cooperatives, and lessons learned from the experiences of the grantees. This report draws on findings described in the previous Interim Evaluation Report I and Interim Evaluation Report II, both available on the AHRQ website.

This final evaluation report addresses three key questions about the implementation of the QI support provided to practices and the sustainability and lessons learned from the experiences of the grantees in building statewide cooperatives. **Exhibit 1** provides an overview of the research question addressed in each section of this report.

Exhibit 1. Overview of Report Sections and Research Questions

Report Section		Research Question
3.1	**QI Support Strategies**	RQ1. Which *QI support strategies* did cooperatives deliver to practices?
3.2	**Cooperative and Program Sustainability**	RQ2. To what extent and in what ways were the cooperatives successful at using new state-level capacity to launch other efforts to improve capacity or heart health improvement projects or to attract other funding?
3.3	**Additional Grantee Lessons Learned**	RQ3. What *lessons were learned*? To what extent are these applicable to other states, practices, or improvement efforts?

QI=quality improvement. RQ=research question.

From October 2023 to January 2024, we interviewed 41 respondents drawn from a variety of roles across the four cooperatives (**Exhibit 2**).

Exhibit 2. Key Informant Interview Respondents by Project Role

Grantee State	Principal Investigator or Co-Principal Investigator	Project Manager	Project Staff	Partner	Implementation Lead	Evaluation Lead	Practice Facilitator	TOTAL
Alabama	2	1	2	2	1	1	2	**11**
Michigan	2	0	1	0	1	1	2	**7**
Ohio	4	1	2	3	0	1	1	**12**
Tennessee	1	1	0	3	2	2	2	**11**

The Office of Management and Budget (OMB) approved the package for this data collection effort on January 22, 2021 (OMB #0935-0259); approval expired on January 31, 2024. Abt's Institutional Review Board determined that this project was exempt from its review. The methods used for this evaluation are

[3] The evaluation team used technical assistance meeting notes to shed light on grantee experiences and challenges.

described in detail in the Interim Evaluation Report I (page 2) and Interim Evaluation Report II (page 2). A future report will describe the practice-level findings, and will be available with the other evaluation reports for this initiative.

2. Findings

In this final evaluation report for EN:BSC, we report on the QI support strategies that cooperatives used to improve heart health in practices, plans for how the cooperatives and QI programs will be sustained after the project ends, as well as the lessons learned by grantees and from our analysis of the data shared by the grantees.

2.1. QI Support Strategies

The goal of each grantee was to improve the heart health of patients in its state. Each grantee partnered with primary care practices to implement evidence-based interventions or clinical innovations shown to improve heart health, specifically blood pressure and smoking cessation (e.g., accurately measuring blood pressure). See Appendix for details on the specific evidence-based interventions related to blood pressure and smoking cessation for each grantee. However, evidence-based interventions are not easily adopted on their own. For example, a medical assistant might require an instructional video or training to learn how to measure blood pressure accurately.

These **QI support strategies** are the "methods or techniques used by practice change support agents to motivate, guide and support practices in adopting, implementing and sustaining evidence-based changes and QIs."[4] We also can think of QI support strategies as implementation strategies.[5] **Exhibit 3** describes the types of QI support strategies used by the EN:BSC grantees.

Exhibit 3. Types of Quality Improvement Support Strategies Used by EN:BSC Grantees

		State			
Strategy Type	**Approach and Examples**	**AL**	**MI**	**OH**	**TN**
Practice facilitation	Engage with primary care practices in longitudinal, trusted relationships to build the practice's capacity to implement the best clinical evidence through: • Practice assessment • Assessing and redesigning workflows • Standardizing care processes • Connecting practices with the other QI supports they need PFs work with "practice champions" within the practice, who advocate and help advance the QI intervention.	X	X	X	X
Health IT support	Support practices in using their EHRs for QI. Aid primary care practices to help them minimize the burdens of data entry and maximize their ability to generate reports that can be used for QI and population health. • Use HIT experts or PFs who have HIT expertise	X	X	X	X
Data, feedback and benchmarking	Give practices and teams information on key process and outcome indicators, which are tracked over time to assess improvement. Data can come from within the practice – from its registries, EHRs, or chart audits – or from external sources (e.g., HIEs, claims data, or hospital utilization data).	X		X	X

[4] Solberg, L. I., Kuzel, A., Parchman, M. L., Shelley, D. R., Dickinson, W. P., Walunas, T. L., ... & Nagykaldi, Z. (2021). A taxonomy for external support for practice transformation. *The Journal of the American Board of Family Medicine*, *34*(1), 32-39.

[5] Perry, C. K., Damschroder, L. J., Hemler, J. R., Woodson, T. T., Ono, S. S., & Cohen, D. J. (2019). Specifying and comparing implementation strategies across seven large implementation interventions: A practical application of theory. *Implementation Science*, *14*(1), 1-13.

Strategy Type	Approach and Examples	State			
		AL	MI	OH	TN
	• Dashboards or practice improvement reports • Benchmarking against other practices and against other individualized goals				
Education and training	Identifies and develops QI materials that are informative and interesting, delivered in acceptable formats, and use appropriate learning pedagogies. • Websites, webinars, training, CMEs, conferences, e-learning	X		X	
Shared learning	Facilitates opportunities that are acceptable and appropriate to practices for the sharing of strategies, challenges, and lessons learned. • Learning collaboratives, communities of practice			X	X
Incentives	Uses incentives to support engagement in QI activities, such as financial incentives for completing project tasks (e.g., sharing data) or continuing education credits to encourage participation in educational activities.*		X	X	

CME=Continuing Medical Education. EHR=electronic health record. HIE=health information exchange. HIT=health information technology. IT=information technology. PF=Practice Facilitator. QI=quality improvement.

*Two grantees also provided financial incentives as sign-on bonuses, which are not included here as they do not support ongoing QI activities beyond recruitment.

Note: See Appendix for description of each grantee's intervention and details on its QI support strategies.

Based on interviews with respondents from each grantee, practice facilitation was the QI support strategy with the most success, and lack of strong practice facilitation proved to be detrimental to project outcomes. Respondents from across all grantees indicated that highly qualified and highly engaged Practice Facilitators (PFs) helped to mitigate the many challenges experienced by grantees during QI support implementation, such as staff turnover, competing priorities, and inconsistent electronic health record (EHR) capabilities. Universally, grantees noted that obtaining and cleaning data for meaningful QI was difficult and time-consuming and PFs helped alleviate those challenges.

More details about each QI support strategy are provided below.

2.1.1. Practice Facilitation

All grantees relied heavily on practice facilitation to provide QI support to practices as they completed the intervention period and shifted into the 6-month maintenance period. The details of each grantee's practice facilitation approach varied, but all indicated that maintaining regular contact with practices was essential. PFs from all grantees met with practices at least monthly and maintained ad hoc communication touch points between the regular meetings. One grantee (HHOI) shared that scheduling the meetings for the same day and time each month (e.g., the first Monday of every month at 3:00 PM) and scheduling all meetings one year in advance were key factors for maintaining practice engagement.

The format for practice facilitation varied across grantees, including all in-person, all virtual, and a hybrid approach:

- PFs with the ACC and THHN met at least once a month in person and communicated between meetings using phone or email.
- HHOI PFs met with practices virtually, with no in-person sessions.
- HH4M designed its practice facilitation sessions to be dependent on an individual practice's experience and needs. Practices with low bandwidth or little QI experience met with the PF in person, whereas practices with more QI experience rotated virtual and in-person meetings with the PF.

PFs from all grantees described the need to tailor practice facilitation approaches for individual practices. PFs and/or cooperative leadership maintained a working knowledge of practices' capacity and tailored the coaching and resources to match the practices' specific strengths and limitations related to time, resources, and QI experience:

- HHOI identified metrics for tracking practice engagement. Each month it reviewed the metrics with PFs to identify corrective action steps early and often. The HHOI classified practices using a "green-yellow-red" system to quickly assess which practices needed additional support. One member of the HHOI described this approach as simple and effective, indicating that most practices moved out of "red."
- The ACC PFs created agendas for monthly meetings based on the specific needs of practices.
- HH4M trained its practices to select interventions that would be the simplest to implement based on the individual practice's capacity.
- Respondents from HH4M learned that the QI materials provided to its practices need to be customized to their preferences or needs. Some practices were tech savvy and preferred materials electronically, whereas others preferred paper copies. Providing information in a manner that works best for individual practices is important to their success. Experienced PFs can help determine the needs of practices and the support that sets them up for success. In addition to customizing materials, PFs also adjusted the number of times they met with practices. Some practices needed additional help to start the project, and PFs would meet with them more frequently to provide additional support.
- THHN PF respondents reported that they used the monthly meetings with practices to raise topics unique to that practice and provide useful resources to address that topic.

Grantees discussed tailoring the schedule of practice facilitation to best meet the needs of individual practices:

- As stated above, HH4M developed an in-person/virtual model that was based on an individual practice's capacity.
- HHOI and ACC reported that PFs changed the frequency and amount of practice facilitation when practices had lower bandwidth (due to competing priorities or staff turnover), so that practices would still feel engaged but not overwhelmed. One ACC PF respondent said that at times they provided practice facilitation for clinicians between patient sessions to accommodate the clinic schedule.
- THHN adopted the message that quality is a long-term investment for practices and made sure that key members of the clinical teams were invited to collaborative learning sessions that would allow them to select from a variety of learning paths. THHN PFs also provided practices with unique learning resources based on their individual learning needs.

2.1.2. Health IT Support

All grantees provided health IT support as part of their QI support. Respondents from all grantees described helping practices obtain, review, and understand data to apply the data to QI strategies. Three grantees (ACC, HHOI, THHN) provided health IT support for all practices; one grantee (HH4M) provided health IT support only as needed by practices. Cooperative partners and PFs used data available in EHRs to create dashboards and QI reports. PFs coached practices in reviewing and applying the data to their QI activities and their general practice and patient management approaches. One grantee (HHOI) required practices to use EHRs with data reporting capabilities to participate in EN:BSC; the other grantees did not. Among the latter, respondents reported that the variability among practices in EHR capacities and functionalities resulted in PFs dedicating a significant amount of time to pulling data, often

manually. Respondents noted, however, that the decision to include practices with limited EHR capacities was intentional, citing that many practices with limited EHR capacity are likely the practices that would benefit from QI support.

There was substantial variation in practices' EHR functions and capabilities. The EHRs tended to track data elements important for billing and did not focus as much on elements important for QI, such as patient health outcomes and patient demographics. PFs worked with practices to improve their access to and the quality of patient data.

- Two grantees (HH4M and THHN) created QI report templates for practices. The PFs coached practices to understand the data and identify when there were gaps or inaccuracies in how they collected patient data. For example, one HH4M PF reported helping a practice troubleshoot challenges with its smoking cessation data: its reports were not calculating the measure appropriately. With the PF's assistance, it identified the reason – missing data in the "date" variable. The practice was able to solve the issue internally and avoided having to contact the EHR vendor.

- ACC PF respondents reported that they spent a considerable amount of time working with practices to pull and/or prepare data from their EHRs that could be used for QI activities. EHR capacities and functionalities among ACC practices varied considerably. Some ACC PFs had to pull data manually. They spent time developing data pull protocols and created learning materials for practices to be able to continue to manually pull data. The templates focused on pulling data for data dashboards, and PFs created other materials for abbreviated data pulls that would allow clinicians to quickly pull data for ad hoc QI review.

2.1.3. Data Feedback and Benchmarking

Three grantees used data feedback and benchmarking for QI support. Two grantees (ACC and HHOI) created data dashboards for each practice, and one grantee (THHN) connected practices with an existing state data registry from which they could receive regular data reports. All three grantees that used data feedback and benchmarking used peer benchmarks, and all three grantees reported this as a successful tool for practice engagement with QI. Dashboards and quality reports showed practices how they compared with other practices participating in the project along the same objectives. This was particularly well received and a potential tool for future QI support data dashboards. The ACC and HHOI used EHR data to create data dashboards. Respondents from both grantees indicated that the practices appreciated the dashboards and that both the visual display of data and the guided conversations about the data were well received. Leaders from the ACC, however, noted that they were unsure about the dashboards' effectiveness for meaningful QI, primarily because critical QI data elements were not available: demographics and payer type. The dashboards also did not provide data essential for addressing health disparities.

- The HHOI required practices to have EHR reporting capabilities to participate in EN:BSC. Its practices were able to submit data directly to HHOI, which then created the dashboard.

- As described above, the practices participating in the ACC had more variable EHR capacities, and PFs reported they committed a substantial amount of time to obtaining data from the EHRs. Once they retrieved data, they sent files to an external vendor to create data dashboards.

THHN worked with clinics to upload EHR metrics to an existing specialized chronic disease registry, the Tennessee Population Health Data Network (TN-POPnet). THHN practices could select to submit their data to TN-POPnet; for those practices, the PFs developed quarterly practice improvement reports. THHN respondents stated that they received more pushback than expected from clinics on sharing data, specifically due to concerns about confidentiality and data security. Among practices that did complete

data sharing agreements and participate in the registry, there were substantial challenges exporting data in the appropriate format for TN-POPnet, especially among practices with non-Certified EHRs.

2.1.4. Education and Training

Two grantees (THHN and HHOI) used shared learning opportunities to allow practices to hear from experts, share challenges, and engage in peer learning on topics selected by cooperative leadership after soliciting feedback from practices and reviewing practice data. Respondents from both grantees noted the importance of maintaining a casual atmosphere with an intentional focus on fostering a safe space to ask questions and be open about challenges without judgement. Practices engaged well when the challenges they encountered were normalized, and they benefited from the low-pressure method of seeking and receiving feedback to address those challenges.

- THHN formed learning collaboratives. It originally established four regional learning collaboratives, but modified the format after the first year to have four topical learning collaboratives that any practice could attend. Respondents reported that the revised format produced more excitement and engagement.
- HHOI offered quarterly co-learning webinars for participating practices, called "Teams in Actions" calls. The webinars provided a combination of didactic learning, training, aggregate data review, and opportunities for practices to share their success stories and learn from one another.

One grantee, the ACC, continued to develop education and training in the final year of EN:BSC to help its clinicians improve healthcare methods on an individual level. An ACC subcommittee led a process that integrated input from the people who worked most closely with practices, the education subcommittee, and the practice staff. The ACC also had a virtual community of practice working group that hosted co-learning opportunities for physicians through online forums and discussion boards. In October and November 2024, the working group hosted a four-part webinar series that covered medication adherence, QI basics, and motivational interviewing. The ACC recorded each 1-hour webinar to share with physicians (including those not participating in the project) on the University of Alabama Continuing Medical Education website. It promoted the website at the Alabama Academy of Family Physicians conference in June and received a positive response from clinicians in attendance. To prepare for the end of the project period, the ACC began conversations with community partners that could provide administrative support, content development, and domain maintenance to maintain the website beyond the project period. The outcome of these conversations is not known.

2.1.5. Incentives

Two grantees (HH4M and HHOI) used incentives to encourage participation in QI activities. Both grantees provided Continuing Medical Education (CME) credits or Maintenance of Certification (MOC) to people who participated and requested the credits. In addition, practices received a set amount of financial incentives for participation. Respondents from both grantees reported that the incentives were perceived as a benefit to participation and engagement in the QI project but were not a driving factor in their decision to participate. PFs noted that the incentives were not enough to compensate for the effort the project required, specifically related to data collection and reporting.

- The HH4M cooperative offered two different types of incentives to participating practices. Respondents reported that practices that submitted their practice-level data at the end of the intervention received $1,000. HH4M also had developed ways for clinicians to receive Performance Improvement CME credits and MOC Part IV credits.
- At multiple points in the project, the HHOI offered practices and clinicians incentives to participate in the project. At the site level, HHOI gave practices $4,000 at the project outset and $2,000 each year

thereafter to help offset staffing and resources costs. Additionally, clinicians were eligible for CME and/or MOC credit through the various educational opportunities provided through HHOI.

2.1.6. Successes With Implementing QI Support Projects

During interviews, representatives from all grantees identified several factors that contributed to the success of their QI support strategies. These include having strong buy-in from practices, staff and cooperative members with diverse expertise and strong people and program management skills, creating opportunities for shared learning to increase the capacity for practice facilitation.

Respondents reported that having a high level of **buy-in from practice leadership and staff** was a critical component of successful QI strategies, particularly by helping PFs maintain engagement from practices. Members of the THHN and ACC reported that when the practice champion was not a clinician, it was also important to have a high level of commitment from practice leadership.

- Members of the ACC described having a strong practice champion – a key staff person who genuinely wanted to engage in the project and lead the practice to successful outcomes – led to timely scheduling and straightforward status reports. The practice champion also built and maintained buy-in and engagement from other members of the practice, including clinicians. ACC respondents noted that practices that did not have a practice champion tended to engage less in the QI strategies and needed more hands-on practice facilitation to maintain their progress in the project. One member suggested having "champion teams" on future projects to ensure that every practice had a champion employed there.

- PFs from THHN noted that when a clinician wanted to make changes within the practice, the staff could devote more effort to the project. They could keep the project moving by focusing on the time-bound nature of the project's goals. Strong or consistent clinician buy-in also helped mitigate challenges presented by staff turnover. These practices quickly introduced newly hired staff to the project because the clinicians wanted to keep the practice engaged. PFs observed that patients from practices with strong or consistent clinician buy-in seemed to have greater engagement.

- THHN also noted that small practices with engaged leaders often thrived; their leaders were open to using time to increase staff capacity related to QI and heart health monitoring. However, in larger practices and health systems, leadership buy-in was often more challenging to achieve, given other competing priorities and needs. In addition, larger health systems sometimes have dedicated QI staff, requiring the PFs to adapt their lessons and plans to that staff's greater competency.

Respondents from all grantees described a component of success to be having **partners with specific and wide-ranging expertise.**

- Three grantees (ACC, HHOI, and HH4M) described having cooperative members with existing expertise in technical areas as well as people and program management. When practices needed technical assistance on a specific clinical topic, such as hypertension, cooperative members could quickly provide that expertise. The efficiency and availability allowed practices to quickly address clinical challenges. HH4M was the only grantee led by a QI organization. One respondent noted that its partnership allowed it to pull from partners that have QI and data expertise. It also had a cooperative member with direct experience in a previous iteration of the project, whose perspective guided them towards successful planning.

- HHOI and ACC respondents noted that employing PFs with high levels of technical expertise, project management skills, and "soft skills" such as relationship building, and communication fostered effective practice facilitation.

- One HHOI PF shared that their experience as a social worker helped them guide a team through the process and mitigate the challenges, as did their strong background in executive coaching. PF respondents shared that they knew from previous experience to apply extra support in the beginning of the project to account for the virtual nature of the relationship-building phase and the increased time it takes to build relationships virtually. HHOI leadership described the coaches as "very, very experienced [and] not afraid to ask for help or admit when they didn't know something."

- Respondents from THHN described efforts to build expertise – for example, through its learning collaborative approach and its clinician training opportunities – as key factors for successful QI strategies. Though the structure changed over time, THHN leadership pointed to the learning collaboratives as a successful way to engage in peer learning and break down preexisting barriers across healthcare settings. Its health coaching intervention involved inviting two staff from each clinic – often a clinician and another nonclinical support staff – to participate in motivational interview training. Respondents reported that staff who participated in this training found it incredibly helpful in conversations with patients. Several respondents described one older clinician who completely changed his way of listening and engaging with patients because of the training.

ACC respondents widely agreed that practice facilitation was the strongest QI support strategy and **increasing the capacity to provide more practice facilitation is key to creating statewide QI infrastructure.** Practices' capacity or motivation to engage in QI varies widely across the state. Funding for federally qualified health centers (FQHCs) includes QI support, but this is not available to other practices. Building more consistent QI support statewide, among non-FQHC practices, would build Alabama's capacity for QI and ultimately improve healthcare in the state. ACC respondents noted that practice facilitation is an effective model that could work well in many practice types and could address many health topics. If disseminated widely, it could greatly improve healthcare practices statewide.

2.1.7. Challenges With Implementing QI Support Projects

Respondents from all grantees described conditions that consistently presented challenges for implementing QI support. These include high rates of staff turnover and shortages, limited data access and EHR capacities, competing priorities, and administrative burden.

All grantees reported **high staff turnover and consistent staff shortages** in participating practices as a key barrier to implementing QI support. PFs addressed the challenge by giving the practice time to hire and onboard new staff, which delayed the interventions and QI support. PFs slowed implementation to orient the staff person to the project. At times, the new staff person might have different priorities for the project, and PFs had to pivot their approach to accommodate the differences.

- ACC respondents described this as a persistent challenge in almost every ACC practice. ACC leadership estimated that fewer than 50 percent of the original practice champions were still employed at the practice in the final year of the project.

- Respondents from HH4M indicated that the COVID-19 public health emergency (PHE) led to severe staffing shortages that affected all aspects of the project, including recruitment, engagement, and retention.

- The HHOI respondents shared that staff turnover was a substantial challenge for maintaining Plan-Do-Study-Act cycles and QI support. This was particularly noteworthy when the turnover was of key staff from the practice's QI team. PFs accommodated many disruptions in the project by supporting practices throughout the hiring process, including giving them time to pause their efforts, giving them opportunities to share their frustrations, and adjusting timelines while orienting newly hired staff to the project.

- In addition to general staff shortages, the THHN respondents shared that though practices universally appreciated the heart health coaching intervention, few practices hired extra health coaches to support patient education. Some practices did upskill existing staff into those roles, but many practices described challenges to sustainability funding health coaches.

Grantees observed that **competing priorities and project fatigue** affected practice facilitation in the final year of the project. Some said the project was long and time intensive, which led to fatigue. Some suggested that the competing priorities were linked to other QI projects from funders and that over time practice staff were more drawn to newer assignments.

- One ACC respondent said that PFs struggled to maintain engagement when new projects or tasks were added to their workload, especially in the final year of the project: *"Not to say they don't see the value in it, but other things have come along and are now competing for their attention."*
- HH4M respondents noted that the PHE reduced practices' bandwidth and led to staff feeling overwhelmed and unable to take on additional activities.
- HHOI respondents observed that the time and interest of the practices varied through the duration of the project, creating challenges for PFs to maintain consistent engagement. Sometimes the competing priorities were other QI projects from other funders.

Two grantees (ACC and THHN) also described **challenges related to accessing data for QI efforts**. This included limited or inconsistent EHR capabilities that inhibited the practices' access to and use of data. It also included challenges related to data sharing agreements and concerns over data security.

- The ACC shared that limited EHR capabilities, as well as limited staff capacity to use available EHR reporting features, caused delays in accessing data for data dashboards. At times, the PFs extracted data manually, which was time-consuming and not sustainable for practice staff to do on their own. This also led to the exclusion of important QI data, including demographics, which are particularly important for addressing health disparities. Because of this, ACC leadership is not confident that the data dashboards could meaningfully address QI.
- THHN respondents said that PFs struggled to produce reports for practices with less widely used or unconventional EHR systems. There were challenges with harmonizing measures across different EHR systems and developing data feeds that were unique to the TN-POPnet data registry system.
- THHN PFs experienced more difficulty than anticipated engaging practices with the TN-POPnet. Getting practice buy-in required the teams to meet several times with each practice to explain the benefit of participating and to explain the confidentiality and data security plans. Legal teams within each practice engaged in a lengthy review of all documentation, and senior leaders needed to agree and approve arrangements.

HHOI respondents observed that **aggressive timelines** to complete project activities challenged many practices. PFs shared that they experienced a discrepancy in what was planned "on paper" and what was realistically achievable in the allotted time, both from month to month and from start to completion of the project. Many practices had to learn the basics of QI before they could begin implementing Plan-Do-Study-Act cycles. Practice data needed to be cleaned before they were useful for QI support. These types of unaccounted for delays caused challenges adhering to project timelines.

2.2. Cooperative and Project Sustainability

The research team asked interview questions specifically about the sustainability of the cooperative, the sustainability of the QI support work developed and implemented as part of the projects, and whether the practices themselves would continue to engage in QI after the project ends. Respondents used a broad definition of *sustainability* in their replies.

2.2.1. Cooperative Sustainability

Members of all four cooperatives have received additional funding to sustain some of the work begun by the EN:BSC project. Both THHN and HHOI are prime recipients from the Centers for Disease Control and Prevention (CDC) of an Innovative Cardiovascular Health Program grant focused on social determinants of health (SDOH) for cardiovascular care. However, HHOI received the funding as part of their larger previous Cardi-OH collaborative. In addition, partners from the ACC and HH4M cooperatives have been subcontracted with agencies in their states that received the grant.

EN:BSC project partners continue to work together to seek out new opportunities for funding in related areas.

- Though Cardi-OH will remain the foundation of cardiovascular collaborative work in Ohio, members of the HHOI will participate in two different newly funded projects.
    - One project, funded through the Ohio Department of Medicaid, establishes regional QI hubs throughout Ohio. The hubs serve to promote population health for the Medicaid population by fostering performance improvement by the healthcare delivery system. Administered by seven Ohio medical schools, each hub chose a topic of concentration, and three of the seven chose to focus on high blood pressure in hypertensive patients. One HHOI Principal Investigator will lead one regional hub and several members of the HHOI will participate statewide, including HHOI PFs. HHOI respondents attributed the experiences with HHOI as informing the development of the hubs and indicated that they will integrate the HHOI QI methodology and continue to disseminate lessons learned through HHOI through the hubs.
    - The second project establishes primary care community partnerships to improve cardiovascular health in one county in Ohio with high hypertension prevalence rates. It aims to connect clinical care with community services. HHOI leadership attributed their experience with HHOI, specifically experience building a cooperative with meaningful engagement, as a significant contributing factor to their conceptualization of the project and ability to successfully compete for the award.
- For THHN, the CDC's Innovative Cardiovascular Health Program grant will engage some of the practices that participated in EN:BSC, but it will also introduce new practices including community health centers. The new grant also includes an explicit partnership with Tennessee Medicaid (TennCare) managed care organizations (MCOs), which will engage their PFs to work within community health centers to expand SDOH screening and referral to services. The THHN team sees this grant as an expansion of what was provided in EN:BSC, including continuing the learning collaboratives, practice facilitation, and engagement in the TN-POPnet chronic disease registry. The THHN team continues to apply for other population health–related grants and has also received foundation funding and institutional support to continue their work.
- HH4M partners continue to seek out new opportunities to work together. One respondent described winning a contract through the National Kidney Foundation of Michigan to build a cooperative to engage in education on the importance of chronic kidney disease prevention and care.

In all cooperatives, members described the important work that EN:BSC did to build and foster relationships across the state to support future investments and engagement. All four grantees sought to engage diverse partners statewide, including leaders in QI; academic organizations; public health, healthcare, or professional organizations; and payers. Some of these relationships existed prior to the launch of EN:BSC, but across all four cooperatives, respondents explained that relationships expanded and deepened through this project. Respondents from all grantees believed that building these strong relationships and partnerships made them able to better respond to future related opportunities.

- ACC respondents credited EN:BSC with creating sustainable, collaborative relationships, and they projected that these relationships would result in ongoing cooperative efforts towards cardiovascular health in Alabama. The experiences and skills they gained through building the cooperative positioned them to apply for and receive competitive funding opportunities to continue their work on cardiovascular health QI. They are comfortable working together and trust that partners will meet their responsibilities. They know who the key interested parties are and what they can contribute to different projects. This comfort allowed respondents to conceptualize project plans more easily in the early stages of grant writing and has increased their readiness to apply for new projects: *"Now that we've done this, we're poised; that's what I think made it easier to write for other opportunities, because we know this now; we've got this plan."*

- For HH4M, interview respondents explained the relationships among the cooperative partner organizations will continue and were strengthened because of this work. Though many of these partnerships existed prior to the start of EN:BSC, respondents explained that this project had allowed for greater connection, especially in supporting the state quit line EHR expansion and in engaging with payers.

- From the start of this project, HHOI has been closely linked with the preexisting collaborative Cardi-OH. It and HHOI have overlapping objectives (e.g., improving cardiovascular health in Ohio). Though HHOI members distinguish the two collaboratives, they describe HHOI as being part of Cardi-OH – and at times, a product of it. Cardi-OH is an established cardiovascular health collaborative, and HHOI leadership always envisioned that the two collaboratives would overlap in their membership and processes. In the second year of EN:BSC, however, HHOI leadership identified a need to separate the two to maintain funding requirements, and they started to distinguish HHOI more formally from Cardi-OH. These efforts did not result in a complete separation of the two collaboratives, and as plans to sustain HHOI developed, leadership focused on incorporating the HHOI into Cardi-OH. Members of the HHOI are part of the Cardi-OH team, and the experiences gained, and the relationships built through HHOI will be sustained in their work with Cardi-OH.

- THHN is unique in that the cooperative will continue, due to both intentional community building and institutional support and additional external grant funds that blend with THHN's current aims and goals. The EN:BSC grant supported the development of the THHN within a broader organizational structure of the Tennessee Population Health Consortium. THHN leadership, as well as leadership of the broader Consortium, are committed to improving the health of all Tennesseans. They see the work of the Consortium – such as the TN-POPnet chronic disease registry and work with TennCare – as critical to improving the health of people across the state.

2.2.2. Statewide QI Support Sustainability

Some interview respondents described how the important work implemented and completed by the collaboratives to expand QI support within their state will continue to affect the health of its residents after the funding ends.

- Several respondents identified that one of HH4M's lasting legacies was to integrate the state tobacco quit line into EHRs. Originally, the HH4M team expected increasing referrals to the quit line would

be an initial easy win. However, after learning more about the referral process, they realized that the EHR integration for the quit line was not working as intended. The HH4M team learned that each practice that wanted to integrate its EHR into the quit line would need to spend $5,000 for that functionality, which was not feasible. The state identified a vendor to support the EHR integration. As of the interviews for this project (Fall 2023), practices were piloting the new workflow. Integrating the quit line through the EHR will reduce paperwork and ultimately increase the number of patients who receive smoking cessation counseling.

- Universally, respondents from THHN believed the project win related to health coach reimbursement was one of the largest impacts of the EN:BSC project. THHN partnered with the state MCOs to jointly agree on terms to reimburse community health workers and health coaches to support team-based care. THHN intentionally recruited leaders from across the state, including the Chief Medical Officer and other leads from each of the three MCOs, to determine a strategy for how to jointly agree on reimbursement codes. Once all the partners had agreed on an approach for reimbursement codes, they jointly wrote updated guidance, implemented and tested the codes, and provided training and support for practices. THHN has continued to update its website to focus on the sustainability of the QI projects and bill for population health management work completed by health coaches or pharmacists. In discussing sustainability of these projects, the THHN team was thoughtful to balance the general public's perception that healthcare agencies are overly focused on money, and instead frame sustainability as the need to conduct and document activities to support quality care.

Many interview respondents described plans for the cooperative to continue to support the QI work within local practices, such as by continuing to provide a website with specific heart health and QI materials.

- Respondents from the ACC reported they have plans to sustain project materials, such as training modules, and are optimistic that a few new resources could develop from their experience with EN:BSC. The project website will continue to host continuing education modules designed for patients and clinicians. ACC will also maintain a cardiometabolic stakeholder panel to meet regularly. It also is actively engaged in plans to create a population health database of data from primary care practices across the state. One respondent also expressed optimism that the relationships built, and lessons learned through EN:BSC would prompt the development of new approaches, such as a learning collaborative among primary care agencies across the state.

- HH4M developed several handouts and materials to provide to practices as part of its practice facilitation. It has now launched a public-facing website so anyone can download materials developed as part of the HH4M EN:BSC project. Materials listed include toolkits on proper blood pressure measurement, implementing a "hiding in plain sight" protocol, implementing a self-measured blood pressure program, and a tobacco cessation intervention. HH4M also intends to conduct a tour of Michigan to disseminate these resources and make practices aware of the website.

- As stated above, the HHOI will not exist as a formal entity after the close of the EN:BSC project; instead, Cardi-OH will incorporate HHOI. The Cardi-OH website will host the materials HHOI created for QI support, such as the QI toolkits and recorded webinars. HHOI will continue to provide data dashboards to QI practices immediately following the project termination, but after one year it will no longer create or maintain practices' data dashboards. HHOI respondents stated that staff capacity will hinder practices' ability to maintain the data dashboards on their own; their staff lack the time and expertise required. Individual coaching received through practice facilitation will also not continue. However, some of the PFs will participate in the newly funded regional QI hubs, and their expertise and coaching methodologies will be available to practices on those projects.

- THHN had originally pitched a three-tier membership in the heart network: (1) practices that participate in the QI project and provide data to TN-POPnet, (2) practices that share their data but do

not participate in the QI project, and (3) projects that do not engage in the QI project or TN-POPnet but receive newsletters and access the website for resources and support. With the conclusion of the EN:BSC project, many practices have transitioned to the new CDC Innovative Cardiovascular Health Program grant. Those that have not are still engaged by having access to the open website with resources and supports, the monthly newsletter, monthly learning collaboratives, and TN-POPnet (if they had agreed to participate). THHN's website will house its evidence-based intervention toolkits, which it plans to continue to use and update as it gets feedback from practices. In the past several months, it has updated the website to include changing rules related to reimbursing for health coaching (see next section on QI project sustainability), and sustainability planning for practices engaging in these evidence-based interventions.

It also intends to continue its monthly newsletters with content relevant to heart health and general population health. One section of the newsletter that the THHN team thinks is particularly important is "Patient and Provider Voices," where they record videos of patients or providers to share insights. For example, a patient might describe their heart health issues and what has worked or not worked for them, to bring forward those experiences to clinical teams to support person-centered care. Physicians might describe challenges encountered and how they were able to overcome them. The "Patient and Provider Voices" component has been well received, and THHN plans to continue to produce the newsletter to practices.

With the new CDC grant, the THHN team is continuing to conduct learning collaboratives. Expert presentations and trainings will be recorded and uploaded to the website for broad use. They go beyond just recording the live learning collaborative session, and instead ask presenters to narrate slides to improve the sound quality of the stored recording. Finally, integral to continuing to engage practices was to develop TN-POPnet to provide quarterly and eventually monthly reports to engaging practices on their chronic disease management measures benchmarked to other practices in the state.

2.2.3. QI Project Sustainability Within Practices

The research team asked respondents from each cooperative whether they believed that the QI work that was started through EN:BSC within each practice will continue. Respondents offered a range of perceptions. Some respondents were optimistic that the fundamentals of QI, including regularly reviewing metrics and targeting areas for improvement, would continue after the project ends. Respondents from ACC and HHOI, which included several FQHCs, believe that the FQHCs could be in a stronger position to have their QI work continue, in large part because of QI requirements and additional support provided to those clinics. However, many respondents described the competing challenges within a busy clinical setting and recognized the challenges with continuing QI interventions without the practice facilitation and other supports provided by the project.

- Respondents from the ACC reported that sustaining QI support strategies will vary by clinic type. FQHCs will likely continue to receive QI support after the project ends because they have QI requirements that pre-date and are external to EN:BSC. The ACC partnered with the Alabama Primary Health Care Association (APHCA) to provide project-specific QI support to the 28 FQHCs that participated in EN:BSC. Members of the APHCA reported that their experience with EN:BSC introduced them to practice facilitation and that they fully intend to embrace the approach in all their future QI activities. APHCA developed an internal goal to integrate practice facilitation as its fundamental methodology with the full network of 175 FQHCs in Alabama. It also developed data dashboards for the 28 FQHCs that participated in EN:BSC. It will continue to make those available to FQHCs and intends to create data dashboards for the state network of FQHCs.

  APHCA receives independent funding to support FQHCs, but there is no parallel organization to support non-FQHC practices. Without funding, the ACC leadership is not optimistic that non-FQHC practices will have continued access to QI support after EN:BSC ends. Respondents believed that

practices are more likely to sustain the skills learned through the QI support, such as standardizing blood pressure measurement or ad hoc data review, than to engage in practice-wide QI projects.

- For HH4M, interview respondents believe that the practices intend to continue the QI work they began through this project. Respondents described how the practice facilitation was designed to uncover the importance of QI and how it can improve care and internal processes. One PF noted, *"Definitely within Michigan and the clinics that I've worked with, I've opened their eyes to the importance of quality improvement and the possibilities of improved care for their patients. I think that will continue to grow within the practices that I've worked with."* PFs received feedback from office managers that they will continue to pursue QI work, especially the practices in rural Michigan.

- Among HHOI respondents, opinions varied about the degree to which practices will sustain their QI efforts. Some believe that it is likely that practices that had learned the process and had seen positive changes in their data would continue to implement Plan-Do-Study-Act cycles of improvement, even without the support of a PF. HHOI leadership indicated that many practices would continue to implement their blood pressure control improvements made as a result of this project. However, other respondents recognized that competing demands for time and attention limit the ability of clinics to continue this work after the project ends. HHOI respondents agreed that FQHCs will continue QI activities, if not because of genuine engagement in QI processes then because it is part of their funding requirements.

Importantly, some of the interview respondents explained that the current organization of primary care, regardless of the quality of the QI initiative, inhibits ongoing improvements. Respondents described the great challenges with burnout and workload within primary care and explained how further investment and improvement are required to truly sustain high quality.

- Interview respondents from HHOI remained aware of the high rates of burnout among QI practices, particularly during and immediately following the PHE and focused on relationship building in their approaches to maintain participation. This focus proved to be successful in establishing relationships among QI practices, and HHOI respondents reported that these relationships will likely continue after the termination of the EN:BSC project.

- THHN aimed to equip practices with specific strategies to continue the work of EN:BSC, in particular by focusing on building capacity within the workforce and on work with the state Medicaid MCOs to allow for reimbursement of health coaches and community health workers to support team-based care. Two of its three evidence-based intervention toolkits focused on developing team-based care to both improve care quality and reduce clinician burden. The health coach intervention focused on upskilling interested paraprofessionals to provide chronic disease health coaching to patients. The physician-pharmacist intervention provided specific training on the types of activities pharmacists can discuss with patients and bill for, with the aim of improving chronic disease management. Both interventions involved training in motivational interviewing to develop techniques to improve person-centeredness.

In addition, interview respondents described that heart health is affected by other SDOH; that without broadly improving issues related to poverty, housing, transportation, childcare, education, and other factors, heart health interventions remain limited in their effects.

- One HHOI member noted that a challenge to sustaining cardiovascular health improvements within practices is that these activities address only clinical practices and not nonclinical factors associated with health, such as health-related social needs. They said that until QI cooperatives can positively change patients' lives outside of the clinic, achieving sustainable, meaningful impact on patients'

cardiovascular health will be limited. Cooperative QI efforts must include more nonclinical, patient-centered input by involving community-based organizations and patient advisory groups:

> *If there is anything going forward, I would say the focus needs to start to include ways we address social determinants of health and the social needs of these populations, because you will only get so far in improving blood pressure control using clinical best practices…going to need to change the other 80 percent of the things that are getting in the way of those outcomes that you want.*

2.3. Additional Grantee Lessons Learned

Besides the lessons learned described in the previous sections, each grantee shared unique additional lessons learned that could be integrated into future QI initiatives. Three main themes were common to all grantees, which are described below.

2.3.1. Thoughtfully Consider Your Members and How to Manage Your Cooperative

Although grantees differed in their cooperative models and partners, they all identified partnerships as a key lesson, whether because of their lead organizations, involvement of payers, diverse expertise, or geographic reach:

- ACC respondents believe that **a partnership between an academic institution and a QI organization would be the ideal model for future projects.** ACC respondents indicated that both types of entities bring unique expertise and resources that are necessary for a successful QI model. Academic institutions have the accreditations to apply for and manage grant funding for innovative demonstration projects. They have longstanding relationships with critical stakeholders and can engage a diverse group of partners in the project. They have the research expertise to evaluate projects on a large scale. QI organizations have the training and expertise to provide day-to-day QI coaching. They have full-time staff dedicated to providing QI support. Members of the ACC agreed that a critical element of success is having paid staff time dedicated to the project, and QI organizations can provide that more extensively than can academic institutions.

- ACC respondents also noted the potential **value in engaging payers in the cooperative, including Medicaid, MCOs, and private insurers, from the beginning of the project**. The ACC engaged payers intermittently, through quarterly meetings, but respondents reflected that having their perspective earlier and more frequently would have benefited the design, implementation, and sustainability of its QI efforts. Having their perspective during planning would have been particularly useful for addressing, and perhaps preventing the data challenges that arose due to inconsistent data availability from practices. Payers can have access to statewide data or have the technical capacity to create a statewide data process. Payers, especially Medicaid, also address quality through different payment models, and the ACC might have identified opportunities to integrate its objectives with those payment models to increase QI support activities and build long-term financial viability.

- HHOI respondents reported that having **a large cooperative with diverse subject matter expertise and regional coverage was essential for building QI support.** Having a large cooperative allowed individual members to focus on their specific expertise, reducing the burden of having to learn new areas of content in-depth. Further, when a QI practice needed specific technical assistance, a member of the HHOI could join a coaching call and provide expertise on that topic. Many members of the HHOI are considered leaders in field, and members of the HHOI observed that this provided validity for practices, particularly from the clinicians. Having members located throughout the state meant that the cooperative had internal knowledge about – and at times relationships with – many healthcare systems and practices statewide. Members of the HHOI also noted that maintaining a large

cooperative is time-consuming and requires dedicated staff to schedule meetings and respond to last-minute informational requests from partners.

- The HH4M also learned that **involving partners in the cooperative that have established relationships with practices is critical to program success.** HH4M had two implementation partners, the Michigan Center for Rural Health and Upper Peninsula Healthcare Solutions, and PFs from both entities had preexisting relationships with practices in their coverage areas. The former worked with the rural health clinics, and the latter worked with Upper Peninsula–based practices and tribal health clinics. One HH4M respondent explained that all of the PFs are providing the same general QI support and resources. However, having PFs within organizations that are trusted, known, and local increases buy-in from practices. One PF respondent explained that they had worked with some of these practices for more than 20 years. The PFs from these partner organizations were able to rely on existing relationships to increase engagement in rural and underserved parts of Michigan.
- The THHN team invested significant time and effort prior to and at the beginning of EN:BSC to identify and recruit the right partners to sit on relevant committees. They had the **right partners engaged across the state** to make some important, critical updates to improve implementation of these programs (MCO leads) by partnering to develop a protocol to approve reimbursement for health coaches and community health workers to support team-based care. Respondents from THHN recounted how it was challenging at times to find people who were committed to engaging in this work. Even for staff written in and funded as coinvestigators, this broader population health, infrastructure-building effort can take a backseat to more emergent work challenges. Moreover, the work involved with building state-level capacity also involves significant challenges that require a patient but persistent response.
- THHN attempted several strategies to **engage patients**. It had intended to develop regional patient advisory councils but struggled to get more than one off the ground. The one patient advisory council provided important insights into the patient-focused content within the evidence-based toolkits and general aims and plans for the project. With THHN's expansion through the new CDC SDOH grant, THHN intends to engage patients at the neighborhood level, as opposed to within practices. It realized that patients feel more ownership of their local communities than their local clinics and recruiting through the neighborhood seemed to result in more engaged patient representatives. THHN also intends to continue to engage patients in the "Patient and Provider Voices" section of its monthly newsletter (described earlier).

Besides lessons on the cooperative models, grantees shared lessons on how to manage, or better manage, their cooperative partners and similar initiatives in the future:

- To create a large and diverse cooperative, HHOI respondents learned that **establishing clear expectations early with partners will lead to more engagement** among partners. HHOI established expectations, but some respondents noted that during the early phase of engagement, those expectations became less clear, and some critical partners were slow to engage, such as the payers and the QI teams. One member of the HHOI also indicated that if the cooperative had remained diligent on its internal expectation to engage patients for QI teams, it would have had more patients engaged on the QI teams.
- ACC respondents agreed that several elements of the **cooperative's structure and approaches led to its successes** and teams should replicate those elements in future projects. Specifically, having **highly committed leadership** proved to be paramount to the cooperative's engagement in the project. Initially, the ACC intended to rotate leadership among its members, but that never came to fruition because of competing priorities and their inability to take on extra tasks. The Principal Investigator maintained the leadership role and members of the ACC cited their commitment as a strong factor in

sustained buy-in among other ACC members. The Principal Investigator planned in-person meetings, including the annual retreat, that provided opportunities for reengagement, discussion of the project's progress and challenges, and brainstorming next steps. ACC respondents said that it was critical to be able to communicate, especially in person, in a committed, trusting environment that promoted constant reevaluation of the project and the flexibility to modify plans when needed.

- Respondents from HH4M noted that **quality assurance activities should start early in the project**. Starting quality assurance activities early can identify and address implementation challenges before they escalate and cause significant setbacks. One PF was not implementing the program as intended and HH4M did not find out until the 6th month of implementation.[6] By then it was too late to correct the situation, and it had to exclude six practices from the study analysis. At that point, the lead PF began regular progress checks with a sample of practices assigned to each facilitator to discuss progress; identify and address challenges; and, ultimately, prevent additional project setbacks. One respondent explained that in the future, these quality assurance activities would be implemented throughout the project.

- The HHOI learned that **disseminating lessons learned throughout the project lifespan** helped keep partners engaged and excited and established a strong foundation for long-term sustainability of the project. The HHOI emphasized dissemination early in the project and created a dissemination work group. The work group created materials, such as podcasts, to share on the HHOI website.

2.3.2. Building QI Infrastructure and Supporting Practices Takes Time

Grantees learned that building QI infrastructure statewide and within practices takes time, perhaps more time than their grants provided. Grantees noted several strategies that could mitigate the challenge of quick timelines, such as engaging partners with prior experience in similar projects or employing an external technical advisor and implementing quality assurance activities early to identify and correct challenges sooner.

- **Quality improvement projects require more than 12 months to be effective.** HH4M respondents described the project timeline as aggressive, indicating that it takes additional time to promote change. The PFs and practice change leads believed that twelve months is only enough time to lay a foundation; practices need at least 18 months if not two years to develop patterns of behavior that are sustained. ACC respondents also reported that the project timeline was aggressive and suggested additional planning time, from six to twelve months, should be built into project timelines for initiatives that require building relationships across sectors and developing networks of practices. ACC respondents also noted that they needed more time in the beginning of the project to build out the data extraction processes. In hindsight, they realized that including an assessment of each practice's EHR and local capacity to develop and run reports would have provided critical insight to inform those processes. Instead, they learned about some of the challenges during implementation, and so had to spend valuable project time revising processes. Further, having a technical advisor for the ACC was deemed valuable and future projects could consider including that role in the initial budget, especially in projects with quick timelines.

- The HH4M **struggled to reach its goal of a stepped-wedge design for its evaluation** because of the pace of recruitment, and thus had to choose a different study design midway through the project. Michigan reported significant challenges with recruitment during the COVID PHE; practices were overburdened and understaffed because of the increased demands. The HH4M team needed to

[6] The HH4M leadership reported the issue to the Institutional Review Board as a protocol violation and to the AHRQ Project Officer and Grants Manager.

prioritize the timeline of the project – ensuring that the practices had enough time to receive the intervention before the end of the project period – over the preferred study design.

- **Building statewide infrastructure takes time and money.** The THHN team recognizes that the EN:BSC 3-year project supplied the core funding to get the work started, but that ongoing investment is needed because building primary care QI capacity is a long-term commitment.

2.3.3. Obtaining Data for QI Can Be Challenging and Should Be Anticipated

Given the critical role that data play in a primary care QI initiative, several grantees reported lessons learned related to the challenges of obtaining data from practices, regardless of whether data were collected centrally or directly from each practice.

- **Clarity around data expectations early in the project can help practices and PFs appropriately plan data collection.** Data collection proved to be a heavy lift for many practices, and one that they were not expecting. Practices did not fully understand the purpose of some of the data collection, and that caused confusion around expectations. One HH4M respondent indicated that at the time of the interviews there were still some data being collected and it was unclear what the data would be used for or if they were even needed. One HH4M respondent suggested that if the PFs had enough information about data requirements, they could help prepare the clinics for that level of data collection.
- **Building a data network and registry (TN-POPnet) was more challenging** and time-consuming than the THHN team anticipated. Organizational and data use agreements took a long time to negotiate, especially given the valid and important concerns about data security and patient confidentiality. The variety of EHRs also resulted in challenges in functionally establishing regular data feeds. THHN did not require that practices use Certified EHRs, but it also did not use established data reports as its feeds (e.g., Electronic Clinical Quality Measures or Merit-Based Incentive Payment System). This resulted in more work for the TN-POPnet staff and PFs to help practices interested in engaging in the TN-POPnet to develop the required reports for the data feeds.

3. Conclusion

Combined with findings from previous reports, we offer the following conclusions and recommendations:

Multistakeholder engagement to co-develop, coordinate, and align primary care improvement.

- **Building on and strengthening existing relationships with state partners is essential for forming and sustaining a primary care improvement Cooperative.** Grantees were already well-networked across their states, having previously led and implemented similar QI initiatives. Grantees also sought to identify and expand partnerships to ensure representation across their state. Where the cooperative had existing ongoing funding to sustain – in Ohio and Tennessee – the critical partners were secured and engaged early in the process. In comparison, Michigan and Alabama struggled to align state partners including funders to sustain the work. In future initiatives, AHRQ might consider requiring grantees to demonstrate the pre-existing relationships with key organizations involved in their initiatives.
- **Both academic medical centers and quality improvement (QI) organizations are capable of effectively leading Cooperatives designed to support state-level improvements in primary care capacity.** Though our data are limited to the four cooperatives in EN:BSC, two academic-led cooperatives plan to sustain their work as a cooperative in some form. When asked about what types of organizations would be best to lead state-level capacity improvement efforts like this one, respondents often explained that academic medical centers had the topic expertise and legitimacy, as well as the experience competing for grants. On the other hand, QI organizations often had on-the-ground experience with practices. Other respondents suggested that this work should be housed within the state public health departments to draw support from state government and endorsement from Governor's offices.
- **Engaging employers and payers early in the Cooperative development process helps build ongoing support.** The model of practice facilitation to support quality improvement is well-received by practices and cooperative partners, but sustaining this approach is challenging. This is one small step in which payers provide funding linked to value-based care. Another idea suggested by HHOI members is for future grant-funded projects to focus on engaging healthcare systems' executive leadership (the C-suite) and/or to prioritize showing the financial value of quality improvement. Executive leadership buy-in could significantly impact the systems' allocation of funding for QI if there is evidence that it is financially beneficial. Working with employers and payers supported some of these activities. In future initiatives, planning for sustainability, including sustainable state funding through appropriations, should begin during the first year and be foundational to the work. should begin as early as possible.

Collecting and sharing data to drive and track improvement.

- **Given the challenges obtaining practice data for feedback and benchmarking, other approaches and contingency plans should be anticipated.** Three grantees intended to create data dashboards or provide reports as part of their data, feedback, and benchmarking tasks, and all three struggled for various reasons. Documentation and data use agreements required significant communication and coordination between the grantee and practice, and ultimately different practices reported varying levels of comfort reporting patient-level data. Not all grantees required that practices had certified EHRs, and even some of the certified EHRs had inconsistencies in report output and requirements. Participating practices had varying levels of operational support to pull data and reports. PFs across grantees assisted practices in generating reports that were functional and usable for their practice, especially where the data dashboard or registry was not an option. These challenges and our findings

in this report will be used to interpret or understand what we may (or may not) find in our outcomes analysis.

Other conclusions

- **Given capacity challenges within primary care, future initiatives should allow enough time to conduct meaningful practice improvement and set realistic expectations for practices' improvement in consideration of their resources and capacity.** Practice engagement in the QI project was challenging for all grantees, especially in the context of primary care during and after the COVID-19 public health emergency. Practices reported significant capacity and staffing challenges. Though practices were interested in improving care quality and the heart health of their patients, practice staff also needed to balance their ability to implement QI projects amidst commonly reported staffing shortages. PFs sought to meet practices where they were and make improvements incrementally based on their capacity and ability to make changes. For long-term sustained improvements, PFs recommended more time (i.e., 18 or 24 months) or more intensive engagement was necessary. However, a longer intervention period would require a longer grant period to allow for recruitment and evaluation.
- **Use of stepped wedge design poses challenges for practice recruitment and retention. They can also compress time for other activities, like cooperative development within a three-year grant.** Ultimately, two of the grantees were unable to do a true stepped wedge design because of challenges recruiting all practices prior to randomization. The two grantees that used a stepped wedge design recognized the potential for bias in how they randomized practices. For example, when all practices within a health system were randomized together, if they were in a later wave, those practices struggled to maintain interest and remain in the intervention until the last wave. Conversely, when practices within a health system were not randomized together (i.e., receive the intervention at different time points), there can be spillover across practices, especially if there is a shared QI lead.

Appendix – QI Support Overview by Grantee

Alabama Cardiovascular Cooperative

The Alabama Cardiovascular Cooperative (ACC) continued its evidence-based interventions on smoking cessation and blood pressure, as well as quality improvement (QI) support to 50 practices in the final year of the project. It used practice facilitation as its main approach for QI support with practices. It identified several factors that facilitated success of the intervention and QI support, as well as factors that created challenges for successful implementation.

Exhibit 4. Overview of Alabama Intervention and Quality Improvement Support Strategies

Intervention Overview	
Intervention Length	• 12 months
Evidence-Based Interventions	• Create and use a registry. • Track progress on QI activities. • Define care team roles. • Create panels of patients. • Identify needed services for patients. • Select evidence-based practice protocols (e.g., smoking cessation, blood pressure) • Create and establish team workflows. • Implement blood pressure home-self monitoring and telephone management. • Train staff in self-management support. • Set patient goals collaboratively. • Use teach-back methods. • Link patients with community resources.
QI Support Strategies	
Practice facilitation	• Monthly in-person visits (at least one in person each quarter) over the course of 12 months. • Follow-up phone calls/emails between meetings to check on progress (three/month). • Assess for readiness and identify barriers and facilitators.
Health IT support	• PFs provide monthly and ad hoc data support for manual EHR pulls.
Education and training	• ACC work group identifies and develops educational materials during monthly meetings. • PFs distribute educational materials and conduct educational meetings during monthly site visits and as requested by practices.
Data, feedback and benchmarking	• ACC contracted data experts to assist with creating dashboards.

ACC=Alabama Cardiovascular Cooperative. EHR=electronic health record. PF=Practice Facilitator. QI=quality improvement.

Healthy Hearts for Michigan

For Healthy Hearts for Michigan (HH4M), practice facilitation was the central component, and PFs provided health IT support to encourage practices to regularly track their heart health QI metrics. HH4M used incentives to encourage the submission of timely data. It provided continuing education credits to encourage clinician engagement.

Exhibit 5. Overview of Michigan Intervention and Quality Improvement Support Strategies

Intervention Overview	
Intervention Length	12 months
Evidence-Based Interventions	• Accurate blood pressure measurement. • Hypertension management (Hiding In Plain Sight protocol). • Self-measured blood pressure (SMBP) monitoring. • Tobacco smoking cessation (state quit line).
QI Support Strategies	
Practice facilitation	• In-person or virtual practice facilitation one or two times per month, for approximately 1 hour, over the course of 12 months.
Health IT support	• PFs provide support with EHR systems.
Incentives	• Financial incentive for time spent completing data collection activities ($1,000). • PI CME credits and MOC Part IV credits.

CME=Continuing Medical Education. EHR=electronic health record. MOC=Maintenance of Certification. Performance Improvement=PI. PF=Practice Facilitator.

Heart Healthy Ohio Initiative

In the final year of the project, the Heart Healthy Ohio Initiative (HHOI) continued implementation of its 12-month intervention to improve cardiovascular health services. It implemented a multipronged approach for providing QI support that included virtual practice facilitation, data feedback and benchmarking, and opportunities for shared learning among practices.

Exhibit 6. Overview of Ohio Intervention and Quality Improvement Support Strategies

Intervention Overview	
Intervention Length	12 months
Evidence-Based Interventions	• Accurate assessment and measurement (blood pressure): Good blood pressure measurement technique; smoking assessment at each visit; assess medication taking. • Appropriate and timely treatment of blood pressure and/or smoking cessation: Medication management; timely follow-up; lifestyle monitoring; smoking cessation support; medication adherence strategies. • Effective outreach: Standardize processes; multiple modalities. • Effective communication: Empathy, nonverbal strategies, cultural humility, health literacy, implicit bias; motivational interviewing. • Healthy equitable environment of care: Identifying and addressing social determinants of health. • Effective supportive relationships: Team-based care. • Screened and well-managed behavioral health: Screening and addressing depression and substance use.
QI Support Strategies	
Practice facilitation	• PFs meet virtually with practices monthly. • Review data dashboard and site progress towards established goals. • Provide targeted technical assistance to address implementation challenges.
Health IT support	• One-on-one health IT support is available to sites to ensure accuracy and completeness in reporting. • Coding and specific tools for use with Epic EHR systems are available to aid data aggregation methods and reporting.
Shared learning / education and training	• Conduct quarterly learning webinars to foster cross-site collaboration.

Intervention Overview	
Data feedback and benchmarking	• Intervention sites work with PFs and their staff to set data benchmarks and progress goals at project outset. • Use digital dashboard to visually convey data as part of monitoring and individual site assessment of progress.
Incentive	• Financial incentive for completing data collection activities ($4,000 in Year 1; $1,000 in Year 2). • MOC and/or CEU/CME credits available.

CEU=Continuing Education Units. CME=Continuing Medical Education. EHR=electronic health record. IT=information technology. MOC=Maintenance of Certification. PF=Practice Facilitator.

Tennessee Heart Health Network

Tennessee Heart Health Network (THHN) was unique in that it proposed to implement three evidence-based toolkits, in addition to conducting practice facilitation and learning collaboratives. THHN also implemented a data registry, the TN-POPnet, that allowed participating practices to submit data feeds and receive quarterly reports with state-level benchmarks on heart-health QI metrics.

Exhibit 7. Overview of Tennessee Intervention and Quality Improvement Support Strategies

Intervention Overview	
Intervention Length	12 months
Evidence-Based Interventions	• Health coaching on heart health (e.g., blood pressure). • Pharmacist-physician collaboration to improve heart health. • Heart health text messaging.
QI Support Strategies	
Practice facilitation	• Monthly PF visits (at least one in-person visit each quarter). • Review data dashboard. • Identify barriers and facilitators to evidence-based intervention toolkit implementation.
Health IT support	• The PFs review data (from TN-POPnet or own EHR) during monthly meetings with practice.
Shared learning	• Two to four topic-based learning collaborative sessions per month. • Experts speak on topics suggested by participants.
Data feedback and benchmarking	• Using the TN-POPnet to support data analytics and benchmarking. • Provides data dashboards comparing own with network's practices data.

EHR=electronic health record. PF=Practice Facilitator. TN-POPnet=Tennessee Population Health Data Network.

The THHN was unique in that its intervention involved the development and implementation of three evidence-based toolkits as part of the QI support. During the initial meeting with each practice, the PFs introduced the toolkits and related goals and expectations. After the first month of the project, each practice selected which toolkit(s) it wanted to implement; each practice had to select one but could have selected all three:

- Health Coaching provided training for new or existing staff in motivational interviewing to support patients to improve management of heart-related chronic conditions. Each practice that selected this toolkit was able to send one or two staff to the motivational interviewing training. Additional training was provided for the identified health coach to support person-centered conversations using motivational interviewing to change patient behavior.

- The Pharmacist-Physician Collaboration supported the development of pharmacist-physician partnerships to engage patients by using motivational interviewing to improve management of heart-related chronic conditions. This training focused on physicians partnering with clinical pharmacists to engage with and bill patients for additional educational and supportive services, such as tobacco cessation, cardiovascular risk counseling, diabetes self-management training, transitional care management, chronic care management, and remote patient monitoring.
- Heart Health Messages provided automated, evidence-based heart health text messages to patients to give ongoing guidance and facilitate care. There were significant challenges with implementation of this toolkit, including issues contracting with the text messaging vendor, challenges getting the data feed of patient contact information to initiate text messaging, and concerns related to patients opting-in to the text messaging service. By the end of the intervention, patients from only two practices had received heart health–related text messages.

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