



AHRQ Infrastructure for Maintaining Primary Care Transformation (IMPACT) Grants: A Synthesis Report

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Figure 1. Map of Model and Partner States

Table 1. Summary of Model State Initiatives

Introduction

The Agency for Healthcare Research and Quality (AHRQ) funded four cooperative agreements from September 2011 through September 2013 called “Infrastructure for Maintaining Primary Care Transformation (IMPACT): Support for Models of Multisector, State-Level Excellence.” Each award funded State-level initiatives that had previously demonstrated success in providing a quality improvement (QI) and practice transformation infrastructure for primary care, specifically through the use of a primary care extension model approach. Teams in New Mexico, North Carolina, Oklahoma, and Pennsylvania received the four AHRQ IMPACT grants.

The purpose of this report is to describe the key efforts and activities of the IMPACT grants; synthesize lessons learned across the grants about effective approaches to primary care QI capacity-building; and discuss opportunities for future research, sustainability, and expansion.

What Is a Primary Care Extension Program?

As defined in Section 5405 of the Patient Protection and Affordable Care Act, the charge of a primary care extension program (PCEP) is to “provide support and assistance to primary care providers to educate providers about preventive medicine, health promotion, chronic disease management, mental and behavioral health services...and evidence-based and evidence-informed therapies and techniques, in order to enable providers to incorporate such matters into their practice and to improve community health by working with community-based health connectors.”¹ A central component of an extension program is the use of extension agents who work as practice facilitators, also referred to as “health extension agents” or “practice coaches.” Practice facilitators collaborate with health departments, universities, and other community health agencies to facilitate and provide technical assistance for QI or system redesign.² In addition, extension agents may “collaborate with local health departments, community health centers, tribes and tribal entities, and other community agencies to identify community health priorities and local health workforce needs, and participate in community-based efforts to address the social and primary determinants of health, strengthen the local primary care workforce, and eliminate health disparities.”¹

Often, PCEPs support patient-centered medical home (PCMH) redesign efforts, which include utilizing a QI strategy, implementing population management techniques for a defined panel of patients, organizing care to use a primary care team, engaging patients in their own and their families’ health, and coordinating care across settings. As defined by AHRQ,³ the PCMH is a model of care that encompasses the following five functions and attributes:

- Comprehensive care
- Patient-centered care
- Coordinated care
- Accessible services
- Quality and safety

A number of national and State PCMH recognition and accreditation programs exist. Many practices use practice facilitation to support QI activities regardless of whether they choose to pursue PCMH recognition.

AHRQ IMPaCT Initiative

AHRQ designed the IMPaCT initiative to support State-level primary care QI and transformation efforts and to learn how these programs could serve as models for other States.⁴ The initiative had three purposes:

1. Provide multiple examples of how a PCEP could be built
2. Expand existing programs to allow primary care practices and communities to benefit now
3. Facilitate teaching and learning across States

Each of the four IMPaCT grantees, or “model States,” collaborated with three or four “partner States” (also called “spread States”) to share the successful infrastructure model they had established. In total, 17 States were involved in the initiative to develop, expand, and improve the State-level programs to assist primary care practices with their QI and redesign efforts (**Figure 1**). Since the grants were cooperative agreements, AHRQ program officials were engaged with grantees during the entire project period. AHRQ supported cross-project learning through regular teleconferences and awarded a small conference grant that enabled all model and partner States to meet in person in 2013.

More information on the work of the IMPaCT grants can be found at the AHRQ project Web site (www.ahrq.gov/professionals/systems/primary-care/tpc/index.html), which includes a catalog of tools and resources developed by the IMPaCT grantees and partner States to help support and train others in primary care transformation and QI, short profiles that summarize key aspects of each project, and success stories highlighting a unique accomplishment of each grant in one of their partner States.

Methods

We collected and reviewed publically available materials about the IMPaCT projects, as well as final grant reports and other materials supplied by the grantees. We also conducted a 1-hour interview with the principal investigator (PI) of each of the four grants between November 2014 and January 2015. Some PIs chose to invite additional members of their research teams to join the calls. Interview notes were recorded and transcribed. For two of the projects, the original PI had changed institutions at the time our review took place; in these cases, we spoke to both the original and new PI for the grant. The topics discussed during the calls included:

- The history of State-level QI efforts before the AHRQ grant
- IMPaCT objectives and activities
- Stakeholder interactions
- Activities with partner States
- Environmental context for the implementation
- Evaluation approach
- Results of implementation and spread efforts, including sustainability
- Advice for others building multipractice or multi-State external QI support

In addition, we conducted a 1-hour interview with a representative of one of the partner States who had worked with the AHRQ IMPaCT grant. During these calls, we asked about the partnership mechanism and how the partnership influenced extension planning in the partner State.

Based on our review of the information we collected, we compiled information about the elements of each program, analyzed common themes about best practices for scaling primary care QI efforts, and identified research gaps. Through this process we learned that enhancement efforts within model States differed markedly from spread efforts to partner States; thus, these two components are presented separately.

We organized our analysis based on theoretical insights of dissemination science, particularly Greenhalgh and colleagues' model of diffusion and innovation in service organizations.⁵ This model characterizes diffusion as a process involving interactions between elements, including:

- The innovation (in this case, enhancement and dissemination program components)
- System structure (e.g., extension program structure consisting of primary care practices and State-level organizations)
- Linkage agents (e.g., practice coaches)
- External context (e.g., payment, legislation, and culture)

Throughout this report we will describe how each grant utilized the unique resources that were available to enable the diffusion of the PCEP model in both the model and partner States.

Model State Enhancement Efforts

The IMPaCT grants were designed to support primary care transformation by building on QI infrastructure already in place in each model State. Therefore, each grant's State-level enhancement efforts included unique program components and interfaced with other ongoing efforts. In this section, we first provide an overview of the structures and strategies used to develop practice transformation efforts within the four model States. We then describe how the extension program structure engaged primary care practices in developing or deepening QI capacity. Finally, we describe how each State worked to grow participation and coordination in statewide QI efforts across stakeholders through formal structures, relationships, and shared vision. **Table 1** summarizes each grant's State-level efforts, including its structure, participants, use of practice facilitators, population and community health efforts, intersection with State PCMH efforts, and products.

Summary of Model State Program Components

New Mexico

New Mexico's Health Extension Rural Offices (HERO) program,⁶ coordinated by the University of New Mexico Health Science Center, used the IMPaCT grant to adapt existing community-based efforts to address social determinants of health in an effort to reach small primary care practices, including those in rural areas. HERO worked to address the needs and priorities of primary care providers and fragmentation of services by: 1) training agents (called health extension rural officers or "HEROs"), who personally visited primary care clinics, and 2) creating a centralized catalog containing useful resources for primary care practices, ranging from the Health Information Technology Regional Extension Center to housing for families of patients receiving treatment at the University of New Mexico Hospital. A core team based at the University of New Mexico Health Science Center supervised the HEROs, mobilized shared resources, and assisted the HEROs and the participating practices with accessing these resources.

North Carolina

IMPaCT funding was used to deepen North Carolina's existing multipronged approach to primary care improvement, which included practice facilitation, electronic data exchange, and care coordination and case management. The IMPaCT grant funded two collaboratives: the Regional Leadership Collaborative and the Primary Care Transitions Collaborative. Regional Leadership Collaborative participants included Community Care of North Carolina (CCNC) medical directors and QI directors, North Carolina Area Health Education Center (AHEC) QI consultants and medical leadership, and other influential regional organizations. The collaborative formed 13 regional teams and each selected improvement topics based on region and practice priorities. Staff from nine primary care practices participated in the Care Transitions Leadership Collaborative. Each practice established a Care Transitions Improvement Team comprised of at least one physician champion and nurse, with the option to also include an office

manager, scheduler, and patient or family member. The IMPaCT team packaged these efforts through a curriculum and change package.⁷⁻⁹

Oklahoma

The IMPaCT program built upon existing community-based organizations at the county level to develop County Health Improvement Organizations (CHIOs) in Oklahoma to act as extension agents for primary health care transformation. IMPaCT developed a mini-grant application process through which 10 CHIOs received \$10,000 grants for multipractice QI support interventions provided by experienced practice facilitators. In addition, the Clinical and Translational Science Institute at University of Oklahoma, comprised of representatives from academic institutions, State and county health agencies, and tribal governments, developed an improvement cooperative to further support dissemination of practice transformation throughout the State. To encourage uptake of the extension model and alleviate concern about duplication of efforts in the State, the Public Health Institute of Oklahoma developed CHIO certification criteria and a process for obtaining certification and recertification. Certification provided access to the small QI grants, assistance with other grant applications, and a variety of other resources, including regional coordinators funded with money appropriated by the State for this purpose.

Pennsylvania

The IMPaCT grant in Pennsylvania expanded the Pennsylvania Spreading Primary Care Enhanced Delivery (PA SPREAD) infrastructure previously developed as part of the Pennsylvania Chronic Care Initiative. Two conceptual models, the General Contractor Model and the Developmental Model, guided activities. The General Contractor Model envisions a PCEP as a mechanism to coordinate experts who deliver a variety of services to primary care practices, similar to how a construction general contractor works with expert tradespeople. The Developmental Model lays out three levels of the PCEP role: efforts to convene stakeholders and provide a clearinghouse of information serve as a foundation for technical assistance (e.g., learning collaboratives, practice facilitation, and data benchmarking) and shared services (e.g., care coordination).

These models informed IMPaCT's specific activities that involved: 1) convening stakeholders, especially the Pennsylvania Area AHEC; 2) direct services to practices via practice coaches, information technology assistance, and learning collaboratives; and 3) shared services, including a practice facilitator forum. A key focus of the IMPaCT funding in Pennsylvania was to develop two regional learning collaboratives with a total of 16 practices to test refinements in practice recruitment and support. The collaboratives held four learning sessions to provide practical training to participating practices and a chance for practices to share their experiences with QI. Session topics included planned care, process redesign, implementing plan-do-study-act QI cycles, achieving National Committee for Quality Assurance (NCQA) recognition as a PCMH, and sustaining practice changes. Practices submitted monthly data on population-level diabetes clinical measures and benchmarking reports produced from these data were discussed at learning sessions to catalyze ongoing improvement work.

Building a Culture of Change in Primary Care

Each IMPaCT program worked to involve new practices in QI efforts or to deepen the capacity of practices for ongoing improvement efforts. These efforts were facilitated by leveraging people and organizations that the practices trusted to build interest in the effort. New Mexico identified potentially eligible practices based on partner recommendations, and the PI and practice facilitators approached practices individually to invite them to participate. PA SPREAD leveraged the AHEC network in Pennsylvania to recruit a new group of practices. North Carolina's two types of learning collaboratives focused on health care professionals and leaders in North Carolina.

“One of the most satisfying impacts [of this program] was to hear clinicians shift their mental model to one of listening to the patient, partnering with the patient, and letting patients take ownership of their care.”

—Robert Gabbay
Pennsylvania IMPaCT PI

The collaboratives collectively engaged 13 teams of regional leaders and health care providers from nine practices to strengthen regional leadership and QI capacity and improve transitions between the hospital and medical home. Oklahoma engaged practices via the newly certified CHIOs. The IMPaCT grants tested incentives for practice engagement, including \$1,000 in New Mexico, continuing medical education and maintenance of certification for learning collaborative participation in Pennsylvania, and the mini-grants in Oklahoma.

Tailoring activities to practice interests proved critical for gaining practice involvement. All of the grantees we interviewed noted that a “demand-driven” rather than “supply-driven” approach was more successful for practice engagement. The IMPaCT programs identified local needs through a combination of existing relationships and programs; QI training, which emphasized teaching practices to identify and act on local concerns; and surveys. The core team created an Initial Visit Survey that gathered information on each practice's operations, patient population, challenges, and priorities. North Carolina's learning collaboratives included steps to identify region and practice priorities and chose topics accordingly. Additionally, North Carolina worked to create a feedback loop between primary care practices and State and regional improvement leaders. In Oklahoma, the core team encouraged CHIOs to choose areas identified as important during ongoing county health improvement planning discussions. The small projects funded through the CHIOs focused on depression, diabetes, opioid management, care transitions, and childhood obesity. Pennsylvania surveyed providers¹⁰ about their specific needs and attitudes toward practice transformation. The survey results were used by the investigators to tailor the extension program to individual practice needs, prioritize learning activities, and drive discussions among stakeholders. The survey results highlighted that providers were initially most interested in services to identify and coordinate referrals to mental health services, improve

“If I had approached those practices individually and asked, ‘Wouldn't you like to do some quality improvement in your practice?’ or ‘Wouldn't you like to transform your practice?’ they would have hung up the phone on me. But because it was a countywide project, addressing a real need that the county had identified, and they wanted to be part of something bigger than themselves, they all joined the project. That is a major benefit of forming the CHIOs and doing the project the way we did.”

—Jim Mold
Oklahoma IMPaCT PI

office workflow, increase overall revenues, implement evidence-based clinical guidelines, and help patients set self-management goals.

Building a Culture of Change Across Stakeholders

Stakeholder participation in IMPaCT extension program structures built upon preexisting relationships and adapted to new needs that were identified over time. For example, in Oklahoma, primary care extension built on the Oklahoma Physicians Resource Research Network, which had established relationships with primary care practices and had a tested model of practice improvement. In North Carolina, formal efforts to align statewide primary care improvement efforts began in 2006 with the formation of the North Carolina Healthcare Quality Alliance. North Carolina's IMPaCT project grew from two statewide primary care support organizations, CCNC and the North Carolina AHEC, and the IMPaCT funding supported activities to enhance cooperation between the two organizations. Similarly, PA SPREAD had its origins in the Pennsylvania Chronic Care Commission and efforts to improve diabetes care in the State dating back to 2007. New Mexico envisioned substantial expansion of stakeholder participation to produce a "Hub" that included representatives of key State agencies, a core team of program leadership, and the regional HEROs. However, direct communication with practices revealed that they were interested in a more tight-knit structure with direct connections to particular University of New Mexico resources. Therefore, the program structure was designed to engage only selected stakeholders to provide resources to meet practice needs.

"The Regional Leadership Collaborative and the work around that really advanced the CCNC/AHEC/practice relationship and developed both regional strength and experience in those teams, as well as at the statewide level."

—Darren DeWalt
North Carolina IMPaCT PI

Formal structures were developed to build partnerships across participants and stakeholders and took the form of boards, alliances, and certification programs. For example, Oklahoma mandated a communitywide board of directors to include representatives from public health, mental health, social services, hospitals, and primary care, which resulted in enhanced communication between various sectors to build a broader infrastructure to support practice transformation efforts. In Oklahoma, as described previously, the State-level partners established a formal certification process to motivate CHIO formation.

Shared and co-created vision shaped the nature of formal structures and drew on previous efforts in the health sector and beyond. For example, the PA SPREAD partner discussions in 2012 began with general agreement on the value of collaboration, stemming from the success of collaboration in the State's Chronic Care Initiative and Regional Extension Center. In largely rural Oklahoma, a familiarity with the agricultural extension agency model translated to a methodology for spreading innovations in primary health care improvement through the development of CHIOs. Similarly, the certification concept was familiar because of other certification programs already in place (e.g., Certified Healthy Communities, Certified Healthy Businesses, Certified Healthy Schools).

Who Were the Extension Agents?

Each of the IMPaCT PIs and their core teams functioned as linkage agents, who used their longstanding relationships in their State to help build critical statewide partnerships. They also conducted active trust-building across participating practices and stakeholders. For example, PA SPREAD invested significant time and energy into strengthening relationships and partnerships within Pennsylvania to develop a sustainable infrastructure for practice support. They convened meetings that included more than 25 organizations throughout Pennsylvania to discuss the will to collaborate and potential opportunities to do so. The use of practice facilitators was the core of all four State's efforts to work with practices and build connections across stakeholders, however their role, organizational affiliation, and training varied across projects.

“Since a number of us have been around for a very long time and have trained a lot of the practitioners around the State, there was a trust relationship upon which we could build.”

—Arthur Kaufman
New Mexico IMPaCT PI

New Mexico's HEROs have experience in primary care practice transformation in such areas as QI, practice redesign, accessing community resources, and staff development. HEROs are chosen by the communities in which they serve and live, ensuring that they are locally responsive and culturally and linguistically competent. They are also university employees with backgrounds in health fields, and therefore are aware of both the resources available in their communities and at the university. HEROs link practices to needed resources by visiting practices, administering needs assessments, and providing connections to resources.

In North Carolina, the Regional Leadership Collaborative was used to enhance the effectiveness of existing AHEC and CCNC practice facilitators for leading change, mentoring practices, and aligning the activities of practice support organizations.

In Oklahoma, practice facilitators were AHEC employees identified within specific geographic portions of the State. The mini-grants provided an opportunity for three AHEC employees and an individual hired by the Little Dixie Community Action Agency to complete practice facilitation training and certification through the State University of New York at Buffalo's Millard Fillmore College. Their required field work was supervised by experienced practice facilitators at the University of Oklahoma.

Pennsylvania also chose AHEC staff to function as practice facilitators because of their strong relationships with primary care practices in their regions and their understanding of the contextual factors unique to each region. Two regional Pennsylvania AHEC directors were trained as learning collaborative practice facilitators. PA SPREAD developed and tested a practice 2.5-day facilitator training program that focused on five core competencies: 1) clinical knowledge, 2) QI methodology, 3) practice facilitation, 4) communications, and 5) information management. They also created an ongoing statewide Practice Facilitator Forum to foster networking and learning among practice facilitators working for numerous organizations across the State.

Reach and Results Within Model States

Table 1 summarizes IMPaCT practice participation, stakeholder partnerships, and products, along with certification efforts. The type of PCMH recognition or other certification initiatives or programs that was of interest to practices varied. Systematic results on clinical improvements are not available from this set of grants. However, the IMPaCT learning collaboratives in North Carolina and Pennsylvania saw improvements on some clinical measures in some practices. For example, in Pennsylvania, learning collaborative participants improved diabetes process and outcome measures. By 12 months after the learning collaborative was established, both blood pressure and low-density lipoprotein cholesterol levels were significantly lower.

Spreading the Model to Partner States

Each model State worked with three or four partner States to encourage spread of their extension approach. These efforts are described in this section.

New Mexico

The New Mexico IMPaCT project partnered with Kansas, Kentucky, and Oregon. New Mexico did not seek to replicate its own structure in the partner States, but instead created a learning community to share information about how to build partnerships that could support transformation in the context of each State's unique set of needs and resources. Shared learning from the New Mexico program continues to build, and additional States, including Michigan, Utah, and Georgia, have been invited to work with New Mexico's HERO program to learn from its efforts.

The New Mexico IMPaCT team worked closely with the Department of Family Medicine at the University of Kansas to launch a Kansas version of the New Mexico program, exploring a partnership with Kansas State University. Kansas State University, in turn, hosted a statewide meeting presenting and discussing this model, linking health extension with agricultural Cooperative Extension. New Mexico's HERO program consulted with Kentucky about opportunities for developing a statewide improvement infrastructure in that State.

The creation of the learning community emerged as a result of in-person meetings among all four States involved in the project in Albuquerque, New Mexico and Portland, Oregon, in addition to ad hoc meetings at conferences and national meetings where all four States were present. In all States, a relationship was formed between the academic health center and the land grant university's Cooperative Extension Service in the development of a statewide health extension service, and presentations were made at professional conferences of both medical and extension disciplines.

The result of this learning community was the development of an online health extension toolkit (www.healthextensiontoolkit.org), which was later broadened to include all 18 States involved in PCEP nationally (as described below in cross-grantee efforts).¹¹ This toolkit encompasses the multiple models in which health extension has emerged across the country, and was built to fit multiple perspectives—from academic health centers, to land grant universities, to public health infrastructure, to primary care practices.

North Carolina

North Carolina partnered with Idaho, Maryland, Montana, and West Virginia. North Carolina selected the four partner States through a competitive application that was designed to assess applicants' comprehensive capacity for improvement, including a commitment to advancing policy and practice changes; multisector State-level collaborations; and involvement of an entity

that could function as a primary care extension service. The selected partner States received individual and group technical assistance from North Carolina faculty and experts and peer-to-peer learning with other partner States. These spread efforts were coordinated by the National Academy for State Health Policy.

While North Carolina IMPaCT focused on amplifying existing QI support through the Regional Leadership Collaborative, efforts in partner States focused on helping teams understand how the North Carolina support structure could be applied to the existing networks within their State. Each State convened a team of about five people, consisting of State government representatives and providers. There were two in-person meetings, several Webinars, and frequent interactions throughout the life of the grant. Each State adapted the North Carolina model to meet their State's specific needs, as described below, but all gravitated to the care management resources and insights, likely because of the potential for cost reductions.

Idaho

Idaho took a statewide approach to the redesign of primary care support. The core team included members from the State Medicaid agency, the Idaho Hospital Association, the Idaho Medical Association, and the Idaho Primary Care Association. These partners designed a statewide improvement model building on existing initiatives, including the Idaho Medical Home Collaborative, a collaboration of primary care physicians, health care organizations, and payers who make recommendations to the governor on statewide PCMH efforts. Extensive outreach to multiple stakeholders led to application for a State Innovation Model design grant.

Maryland

Maryland built its program on the Maryland Learning Collaborative, which provided practice coaching to help practices achieve PCMH recognition from the NCQA, with funding from the Multi-Payer Program for PCMHs. The University of Maryland used the North Carolina AHEC model of practice facilitation and coaching to reach out to primary care practices. Maryland hired and trained two practice coaches and each supported approximately 15 practices. Maryland also extended North Carolina's care management work; each participating practice identified a person to lead care management tasks with a job description based on CCNC guidance. Maryland assisted practices with electronic health record implementation and with connecting to the State health information exchange. With assistance from a combination of practice coaches and expert consultants, each of the 52 participating practices received NCQA Level 2 or 3 PCMH recognition, and all implemented an electronic health record.

Montana

Montana built upon existing State efforts to help practices achieve NCQA PCMH recognition, as well as AHEC efforts, such as community health worker training. Montana introduced and advocated for legislation to promote PCMH through provisions to allow multiple payers to share the costs of primary care transformation, State oversight, and rulemaking authority for standards for the insurance commissioner. While use of the political process had the advantage of fostering

alignment at high levels, this approach was slower than expected. Montana also extended the data infrastructure available to support improvement through partnership with a Quality Improvement Organization.

West Virginia

West Virginia convened many stakeholders to produce a shared vision and a white paper titled “Building the Infrastructure for a Healthy and Prosperous West Virginia.” The West Virginia Health Care Innovation Collaborative originated from this work. The Collaborative is a public/private partnership working to achieve better health care quality, lower health care costs, and better health outcomes for West Virginians through healthy lifestyles.

Oklahoma

Oklahoma partnered with Arkansas, Missouri, and Colorado. Oklahoma’s spread efforts included regularly scheduled phone, email, and in person visits between the IMPaCT PI and State representatives. Oklahoma’s PI was central in convening the national IMPaCT conference and encouraged spread across States, adapting to very different contexts.

Colorado

Colorado already has a powerful QI network with strong organization and experienced support personnel, particularly in the Denver area. The State also already has a strong commitment to establishing an extension center, and key stakeholder organizations meet regularly to engage all of the major players in primary care, health policy, and practice transformation efforts in the State. Colorado plans to build on its practice facilitation resources and deploy them through a network of collaborating organizations. It would like to adopt the CHIO model, and is currently working to find the appropriate geographical units for organizing the regions. (It may choose to use Medicaid districts, since some of its counties are sparsely populated.) Additionally, an appropriate division of roles among key stakeholders also needs to be determined. Colorado used its work with the Oklahoma and New Mexico primary care extension projects to lay the groundwork for pursuing funding through several sources and is building the extension center concept into its State Innovation Model grant application.

Arkansas

Arkansas currently has two QI initiatives active at the State level that are stimulating the development of PCMHs in primary care—the Comprehensive Primary Care Initiative, sponsored by the Centers for Medicare & Medicaid Services, and the statewide PCMH initiative. The University of Arkansas Medical School regional centers, part of the AHEC system, are also spreading redesign efforts, beginning with their many primary care residency programs and outreach to other practices. These regional centers developed a toolkit for PCMH implementation and piloted it with three practices outside of the University of Arkansas system, spreading the use of best practices such as disease registries, care coordination, information

technology support, and chronic disease workflows. The CHIO model is also of interest to stakeholders in Arkansas, but has not yet been implemented. Arkansas has a strong QI environment in terms of reimbursement incentives, support mechanisms, and tools in place, and will therefore be ready to implement a primary care extension service once funding becomes available.

Missouri

The IMPaCT mission in Missouri was complicated by fragmentation in the State's QI initiatives. There were several active stakeholders, such as the AHECs in St. Louis, Columbia, and elsewhere, as well as a statewide PCMH initiative. So far, however, there has been little communication and coordination between these efforts. The IMPaCT team in Missouri made an early decision to focus their efforts on Pettis County, where they have an established relationship with the University of Missouri, Columbia. The team was able to connect primary care practice managers to community resources, so that each practice now has a resource guide. They have also worked to help advance conversations about PCMH and population health management with interested practices. There is growing communication among local hospitals, Community Health Centers, and public health entities in Missouri about primary care transformation, and the University has joined with several rural hospitals in a collaborative effort to improve care and support smaller health systems. Although the hospital and Community Health Centers are already using electronic health records, they are not yet able to provide adequate data for population health management, and only one private primary care practice had one in place. At the State level, the legislature approved funding for a telemedicine project (Project ECHO) to provide consultation to frontier practices. These efforts aim to break down the existing silos that prevent communication and collaboration on QI between groups.

Pennsylvania

Pennsylvania partnered with New Jersey, New York, Pennsylvania, and Vermont. Pennsylvania's activities included an environmental scan in each State to learn what funding and support was already in place to advance primary care transformation. Members of PA SPREAD's National Advisory Group helped make connections and provided key information on each of the States. PA SPEAD's General Contractor Model proved effective in disseminating transformation activities to the partner States.

Stakeholder meetings were held with the partner States and leaders in primary care transformation efforts from each State met regularly to share their experiences. Because each State was at a different point on the continuum of practice transformation, PA SPREAD acted primarily as a conduit of information sharing among them. New Jersey was at the beginning of the process of implementing practice transformation efforts, while New York was well along the path of transformation, and Vermont was an excellent example of accomplished practice transformation. The partner States learned as much or more from sharing their experiences with each other as they did from the lessons learned from Pennsylvania as the model State.

A second important component of the spread activities in the partner States involved bringing together individuals from within each State who were previously unknown to each other. Meetings allowed time for State-level representatives to talk about internal State issues. Just as this type of relationship building had been critical in the success of spread activities within Pennsylvania, New York was able to further its transformation efforts by connecting work being done in the Adirondacks, Hudson Valley, and Beacon communities and bringing in United Health Group as a partner. These efforts culminated in a State Innovation Model grant submission in New York.

Cross-Grantee Efforts

In addition to activities between model States and partner States, collaborative efforts emerged between the four IMPaCT grantees. The PIs and coordinators talked by phone and emailed regularly throughout the project period, often including AHRQ's project officer in these discussions. The teams wrote a white paper on the value of developing a national PCEP, including funding options. Model and partner State teams organized and led a national IMPaCT conference in Oklahoma in February 2013. The PIs and coordinators also organized a national PCEP meeting in Washington, DC in February 2014, funded by a grant from the Commonwealth Fund. A white paper that discussed the future of the PCEP was produced from this meeting. As previously discussed, New Mexico and its partners created an online toolkit documenting their insights about health extension. With a grant from The Commonwealth Fund, the toolkit was expanded to produce a national health/primary care extension toolkit incorporating information about all four IMPaCT grantees' programs.¹¹ The four grantees participated in a Webinar to launch and disseminate the toolkit, held in September 2013. Some IMPaCT awardees participated in an additional meeting funded by The Commonwealth Fund in February 2014.

External Context

The IMPaCT grant efforts took place during a complex time in health care and within a rich milieu of State and organizational policies. A number of these important contextual factors are discussed in this section.

Patient Protection and Affordable Care Act

It is difficult to understate the importance of the Patient Protection and Affordable Care Act to the IMPaCT projects. As noted in the Introduction, the mandate to create PCEPs derives directly from Section 5405 of the Act. However, no money was allocated to these programs under the Act. The AHRQ IMPaCT grants developed and tested effective means to implement this law.

The Patient Protection and Affordable Care Act is also important in so far as it provided incentives and penalties for practices and health systems to adopt electronic health records, specified by three stages of meaningful use criteria. Stage 1 meaningful use was critical to the implementation of population-based health care and the ethos of the primary care medical home model. There was great variation among individual practices in test or spread States in their ability to extract and interpret their own data, complicating QI efforts.

A third element of the Act was the mandate to create Accountable Care Organizations (ACOs). The Act sets out definitions for the establishment, eligibility, and requirements for Medicare ACOs in section 3022. The Act calls for the establishment of a shared savings program that promotes accountability for a patient population, coordinates items and services under Medicare parts A and B, and encourages investment in infrastructure and redesigned care processes for high-quality and efficient service delivery. Adherence to the requirements set out in the Act allows an ACO to participate in the shared savings program and thereby receive extra payments for improvements in quality of care.

A related contextual factor in the adoption of the PCEP models in spread States has been the competition from other organizations forming networks of primary care practices. In some cases these networks are being established by private insurers; in other cases, hospitals are acquiring primary care practices to establish ACOs. In some States (e.g., Pennsylvania), these organizations offered financial incentives to primary care practice for their participation. This competition for practice participation impeded the spread of the IMPaCT models to some degree. That being said, the IMPaCT grants also created connections across initiatives, as discussed previously.

State Planning

Strategic planning by State government bolstered extension program efforts in several model and spread States. For example, Vermont and North Carolina State governments and government agencies created strategic plans to improve care and coordinate stakeholders. In Vermont, State-

level strategy was manifest in the Blueprint for Health. The Blueprint for Health is a “program for integrating a system of health care for patients, improving the health of the overall population, and improving control over health care costs by promoting health maintenance, prevention, and care coordination and management.”¹²

In North Carolina, CCNC is a public-private partnership sponsored by the North Carolina Department of Health and Human Services and the North Carolina Division of Medical Assistance. CCNC supports 14 networks in designing and implementing QI initiatives for Medicaid and other underserved populations.

Alignment With Existing Entities

In many States, an existing QI partnership provided an organizational structure onto which were built extension elements originating from IMPaCT. The AHECs were frequently a key partner. However, IMPaCT initiatives had to take steps to integrate efforts with those of existing entities. Some national AHEC leaders raised concerns about duplication of efforts. Fragmentation between primary care practice and public health was an initial challenge in some States. Ultimately these conflicts were resolved amicably through the partnership-building efforts previously described.

Geography

The physical size and rurality of the States influenced the emphasis of practice facilitation and the ability of IMPaCT projects to undertake some collaborative learning. Face-to-face meetings that created personal relationships were reported to be important for the success of implementation, but were not feasible in all States. Virtual meetings (e.g., via video teleconference) were found to be only moderately successful in Pennsylvania. Vermont, even though it is the most rural State in the contiguous United States, is tiny compared to North Carolina, Oklahoma, and Pennsylvania. Vermont’s smaller size made face-to-face meetings much more feasible simply because of the shorter driving time required for participants.

PCMH Recognition

In some States, such as Pennsylvania and North Carolina, the assistance received through the IMPaCT program that could be used to help to achieve PCMH recognition was viewed as a valuable incentive to participate. Presumably, practices in these areas viewed recognition as a local competitive advantage or stepping stone to participation in a larger health care network. In other States, however, PCMH recognition was perceived as less valuable. For example, in Oklahoma, local needs and priorities drove involvement in QI activities rather than a desire to attain PCMH recognition.

Funding

All of the grantees emphasized the importance of stable funding for the PCEPs and identified State (Medicaid) and private insurers as a potential source for ongoing funding after grant initiatives ended. The hope is that insurers would be willing to pay for a PCEP if these programs can demonstrate value (e.g., higher quality of care for chronic diseases, lower costs for chronic disease management). In addition to AHRQ IMPaCT grants, uptake of the extension approach was facilitated in a number of the model and spread States by the availability of the Center for Medicare and Medicaid Innovation's State Innovation Model funding. In addition, funding from The Commonwealth Fund enabled IMPaCT participants to exchange and document shared learning via an in-person meeting and the health extension toolkit; the 2014 Commonwealth-funded meeting was specifically focused on future funding.

Lessons Learned From IMPaCT About PCEPs

With IMPaCT funding, the model and spread States tested a number of strategies for supporting and expanding primary care transformation, including:

- Partnering with key stakeholders involved in transformation, including engaging high-level State policymakers
- Sharing lessons learned and collaborating with other States on best practices
- Building upon existing primary care transformation and medical home initiatives
- Identifying and integrating public agencies into plans for building sustainable infrastructure
- Implementing QI capacity-building strategies, including learning communities
- Advancing practice facilitation training
- Building IMPaCT projects into other initiatives to support sustainability
- Partnering with State and federal resources such as academic institutions to provide the evidence base and expertise for interventions

While each model and spread State had its own strategy for utilizing IMPaCT funding, we found there were common lessons to be learned from across the IMPaCT grants. These lessons are described below.

Extension efforts require coordination. The ability of the IMPaCT project leaders and practice facilitators to connect practices with each other and to other initiatives stood out as a key part of the projects' success. The PIs were passionate about their work and had spent their careers building relationships with practices and other stakeholders involved in primary care improvement. In addition, formal structures (e.g., boards, alliances) helped launch and sustain relationships that were critical to the success of each State's efforts. For example, New Mexico's coordination structure was designed so that some representatives participated in multiple groups involved in these efforts. For the IMPaCT grants, the composition and geographic scale of the coordinating team varied. Many States used the existing structure of primary care or community health improvement efforts. Most of the efforts to spread transformation capacity were fairly informal. However, North Carolina used a formal approach including an application process and partnership with the National Academy for State Health Policy. This organized approach supported spread efforts; the application process demonstrated interest in participation and there were dedicated resources to coordinate the partnership.

IMPaCT grants built and sustained the complex partnerships that were necessary for the multiparty efforts required for successful extension programs. This was achieved through a combination of partnership engagement and technical assistance. Greenhalgh's model of diffusion and innovation in service organizations shows that horizontal networks are "more effective for spreading peer influence and supporting the construction and reframing of meaning."⁵ Technical assistance efforts, particularly structured learning collaboratives, also promoted partnerships across primary care practices and other stakeholders. For the IMPaCT grants, academic medical centers were important sources of innovation ideas and evidence-based interventions.

Local tailoring is essential. There is no one model for primary care transformation that will work across the country or even across a single State. All of the efforts to ascertain local needs found differences by site. Within States, tailoring relates to both clinical/improvement emphasis areas as well as governance structures. For example, Oklahoma’s focus on “primary health care” is broader than “primary care” and encompasses public health, mental health, and all community organizations and agencies with a focus on improving the health of the population at a primary level (i.e., primarily wellness and prevention). This focus made it possible to help the counties create “neutral convener” organizations within which goals are aligned, resources are shared, and performance metrics are congruent.

The focus of spread activities was on creating capacity for improvement through State partnerships rather than replication of the specific model used in the model State. Model and spread State interactions focused on communicating about how the cultural or logistical elements of the model State’s approach could be applied to the existing networks within the spread State. IMPaCT grants helped to develop and disseminate packaged resources; for example, North Carolina’s change package and the health extension toolkit. However, these resources seemed to be most helpful when they were technical in nature (e.g., a training program or electronic health record tool).

Structured peer-to-peer learning improved capacity at all levels of primary care transformation support. This was true for QI activities within practices, as well as for the North Carolina Regional Learning Collaboratives and cross-grantee meetings. Convening both State and interstate in person meetings helped to solidify relationships and build a sense of mutual goals and of working across silos. Site visits proved particularly effective in helping Pennsylvania practices understand how exactly to implement various components of the PCMH model.

Gaining practice buy-in is critical. Encouraging practice participation required mechanisms to foster motivation in addition to imparting knowledge or offering expertise and external incentives.¹⁴ In Pennsylvania, Oklahoma, and New Mexico, PCMH recognition held limited appeal, but there was great interest in learning how to improve practice problems that also aligned with the IMPaCT program’s overall objective of practice transformation. As the PI of the Oklahoma program said, practices wanted to join because the project was “addressing a real need that the county had identified, and because they wanted to be part of something bigger than themselves.”

External influences also relate to practice buy-in. While the focus/purpose of participation was not specifically about receiving official recognition as a PCMH, participation did improve the chances for participating practices if they chose to seek it. Primary care practices, QI organizations, professional organizations, and State administrators were keenly aware of the rapid growth in ACOs and the demand for higher health care quality at lower costs. It is likely that future motivation to engage with PCEPs and undertake practice transformation will depend on practices’ anticipation of joining or forming ACOs in order to participate in shared savings and/or receive incentive payments for quality performance. Where there is resistance to practice transformation, attitudes are likely to change when payers begin driving the process with payment reform (i.e., payment for quality rather than quantity of services provided).

Practice facilitators provide essential support to practices. Several training and certification approaches were used by IMPaCT grantees, and continued development and evaluation of training approaches and curricula will be important to learn how to make coaches successful.

Conclusions and Implications

Each of the four IMPaCT grants developed a complex program structure as part of its efforts to build primary care QI infrastructure. All of the IMPaCT teams strengthened previous work with stakeholder partners and primary care practices. They also worked to engage new partners and practices and to coordinate with related efforts of other State or community entities. Partnerships emerged at both the State level and the county and regional level. Local tailoring of both the PCEP structure and activities was essential.

Research Gaps

This synthesis report highlights two primary areas for future research. First, the relationship between external QI support and improved clinical outcomes merits further study. The Evidence Now initiative that AHRQ funded in 2015 will yield valuable findings to address this gap. Second, the complex interplay between incentives and competition that shape the formation of multistakeholder partnerships is important to understand. How do these drivers ultimately motivate practices to embark on and sustain QI efforts?

Key Questions for Sustainability and Expansion

Based on the findings noted throughout this summary, key questions that could be considered for sustainability and expansion of State-level programs to support PCEP efforts include:

- What is the long-term result of PCEP involvement on primary care practice QI capacity, as measured by clinical outcomes and practice organization?
- How do PCEP partnerships change over time and why?
- How can PCEP partnerships be most effectively supported at the multiple geographic scales that emerge, including regional and cross-State efforts?
- How can PCEPs leverage evolving incentives (e.g., meaningful use stage 3) to reinforce practices' improvement and redesign efforts?
- How can primary care practices fund time for their clinicians and staff to stay engaged in effective PCEP-related opportunities, such as learning collaboratives?
- How do PCEPs support and benefit from workforce development of roles that support linkages across organizations and practices, including community health workers and practice facilitators?

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Figure 1. Map of Model and Partner States

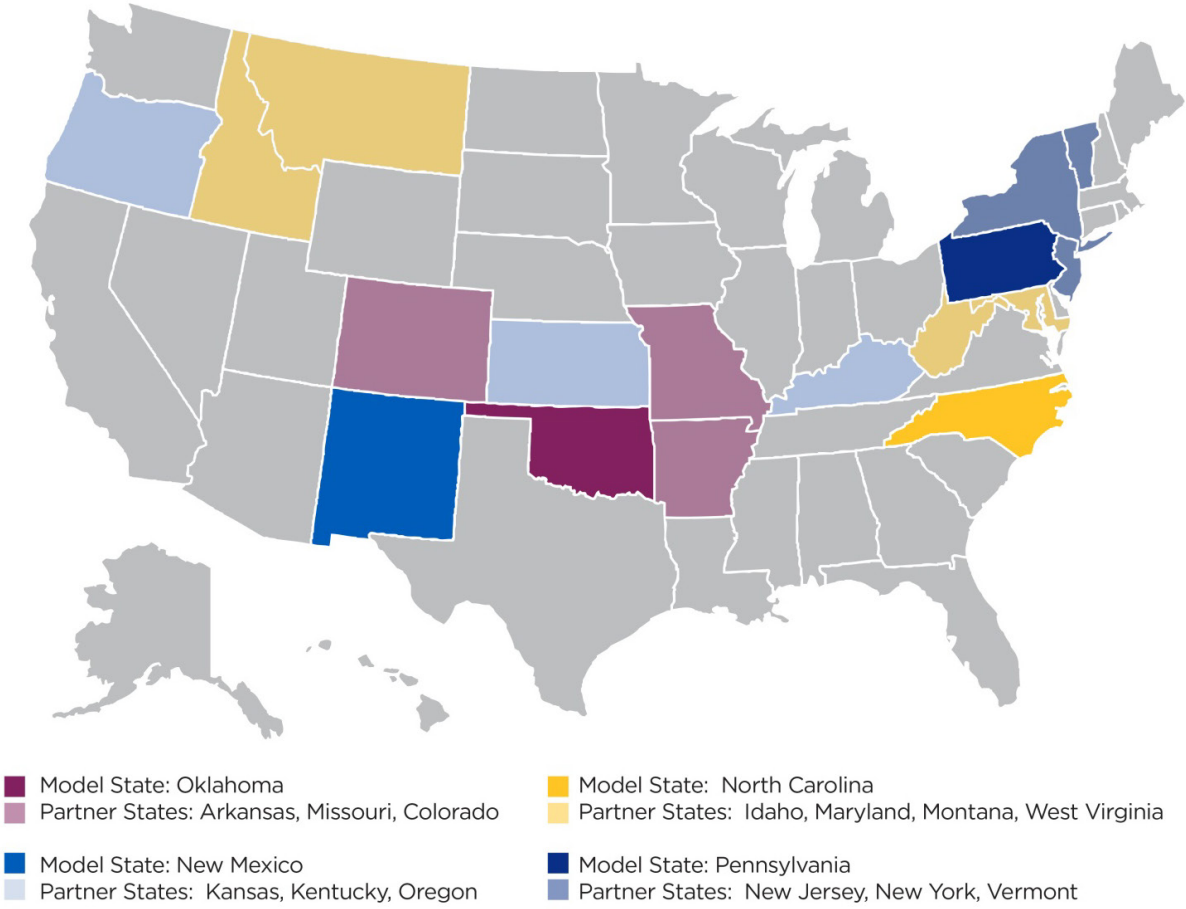


Table 1. Summary of Model State Initiatives

	New Mexico	North Carolina	Oklahoma	Pennsylvania
Extension program structure	Community-based health extension agents located in regional offices coordinated by a core team at the university.	Expanding activities and overlap between statewide organizations. Structured learning collaboratives.	A State hub and county-level nonprofit entities (CHIOs) located throughout the State.	A collaborative model bringing together existing practice transformation support infrastructure coordinated by a multistakeholder team. Two regional learning collaboratives.
Practice engagement	Recruited and engaged 34 practices, assessing their needs and interests and linking them to resources of interest to them.	Participants of the Regional Learning Collaborative included 13 teams consisting of 3 to 5 clinical and QI leaders from CCNC networks across North Carolina. Nine practices participated in the Care Transitions Collaborative.	111 physicians and 39 practices engaged in QI projects.	16 practices participated in two regional learning collaboratives.
Role of practice facilitators	Health extension rural officers provided practice facilitation and coaching, helping practices to assess readiness for change and track progress.	NC AHEC and CCNC offered practice facilitation on performance improvement, advanced care planning, meaningful use, and achieving PCMH recognition.	Each AHEC hired one practice facilitator to help counties apply for CHIO certification and small QI grants, perform practice audits and feedback, survey patients, train staff, and coordinate QI initiatives.	PA SPREAD and many of its partners offer practice facilitators to assist practices in transforming into medical homes.
Stakeholder engagement examples	New Mexico developed a partnership between the Office of Community Health and the new UNM Health System, under which all university clinical practices and hospital facilities operate with a growing partnership with provider groups and community hospitals across the State.	Increased AHEC/CCNC collaboration. One region initiated a new QI collaborative.	The Oklahoma Primary Healthcare Extension System, made up of the CHIOs, received help from Oklahoma Primary Healthcare Improvement Cooperative, the State legislature, and University of Oklahoma resources.	The program's General Contractor Model formed the basis for the Transformation Support Center included in several large-scale funding proposals.
Population and community health efforts	Health extension rural officers link practices to community resources across different sectors to address underlying social determinants of health. They also help primary care providers understand and adapt to local culture.	Population management approach. Collaborators include local health departments and other community-based organizations.	CHIOs engage in the development of County Health Improvement Plans and strategic prioritization processes.	Key partners in public and community health outreach include the Pennsylvania AHEC and Department of Health.

Table 1. Summary of Model State Initiatives

	New Mexico	North Carolina	Oklahoma	Pennsylvania
Incentives and PCMH recognition	Participating Medicaid managed care organizations offered PCMH incentives; three small clinics requested technical assistance to apply for PCMH recognition. Program offered \$1,000 for participation.	Medicaid offered PCMH incentives. PCMH recognition was not the focus of the collaboratives; however, participation in the collaboratives increased improvement in PCMH-related care processes.	PCMH recognition was not the focus of participating practices. However, efforts by certified CHIOs catalyzed group QI among local physicians and brought diverse funding for more comprehensive care. Program offered mini-grants to CHIOs for QI activities related to county health improvement objectives.	Multipayer PCMH initiative included several health plans. Learning collaborative participants were eligible for continuing medical education and maintenance of certification credit. Several practices reported that participation in the program greatly facilitated their achievement of NCQA PCMH recognition, because they already had the required elements for recognition in place after participating in the PA SPREAD project.
Products	An IMPaCT program online toolkit (www.healthextensiontoolkit.org). Community health worker program serving high-risk enrollees in Medicaid managed care while helping New Mexico implement community health worker certification. These efforts provided a new employment opportunity while also meeting the workforce needs of low-resource primary care practices.	Regional Leadership Collaborative Curriculum, with sample forms, team guidelines, event agendas, and assignments for modification and replication. Care Transitions Change Package.	A practice facilitator course was developed in collaboration with Lyndee Knox, PhD, and Chet Fox, MD. It is being offered by the Millard Fillmore College at the State University of New York at Buffalo.	A facilitator training program was developed and is being spread across Pennsylvania by the AHECs.

Table adapted from Heider F, Hanlon C, Hinkle L. Primary Care Extension Models in Lead IMPaCT States. Washington DC: National Academy for State Health Policy; 2014. <https://www.statereform.org/primary-care-extension-chart>.

Abbreviations: AHEC = Area Health Education Center; CCNC = Community Care of North Carolina; CHIOs = County Health Improvement Organizations; IMPaCT = Infrastructure for Maintaining Primary Care Transformation; NC AHEC = North Carolina Area Health Education Center; NCQA = National Committee for Quality Assurance; PA SPREAD = Pennsylvania Spreading Primary Care Enhanced Delivery Infrastructure; PCMH = patient-centered medical home; QI = quality improvement; UNM = University of New Mexico.