Implementation and Early Results of the Flex Program's Innovative Models Program Area: Final Evaluation Report

Flex Monitoring Team
Briefing Paper #42
March 2019

John A. Gale, MS
Sara Kahn-Troster, MPH
Andrew Coburn, PhD

Maine Rural Health Research Center
Muskie School of Public Service
University of Southern Maine

Flex Monitoring Team | University of Minnesota
University of North Carolina at Chapel Hill
University of Southern Maine

KEY FINDINGS

- Initiatives funded under Flex Program Area 5: Integration of Innovative Health Care Models allowed states to work with Critical Access Hospitals (CAHs) and other rural health partners to facilitate their participation in value-based payment models.

- Initiatives based on successful Flex Program strategies (e.g., development of quality networks) or existing evidence (e.g., Project ECHO) typically had less difficulty with implementation.

- Working with and securing the commitment of existing CAH and organizational partners were key factors to overcoming implementation barriers.

- Monitoring program outcomes was challenging due to difficulties specifying interim outcomes achievable within the funding cycle and accessing data for those measures.

- States interested in developing projects under Program Area 5 would benefit from technical assistance on program planning, logic modeling, and evaluation.

BACKGROUND

The Medicare Rural Hospital Flexibility Program (Flex Program) is designed to strengthen rural health care delivery systems by supporting Critical Access Hospitals (CAHs) and encouraging the development of local and regional systems of care with CAHs as the hubs.[1] State Flex Programs are a vehicle to help CAHs improve quality, strengthen their financial and operational performance, pursue population health initiatives, and integrate Emergency Medical Services into rural systems of care. Flex Program funding provides support for vulnerable CAHs in a challenging health care environment, particularly in these important areas of performance.

In the Fiscal Year 2015 Medicare Rural Hospital Flexibility Grant Guidance,[1] the Federal Office of Rural Health Policy (FORHP) added a new, optional program area focused on rural health system innovations – Program Area 5: Integration of Innovative Health Care Models (Innovative Projects). This new program area allowed states to address needs not covered by the other core areas of the grant program and use Flex Program funding to undertake "innovative" projects with their CAH partners to improve CAH quality, financial, operational, population health, and system delivery performance. The intent was to encourage states to test new approaches to supporting CAHs and rural communities that could provide best practice models for other State Flex Programs. The guidance established the following goal for this program area:

> *"To support the financial and operational transition to value-based models and health care transformation models in the health care system."*[1]

Sixteen states proposed initiatives under Program Area 5. These activities included telehealth (Hawaii, Idaho, Massachusetts, Nevada, and Oregon), health care delivery system redesign (Alaska, Montana, Pennsylvania, and Washington), care coordination (Colorado, Illinois, New

Mexico, South Carolina, and Tennessee), and quality improvement (Illinois, Michigan, and North Dakota). Some used Flex Program funds to create new projects, while others added Flex Program dollars to existing initiatives or created new components to those existing projects.

In 2017, the Flex Monitoring Team (FMT) at the University of Southern Maine undertook a 15-month evaluation of the activities under Program Area 5, with a focus on projects involving **telehealth, care coordination,** and **quality improvement**. In our January 2018 briefing paper, *An Interim Evaluation Report of the Innovative Projects Portfolio of the Medicare Flex Grant Program,*[2] we provided an overview of the Innovative Projects proposed by the 16 states, and a more detailed examination of seven states' projects and their early implementation experience. This paper provides a more detailed discussion of implementation of the Innovative Projects by these seven states and the factors that affected their ability to successfully implement their projects. The final sections summarize evaluation findings, key lessons, and the broader implications for the Flex Program.

APPROACH

The diversity of state projects and the fact that each project was in a different stage of implementation necessitated a clustered approach to our evaluation. After reviewing the Flex grant applications and progress reports for the 16 states and conducting brief interviews with their Flex Program Coordinators, we selected seven to participate in the evaluation based on the following criteria: (1) the states had progressed sufficiently in the implementation of their projects to be ready for evaluation; (2) their projects had high relevance to the goals of the Flex Program; and (3) the projects had the potential to be replicated by other State Flex Programs. Table 1 provides an overview of these seven projects grouped by their major area of focus. The Appendix provides a summary of the remaining nine states' initiatives.

Table 1. Descriptions of the Projects Implemented by the Study States

Telehealth
Hawaii partnered with the Hawaii Rural Health Association, Area Health Education Centers, and specialists from the medical school at the University of Hawaii at Manoa to implement a Project ECHO (Extension for Community Healthcare Outcomes) hub. The goal was to expand access to specialty care for rural residents by improving the capacity of local providers to address complex conditions through a telehealth-based continuous learning system that partners local providers with specialist mentors. This is important in Hawaii where referrals for specialty care often involve expensive and time consuming flights to Honolulu. Moving forward, Hawaii plans to develop clinical modules to meet provider needs and is working with MedQuest (Hawaii's Medicaid program) to secure funding for its ECHO programs through a Section 1115 waiver.
Nevada linked the Nevada Flex Program with an established Project ECHO program to support clinical staff from CAHs and improve access to specialty care. Two key areas of CAH Project ECHO involvement included the anti-microbial stewardship and the Nevada Rural Opioid Overdose Reversal programs. Nevada offered clinics on nine different disease topics as well as three different behavioral health professional development groups. Their clinics focused on diabetes, sports medicine/orthopedics, gastroenterology, public health, antibiotic stewardship, and pain management (including opioid addiction). Ongoing activities include implementing new clinics, engaging CAHs and their providers as participants in Project ECHO, creating partnerships with other agencies, and outreach to CAHs encouraging them to utilize Project ECHO infectious disease staff.

Telehealth

Oregon originally proposed to develop a Project ECHO-based Integrated Addiction and Psychiatry hub using Flex Program funds to leverage work under a State Innovation Model (SIM) grant. Due to shifting priorities under the SIM grant, Oregon pursued a different course of action. Based on feedback from a CAH listening tour, the Oregon Flex Program hired a staff person to conduct CAH-level telehealth needs assessments and identify opportunities to link CAHs with Project ECHO, telemedicine, and other resources based on their specific needs. The project involved the development of tools and an assessment process to identify the telehealth and technology needs of CAHs, particularly their capacity and readiness to implement telehealth and Project ECHO. Project staff were available to assist with the implementation process at CAHs if requested.

Care Coordination

Colorado built upon its Improving Communication and Readmissions (iCARE) initiative that works with 19 CAHs and 32 Rural Health Clinics (RHC) to reduce avoidable readmissions, facilitate communications between facilities, and improve transitions of care from one facility to another. Their Flex-funded Innovative Project addressed challenges related to the timely exchange of patient information and discharge instructions during transitions between CAHs and other care settings, particularly for patients with chronic conditions. Colorado plans to add new initiatives to iCARE to better unify CAHs and their provider-based RHCs and decrease unnecessary emergency department use.

Illinois proposed a broad portfolio of initiatives, including two designed to reduce Medicare costs through reductions in unnecessary inpatient readmissions. These latter two initiatives were implemented through the Illinois Rural Community Care Organization (IRCCO), an accountable care organization supporting rural Illinois providers. Both initiatives addressed frequent/high cost users of care and barriers to effective communication between health care facilities. The first sought to improve communication and care coordination during transfers between CAHs and nursing homes to reduce emergency department visits and inpatient readmissions. The second implemented evidence-based protocols for congestive heart failure (CHF) and chronic obstructive pulmonary disease (COPD) in CAH emergency departments to improve patient outcomes.

Tennessee proposed to work with the Upper Middle Tennessee Rural Health Network (UMTRHN) to explore use of patient centered medical home programs and other primary care models to help CAHs and rural systems of care prepare for value-based purchasing and to support the development of a rural Clinically Integrated Network (CIN) offering enhanced care coordination among members. A chronic care management pilot program with one Federally Qualified Health Center (FQHC) was launched. Tennessee has plans to expand to a second FQHC during the 2018 fiscal year.

Quality Improvement

Michigan adopted the framework from its successful CAH Quality Network to support the delivery of primary care in CAH communities and prepare provider-based RHCs to participate in value-based payment models. The project had three goals: 1) develop a quality improvement network for provider-based RHCs owned by CAHs; 2) encourage participating RHCs to report data on three common primary care issues (i.e., body mass/obesity, blood pressure, and tobacco use); and 3) assist participants with implementation of evidence-based protocols to improve performance on these issues. Participating RHCs reported these quality metrics through a data portal developed by Quality Health Indicators (QHi), a subsidiary of the Kansas Hospital Education and Research Foundation. Michigan's RHC Quality Network provides a vehicle for peer learning and networking by its members.

EVALUATION METHODS

This evaluation sought to describe the states' Innovative Projects strategies, monitor implementation of their projects, and document early results. To describe each project and develop a framework for the evaluation, the evaluation team worked with each state's Flex Program Coordinators to develop a logic model of their projects. In addition to clarifying the underlying strategy supporting their projects, the logic models helped states describe key project activities, establish a timeline for implementation, and identify outputs and short, intermediate, and long-term outcome measures. During this process, we worked with Flex Program Coordinators to think through the sequencing of key project activities and the linkage of these activities to short and long-term project goals over the life cycle of their projects. We also asked states to consider the availability of data to support their selected output and outcome measures.

Based on the logic models, we developed a tracking tool for the states to report data on their process and outcome measures and to document implementation progress. The tracking tool consisted of a two-page spreadsheet with a common set of implementation questions for all seven states and a table of the quantitative measures identified by each state for their projects. The implementation questions captured qualitative information about project successes, challenges encountered, and lessons learned. These questions also allowed the states to update the evaluation team on project status and discuss how Flex Program funding was used to advance their projects. Tracking data were collected quarterly during the 15-month evaluation period from January 1, 2017 to March 31, 2018.

In addition to the logic models and tracking tools, the evaluation team conducted semi-structured key informant interviews with each of the seven states to gain a more detailed understanding of the states' projects, their progress toward implementation, the challenges they encountered, and successes of their projects. The interviews were conducted in summer 2016 (prior to the start of the evaluation), spring 2017, and spring 2018.

Implementation and Early Results of the Innovative Projects

Telehealth

Hawaii's Project ECHO implementation targeted the needs of rural residents facing transportation challenges between their home islands and Honolulu, the primary source of specialty services on the island of Oahu. For these individuals, accessing specialty care entails expensive and inconvenient air travel. To develop Project ECHO, Hawaii partnered with the Hawaii Rural Health Association to serve as the host site for the hub and with the Hawaii/Pacific Basin Area Health Education Centers and specialists from the medical school at the University of Hawaii at Manoa to develop the clinics and content. The clinics were offered by two separate groups with the Hawaii Learning Group offering endocrinology clinics and ECHO Hawaii providing all other clinics. Hawaii's Alcohol and Drug Abuse Division recently engaged with ECHO Hawaii to work on the development of an opioid-related clinic. The project team also received a request to develop a public health module. Additionally, Hawaii's Flex Program is exploring opportunities to expand Project ECHO to providers on other Pacific Basin islands.

By the end of the evaluation period in March 2018, Hawaii had developed six topic modules. The project team held 120 ECHO sessions with providers from three to four CAHs participating each quarter. Between 146 and 258 providers participated in one or more Project ECHO modules during each of the five quarters of this evaluation. To assess the impact of its Project ECHO activities, Hawaii implemented participant surveys to collect self-reported data on provider participation, changes in knowledge, and impact on their practice activities. Hawaii currently does not have a process to document its long-term expected outcomes for this project, including improvements in access to specialty services, reductions in use of air (off-island) transports for specialty care, or improvements in patient outcomes.

Hawaii received more than $48,000 in additional funding for Project ECHO from health insurers (or their foundations) and the Native Hawaiian Health Care System. Flex Program staff are working with Hawaii Med-QUEST (Hawaii's Medicaid program) to pursue a Section 1115 waiver to allow for matching opportunities for ECHO Hawaii and provide a stable source of funding. Although the waiver has been approved, the funding mechanism remains in development. Hawaii plans to continue its work on Project ECHO through the end of this funding cycle and will continue to collect data on provider participation and program impact through their participant survey system.

Nevada used Flex Program funding to expand its established Project ECHO program located at the University of Nevada-Reno, School of Medicine (which is also the home of the Nevada Flex Program and Office of Rural Health). Nevada worked with a variety of stakeholders and providers to support Project ECHO and develop the necessary training modules. Flex Program funding subsidized the salaries and costs of staff hired to address technology issues and Project ECHO development. This funding also supported an IT coordinator to set up the ECHO equipment at the CAHs and train staff on its use. Flex staff reported that the number of topic modules developed for this project grew from 24 to 38 over the course of the evaluation, and the number of sessions offered per quarter grew from 29 in the first quarter (January 1 through March 31, 2017) to 42 in the fifth quarter (January 1 through March 31, 2018). Similarly, the number of providers participating in Project ECHO sessions grew from 255 to 500. The number of rural providers represented in this group (defined as any attendees from a CAH or from clinics in rural areas) grew from 172 to 210. The number of CAHs participating each quarter ranged from seven (out of 13) to nine.

Flex Program funding represented a comparatively small portion of funding for Nevada's Project ECHO initiative, making it hard to quantify the specific contribution of the Flex Program to overall project growth and outcomes. The program received a $250,000 annual appropriation during a previous legislative session, a $100,000 HRSA grant for the Nevada Rural Opioid Overdose Reversal program (NROOR), and small amounts from other grant programs.

NROOR and an anti-microbial stewardship program were important areas of activity for CAHs as were Nevada's other disease-focused EHCO clinics. Nevada offered clinics on nine different disease topics and three different behavioral health professional development groups, including a rural mental health professional development group. Nevada Flex Program officials noted that the pain management and behavioral health modules have been helpful in dealing with the opioid crisis.

Feedback collected from Project ECHO participants indicated that providers believe participation improved their confidence in treating relevant conditions and decreased provider burnout. It is not possible at this time, however, to document changes in clinical practices or patient access to specialty services, which, according to Nevada Flex Program staff, would require linking with providers' electronic health records in order to analyze provider data, track patient visits, and monitor patient outcomes. From a program point of view, Flex Program stakeholders reported greater coordination between the Flex Program and Project ECHO and that interest in the program continues to grow. Nevada projects continued growth for their Project ECHO initiative, including an increase in the number of partnerships. Program staff are also exploring a research study to examine the impact of the Behavioral Health Professional Development groups.

Oregon originally proposed to use Flex Program funding to leverage work being conducted under a Center for Medicare & Medicaid Services State Innovation Model (SIM) grant to establish a Project ECHO hub in Oregon. Flex Program funds were to be used to develop modules for addiction and psychiatry services for CAHs in rural and frontier areas under the ECHO hub. In the spring of 2016, the SIM project ceased development of the planned ECHO hub, which forced Oregon's Flex Program to develop a replacement scope of work under its Innovative Project funding. Based on information from the Oregon Office of Rural Health's 2016 Rural and Frontier Listening Tour, Oregon revised its project in late 2016 to implement a process to assess the telehealth and technology needs and capacity of CAHs, identify telehealth and Project ECHO options to meet those needs, and match them with relevant services. Flex Program funds were used to hire a telehealth coordinator to conduct this work, develop the assessment tools, and support the implementation of telehealth activities at the CAHs. The telehealth coordinator was hired in February 2017.

Although CAHs expressed significant interest in building telehealth capacity during the listening tour, only five CAHs responded to an invitation to participate in the telehealth assessment project and only three CAHs undertook an assessment. In the first phase of the assessment process, the coordinator conducted an online survey of a random sample of providers and CAH leadership. Site visits were conducted in the second phase of the assessment. As of the end of the evaluation period, none of the three hospitals that participated in the assessments had decided to pursue the development or implementation of a telehealth strategy.

As an alternative to conducting additional assessments, the telehealth coordinator has created a repository of telehealth resources on a range of telehealth issues on the Oregon Office of Rural Health website. These resources included: an overview of telehealth-related licensing and credentialing regulations relevant to Oregon providers; a guide to telehealth reimbursement in Oregon by payer; and links to the National Frontier and Rural Addiction Technology Transfer Center Network's Telehealth Capacity Assessment Tool, telehealth resource organizations, and the Oregon ECHO Network.

The staff of the Oregon Flex Program were surprised and perplexed by the CAHs' lack of interest in the assessment process. They were hopeful, however, that the comprehensive assessment tool might work well in other settings. Oregon did not continue participation in Program Area 5 in Fiscal Year 2018.

Care Coordination

Colorado's Innovative Project built upon its iCARE initiative to work with CAHs and RHCs to reduce avoidable readmissions, facilitate communications between facilities, and improve transitions of care. Colorado focused on challenges related to the timely exchange of patient information and discharge instructions during transitions between CAHs and other care settings, particularly for patients with chronic conditions. The proposed short and intermediate term outcomes included workflow improvements at the participating CAHs, improved hospital data capacity, and increased data submissions for performance reporting. The project team assessed communications between the CAHs and other facilities, offered quality improvement webinars related to patient transfers, trained CAH staff on patient engagement and quality improvement strategies, created CAH community profiles using quality data, and convened EHR user group calls to address communication issues between facilities using different EHR systems. This latter activity helped CAHs to address difficulties in extracting data from their EHRs and in using the EHRs to share data with other facilities. This problem was exacerbated when half of the participating CAHs changed EHR vendors during the funding cycle. Other significant implementation challenges involved staff turnover at the participating CAHs, competing hospital priorities, and limited hospital resources. Staff turnover placed additional demands on Colorado's project staff as they needed to conduct additional training to help the CAHs replace the lost institutional knowledge.

Colorado reported successful implementation of project activities with good participation from the staff at participating CAHs. Over the evaluation period, the project conducted 117 focus team calls and 15 webinars (with 253 participants). Nearly 90 people were trained in patient engagement strategies, 139 trained in process mapping, and 22 iCare teams were established. In addition, the project completed 30 Plan-Do-Study-Act process maps, 22 health information technology (HIT) assessments, 16 HIT workflow process maps, and 50 EHR user group calls. The number of participating CAHs completing monthly data submissions and preparing data performance reports grew from 15 to 18 (of the state's 31 CAHs), suggesting improvements in data collection and reporting capacity. Flex Program staff reported that a number of the CAHs are using the tools and skills acquired through participation in iCare to improve patient engagement, address communication issues, and improve chronic care management.

Illinois implemented two complementary initiatives through the Illinois Rural Community Care Organization (IRCCO), a rural accountable care organization. The first was designed to improve communication and care coordination for patients transferred between CAHs and nursing homes to reduce ED visits and inpatient readmissions. The second sought to improve outcomes for patients with congestive heart failure (CHF) and chronic obstructive pulmonary disease (COPD) by implementing evidence-based protocols in CAH emergency departments. Both initiatives addressed frequent, high cost users of care and ineffective communication between health care facilities that contribute to excess utilization of ED and inpatient services. Anticipated short- and medium-term outcomes for both projects included improvements on relevant Consumer Assessment of Healthcare Providers and Systems (CAHPS) measures, changes to participants' EHRs to improve care management and information exchange, and modifications to CAH and provider clinical systems to enhance care coordination.

For the care transitions project, Illinois Flex Program staff developed transfer communication tools that were provided to eight CAHs and associated nursing homes. During the course of our evaluation, the project team's efforts to train providers on the tools, encourage their use, and provide technical assistance to hospitals included 14 work group sessions involving 204 participants, five webinars involving 125 participants, and eight speaking engagements. By the conclusion of the evaluation, project staff were preparing examples of best practices and related educational materials to help providers improve transfer communications.

For the CHF/COPD project, the project team developed and disseminated care coordination protocols for physicians and nurses and held eight regional care manager/ED meetings (attended by 123 individuals) to encourage their use. In the third quarter of the evaluation, Flex staff worked with hospitals to implement "readmission huddles," a best practice used to identify opportunities to reduce unnecessary readmissions for ED visits. Three hospitals deployed a nurse practitioner or physician to conduct nursing home rounds to support patients' transition and reported success in reducing readmissions from the nursing homes. One of these three nursing homes reported increased resident and staff satisfaction and substantially reduced readmissions from the nursing home within 30 days. Flex Program staff stated that the next challenge will be to gauge the impact and quality outcomes of these nursing home rounds.

Flex Program staff noted a number of challenges to the implementation of the project. These included difficulty using EHRs to support the project (e.g., sharing information across EHRs and changing discharge forms produced by EHRs), delays in securing nursing home participation, turnover among providers and staff, a lack of shared systems across the continuum of care, and the inability of some providers to electronically share information. Staff also noted the difficulty in starting a new program and the time required to change provider cultures and practices.

Tennessee's Innovative Project supported the primary care infrastructure in CAHs and other rural provider sites through a collaboration with the Upper Middle Tennessee Rural Health Network (UMTRHN) to explore the use of patient centered medical home (PCMH), Comprehensive Primary Care Plus, and other primary care-based models. The goals were to prepare primary care providers to participate in value-based purchasing models and support the development of a rural clinically integrated network. As the project got underway, project staff thought that implementation of the chronic care management component of the PCMH model was the best transitional approach to prepare primary care practices to participate in a full PCMH pilot and other more advanced value-based purchasing programs. UMTRHN provided technical assistance and other resources to support the project.

The staff approached three practices/clinics in the network to participate in this project. One, a Federally Qualified Health Center (FQHC), agreed to move forward. UMTRHN adopted a "turn-key" chronic care management project using an external call center to provide care management services. Tennessee reported a number of challenges, mostly at the practice level, in implementing the program. These included delays in completing the needed internal legal review, internal personnel issues, limited staff resources and "bandwidth," and problems extracting data from the FQHC's EHR. Project staff noted that the FQHC was forward-thinking but had undertaken other new projects, including expansion to a new site, while implementing this

project. They noted additional challenges including a security breach in the FQHC's EHR, difficulties downloading data on Medicare and Medicaid patients, and a failure of the EHR vendor to resolve the problems. To resolve these data and security issues, the clinic transitioned to a new EHR vendor. While this transition caused further implementation delays, the new system ultimately resolved these data issues.

Another implementation barrier involved the contracted care management vendor. Although the vendor performed well, patients were reluctant to use a service from outside of the community, resulting in limited participation. Project staff also reported coding problems, slow reimbursement, and delayed claims. Pushback from patients caused the team to change their approach to care management. Tennessee replaced the contracted call center vendor with patient tracking software and a local nurse coordinator to provide care management services. Patients seemed more accepting of this approach as they were receiving calls from someone they knew. Staff described the first year of the project as a learning experience and expect the second year to be better. At the end of our evaluation, staff reported that one FQHC, three clinicians, and one CAH were participating in the project. Patient enrollment began with five patients in the third quarter and increased to 81 patients by the end of the evaluation.

Quality Improvement

Michigan's Innovative Project created a Rural Health Clinic Quality Network (MRHCQN) based on the framework for their successful CAH Quality Network. Michigan's initiative recognizes the importance of provider-based RHCs to their CAHs as well as their role in addressing the primary care needs of their communities. Michigan's project sought to assist these clinics with their ability to collect and report quality and financial data, to the data to improve their quality and financial performance, and to prepare for participation in value-based purchasing.

Participating RHCs were asked to report data on three common primary care issues (i.e., body mass/obesity, blood pressure, and tobacco use) and a limited set of financial and operational measures through the Quality Health Indicator's (QHi's) data portal. Over the course of the evaluation, Michigan recruited 44 clinics to participate in MRHCQN (40 clinics participated in the first quarter). The number of clinics reporting quality and other data grew from six to 18 by the end of the evaluation. In addition, MRHCQN held quarterly RHC meetings to address quality and performance improvement techniques, facilitate shared learning, and provide networking opportunities for RHC staff. During these meetings, project staff shared information on evidence-based protocols to improve quality, financial, and operational performance. Over time, staff reported a gradual increase in the number of clinics participating in the quarterly meetings and that participating RHCs were pleased with the MRHCQN. As a sign of that support, Michigan recently developed an executive board structure for the network and approved membership dues to support the ongoing activities of the network.

Recruiting RHCs to participate and remain engaged in the MRHCQN was reported to be a continuing challenge. Michigan also noted difficulties maintaining consistent RHC reporting from quarter to quarter. They cited issues such as staff turnover, lack of time and resources at the RHCs, receipt of data in different formats, and challenges of extracting data from RHC EHRs.

Michigan is pleased with the development of the RHC Quality Network and reported that they plan to continue supporting the RHC Quality Network and the benchmarking project in Fiscal Year 2018.

DISCUSSION

The Role and Impact of the Innovative Projects Initiative in the Flex Program

Initiatives funded under Program Area 5 allowed states to work with cohorts of CAHs and other rural health partners to facilitate their participation in value-based payment models.

The states' projects aligned well with FORHP's goal for Program Area 5 of helping to support the financial, operational, and quality performance of CAHs in their transition to value-based payment models. In the context of this program area, "innovation" refers to the adoption of proven interventions to support CAHs and rural communities in new ways. The Flex Program guidance defined innovation broadly, and, as illustrated above, the states correspondingly proposed and implemented a diverse set of projects.

Flex Program funds under Program Area 5 also served to build State Flex Program capacity by funding new staff (e.g., Oregon hired a telehealth coordinator; Nevada hired a Project ECHO coordinator), creating new partnerships (e.g., Hawaii and Nevada partnered with medical schools, area health education centers, quality improvement organizations, and other providers to implement their Project ECHO initiatives) and leveraging new funding sources (e.g., Nevada and Hawaii). At the hospital and community levels, the care coordination projects opened lines of communication with other providers, as in the case of the improved communication between Illinois' CAHs and nursing facilities during patient transfers. Similarly, CAHs participating in Colorado's Innovative Project focused on improving communications between participating CAHs, RHCs, and other provider organizations. Both Tennessee and Michigan focused on supporting the primary care infrastructure in CAH communities.

Project implementation frequently took longer than expected and was complicated by changing state priorities, the need to develop relationships between project partners, resource constraints, staffing changes, and competing provider demands.

The context in which each project was undertaken played a significant role in its implementation. Oregon, for example, originally proposed to develop modules for addiction and psychiatry services for rural and frontier CAHs under a Project ECHO hub to be implemented under a CMS State Innovation Model project. When the state did not proceed with the planned ECHO hub, Oregon revised its proposed Innovative Project initiative to assess the readiness of CAHs to implement telehealth programs. In contrast, Nevada's project was undertaken in the context of a well-established Project ECHO initiative which greatly facilitated a smooth implementation.

Having established relationships between stakeholders, CAH staff, and other potential participants facilitated successful and timely project implementation. Nevada's implementation was supported by the co-location of its Flex Program, State Office of Rural Health, and Project ECHO in the School of Medicine at the University of Nevada-Reno, and the relationships forged by key stakeholders due to their close working relationships. Colorado and Illinois' history

of working with their project partners and CAHs provided a strong foundation that allowed them to overcome challenges.

Michigan's RHC Quality Network benefited from the Michigan Flex Program's close relationships with the CAHs that own the provider-based RHCs participating in the network and the state's prior experience with developing its CAH Quality Network. They also used an established data portal (QHi) for use as a data collection and benchmarking tool. These factors provided a foundation for the development of the RHC quality network. Despite this fact, Flex Program staff noted provider-based RHCs required initial cultivation and "hand-holding" to engage them in the network. They further noted that they encountered issues such difficulty extracting data from EHRs and staff turnover that had to be worked through.

The participating states' Innovative Projects are highly replicable.

As noted above, projects implemented under Program Area 5 were intended to serve as best practice strategies that could be replicated in other states. A number of the projects highlighted by this evaluation could be adopted by other State Flex Programs as they align well with needs and concerns in many states and provide a pathway to support CAH participation in value-based payment and delivery systems. The inter-facility tools and communication processes to improve CAH/nursing transfers developed by Illinois provide a model for other states to follow to reduce unnecessary readmissions. Illinois' ED protocols for CHF and COPD could be adapted by other states to address these and other chronic conditions. Similarly, Colorado's iCare project to facilitate improved communications between facilities and better transitions of care provides a model for other states wishing to address similar concerns among their CAHs.

Michigan's RHC Quality Network offers a model to support the primary care infrastructure in rural communities by building the capacity of RHCs and other primary care providers to collect and report quality and other performance measures. Both Nevada and Hawaii have shown that Project ECHO can be successfully implemented by a State Flex Program, as a part of a program of expanding telehealth and building the capacity of rural providers and CAHs to provide access to specialty care locally. As evidence of this, Hawaii consulted with Nevada's Project ECHO team and received support and advice that informed their own project development.

Monitoring program impact was a challenge for many of the participating states.

The Flex Program is complicated, involving multiple stakeholders and a broad range of activities implemented in a complex state and national policy environment.[3] Given the relatively modest resources available to State Flex Programs, it is critical that states implement interventions that are most responsive to the needs of CAHs and their communities and have the greatest chance of producing results. This evaluation of the seven states' projects highlights the challenges states face in monitoring the impact of their Flex-funded initiatives.

To support this evaluation, states were asked to complete a logic model for their projects to clarify their underlying theories of change; project timelines; resources available; short-term process measures; and short-, intermediate-, and long-term outcome measures. These logic models were intended to "create a road map for understanding how program resources are to be used to implement key strategies and activities and how their implementation contributes

to expected short and longer-term outcomes."[4] Logic models do this by utilizing a series of sequential "if-then" statements to illustrate how program activities affect change.[5] Evaluation team members reviewed these draft documents and provided feedback to the states to help refine their final products. The final logic models formed the basis for the evaluation.

This process highlighted a number of challenges. First, some states were not always clear about the theory of change for their proposed interventions. Although many of the proposed interventions were supported by an evidence base (e.g., Project ECHO) and/or Flex Program experience (e.g., quality improvement networks or care management, chronic care management, or care transition programs), a number found it difficult to connect the chain of project activities to short, medium, and long-term outcomes.

Second, participating states were challenged in creating clearly specified outcome measures. For example, a number of the states with quality improvement projects identified "improved patient care" as one of the long-term outcomes, reflecting the language of the guidance. While an important goal, this outcome measure requires clearer definition to be operationalized and to assist states in identifying potential sources of data to support the measure. The same was true for other long-term outcomes such as "cost savings to CAHs and payers," "improved care delivery in rural areas," or "improved patient outcomes."

At the same time, a number of these long term outcomes are influenced by a variety of factors, some of which may be within the control of the states' Innovative Projects to change while others may not be. As a result, it is necessary to determine the relative contribution of the project to changes in the desired long-term outcomes and develop a strategy to measure that relative contribution. The two Project ECHO interventions provide a clear example of this issue. While both seek to accomplish the long term goals of improving access to specialty care and improving patient outcomes, these are difficult concepts to measure and, as noted by the Nevada Project ECHO team, require access to practice-level data for providers participating in the Project ECHO modules. Hawaii also seeks to reduce off-island transports for specialty care. Some off-island transports may be necessary regardless of the improved skill sets of the Project ECHO clinicians. At the same time, changes in the local delivery system, services developed by other providers, and expanded use of telehealth services may influence fluctuations in off-island referrals.

Among the seven projects, Michigan's RHCQN had the clearest and most easily measured outcome goals for the improvement of care for three primary care conditions: body mass/ obesity, blood pressure, and tobacco use. Participants were asked to collect and report data for these common conditions. The three measures reported through the QHI portal allow the Flex Program to track changes in the quality of care provided by the participating RHCs due to participation in the network, engagement in peer learning, and access to quality improvement educational sessions.

Clearly specified outcome measures linked through evidence to desired long-term outcomes also make it easier for states to identify sources of data to support these measures and document program impact. Some of the participating states had difficulty identifying and collecting data associated with their outcome measures. The program planning process should involve either the

identification of sources of data for specific outcome measures or the development of processes to collect the needed data from CAHs and other participants in the program. This clearly suggests that outcome measures need to be developed in conjunction with a clear data collection plan for a given project. Developing outcome measures without this understanding risks the selection of measures with no clear access to data to support the use of those measures.

Nevada, for example, established a data collection system for its Project ECHO initiative to support many of their process and short and intermediate term outcome measures. The Nevada Flex Program recognized the value of collecting these data to demonstrate program impact for current and potential funders. Similarly, Colorado, Illinois, and Michigan specified outcome measures that could be tracked through data resulting from participation in project activities. Michigan identified improved RHC quality of care as demonstrated by participants' performance on core metrics collected through the QHi portal. Illinois likewise identified improvement in quality through measures reported by CAHs to FORHP's Medicare Beneficiary Quality Improvement Project (MBQIP).

Some states ran into challenges documenting program impact as their outcome measures required participants to complete surveys or to submit data on internal changes they had made in the course of their participation in the initiatives. Nevada and Hawaii, for example, both used surveys to collect data from participants on the extent to which they had made changes to their practices or they were feeling a lower sense of "burnout" as a result of their participation in a Project ECHO module. While surveys can yield potentially useful information, original data collection is more expensive and requires greater effort on the part of State Flex Programs. Both Nevada and Hawaii reported issues with response rates from participants which negatively impacted their ability to consistently track measures related to provider use of the knowledge gained, their ability to treat specialty cases, reduction in burnout, and decreased referrals to specialty providers outside of their communities. Similarly, Michigan's outcome measures related to hospital engagement and quality improvement support for their provider-based RHCs required a clear definition of how these concepts will be measured and a process to collect the data from the hospitals.

In light of these challenges, states would benefit from greater technical assistance in identifying and specifying clearly measurable outcomes from short-term to longer-term through the development of logic models and the evidence linking the proposed intervention to desired long term outcomes. They would also benefit from technical assistance on how to build performance measurement into their projects as a condition of participation. Ideally, participants should be asked to collect and report data relevant to the desired outcomes of a specific intervention.

Key Lessons

While funding under Program Area 5 provided states with an important opportunity to respond to the needs of their CAHs with initiatives that did not fit easily into other program areas, the experience of this first round of Innovative Projects revealed several implementation and evaluation challenges that offer lessons for program improvement.

Project Planning and Design

States seeking to apply for Innovative Projects funding in the next cycle should proactively reach out to partners such as the Technical Assistance and Services Center (TASC), the Rural Quality Improvement Technical Assistance (RQITA) team, and the FMT to discuss potentially innovative models that fit well with Flex Program goals and objectives. This would provide an opportunity to learn about initiatives that could benefit their CAHs and offer insight into program development and implementation issues experienced by others who have employed similar models. States would be well served by using the time during their application development phase, as well as the intervening time before receiving their award notices, to begin the planning and implementation process, including securing participant and stakeholder participation, identifying necessary resources, and identifying measures and data that could be used to track and evaluate their progress and impact.

States that implemented their projects with CAHs and other partners with which they had established working relationships experienced fewer implementation delays and were able to focus on advancing key project activities, rather than spending time building the relationships necessary undertake a complex project. Ideally, the commitment of participating CAHs and other stakeholders should be secured prior to the start of the funding cycle, as this was a significant source of delay for some of the participating states. Asking for letters of commitment from potential key partners as part of the proposal process would require states to work through this process in advance of program implementation. Given the length of the Flex Program funding cycle (historically three years, although the upcoming cycle will be five years), asking states to work through this planning process would allow implementation to begin as soon as funding is available.

Development of Logic Models

As part of the preliminary planning activity, states should be encouraged to explicitly spell out, in advance, the theory of change underpinning their project in the development of their logic models. The three-year time horizon of the current Flex Program funding cycle and the limited scale of some of the projects made demonstrating outcomes difficult. This is due, in part, to the tendency of State Flex Programs to focus on long-term, high-level goals for Flex Program projects (e.g., improving the health of rural communities, improving access to care, or improving hospital viability) rather than shorter-term outcomes related to the implementation of evidence-informed initiatives. While projects seek to affect long-term outcomes such as the health of communities, it is equally important (and more feasible), to document achievement of shorter term outcomes which are known to lead, over time, to those longer term outcomes. Our review of the logic models for the seven Innovative Projects and their use in program monitoring indicate that the states struggled with clearly specifying their theories of change, directly connecting those theories to the identification of short-, medium-, and long-term outcome measures, and using the logical models for program management.

Project Tracking and Evaluation

States would benefit from technical assistance to help strengthen their capacity to track and evaluate project performance. The diversity of activities proposed and implemented under this

funding area created challenges for data collection, program monitoring, and evaluation. These challenges, however, are not unique to Program Area 5 as the FMT has observed similar issues in prior evaluation studies of different Flex Program activities. Nevertheless, the experiences of the current Innovative Projects, which tended to be smaller-scale, focused initiatives with definable objectives and goals, offer useful insight around the challenges of project tracking and evaluation and documenting the impact of the Flex Program.

CONCLUSIONS

The projects undertaken in this first round support the transition of CAHs to value-based payment and health care transformation models by addressing key capacities necessary for CAHs to succeed in the evolving health care marketplace. These capacities include support for primary care services, a foundational element of rural health care systems; care coordination; enhancement of clinical capacity and support for local providers; improvements in communication between health care providers; and improved management of chronic diseases.

Evaluating diverse and multifaceted programs such as the Flex Program is challenging. These programs often operate in a complex environment with numerous stakeholders and multiple internal and external forces that exert influence on program outcomes and the viability of CAHs. These forces may be economic (e.g., the loss of key industries and jobs in local markets), policy-driven (e.g., decisions regarding Medicaid expansion), demographic (e.g., population shifts and aging populations), organizational (e.g., loss of key leaders or providers), or market-driven (e.g., acquisition of CAHs by larger health systems or the entry of new providers in a local market) and are often outside of local CAH leaders' and State Flex Program staff control. The "noise" created by these forces can make it difficult to determine the direct impact of Flex Program initiatives on hospital performance. This highlights the importance of crafting qualitative and quantitative evaluation strategies that can document the relative contribution of a given Flex-funded initiative on a specific area of CAH performance and how the impact of the initiative may be influenced by the interaction of these forces.

These issues are not unique to projects developed under Program Area 5. Rather, they are common to many initiatives undertaken by State Flex Programs under the other four program areas. The provision of consistent and coordinated technical assistance to State Flex Programs by key Flex partners including TASC, RQITA, and the FMT on key aspects of program development, implementation, and management (as described in the previous paragraph) will not only support successful project implementation but also facilitate efforts to evaluate program performance and document the impact of the Flex Program on CAHs and their communities. This technical assistance should improve the capacity of State Flex Programs to manage their portfolio of activities and enhance the overall performance of the Flex Program.

REFERENCES

1. Federal Office of Rural Health Policy. *Funding Opportunity Announcement: Initial: New, Competing Continuation for the Medicare Rural Hospital Flexibility Grant Program.* Washington, DC: US Department of Health and Human Services, Health Resources and Services Administration, FORHP, Hospital State Division; February 3, 2015. HRSA-15-038.

2. Kahn-Troster S, Gale J, Hansen A, Coburn A. *An Interim Evaluation Report of the Innovative Projects Portfolio of the Medicare Flex Grant Program.* Portland, ME: Flex Monitoring Team, University of Southern Maine; January, 2018. Briefing Paper #37.

3. Gale J, Loux S, Coburn AF. *Creating Program Logic Models: A Toolkit for State Flex Programs.* Portland, ME: Flex Monitoring Team; 2006.

4. W.K. Kellogg Foundation. *Logic Model Development Guide: Using Logic Models to Bring Together Planning, Evaluation, and Action.* Battle Creek, MI: W.K. Kellogg Foundation; January, 2004.

5. Taylor-Powell E, Jones L, Henert E. *Enhancing Program Performance with Logic Models.* [online course manual]. 2003. Available at: https://fyi.uwex.edu/programdevelopment/files/2016/03/lmcourseall.pdf. Accessed December 19, 2018.

APPENDIX: ADDITIONAL INNOVATIVE PROJECTS

Alaska: Alaska's Innovative Project strategy was to assess the readiness of its CAHs to transition to value-based models of care and assist them in preparing for the transition. Alaska's scope of work included a readiness assessment based on the Technical Assistance and Services Center's Performance Excellence Framework, ongoing education and peer networking through a small hospital network to prepare CAHs for the changing health care environment, and development of a multi-stakeholder effort with one or more CAHs to explore new models to deliver care in rural communities. As part of its work, Alaska created a task force on sustainability and transformation to explore new models of care, obtained baseline data to understand CAH financial performance, and used these data to evaluate the suitability of different value-based models of care for their hospitals. Alaska collaborated with the Alaska State Hospital and Nursing Home Association, its Flex Program contractor, on its Innovative Project.

Idaho: Idaho's primary Innovative Project strategy used an annual competitive funding program to support CAHs in participating in value-based and healthcare transformation models. In its first year, Idaho awarded money to a single CAH to launch a tele-psychiatry program in its emergency department and pediatric programs. In its second year, Idaho funded three hospitals. Two hospitals developed a clinically integrated network and the third worked to improve financing and operations. In its third year, Idaho funded one hospital funding to provide home-based and telehealth services to patients with chronic conditions. In addition, Idaho's Flex Program worked with CAHs and other rural providers under a state-wide Center for Medicare and Medicaid Innovation (CMMI) grant to develop telehealth, community health worker, and community paramedicine services.

Illinois/North Dakota: Illinois and North Dakota jointly developed and implemented an emergency department Consumer Assessment of Healthcare Providers and Systems (ED CAHPS) project in eight CAHs (four in each state). The ED-CAHPS surveys were conducted by the Illinois Critical Access Hospital Network under a contract with both Flex Programs. Under this project, the ED CAHPS survey was adapted to better suit the needs of CAHs and improve response rates. Although not mandatory for CAHs, an ED CAHPS survey targeted a critical area of CAH services and provides a model for other CAHs to follow.

Massachusetts: Massachusetts' Innovative Project strategy supported the development of a statewide rural telemedicine group to overcome barriers to telehealth implementation in Massachusetts. Through needs assessments and surveys, the state identified reimbursement challenges and a lack of clarity and consistency regarding the inclusion of telemedicine coverage in health plans as barriers to telehealth use. The Massachusetts Hospital Association and rural hospitals supported proposed legislation to establish telemedicine parity across payers in Massachusetts. The SORH also worked directly with rural hospitals to implement and expand telehealth usage.

Montana: Montana's strategy built on the Montana Medical Association's leadership model (Leadership Montana) to create a program for health care teams to support movement towards population health management and value-based care. The intent was to engage board members,

providers, and community partners to work collaboratively towards these outcomes. The goal was to improve hospital performance and stability and advance population health. While the project's goal focused on the leadership necessary to transition to value-based care, the original Leadership Montana program was more heavily oriented towards patient centered medical homes than hospital-focused value-based systems of care. The program revised the leadership program to better address the needs of hospital-based providers.

New Mexico: During the second year of the Flex funding cycle, New Mexico proposed an Innovative Project strategy that partnered a black lung program from Miners Colfax Medical Center (a CAH) and a HRSA-funded mobile clinic to address diabetes among active and retired miners. The black lung program identified diabetes as a significant health problem among this population and sought to use the resources of the mobile clinic to address this need. New Mexico's Innovative Project never progressed beyond the discussion phase.

Pennsylvania: Pennsylvania's Innovative Project worked with the Center for Health Organization Transformation (CHOT) on a data visualization project using Healthy Communities Institute population health data for communities served by the state's CAHs. In addition, Flex funding supplemented funding from a statewide CMMI grant to develop a global budgeting initiative for hospitals (similar to the initiative undertaken in Maryland). Two CAHs explored participation in the first cohort of hospitals to operate under the global budget initiative. The data visualization project was discontinued in Fiscal Year 2017 to allow the state to focus solely on the global budgeting initiative.

South Carolina: South Carolina's primary project strategy supported CAH participation in the statewide Healthy Outcomes Plan (HOP) initiative, a Medicaid population health home program that is mandatory for all hospitals. Under HOP, hospitals serve as health homes for a high risk, vulnerable population of Medicaid enrollees that are heavy users of emergency department services. The goals are to reduce inappropriate utilization and improve management of chronic diseases. The hospitals receive a per-member, per-month payment to serve these at-risk individuals and provide required care coordination services. The Flex Program also supported CAHs by representing the needs of small rural providers on numerous statewide committees and planning initiatives. Other Innovative Project work included participation in a statewide Population Health Summit, ongoing assistance to the Abbeville County Community Paramedic program, and support for the SC CAH's six Rural Health Networks.

Washington: Washington's project strategy explored alternative models of care, new facility types, and payment design to support vulnerable, at-risk CAHs in the state. This project built on the work of the Washington Rural Health Access Preservation work group and the state CMS Innovation plan. Plans included: development of new reimbursement models for vulnerable CAHs; a noncompetitive request for proposals for an innovative integrative healthcare model that will have an impact on rural health; and two workshops to expand knowledge on funding sources, training, telemedicine, and other innovation rural health improvements.

For more information on this study, please contact John Gale at john.gale@maine.edu.