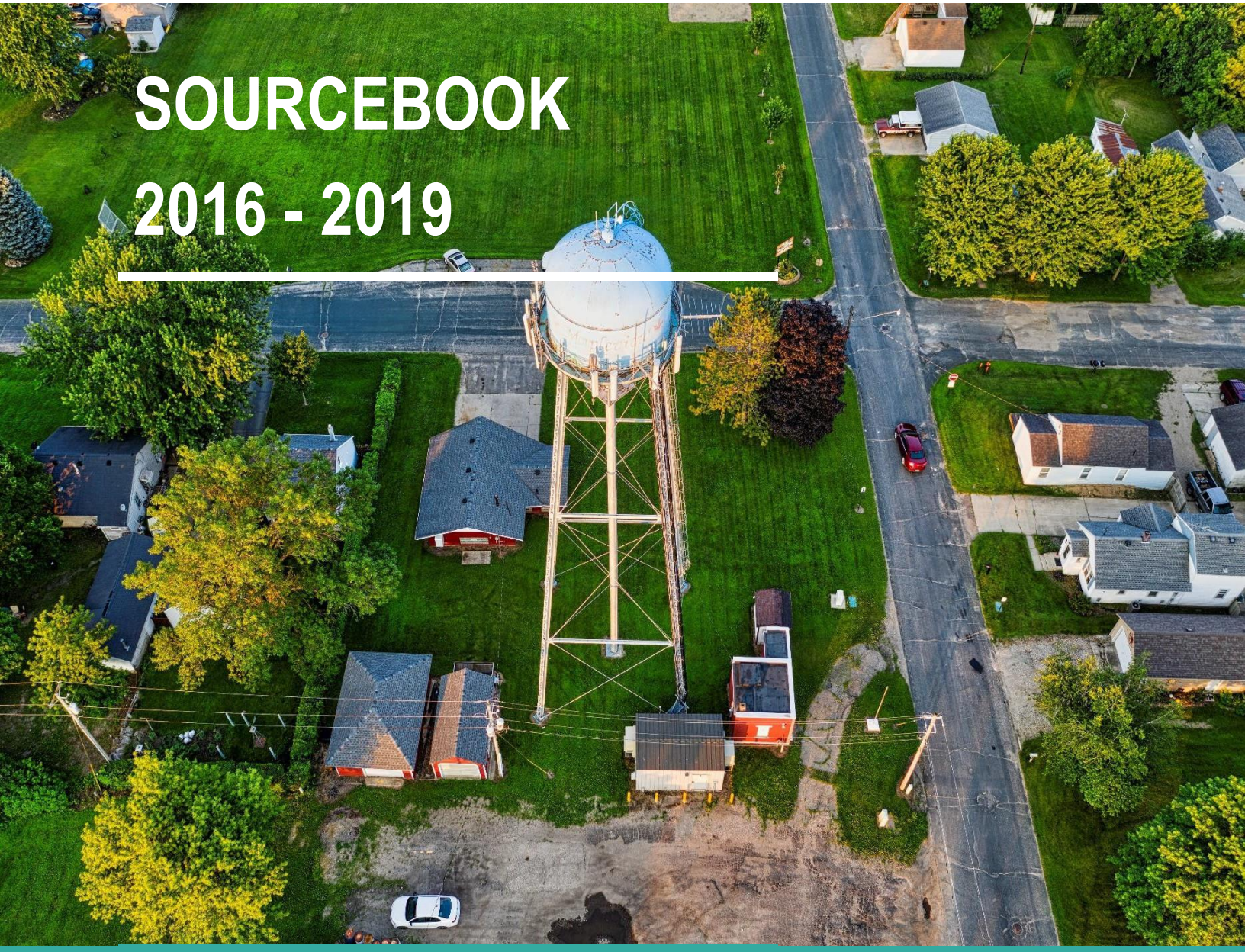
Small Healthcare Provider Quality Improvement

SOURCEBOOK 2016 - 2019



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U.S. Department of Health and Human Services
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Introduction

The Federal Office of Rural Health Policy's (FORHP) Community-Based Division provides support to community organizations to improve access to quality health services and encourage collaboration among health care providers in order to strengthen rural health care systems.

Through the Small Health Care Provider Quality Improvement grant program, FORHP seeks to promote health care services in rural primary care settings which:

1. Support the development of an evidence-based approach to quality improvement;
2. Improve the quality, access, coordination, and affordability of essential rural health care services

Funded healthcare entities implementing quality improvement initiatives aim to address:

- Enhancing chronic disease management,
- Increasing engagement of patients and care givers,
- Improving quality of care, and
- Achieving better patient health outcomes.

This Sourcebook provides a summary 32 rural quality improvement initiatives that were funded during the 2016-2019 grant period. Following a cohort snapshot and summary of key project impacts, there are profiles of each of the 32 initiatives funded under the Small Health Care Provider Quality Improvement program (Rural Quality program). The reader can search grantee program profiles by State, Grantee Organization Type, Program Focus, Quality Improvement (QI) Model utilized, and by Quality Improvement Incentive Program. A Glossary of Terms at the end of the document provides definition of key terms and initiatives implemented by the grantees.

Authorized under section 330A of the Public Health Service Act, the Small Healthcare Provider Quality Improvement Program provides support for the planning and implementation of evidenced-based quality improvement activities in the rural primary care setting in order to improve the quality and delivery of rural primary care services and patient health outcomes.

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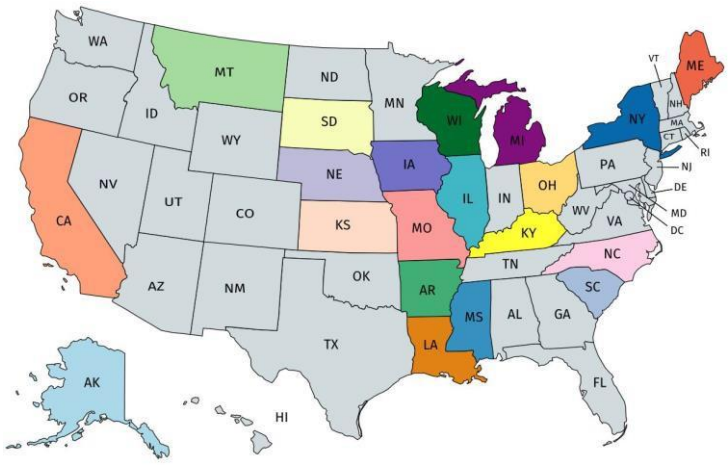
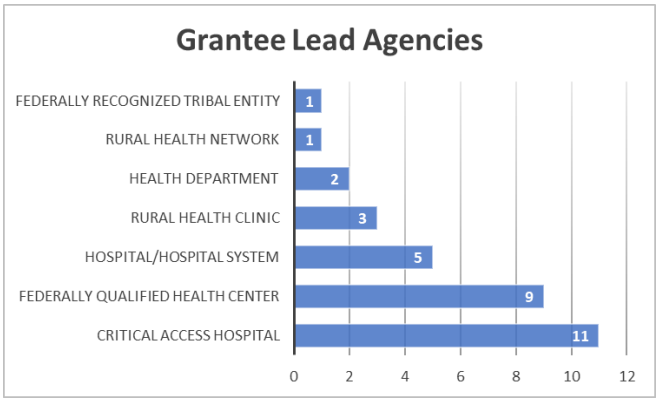
Cohort Snapshot

Reach of the Program

During the 2016-2019 funding period, the Federal Office of Rural Health Policy funded 32 rural health entities across 19 states each with up to $200,000 per year to implement their QI initiatives.





Funded Entities

The 2016-2019 cohort consisted of lead agencies representing a cross- section of rural healthcare providers. Several agencies partnered with other provider agencies, health and human service entities and local government agencies, like health departments, to implement funded quality improvement initiatives.

Targeted Measures

Grantees targeted a range of clinical outcomes during the three- year grant. Their QI initiatives aimed to demonstrate improvement on metrics that captured the quality of care as well as patient clinical outcome

Commonly targeted measures included:

- Adults who were screened for tobacco use at AND who received cessation counseling intervention if identified as a tobacco user
- Adults with a diagnosis of hypertension whose blood pressure was adequately controlled
- Adults with a diagnosis of diabetes (type 1 or Type 2) whose most recent HbA1c level is <8.0% during the measurement
- Patients aged 6 months and older seen for a visit between October 1 and March 31 who received an influenza immunization OR who reported previous receipt of an influenza immunization

Impacts Achieved

Over the three year grant period, Rural Quality grantees implemented a range of initiatives aimed at improving the quality of services and patient health outcomes, using evidence-based or promising practices to guide their work. The funding provided through the 2016-2019 Small Healthcare Provider Quality Improvement grant program resulted in increased clinical capacity, better coordination of care and supports across health and non-health agencies, improved quality of care and better patient outcomes. Some of the key impacts achieved are described below.

Building Capacity for Quality Improvement

Guided by evidence-based quality improvement (QI) models like Lean, Six Sigma, and Plan-Do-Study-Act, Rural Quality grantees built the infrastructure, staffing, and capacity to integrate QI practices, capacity and culture within their teams and organizations. Impacts included:

- Establishment of QI teams and integration of QI and process improvement practices within organizations
- Enhanced infrastructure and staff capacity to support better data collection, reporting, and utilization for QI
- Shifting culture and practices to engage staff and partners in data driven practices that support improved care delivery

Improving Chronic Disease Management

Grantees strengthened clinical service delivery and improved care for patients with chronic diseases including diabetes, cardiovascular disease and chronic obstructive pulmonary disease, among others. QI initiatives such as chronic care management services, remote patient monitoring programs, and health coaching/ community health worker programs provided structure to the delivery of clinical care and ensured that patients were receiving necessary educational, navigational and other supports to remain engaged in their own care. Impacts included:

- Improved knowledge, skills, attitudes, health behaviors and the achievement of proximal health outcomes
- Enhanced patient self-efficacy and engagement in managing their own care,
- Lower health care spending due to reduced hospitalization

Strengthening Coordination of Care

Rural Quality consortia and networks improved the quality of care and improved efficiency by focusing on organizing patient care activities and sharing information across health care provider entities. Employing models like the Care Transitions program, grantees improved referrals and patient transitions from one institution to another. The Patient-Centered Medical Home Model guided partners in building better relationships between and among providers and with patients and their clinical care teams. As a result of these efforts, grantees achieved:

- Reorganization of staffing models that improved patient engagement
- Delivery of timely and effective information between providers, institutions, and patients needed to optimize patient care
- Stronger relationships among providers that facilitated the delivery of necessary health care services

Positioning for Success in the Transition to Value-Based Healthcare

Grantee organizations and networks are better positioned for success and sustainability as healthcare moves towards value- based care. As a result of a concerted focus on patient health outcomes and patient adherence to treatment and disease management, grantees established team-based health care in the primary care setting to ensure patient care provided was coordinated, high quality, whole-person care. Grantees built or strengthened relationships with community-based organizations and community resources that supported patient engagement and provide needed educational and instrumental supports. Impacts included:

- Reductions in unnecessary Emergency Room (ER) visits and preventing re- hospitalizations
- Certification as Patient-Centered Medical Homes and integration into Accountable Care Organizations
- Increased patient utilization of primary care services resulting in enhanced reimbursement opportunities

Grantee Profiles by State

Grantee Profiles by Organization Type

The 2016-2019 cohort consisted of lead agencies representing a cross-section of rural healthcare providers.

Grantee Profiles by Focus Area

Rural Quality grantees strengthened clinical service delivery and patient care models by drawing from evidence-based models and practice guidelines. Their efforts focused primarily on chronic disease prevention, treatment and management.

	Daughters Of Charity Services Of Arkansas	59
	Delta Health Alliance, Inc.	64
	Greeley County Health Services, Inc.	76
	Northwest Michigan Health Services, Inc.	100
	Santee Sioux Tribe of Nebraska	121
	Shawano Medical Center	129
	Upper Peninsula Health Care Solutions, Inc.	142
Emergency Department Utilization	Care South Carolina, Inc.	33
	Cary Medical Center	36
	Delta Health Alliance, Inc.	64
	Granville-Vance District Health Department	68
	Hi-Desert Memorial Health Care District	80
	Pines Health Services	105
	St. Luke's Hospital, Inc.	133
	Trinity Hospital Twin City	137
Mental and Behavioral Health	Care South Carolina, Inc.	33
	Cox-Monett Hospital, Inc.	50
	Mercy Health Partners of Southwest Ohio	91
	Winn Community Health Center, Inc.	151
Telehealth/Remote Monitoring	Avera Queen of Peace	23
	Granville-Vance District Health Department	68
	Washington County Memorial Hospital	147

Other Focus Areas:

Focus Area	Grantee Organization	Page #
Gestational Diabetes	Avera Queen of Peace	23
Medication Therapy Management	Mercy Health Partners of Southwest Ohio	91
Tobacco Cessation	Washington County Memorial Hospital	147

Grantee Profiles by Quality Improvement Model

Grantees built QI practices, capacity and culture within their teams and organizations and utilized an evidence-based Quality Improvement model to guide project implementation.

Other Quality Improvement Models:

Quality Improvement Models	Grantee Organization	Page #
Care Improvement Model	Trinity Hospital Twin City	137
Continuous Quality Improvement	Mountain Health and Community Services, Inc.	97
Duke Population Health Model	Providence Health & Services-Washington	109
Emergency Department High Utilizer Case Management Model	St. Luke's Hospital, Inc.	133
Geisinger Health Plane Care Coordination COPD Model	Cary Medical Center	36
Reversible Obstructive Airway Disease (ROAD) Program Framework	Adventist Health System West	15
Robust Process Improvement	Sanford Health Network	117

Grantee Participation in QI Incentive Programs

Grantees leveraged grant funding to better position their organizations and networks for success and sustainability as healthcare moves towards value-based care. Grantee participated in a range of quality improvement incentive programs.

Quality Improvement Initiative	Grantee Organization	Page #
Accountable Care Organization	ARcare	19
	Greeley County Health Services, Inc.	76
	Pines Health Services	105
	Roanoke Valley Health Services, Inc.	113
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Chronic Care Management Services	ARcare	19
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Diabetes Prevention Program	ARcare	19
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	Cox-Monett Hospital, Inc.	50
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	Greeley County Health Services, Inc.	76
	Mercy Health Partners of Southwest Ohio	91
	Mountain Health and Community Services, Inc.	97
	Northwest Michigan Health Services, Inc.	100
	Upper Peninsula Health Care Solutions, Inc.	142
	Winn Community Health Center, Inc.	151
Transitional Care Management	Sanford Health Network	117
	Clay County Hospital	45

Grantee Profiles

The following section contains brief profiles of the 32 Rural Quality grantees funded during the 2016-2019 grant period. These profiles summarize the program approach, key outcomes and impacts, and lessons learned that are relevant to other rural providers and health collaboratives seeking to improve quality of care.

California

Adventist Health System West

Project Organization Information						
Organization Name	Adventist Health Systems West (d.b.a Adventist Health Feather River (AHFR Hospital)					
Organization Type	Hospital					
Address	5974 Pentz Road					
	City:	Paradise	**State:**	CA	**Zip-code:**	95969
Organization's Project Contact	**Name:**	Ben Mullin				
	Phone:	503-815-7470				
	Email:	MullinBR@ah.org				

Project Overview			
Title	COPD Care Coordination and Impact on Quality of Life		
Goal(s)	To improve care delivery to patients diagnosed with Chronic Obstructive Pulmonary Disease (COPD) through implementing a program based on the evidence-based UC Davis Reversible Obstructive Airway Disease (ROAD)		
Objectives	• To reduce emergency department (ED) visits for COPD • To reduce hospitalizations for COPD by 10% • To reduce readmissions for COPD within 30 days of discharge by 30%		
Focus Area(s)	COPD		
Counties Served	Butte, Yuba, and Counties		
Consortium/Network Partners	**Organization Name**	**City/County**	**Organization Type**
	Gary Bess Associates	Rocklin/Butte	Private Business
	Butte College Respiratory Therapist Program	Butte County	College
	Skilled Nursing Facilities	Paradise/ Butte	Hospital
	Adventist Health Feather River Foundation	Paradise/ Butte	Nonprofit
Evidence-Based Quality Improvement Model(s)	PDCA (Plan, Do, Check, Act) model AHFR utilized PDCA (Plan, Do, Check, Act) as its Quality Improvement (QI) model for project implementation. The four-step model was successfully used with this program, with the project team making only minor adjustments, when needed and as directed by the model, to assure effective performance of the implementation of the COPD ROAD framework.		
Needs Addressed	The death rate for COPD in Paradise and Butte County is about twice the California average. Service area residents face many challenges that impact health, including poverty and lack of health and enabling resources. More than one in five (21.9%) county residents live below the Federal Poverty Level (FPL). The county exhibits higher than average rates for early mortality and morbidity, higher rates of adult		

	smoking, a major cause of COPD, and a rate for excessive drinking that far exceeds the state average. Residents die at rates higher than the state rate for coronary heart disease, stroke, influenza, and chronic liver disease and cirrhosis; COPD is typically seen in conjunction with and complicating other diseases. Furthermore, these communities are rural, with access to fewer proximate and timely resources than urban communities.
Target Population(s)	The project focused on patients diagnosed with COPD, including those diagnosed with a range of progressive lung diseases included under the umbrella of COPD, such as emphysema, chronic bronchitis, refractory (non-reversible) asthma, and bronchiectasis. Data showed that 2,575 patients with a diagnosis of COPD accessed services through the AHFR ED in the 12 months prior to grant award. The impact of this health condition is extreme, as the percentage of COPD-diagnosed patients represents almost 10% of all patients seen in the ED and 21% of all admissions, excluding obstetrics. Patients with COPD are among the most critically ill patients, as evidenced by the higher than average percentage of ED patients that were subsequently admitted to the hospital. These data demonstrated that COPD represents one of the most frequent reasons for hospitalization, is among the most serious of health conditions, and is among the highest in cost of care.
Services & Activities	Using the ROAD program framework, patients were provided with individualized treatment planning, case management, one-on-one education, and respiratory medication review with the Respiratory Therapist (RT), referrals to specialty care, pulmonary rehabilitation, and day-time access to a Respiratory Therapist post-discharge. An additional component of the program included smoking cessation counseling. The COPD education gave patients the tools, resources, and information to help them create short- and long-term goals for self-management. Within two days of hospital discharge, a follow-up call was made to the patient to ensure the patient had picked up prescriptions and was using them as prescribed. Furthermore, follow-up "check-in" calls were made at two weeks and two months to review provider appointments and any medication changes. Smoking cessation counseling and support services took place on a one-to-one basis at the patient's bedside along with COPD education, and again with each post-discharge follow-up call. Patients were also referred as appropriate to the AHFR Freedom from Smoking (FFS) class for additional support in an outpatient group setting.
Project Results	
Outcomes	Patient Health Outcomes • 636 patients received COPD Management services and 322 participants received smoking cessation counseling and respiratory medication review. • Only 51.1% of patients referred to a pulmonologist at discharge had a COPD-related ED visit within 30 days post-discharge as compared to 62% of patients not referred to a pulmonologist. • Of patients required to take home respiratory medications, the percentage of patients compliant with their medication regimen increased from 85.3% at the time of admission to 92.3% at two-months post-discharge. • 81% of patients who were originally non-compliant with regimen at the time of admission were compliant at two-months post-discharge.

	• As part of the COPD program, COPD patients were required to complete a COPD Assessment Test (CAT), a simple and reliable measure of health status in COPD that assists patients and staff in quantifying the impact of COPD on the patient's health. Outcomes demonstrated that 80.2% of patients had a clinically significant decrease in their CAT score from their first to second assessment. System-Level Outcomes • Respiratory Therapy (RT) students shadowed the COPD program, which is critical for workforce development to train future RTs on care management of COPD patients. • Collaboration with corporate and a sister hospital allowed for replication of the COPD program at AH Rideout. Adventist Health Feather River's (AHFR) COPD project is unique in that services provided in Year 1 and Year 2 were conducted at AHFR. The structure of the program significantly changed in Year 3 when the Camp Fire, California's most destructive wildfire, consumed much of the town of Paradise and parts of AHFR on November 8, 2018. As a result of the Camp Fire, relationships with Adventist Health's corporate offices and sister hospitals afforded AHFR the opportunity to sustain components of the program in a different setting. A majority of the COPD program was transferred to Adventist Health Rideout (AHRO), the next closest sister hospital serving rural Yuba and Sutter Counties. Some of the patients who received COPD services at AHFR continued to access AHRO for COPD services while displaced by the Camp Fire. While inpatient COPD services are currently not reimbursable, the program outcomes so far demonstrated the decrease in readmissions for COPD, or related conditions, which will continue to save the hospital money and free up beds for other patients. Another impact of collaboration was the improved linkages across the care continuum. Communication improved between RTs and hospitalists, patients and various care providers. Finally, the collaboration elevated the awareness of COPD as a condition among providers and patients. Just one week prior to the Camp Fire, the Project Director and Project Coordinator/Educator had met with Adventist Health Northern Region Medical Director to share key findings and overall impact of the COPD program at AHFR. The Medical Director was pleased with the results and suggested that they provide a presentation and share best practices on the COPD program with other AH hospitals and clinics. While the Camp Fire put a pause on the transmission of this information, the Project Director and Project Coordinator/Educator continue to discuss opportunities to launch the COPD Program throughout the AH system.
Sustained Impacts	All elements of the COPD program are continuing at AHRO in Marysville, and smoking cessation classes take place at AHFR's outpatient clinic in Paradise, California. In-kind support from AHRO in Marysville support the Project Coordinator/Educator as lead RT for the program. Other sources of funding come from grants and possible RT reimbursement codes.

	The long-term impact of the COPD project that was originally initiated at AHFR reaches across the United States. Nearly 30,000 residents called the town of Paradise, CA, home prior to November, 2018. As of July 2019, that number had fallen to an estimated 2,300. Social media tracking has determined that residents of Paradise have spread out to 45 different states and 550 communities across the U.S. Based on this information, it can be assumed that participants in the AHFR COPD program have also followed this pattern of relocation. They have a unique opportunity to share what they have learned with fellow COPD patients in their new communities. COPD patients diagnosed early in the disease process, in conjunction with participation in the program, have the ability to improve their quality of life in the long-term. The reality for many newly diagnosed COPD patients is a lack of disease knowledge and personal awareness of exacerbation cues. Program participants are provided a comprehensive education on the disease that may shape their life experience and quality for decades. From a continuum of care perspective, the COPD Case Management model is likely to be adopted by many institutions as the focus of healthcare shifts from an inpatient focus to a population health/preventive medicine incentivized focus. In- hospital partnerships with community paramedic programs, community case managers, and primary care providers must continue to evolve. Evidence of quality- of-life improvement from this program and others like it can be used to provide justification of implementation and recurring costs.
Challenges & Lessons Learned	The Camp Fire represented the most significant challenge experienced by the COPD project team, which unfortunately caused AHFR to close its doors and required the COPD team to make significant changes to the service area, service demands, organizational structure, opportunities, and partners. While the populations served remained the same, the geographic scope of service area was substantially increased. Such changes to the existing work plan were inevitable; however, the AHFR team worked diligently via a new approved work plan to continue the program. The revised work plan consisted of moving the COPD program, which included individualized planning, case management, one-to-one education, referrals to specialty care, and smoking cessation services, to AHRO in Marysville, California. In July 2019, the COPD program began offering one-on-one smoking cessation counseling and COPD education services to outpatients served at Feather River Health Clinic (FRHC), which re-opened to the community in January of 2019. At AHRO, the outpatient Pulmonary Rehabilitation Program was started in April with the RT from AHFR. While the setting is different, some of the COPD patients who were enrolled in the program prior to the Camp Fire continue to receive services via this new model.

Arkansas

ARcare

Project Organization Information						
Organization Name	ARcare					
Organization Type	Federally Qualified Health Center					
Address	117 South 2nd Street					
	City:	Augusta	**State:**	AR	**Zip-code:**	72006
Organization's Project Contact	**Name:**	Dr. Steven Collier, CEO				
	Phone:	870-347-2534				
	Email:	Steven.collier@arcare.net				

Project Overview	
Title	KentuckyCare Chronic Disease Program
Goal(s)	To improve health outcomes and quality of life for residents with chronic disease conditions
Objectives	• To provide community outreach to eligible patients • To offer chronic disease education for at-risk patients • To train staff and providers on project protocols • To improve patient health outcomes • To reduce 30-day hospital readmission rates
Focus Area(s)	• Care coordination for patients with two or more chronic disease diagnoses utilizing the Chronic Care Model • Care Transitions Management • Chronic disease self-management education
Counties Served	Ballard, Carlisle, Calloway, Fulton, Graves, Hickman, McCracken, and Marshall
Evidence-Based Quality Improvement Model(s)	The project used the Chronic Care Model, which has been utilized by ARcare for more than 15 years. Through the implementation of this model, ARcare and KentuckyCare staff members were able to include Care Coordination (CCM), Diabetes Self-Management Education (DSME), Medical Nutrition Therapy (MNT), and Transition Care Management (TCM) in coordination with two area hospitals.
Needs Addressed	The project addressed the need to increase access to chronic disease care in the extreme Western Kentucky counties known as the Purchase District. The population area is disproportionately affected by obesity, uncontrolled diabetes, cardiovascular disease, and depression, all exceeding national rates.
Target Population(s)	The project targeted patients over the age of 55 within the KentuckyCare service area with at least two chronic disease diagnoses. Nearly 30% of the population in the service area have incomes below 200% of Federal Poverty Level, and 22% are uninsured. There are significant gaps in access to care, especially chronic disease care, in the area. Residents have a higher risk of developing untreated chronic diseases, utilizing the emergency room for primary care issues, or misusing or under-using their medications.

Services & Activities	• A project outreach plan, utilizing community meetings, special events, brochures, and program flyers was developed and implemented • Necessary staff were hired and trained all project staff and providers on project protocols with continuing education credits included in this training • A team-based Care Coordination and Self-Management program was implemented for patients with multiple chronic disease diagnoses • Patients were provided Medication Nutrition Therapy, Nutrition Education, Health Coaching, and one-on-one Weight Management, as needed • Telehealth services were implemented for patients unable to travel to appointments • A Care Transitions plan was developed and implemented with two area hospitals. This program focuses on ensuring that patients and their caregivers have the knowledge and resources to manage their conditions effectively after they return home.
Project Results	
Outcomes	Patient Health Outcomes • Health outcomes improved for 36% of patients (333 of 925) enrolled in KentuckyCare Chronic Disease Program • 30-day readmission rates were reduced by 90% among the 103 patients enrolled in Transition Care Management • Patient engagement was increased • Cost of care for patients was reduced System-Level Outcomes • All KentuckyCare clinic staff were trained for improved workflow for coordinated care services • Partnerships with two major area hospitals were strengthened • 12 KentuckyCare staff and 4 hospital staff were trained in Transition Care Management model and workflow. This project allowed KentuckyCare to provide specific chronic disease prevention and treatment services to patients in eight counties that had no other access for this type of specialty health care. The project received an Evidence-Based Model Award from the Federal Office of Rural Health Policy at the Small Health Care Provider Quality Improvement Grantee Meeting in DC in 2018. All KentuckyCare clinics received Patient Centered Medical Home Level 3 recognition, and American Associate of Diabetes Educator accreditation. ARcare received The Joint Commission accreditation, was in an Accountable Care Organization in 2018 and completed GPRO for that. In addition, they are able to use the iDashboards as a quality improvement initiative, which allows the creation of custom graphs or dashboards for each clinical quality measure.
Sustained Impacts	Through this project, the community received nutrition education, diabetes prevention and self-management education, medical nutrition therapy, annual wellness visits, health coaching, chronic care management, and care transition services. These services will be sustained through program income from reimbursement from insurance companies for billable services. All activities implemented in the project have been incorporated into the organization's

	Coordinated Care Program and will continue to be provided as everyday clinical practice for providers and staff. The long-term effect will be the overall improvement in health outcomes and quality of life for the targeted population. The success of the program is the result of the care team's working together to assist patients in setting goals and following up on those goals. Other residents throughout the service area have been impacted through multiple outreach events which promote wellness services and chronic disease prevention.
Challenges & Lessons Learned	This program is highly dependent on dedicated staff who are passionate about the coordinated care program and who are willing to search for innovative ways to provide services to patients. The project leaders realized that they had to have the entire health team on board for this model to work. It took almost two years to get the full team in place (staff turnover had been a big issue) and to begin to see improvement in patient outcomes. Medicaid was one of the biggest challenges to overcome for this program in Kentucky. The team had to work with five different Medicaid programs for insurance purposes. The team studied regulations of each of the five insurance program before proceeding. This resulted in waiting several months for any clinical providers to be credentialed, which also resulted in patients not receiving the care they needed in a timely manner. Once the Medicaid and insurance challenges were resolved and providers were credentialed, the project team adapted the Chronic Care Model to make it work for their Kentucky clinics. The team has been able to bill successfully for preventive services for commercial insurance, Medicare, Medicare Advantage, and Medicaid. They also developed a policy for preventive care to waive the patient's co-pays after the patient has completed the sliding fee application. After providing services for several months, the team realized that most insurances were not paying for Medical Nutrition Therapy (MNT) services. MNT has only three billing codes and none were designed for patients with heart disease. After doing more research, the project staff began providing and coding visits identified as Intensive Behavioral Therapy (IBT) for their cardiovascular patients. Through this coding, the Registered Dietician can provide the services, and it is put into a superbill and signed off by the MD (which MNT codes do not provide). These IBT visits are paid for by most insurances. They also furthered the team-based approach in the clinical setting. The team realized very quickly not all patients had access to the resources needed in order to make the physical and behavioral changes to improve their health outcomes. With that in mind, the project's Registered Dietician developed a Weight Loss Program as an addition to the Chronic Care Model. This program, along with the team-based care and health coaching, has helped patients make significant improvements in their health. At the end of Year 2 of the project, the team worked with a local community to add some fitness equipment to one clinic site so that patients could utilize the equipment and continue working toward their health goals. This also helped alleviate challenges for patients who did not have access to a fitness center

	or could not afford the membership fees of a fitness center. Low numbers in patient retention and compliance to recommended treatment/care plans in addition to limitations of the Registered Dietician to provide services across the other clinic sites revealed further need for the project to employ additional approaches for the needed continuation of care services among the patient population. In order to address the patient access, retention and compliance challenges, the project was able to implement remote patient monitoring services which demonstrated an increase in patient follow-through as well as improved health outcomes for those participating.

South Dakota

Avera Queen of Peace

Project Organization Information						
Organization Name	Avera Queen of Peace					
Organization Type	Hospital					
Address	525 N. Foster Street					
	City:	Mitchell	**State:**	SD	**Zip-code:**	57301
Organization's Project Contact	**Name:**	Angie McCain				
	Phone:	605-995-5666				
	Email:	Angie.mccain@avera.org				

Project Overview	
Title	Before Baby: Avera Remote Gestational Diabetes Monitoring Project (Before Baby Project)
Goal(s)	To decrease neonatal and maternal complications from gestational diabetes by combining remote blood sugar monitoring and interactive mobile telehealth visits with Certified Diabetic Educators/Registered Dieticians/Advance Practice Perinatal Providers (CDE/RD/APPP)
Objectives	• To implement blood sugar monitoring and telehealth visits with women diagnosed with gestational diabetes • To educate patients about dietary and nutritional guidelines for controlling gestational diabetes and managing a healthy pregnancy
Focus Area(s)	Gestational Diabetes
Counties Served	Hughes, Brookings, Gregory, Buffalo, Brule, Charles Mix, Jerauld, Aurora, Douglas, Yankton, Lyman, Sanborn, Davison, Miner, Hanson, Hutchinson, and McCook Counties
Evidence-Based Quality Improvement Model(s)	The Before Baby Project was based on the Chronic Care Model (CCM). The CCM consists of five core elements: health system organization, delivery system design, decision support, clinical information systems and self-management support. These in turn produce productive interactions between informed, activated patients and prepared, proactive practice teams. The CCM calls for an organized and planned approach to improving patient health by focusing on particular patient populations (e.g., pregnant women diagnosed with gestational diabetes) to ensure that every patient receives optimal medical care. It also encourages a shift from care delivered mainly by the physician to one that encourages care delivered through teams, such as the Certified Diabetes Educator/Registered Dietician and the nurse practitioner. Each team member brings unique and needed expertise to the table.
Needs Addressed	Researchers don't know exactly what causes gestational diabetes, but numerous factors raise a pregnant woman's risk of developing gestational diabetes, including pre-diabetes, high blood pressure, a family history of Type 2 diabetes, hormone disorders, being older than 25, previously giving birth to a baby that weighed at least nine pounds or previously having an unexplained stillbirth or miscarriage. In

	South Dakota, statistics surrounding some of those risk factors are alarming. According to recent studies, the state has extremely high rates of diabetes, obesity, and high blood pressure, and the prevalence of gestational diabetes is as high as 9.2 percent. Moreover, higher percentages of American Indian mothers and mothers of other races are diagnosed with gestational diabetes.
Target Population(s)	The program targeted pregnant women living in a 14-county area in south central South Dakota who have been diagnosed with gestational diabetes. Many patients involved in the program represented a particularly high-risk group of expecting mothers who face numerous health disparities. While gestational diabetes can often be managed by diet alone, existing diet choices do not always reflect those recommended by providers. This is due to a variety of existing barriers, including lack of access, time, accountability, and role modeling.
Services & Activities	The Before Baby: Avera Remote Gestational Diabetes Monitoring Project (Before Baby Project) was created to increase access for women diagnosed with gestational diabetes in rural South Central South Dakota to trained specialists via a mobile telemedicine application accessible from almost anywhere. Pregnant women newly diagnosed with gestational diabetes in the Avera Queen of Peace (Mitchell, SD) service area were referred to the program and were then able to download the mobile telemedicine application or access the service through other devices over the internet as long as the device had audio/visual capabilities. Through this face-to-face telemedicine connection, the patient was able to visit with a Certified Diabetes Educator/Registered Dietitian (CDE/RD) about dietary and nutritional guidelines for controlling gestational diabetes and managing a healthy pregnancy. In addition to the telemedicine application, each patient also received a glucometer for testing her blood sugar daily. The blood sugar results from the glucometers were automatically sent to the CDE/RD who monitored each patient and intervened as soon as blood sugar levels began to spike and become out of control.
Project Results	

Outcomes	Patient Health Outcomes
	• Patient health outcomes included a decrease in the following areas:
	  ○ Primary Cesarean sections (20% reduction), with reduced chances of surgical complications;
	  ○ Incidence of shoulder dystocia;
	  ○ Post-partum hemorrhage; and
	  ○ Infant birth weight as related to gestational age.
	System-Level Outcomes
	• Patient satisfaction increased. Patients appreciated the brief virtual visits, reduced time away for work and reduced drive time.
	• Physician satisfaction increased due to clinic time gained from no longer having to analyze paper logs, better management of medication/insulin increased efficiency and productivity, and better outcomes at delivery.
	• Virtual monitoring of blood sugars increased patient accountability and allowed for earlier intervention.
	• Cost of care decreased (approximately 11%) due to the increase in the

	number of vaginal deliveries with shorter stays and a decrease in the number of NICU admissions. Overall, the project increased access through the use of a telehealth solution that leverages technology to provide convenient, real-time monitoring for patients, regardless of how far they are from a health facility. The project decreased the amount of time it takes for expecting mothers to travel throughout rural South Dakota to see a provider, and in turn, take less time away from work or other commitments and increasing the likelihood of ongoing compliance. Accountability is enhanced through the use of telehealth monitoring rather than using manually recorded logs. For those program participants who lacked access to reliable mobile connection, the project team tested alternative solutions, including kiosks installed at select sites, to ensure women in South Dakota's most rural areas could still participate in programming. These positive outcomes can be tied back to an activated and accountable patient supported by a hands-on, integrated care team, all working together toward a common goal. The project was featured on the local new station, KSFY, for a "Medical Minute" and on the front page of the *Mitchell Daily Republic* newspaper. The project has been nominated for an Avera Quality Congress award for its impact on quality of care. The Physician Champion and Project Director have also presented at several local community service clubs and the Physician Champion has shared project information at national meetings.
Sustained Impacts	All project activities have been sustained, with the project team continuing to follow the established clinical workflow, receiving patients who have screened positive for gestational diabetes and enrolling them in the program. The necessary staffing and management structure for the project is already in place and will continue to function as it did during the program period. Project staff are currently evaluating available software options that will allow current staff to have more efficient workflow for managing a larger patient population, thereby creating greater value. Management structure for the project has not changed. Recently, a third Maternal Fetal Medicine practitioner was added to the program and all core project staff have been retained. At this point, no additional staff are needed. If patient volume continues at the current rate of increase, additional staff might be needed in the next six months. Long-term sustainability for the Before Baby Project encompasses both financial and programmatic factors. In order to sustain the project's activities, third-party payers are billed for services when the patient's insurance coverage allows. The time the Nurse Practitioner spends adjusting insulin also can be billed through insurance plans, and the patient does not assume extra costs, as the patient is already meeting the deductible for the birth of the child. That time can be reimbursed in increments of 10 and 15 minutes each week, with the initial consult being billable at 40 minutes. The Before Baby Project also is actively pursuing and negotiating further payment contracts from third-party and federal payers. Some services are currently or will be

	soon billable, such as chronic disease appointments which can be billed to the Center for Medicare and Medicaid Services. Successfully managing gestational diabetes will have long-term implications for both mother and baby as the future risk of chronic disease, including Type 2 diabetes and cardiovascular issues, for both mother and baby is decreased, as is the need to purchase fewer medications and other medical supplies for disease management in the future. The intervention and virtual platform developed through the Before Baby Project has been accepted as a new best practice for the Avera Health system and project staff, and Avera OBGYN leadership are seeking to expand the services to Avera's five-state region. The project is also unique nation- wide, and all results are contributing to the national evidence-base for obstetrics care so that others can learn from this work and replicate.
Challenges & Lessons Learned	Challenge 1: Not all participating mothers have access to a reliable cell phone. The team tried the used of Trac Phones for video visits, but cell phone and wireless connectivity was discovered to be a bigger issue and obstacle than the availability of devices in the home. To facilitate information-sharing in these circumstances, the project staff started the process of installing kiosks at select locations that would allow patients to quickly and effectively upload information. Challenge 2: Not all of the payers were willing to cover the required meters, test strips and insulin pens. During the first years of the grant period, the program offered vouchers for the insulin pens. Because these vouchers are no longer available, the project team began using a less expensive syringe option. They found it is not as patient-friendly as the pens, which decreases the likelihood of patient compliance and increases the likelihood of medication error (under-dose or overdose). To address this challenge, the team has advocated with the Pharmacy Benefits Manager to allow Medicaid patients use of the pre-filled pen, noting that the cost of this medication would be offset by the cost savings from the impact of maternal gestational diabetes. Challenge 3: Self-reported test results can be unreliable. To mitigate this risk, glucometers gestational diabetes patients in the Before Baby Project automatically recorded and uploaded test results to the CDE/RD. This eliminated simple user error in recording and reporting those results every day. It also increased accountability by having a review of real-time data, which, in turn, improved outcomes.

New York

Bassett, Mary Imogene Hospital

Project Organization Information						
Organization Name	Bassett, Mary Imogene Hospital (d.b.a. Bassett Health Network)					
Organization Type	Regional Healthcare Network					
Address	One Atwell Road					
	City:	Cooperstown	**State:**	NY	**Zip-code:**	13326
Organization's Project Contact	**Name:**	David Strogatz				
	Phone:	607-547-3676				
	Email:	David.strogatz@bassett.org				

Project Overview			
Title	Integrated Approaches to Chronic Disease Management		
Goal(s)	To implement and sustain best practices for chronic disease self-management among adult patients receiving primary care services within Bassett Healthcare Network		
Objectives	• To demonstrate improvement in clinical and survey measures related to the management of diabetes and other chronic conditions		
Focus Area(s)	• Diabetes • Other Chronic Diseases		
Counties Served	Chenango, Herkimer, Madison, and Otsego Counties		
Consortium/Network Affiliation	Mary Imogene Bassett Hospital Regional Healthcare Network		
Consortium/Network Partners	**Organization Name**	**City/County**	**Organization Type**
	Chenango Health Network	Norwich/ Chenango	Community Service Organization
	Herkimer HealthNet	Herkimer/ Herkimer	Community Service Organization
	Madison County Office for the Aging	Canastota/ Madison	Community Service Organization
	Madison County Rural Health Council	Morrisville/ Madison	Community Service Organization
	Cornell Cooperative Extension of Otsego and Schoharie County	Cooperstown/ Otsego	Community Based education and training
	Cornell Cooperative Extension of Herkimer County	Herkimer/ Herkimer	Community Based

			education and training
	Cornell Cooperative Extension of Madison County	Morrisville/ Madison	Community Based education and training
Evidence-Based Quality Improvement Model(s)	The project used the Plan, Do, Study, Act (PDSA) Quality Improvement model for implementation of two evidence-based programs to improve patients' disease self-management skills: Diabetes Self-Management Program (DSMP) and the Chronic Disease Self-Management Program (CDSMP). The PDSA process was utilized with multiple aspects of the project where adjustments or enhancements were needed to strengthen the program going forward. To improve patient engagement, new techniques to market the program were developed, such as brochures, posters and newspaper inserts; postings in social media sites and channels; and bulk electronic communication to patients who use the My Bassett portal for access to their medical record and interaction with clinicians. The final evaluation of the project during the no-cost extension will include an assessment of how these different strategies contributed to recruitment to and enrollment in the programs.		
Needs Addressed	The four-county (Chenango, Herkimer, Madison, and Otsego Counties) project service area has a total population of 247,409; 79.9% (197,613) are adults ≥ 18 years old. Residents are overwhelmingly White (96.7%) and non-Hispanic (97.6%); 2.7% of the population is foreign-born. An estimated 15.8% of the civilian adult population is disabled, higher than New York State (13.2%) and the U.S. (15.0%). The socioeconomic and geographic factors that describe service area residents are atypical of the average New York State resident and present barriers to achieving access to primary and secondary preventive health services. Residents are older on average, and household incomes are 29% lower than the state average. Many service area residents face rural poverty, particularly in Chenango and Otsego counties, and more households in Chenango and Herkimer counties receive Supplemental Nutrition Assistance Program (SNAP) benefits than state or national rates. The percentage of the population not in the labor force is relatively high in the service area, ranging from 38.6% to 42.2% most likely reflecting the aging population and high disability rates.		
Target Population(s)	The project was focused on adult patients with one or more chronic conditions, with emphasis on diabetes. Participants were recruited from eight regional health center sites. The four county region had a higher age-adjusted prevalence of physician- diagnosed diabetes in 2016 and a higher age-adjusted mortality rate from diabetes. All four county values for prevalence of overweight and obesity were above the age-adjusted prevalence for New York State, and data also showed a substantial proportion of residents in the four counties reporting no daily fruit or vegetable consumption and no leisure physical activity in the past 30 days. A final and often overlooked risk factor for diabetes is smoking, and the prevalence of current smoking in the four counties is dismaying.		

Services & Activities	The project was focused on adult patients with one or more chronic conditions, with emphasis on diabetes. Participants were recruited from eight regional health center sites. The four county region had a higher age-adjusted prevalence of physician- diagnosed diabetes in 2016 and a higher age-adjusted mortality rate from diabetes. All four county values for prevalence of overweight and obesity were above the age-adjusted prevalence for New York State, and data also showed a substantial proportion of residents in the four counties reporting no daily fruit or vegetable consumption and no leisure physical activity in the past 30 days. A final and often overlooked risk factor for diabetes is smoking, and the prevalence of current smoking in the four counties is dismaying.
Project Results	
Outcomes	Patient Health Outcomes • 31 Diabetes Self-Management (DSMP) and 11 Chronic Disease Self-Management Program (CDSMP) workshops were held in 2017-2018 and with other funding, 6 DSMP and 5 CDSMP workshops were held in 2018-2019. • 76% of the 302 DSMP participants completed the program in 2017-2019. • Among completers who began the program in 2017 or 2018 with A1c ≥ 9%, 65% lowered their A1c, and 47% achieved A1c below 9% System-Level Outcomes • An Electronic Medical Record (EMR) referral mechanism and bulk communication outreach avenues were established to recruit participants. Multiple self-referral options were implemented: online, social media, email, print> • 3 CDSMP and 3 DSMP peer leader trainings were conducted. • With funding from additional sources, the program was expanded to 13 communities and added Chronic Pain Self-Management Program (CPSMP). • The project received the Small Health Care Provider Quality Improvement Evidence-Based Model Award from the Federal Office of Rural Health Policy. This project has created the regional capacity for providing patients with access to programs that improve disease self-management skills by training and certifying program leaders who will deliver the programs while working within the Bassett Healthcare Network or for our partner community service organizations. The project has established mechanisms for both clinician referral and patient self-referral to the disease self-management programs. Data collected before and after the program from surveys and from the EMR show that completion of the programs associated with improvement, based on self-report and clinical indicators of disease management. A notable innovation from this project is the diverse strategies that were used to inform clinicians and patients about the project and to promote recruitment of patients into the disease self-management programs. In collaboration with the Technology Office of the Bassett Healthcare Network, a referral process for

	clinicians was created within the Epic EMR. Site visits to each participating Bassett community health center were conducted to introduce the disease self-management program to clinicians and demonstrate use of the new referral option within Epic. The Bassett Office of Corporate Communications generated multiple modes for informing patients about the disease self-management programs through displays in waiting rooms, inserts in local newspapers, and postings in social media. Promotional materials were developed and disseminated in collaboration with the partnering community service organizations. The final evaluation of the project will include an assessment of how these various approaches contributed to recruitment and enrollment of workshop participants.
Sustained Impacts	The goal is to continue implementing the DSMP and the CDSMP classes for patients of the Bassett Healthcare Network. All of the community-based partners are in support of this goal and their continued participation. The positive results from the project evaluation, the unique nature of this service to patients, and this collaboration with community organizations are the reasons for efforts to sustain these programs. The Diabetes Self-Management Program, with the additional seventh session, will be implemented as it has been during the period of HRSA QI funding. The Chronic Disease Self-Management Program will also continue to be offered, but experience with the high levels of blood pressure control at baseline among patients with hypertension may lead to an adjustment in recruitment to other chronic conditions showing less successful trends in management, e.g. congestive heart failure, chronic obstructive pulmonary disease. The number of workshops to be scheduled will depend on funding. Some short term sources of support are already available from the Excellus Blue Cross-Blue Shield Community Grant Program and the New York State-funded Rural Health Education Network of Schoharie, Otsego and Montgomery Counties. Partnering community service organizations have agreed to cover the costs of their employees who are program leaders. The progress made to increase clinician referrals and to utilize low cost social media for promotion will reduce costs associated with marketing. The longer term goal is to demonstrate the value of the disease self-management programs in order to obtain direct payment from payers as a billable service. By continuing the programs and by modifying the recruitment of patients into the Chronic Disease Self-Management Program, more data can be accrued for evidence of improved patient outcomes and associated savings. This project has extended and enhanced the momentum created by the Delivery System Reform Incentive Payment (DSRIP) Program that began just before the HRSA QI funding. The DSRIP Program required the formation of regional partnerships between direct providers of health care and community-based organizations whose services affect population health. The DSRIP Program activities address a very wide range of health-related issues involving specific partnerships with varying levels of actual interaction and cooperation. The HRSA QI project has achieved particular prominence in this context by representing an especially active and interactive partnership between the Healthcare Network and the community partners. The organizations have not only changed by introducing new programs and training staff for new roles as Master Trainers and program

	leaders but also have shown evidence of benefit for the patients. The institutional and regional appreciation for this project was critical in the planning and submission of a successful application to the HRSA Rural Outreach Program for support of a third disease self-management program to address chronic pain and opioid use disorders. Other funding will be sought for expansion of these partnership-driven programs and to sustain them beyond initial funding. Although there is no experimental study design to confirm the value of the seventh weekly session, it is recommended that other organizations that implement the evidence-based six-week disease self-management programs should also consider an additional seventh session. By having that session with a local resource person (e.g. diabetes educator, dietician), program participants have access to another individual who can support their disease self-management skills. In addition, instruments used in addition to the clinical values from the medical record were useful for detecting changes from the beginning to the completion of the programs. The instruments program staff recommend from experience with this project are the Diabetes Distress Scale, the Diabetes Self-Management Questionnaire, the SF-12 (for measuring health-related quality of life) and the Patient Activation Measure.
Challenges & Lessons Learned	The primary challenges for the project included: • Increasing the number of patients referred to workshops by clinicians of the Bassett Community Health Centers; • The significant number of patients who registered for a workshop but did not enroll and attend; • Reduced availability of program leaders due to staff turnover and temporary absences; • Variable demand for the program across sites where the workshops were scheduled; and • Lack of transportation needed by patients to attend the workshops. To promote referrals from the community health centers, a mechanism was created within the Epic EMR system to make referrals to workshops. “Lunch and Learn” sessions were held at each community health center to educate staff about the disease self-management programs and the ways to use the newly-established link for referrals. In order to address the occurrence of “no shows” by registered patients, reminder letters were sent with the dates, times, and location of the workshop and followed that with reminder calls 1-2 days before the sessions began. A waiting list was also maintained and used to add participants in workshops where space had become available. Understanding that “no shows” cannot be entirely prevented, they also adjusted recruitment levels higher for each workshop in anticipation that some registrants would not attend. The two Master Trainers for the disease self-management programs and network of certified program leaders were available and used to compensate for occasions when the scheduled program leaders would not be present. To meet the high patient demand for workshops in some communities, they transferred program leaders to support additional workshops in those communities

	and were able to consolidate workshops so that patients from low demand communities were able to attend workshops in neighboring communities. For those who needed it, support for transportation was provided by services of the county Office for the Aging (a project partner). Rides were also arranged by Bassett Healthcare Network community navigators, and most effectively, shared rides were organized among the patients who were attending the same workshop.

South Carolina

Care South Carolina, Inc.

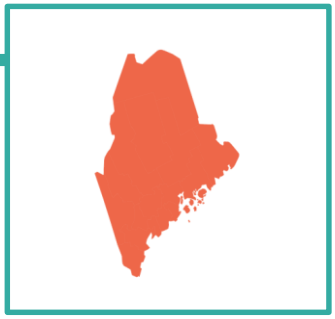
Project Organization Information						
Organization Name	Care South Carolina, Inc. (CSC)					
Organization Type	Federally Qualified Health Center (FQHC)					
Address	201 South 5th Street					
	City:	Hartsville	**State:**	SC	**Zip-code:**	29550
Organization's Project Contact	**Name:**	Takisha T. Bittle				
	Phone:	843-378-3441				
	Email:	Takisha.Bittle@caresouth-carolina.com				

Project Overview			
Title	Small Practice Quality Improvement Grant		
Goal(s)	To improve health outcomes and reduce costs for individuals who utilize area hospital Emergency Departments (ED) for non-emergent care, especially those with mental health or substance abuse issues and chronic disease such as diabetes and cardiovascular disease		
Objectives	To develop and implement an integrated quality framework to drive change and improvement across the region.		
Focus Area(s)	• Care Coordination • Chronic Disease • Mental/Behavioral Health		
Counties Served	Lee, Chesterfield, Marlboro, Dillon, and Darlington Counties		
Consortium/Network Affiliation	Northeastern Rural Health Network		
Consortium/Network Partners	**Organization Name**	**City/County**	**Organization Type**
	ALPHA Center	Chesterfield/ Chesterfield	Behavioral Health Center
	Chesterfield County Coordination Council	Chesterfield/ Chesterfield	Community Leaders Committee
	Marlboro County Coordination Council	Bennettsville/ Marlboro	Community Leaders Committee
	Northeastern Technical College	Cheraw/ Chesterfield	College
	SC Department of Health and Environmental Control Region 4	Chesterfield/ Chesterfield	DHEC
	SC Office of Rural Health	Lexington	Non-profit Organization
	Tri-County Community Mental Health Center	Chesterfield/ Chesterfield	Mental Health Agency

	Trinity Behavioral Health Center	Dillon/Dillon	Drug and Alcohol Treatment Center
	McLeod Health Systems Cheraw	Cheraw/ Chesterfield	Hospital
	McLeod Health Systems Dillon	Dillon/Dillon	Hospital
Evidence-Based Quality Improvement Model(s)	Plan, Do, Study, Act (PDSA) Model This model enabled staff to have a snap shot of how well the activities would work by testing them at site locations before implementing them throughout the organization.		
Needs Addressed	The Pee Dee region of South Carolina is a relatively undeveloped area of the state. The Pee Dee is primarily an agricultural area with many small towns and communities but is primarily rural, with limited resources and substantial barriers limiting access to high-quality healthcare services to the low-income, underserved population. The project focused on improving health outcomes and reducing costs for patients who utilized area hospital Emergency Departments (ED) for chronic care treatment, which is extremely expensive for the hospital and the safety net system as a whole.		
Target Population(s)	Individuals who utilize area hospital EDs for non-emergent care, especially those with a mental health/substance abuse diagnosis as well as a co-morbid chronic disease condition.		
Services & Activities	• The Hospital Outreach Program (HOP) was implemented to decrease ER utilization. • A Medication Assisted Treatment (MAT) program was implemented which led to a partnership with the mental health and substance abuse agencies in the community. • Remote Patient Monitoring (RPM) was implemented, and where necessary, a Mobile WiFi device (MiFi) was utilized. This project improved coordination of care delivery across the safety net system, improved access to high quality care, improved the patient experience, and reduced the burden of cost on the hospitals through decreased ED utilization and decreased 30-day readmissions.		
Project Results			
Outcomes	Patient Health Outcomes • 1,039 patients were served in 2018 with 569 continuing to show compliance in 2019. • 342 Care South Carolina (CSC) patients were signed up for the HOP program, resulting in a decrease of 65% ED and inpatient utilization rate. • MAT was implemented to assist patients with an opioid addition. • Overall patient cost was reduced. System-Level Outcomes • A Director of Quality Improvement position was created and a Director was hired. • 13 providers over 6 sites were certified for MAT, resulting in a 55% success rate since the start of the program. • ED utilization was reduced.		

	• A Mental Health Agency and Substance Abuse partnership was developed, which increased available counseling services and reduced patient opioid usage. • Remote Home Monitoring was implemented, which allowed more services to be conducted in the patient's home, cutting costs for transportation. • The Electronic Health Records (EHR) Maximization department implemented the patient portal to allow patients to go online to schedule, cancel, and receive updated information for medical visits. Quality Improvement has been supported throughout CSC, which has been participating in value-based payment arrangements that have a strong emphasis on data review and analysis. Continuous quality improvement efforts were focused around mandated reporting requirements as a FQHC and a participant in the Federal Quality Payment Program. In addition to data collection or evaluation already in place, they increased their utilization of Clinical Intelligence (ClinView), a software product which supported additional data analysis related to ER utilization.
Sustained Impacts	The Hospital Outpatient Program for reducing ED utilization, the Medication Assisted Treatment program for substance abuse patients, and the Remote Home Monitoring for chronic care patients have all been sustained. The programs have continued to show quality improvement and patient buy-in. The activities are now funded as part of the overall CSC budget. The data resulting from the activities demonstrated the clear benefit to the patients and increased patient participation. The HOP and MAT activities were particularly successful for CSC. The programs have demonstrated continued growth over the course of the grant. The HOP activities lowered overall patient costs, since more patients have a clear understanding about when to use the ED and when to see their medical provider. The MAT program enabled more providers to be certified and to serve patients more effectively. The partnerships with the mental health and substance abuse agencies have continued to develop and strengthen. The Remote Patient Monitoring program has allowed more services to be conducted in the patient's home, and plans have been developed for expanding the services to even more patients, paving the way for development of a telemedicine program in the future.
Challenges & Lessons Learned	The CSC system has practiced innovation and sought new and better ways of delivering health care. The grant activities which were implemented presented challenges in terms of buy-in and ownership by staff and partners alike. Continuous efforts to educate staff and engage partners were necessary for aligning expectations and priorities for the various initiatives. It was recommended for others considering these innovative grant activities that executive management staff and clinical staff who will be conducting the programs be included in planning and then trouble-shooting issues as they arise. As successful as the RPM program has been, a persistent challenge was that many patients do not have internet service. Once staff began to assign the RPM equipment to patients, they realized that in order to utilize them, the patients also had to be issued MiFi devices to access the internet.

Maine



Cary Medical Center

Project Organization Information						
Organization Name	Cary Medical Center					
Organization Type	Hospital					
Address	163 Van Buren Road					
	City:	Caribou	**State:**	ME	**Zip-code:**	04736
Organization's Project Contact	**Name:**	Erika Arguello				
	Phone:	207-498-1337				
	Email:	earguello@carymed.org				

Project Overview	
Title	Better Breathing, Better Living Program (BBBL)
Goal(s)	To improve health outcomes for Chronic Obstructive Pulmonary Disease (COPD) patients during transitions of care, including decreasing re-admission rates
Objectives	• To enhance patient care during the inpatient stay and ensure comprehensive carry-through during transition to their home environment
Focus Area(s)	Chronic Obstructive Pulmonary Disease
Counties Served	Aroostook, Penobscot, and Hancock Counties
Consortium/Network Affiliation	Maine Rural Health Innovative Network (MRHIM)

Consortium/Network Partners	**Organization Name**	**City/County**	**Organization Type**
	Northern Maine Medical Center	Fort Kent/ Aroostook	Hospital
	Houlton Regional Hospital	Houlton/ Arrostook	Hospital
	Millinocket Regional Hospital	Millinocket/ Penobscot	Hospital
	Mount Desert Island Hospital	Bar Harbor/ Hancock	Hospital
	St. Joseph Hospital	Bangor/ Penobscot	Hospital

Evidence-Based Quality Improvement Model(s)	The Better Breathing, Better Living (BBBL) Program utilized the Geisinger Health Plan Care Coordination COPD program as an evidence-based Quality Improvement (QI) model. While implementing the model into the four different hospitals slight changes were made at each hospital to ensure that the BBBL program worked within that particular hospital's workflow. When evaluating the continuum of care between inpatient stay and outpatient status, the workflow of services was modified and patients were referred to outpatient Occupational Therapy while they waited to have their Pulmonary Function test at 4 weeks post discharge and Pulmonary Rehabilitation when a Gold

	Staging was needed. This change ensured patients were engaged in treatment closer to their hospital discharge, improving treatment adherence, and participation in outpatient services.
Needs Addressed	The project service area has a significant elderly population, 21.3% of the population over the age of 65 compared to 15.6% in the State of Maine and 16.7% nationally. Of that elderly population, 19% are living in poverty compared to 13% in the state and 15% nationally. Adults with three or more chronic conditions also define this population at 30.2% compared to a State average of 26%. More than 18% of the population reports their health as only fair. Reflecting the demonstrated correlation between poor health and income, the region has a median household income of only $39,021 compared with $56,277 in the state and $60,336 nationally. Federally recognized Tribal Nations are also part of the Aroostook, Penobscot and Hancock Counties.
Target Population(s)	Patients with Chronic Obstructive Pulmonary Disease (COPD) from Eastern and Northern Maine, with a particular focus on patients with multiple hospital Emergency Department visits, repeat hospitalizations, and readmissions. The creation of this program was built on the efforts of the Maine Rural Health Innovative Network (MRHIN) focused on improving the quality of care for patients with chronic diseases. Gaps in care and barriers to successful transitions of patient care were identified for patients and families facing the challenges of COPD. A 2016 Community Needs Assessment showed that in Aroostook County alone, 10.6% of the population was diagnosed with COPD compared to the State average of 7.6% and 6.5% nationally. Hospitalization admission rates per 100,000 population were also indicative of the COPD burden in Aroostook County with 380 versus the state average of 216.
Services & Activities	The Better Breathing, Better Living (BBBL) Program was developed to empower patients and their caregivers to improve the management of their COPD symptoms and medication following their discharge from the hospital. A multidisciplinary Care Delivery Model was established with the BBBL Program to provide a more comprehensive inpatient and outpatient team-oriented care for patients living with COPD. The following activities were developed with the BBBL program: • A weekly multi-disciplinary team rounding of COPD patients was initiated. Team members participating included the BBBL clinical coordinator, pharmacist, occupational therapist, respiratory therapist, dietician, case management, and nursing. • Medication reconciliation was performed at hospital admission and discharge. Implementing appropriate medication reconciliation assures medication accuracy at transitions in care. • Improved patient and caregiver medication inhaler education was given with an emphasis on inhaler technique using video education and In-Check Dial Device during the patient's hospital stay. • Smoking status was assessed with every patient, providing counseling and referral to a smoking cessation program as appropriate. • With the BBBL program a change in practice was made to promote Pulmonary Function Testing (PFT) at discharge for patients without a previous or recent PFT to confirm and stage COPD. • Enhanced outpatient follow-up care was developed for COPD patients with a referral to Occupational therapy and Pulmonary Rehabilitation COPD

	programs, focusing on empowering patients with self-management skills to improve symptom and medication management in the homecare setting. • The BBBL team implemented the utilization of the Clinical COPD Questionnaire (CCQ), a standard tool recommended by the Global Initiative for Chronic Obstructive Lung Disease (GOLD) to evaluate health status in patients with COPD. • The clinical coordinator performed medication reconciliation and medication education around inhaler use and made sure the patient had a follow-up appointment with their primary care physician; additionally, the coordinator completed the CCQ to capture a change in patient's COPD health status, reviewed warning signs with the patient, and provided the patient with an action plan if warning signs developed. • A series of follow-up phone calls were made to the patient by the clinical coordinator at two weeks, six weeks, three months, six months, nine months and twelve months post discharge. • The Medical Content Director met Via Zoom platform with the partner hospitals hospitalists to discuss the successes and outcomes of the implementation of the BBBL initiatives at Cary Medical Center. • The BBBL Project Coordinator and Clinical Coordinator met with the Home Health Agencies that provide service to the COPD patient population of the network hospitals. The Coordinators presented the BBBL project initiatives to continue with the efforts to improve the care for COPD patients when discharged to the home setting. Each agency was equipped with In-Check Dial devices to provide a continuum of care of COPD patients.
Project Results	
Outcomes	Patient Health Outcomes • Readmission rates for 158 patients enrolled in the program decreased to 11.4% compared to 15.5% for patients not enrolled in the program. • Overall readmission rate for COPD patients went down from 30% prior to implementation of program. • Smoking cessation services increased. 41 patients who were smoking at hospital admission received smoking cessation counseling, and 9 patients quit smoking. • Increase in patients referred to COPD outpatient services after discharge, with 66 patients referred for Pulmonary Function Testing, 29 patients referred to Occupational Therapy, and 29 patients referred to Pulmonary Rehabilitation program. System-Level Outcomes • 5 independent, rural, community-based hospitals collaborated to enhance care for COPD patients. • A Clinical Coordinator's services were shared through the use of a virtual platform. • An Occupational Therapy COPD program was developed, focusing on the patient's home environment, interests, and activities of daily living. • Increased patient support was given during transitions of care. • Cost of care for patients was reduced. • The program resulted in increased cost savings for the hospitals. Overall, the BBBL program was successful in decreasing the re-admission of COPD

	patients, enhancing inpatient care, and increasing the number of patients who received a pulmonary function test (PFT), enhanced inhaler assessment and medication education utilizing the In-Check Dial Device, Medication Reconciliation at hospital admission and discharge, Occupational Therapy, and Pulmonary Rehabilitation services. A multidisciplinary Care Delivery Team was established to identify and address gaps in care as well as needs at transitions in care, New partner relationships among the network hospitals, although in existence before the project, were strengthened around the concept of improving care for COPD patients. New partnerships were developed among healthcare team members across all hospitals, sharing and working on implementing best practices for patients with COPD.
Sustained Impacts	The BBBL program initiatives were initially designed to be integrated within the practice guidelines of patient care offered at each partner hospital, enabling activities to continue after grant funding ended. Processes have been established at each partner hospital to continue providing the enhanced services to provide COPD patients with a multi-disciplinary team approach for care. Most of the BBBL program initiatives will continue to be sustained through informal network collaboration between each partner hospital, with each hospital responsible for its own expenses. The following activities will continue to be part of the care of COPD patients that are admitted to the hospital: • Medication reconciliation performed at hospital admission and discharge. • COPD medication education. Inhaler technique assessment and training with educational videos and In-Check Dial device. • Smoking status assessment and smoking cessation counseling. • Pulmonary Function Tests referral at discharge for patients who do not have a previous or recent PFT. • Referral to Occupational Therapy and Pulmonary Rehabilitation COPD programs. Processes have been established at each partner hospital to continue providing the enhanced services developed with the BBBL project to provide COPD patients admitted to the hospital with a multi-disciplinary team approach enhanced care. The expenses for each initiative will be absorbed by each of the corresponding service departments (Pharmacy Department, Respiratory Department, Occupational Department, and Pulmonary Rehabilitation Department) at each partner hospital. During the discussions on the care that was currently being delivered to inpatients with COPD or related respiratory issues, it became apparent that much of the information provided to the patient was not consistent across different disciplines. The patient was provided a great deal of information, in multiple formats, requiring significant reading. This barrier was resolved with completion of a comprehensive educational packet for COPD, providing a consistent, thorough message to patients and caregivers. Establishing a multidisciplinary comprehensive care model for patients with COPD in the BBBL program service area led to changes in best practices among the partner hospitals. With the implementation of this model, patients are now offered more comprehensive and individualized care equipping them and their caregivers with self-management skills to improve symptom and medication management in the

	homecare setting. The ongoing collaboration of the partner hospitals with the BBBL program and a history of a long-standing collaboration with other projects have led to a strong partnership that continues to work on improving the quality of healthcare for people in rural Maine. The relationships of the care teams formed within the partner hospitals during the implementation of the initiatives of the BBBL program will continue. In addition, treatment team members, such as Pharmacists, Respiratory Therapists, Dieticians, Speech Pathologists, Occupational Therapists, and Pulmonary Rehabilitation Therapists from each partner hospital worked collectively to improve and share best practices around COPD patient care. This collaboration will continue to exist informally to work on improving best practices around the care of other patients with chronic diseases.
Challenges & Lessons Learned	One significant challenge occurred in Year 1 of the project. Husson University and St. Joseph Hospital were unable to provide a Pharmacy Resident for inclusion in the BBBL program as planned. This change resulted in the need to significantly modify the BBBL program related to medication reconciliation, education, and management of the transition of patient care from inpatient to home. Responsibilities initially designed for the Pharmacy Resident were distributed among the clinical team members for each hospital, and a Clinical Coordinator was hired to manage the patient's transition of care from an inpatient stay to home and complete the patient's follow-up post-discharge for up to 1 year. During the discussions on the care that was being delivered to inpatients with COPD or related respiratory issues, it became apparent that much of the information provided to the patient was not consistent across different disciplines. The patient was provided a great deal of information, in multiple formats, requiring significant reading. This barrier was resolved with completion of a comprehensive educational packet for COPD, providing a consistent, thorough message to patients and caregivers. Working with the multiple hospitals in the network had challenges. Each partner hospital had existing systems of care, historical ways in which they uniquely cared for their patients, creating a bit of an onboarding challenge. Implementation of the BBBL program at each hospital required a blending of the enhanced care model with the existing hospital's systems. Care had to be taken to respect the role of caregivers, whether they were the case managers, respiratory therapists, or others in the care continuum. It was essential to recognize that one hospital might rely on their existing case managers to complete comprehensive COPD education while another hospital utilized respiratory therapy to complete that particular educational task. Slight adaptation had to be made at each hospital to ensure the BBBL program worked within that particular hospital's model. It should be noted that current health care treatment around chronic diseases are often disjointed, and processes vary among and between primary care sites and specialty sites. Establishing best practices for COPD patients around a Multidisciplinary Care Coordination model provides identification of gaps in patient care as well as individual needs at transitions in care between inpatient and outpatient services, thus facilitating the appropriate delivery of health care services in an individualized manner which is crucial for successful chronic care for COPD patients. This model has the potential to impact care of all chronically ill patients.

Montana

Central Montana Medical Facilities, Inc.

Project Organization Information						
Organization Name	Central Montana Medical Facilities, Inc.					
Organization Type	Critical Access Hospital					
Address	408 Wendell Avenue					
	City:	Lewiston	**State:**	MT	**Zip-code:**	59457
Organization's Project Contact	**Name:**	Doris T. Barta				
	Phone:	406-690-0734				
	Email:	dbarta@cmmccares.com				

Project Overview			
Title	Central Montana Quality Improvement & Chronic Care Initiative (QICCI)		
Goal(s)	To engage chronically ill, under-engaged, and underserved patients through the application of principles of Care Coordination, using a comprehensive health team approach		
Objectives	• To improve financial and operational efficiency within the Central Montana Quality Improvement & Chronic Care Initiative (QICCI) Consortium using the Chronic Care Model strategies and optimizing the use of electronic medical records • To improve patient healthcare outcomes focusing on clinical indicators for management of diabetes and cardiovascular disease, as well as reduction of obesity and smoking • To improve patient engagement and satisfaction by improving access to care, ongoing provider support, and lowering out-of-pocket expenses		
Focus Area(s)	Care Coordination		
Counties Served	Choteau, Fergus, Garfield, Golden Valley, Judith Basin, Musselshell, Petroleum, Phillips, and Wheatland Counties		
Consortium/Network Affiliation	The Central Montana QICCI Consortium		
Consortium/Network Partners	**Organization Name**	**City/County**	**Organization Type**
	Central Montana Community Health Center (CMCHC)	Lewiston/ Fergus	Federally Qualified Health Center (FQHC)
	Wheatland Memorial Healthcare	Harlowton/ Wheatland	Critical Access Hospital (CAH) and Rural Health Clinic (RHC)

Evidence-Based Quality Improvement Model(s)	The Central Montana QICCI Consortium used the Chronic Care Model (CCM) as a base for creation of an innovative program designed to implement a team approach to Care Coordination. This team-based approach allowed for the development of individualized treatment plans to meet the needs of the rural patients served, using the resources available through the Care Coordination Team (CCT). The CCT targeted the sickest of the sick – people who had multiple chronic conditions and low health literacy. This use of principles of Care Coordination and a comprehensive health team approach developed trust and engagement of patients who otherwise would not have accepted services.
Needs Addressed	The need for this project stemmed from a critical lack of healthcare access in frontier/rural Montana, specifically the lack of primary care (e.g. internal medicine) and specialized care, as well as long distances for transfers to tertiary care centers for specialty services. An average of 15% of the population live at or below poverty level, and the service area also has an aging population with 24% in the service area 65 or over. The nine counties are roughly 27,958 square miles; two lane roads serve this area, with many people travelling significant distances on vastly rugged, dirt roads that become treacherous during inclement weather and the harsh Montana winters
Target Population(s)	Consortium members focused on chronically ill, under-engaged, and underserved patients with co-morbidities and few resources when designing services using the Chronic Care Model. The target population needed intensive care management and trust-building, many times by a number of the members of the CCT.
Services & Activities	QI Consortium members built a Care Coordination Team that understood and addressed the issues associated with patients served through the program, while also building an understanding of the concept of population health management. The team included a Dietitian/Exercise Physiologist, a Licensed Clinical Social Worker (LCSW), a Licensed Addictions Counselor (LAC), a Social Worker (SW) and a Registered Nurse (RN)). They enrolled patients with complicated and multiple chronic diseases and marginal abilities to learn and limited social and financial resources. Many of the patients served through this program have received services from multiple members of the team Each patient was treated as an individual with an individualized care plan and the ultimate goal of a successful outcome that includes long term health improvement. Services included treatment for overweight, hypertension, cardiovascular disease, anxiety, depression and/or substance abuse. Team members worked with patients on other needs in addition to teaching them about healthy eating, exercise, and proper use of medications, such as filling out forms to qualify for Medicaid, grocery shopping for healthy foods, teaching them how to cook, and helping them find social outlets.
Project Results	
Outcomes	Patient Health Outcomes • 283 referrals resulted in direct services provided to 232 actively engaged patients • 15 of the 17 diabetes patients referred experienced a significant decrease in A1c levels in their first year with the program. • 63 of the 82 overweight/obese patients (83%) referred lost substantial weight in the first 3 months of participation.

	System-Level Outcomes • QI Consortium members built a strong Care Coordination Team and program to address population health management. • Program staff were trained as Care Coordinators, and all members of the team received Behavioral Health Integration training from the University of Washington, a division of the University's Psychiatry Department. • An ongoing process was established for educating physicians and other clinical providers about the services provided by the Care Coordination Team, and how referrals could be made. • Emergency Department (ED) visits and hospital readmissions decreased, as well as ambulance calls to Emergency Management Services (EMS) for in-home falls. • Partnerships were developed with EMS for formal referrals and with Council on Aging to conduct home visits, as needed, with Meals on Wheels teams. • A Dementia Caregiver Support Group, Cancer Support Groups, and Domestic Violence Task Force were organized. • The grant provided the foundation for the creation of a Population/Community Health position to partner with local, state and national entities to develop a strategic plan to improve overall health and quality of life for resident of the area.
Sustained Impacts	All patient care activities associated with the Central Montana Quality Improvement and Chronic Care Initiative were continued after grant funding was over. A key component of the program implementation was, and continues to be, planning for sustainability beyond grant funds. Each partner organization, both in referral for social services and in clinical services, represented the integration of Care Coordination services within the hospital and throughout the community. Program Staff have built relationships with the community social service organizations so that they can refer patients to their services, as well as receive referrals from those organizations for clinical services. The biggest impact of the initiative was the enhanced partnership within the medical community to serve the needs of the patients. Through the care coordination program, the team was able to build a collaborative relationship with other health care providers and social service agencies to address the needs of the patient, social as well as medical. This comprehensive approach to managing the patient allowed for a more educated, better-managed patient population for a positive impact on health outcomes. This approach also had a positive impact on the cost of care for the target population, because it focused on preventive care as well as social and medical care.
Challenges & Lessons Learned	One significant challenge was the severity of the needs of patients referred to the program. In the beginning, the team did not anticipate such complicated patient cases, so the Care Coordination Team had to adjust caseloads to plan for increased time in dealing with complicated patient interventions. Another challenge was identifying a patient registry program that could work with different electronic health records, and providing staff with electronic communication

	in an efficient system, reducing duplication and opportunity for errors in communication. To address this challenge, the team implemented Real Time Medical Electronic Data Exchange (*RMEDE)* Remote Patient Monitoring, a secure, web-based, life-state management system designed specifically for Care Management activities. However, due to the high cost of that system, the team later decided to use a different patient registry system, Dulcient, and began the process of implementing it to see how well it works in providing the level of data needed for reports and patient billing purposes.

Illinois

Clay County Hospital

Project Organization Information						
Organization Name	Clay County Hospital					
Organization Type	Critical Access Hospital					
Address	9111 Stacey Burk Drive					
	City:	Flora	**State:**	IL	**Zip-code:**	62839
Organization's Project Contact	**Name:**	Ariane Souder				
	Phone:	618-662-2131				
	Email:	Ariane.souder@claycountyhospital.org				

Project Overview	
Title	Small Health Care Provider Quality Improvement Chronic Care Program
Goal(s)	To improve chronic disease self-management for patients who are overweight/obese and have diabetes and/or hypertension
Objectives	• To improve care delivery for patients • To provide appropriate services to the Chronic Care population • To deliver coordinated care
Focus Area(s)	• Diabetes • Heart disease
Counties Served	Clay County
Evidence-Based Quality Improvement Model(s)	The grant program initially used the Chronic Care Model (CCM) to work with patients on self-management of their chronic conditions. This model allowed the care coordination team to work with patients either directly or indirectly (through the provider) to identify barriers to the management of their disease and offer assistance to overcome these barriers for successful disease management. However, project staff soon discovered that the CCM made it difficult to evaluate short -term activities and make incremental changes to improve processes. Due to this limitation, the Plan, Do, Study, Act (PDSA) Model was utilized to evaluate grant activities, measure continuous improvement, and drive the direction for future activities for the program.
Needs Addressed	Clay County is comprised of nearly 14,000 people and has an aging population. The percentages of those 65 years and older and those under 65 with a disability are higher than state and national averages. Median income and post-high school education numbers are significantly less than state and national averages. Along with socio-economic factors, the very rural nature of the county also negatively affects access to healthcare and the prevalence of chronic disease.
Target Population(s)	The target population was Medicare patients with two or more chronic illnesses. Clay County Hospital and Medical Clinics during the grant period served 1378 Medicare patients; 1200 of those patients had more than one chronic disease. This population lacked the tools to effectively manage their conditions as evidenced by their number of Emergency Department (ED) visits and inpatient readmissions

	within 30 days. At Clay County Hospital in 2015, of 446 Medicare patients with one or more chronic conditions, 228 went to the ED for treatment for a total of 787 visits. 26 inpatient readmissions within 30 days were also documented for this group over a five-month period of time. Hospital discharge instructions were often not understood, and patients were not complying with discharge instructions or keeping follow-up appointments with their physician. In addition, this population had difficulty complying with prescribed healthcare regimen and were not educated on wellness and prevention.
Services & Activities	The activities offered through the grant program evolved and changed over time to move toward a model of sustainability for program activities beyond the grant period. Activities implemented throughout the course of the three-year grant period included: • Chronic Care Management – In the first year of the grant program, the Care Coordinators administered the CCM Program. This program was specifically designed for Medicare patients and consisted of monthly calls or face-to-face visits for at least 20 minutes with all participants who were enrolled. This was a billable service, but staff found that adherence to the program was unsuccessful and determined it would not be a sustainable activity. • Health Coaching – During the first year of the grant program, the three care coordinators all completed the training and became Certified Health Coaches. These certifications enabled them to offer a health coaching program to participants who fell within the target population for the grant. A pilot course was implemented at the start of year two and each care coordinator had a group of individuals complete the program. The results from this program were favorable, but through evaluation using the PDSA method, it was determined it would not be a sustainable activity at that time due to its not being a billable service. • Annual Wellness Visits –Each of the care coordination staff was responsible for conducting annual wellness visits on Medicare patients. The service was to be recommended by the primary care provider and then scheduled by the office nursing staff or the care coordinators. After struggling to increase the number of visits throughout the grant period, staff finally developed a successful process, and the number of visits almost doubled in 2019. • Transitional Care Management – Through this activity, all clinic patients who are discharged from Clay County Hospital are called within 48 hours of discharge by a care coordinator and subsequently scheduled with their primary care provider for a follow up visit within 14 days of discharge from the hospital. • Pre-diabetes Education – This program was offered to anyone who was at risk of developing Type 2 Diabetes. Two care coordinators were trained in the Prevent Type 2 (PT2) curriculum which is approved by Medicare. Several participants completed this year-long program with overall positive results. Many commercial insurances will pay for prevention education, so it was decided that this program would be expanded beyond diabetes

	prevention into overall prevention education going forward. This program is very similar to health coaching but offers an avenue to bill and receive reimbursement for the services which are provided. • Diabetes Education – A new diabetes education curriculum was developed during the grant cycle. Any patient with a diabetes diagnosis was eligible for referral by their primary care provider for diabetes education. One of the care coordinators worked with patients in both the individual and group setting. • Care Coordination – The team provided general care coordination support to patients at the request of the providers or nursing staff. This included assisting patients with finding appropriate resources to address challenges not specific to their healthcare. • Implementation of Care Guidelines – Care guidelines were developed and deployed through the Nextgen module during Year 3 of the grant project. These guidelines allow nursing staff and providers to see easily the current status of specified preventive health measures.
Project Results	
Outcomes	Patient Health Outcomes • 44% of health coaching participants decreased their daily insulin dosage. • 78% of health coaching participants lost weight and inches overall. • 30% of health coaching participants lowered their A1C. • Patients who completed the PT2 program lost an average of 5.8% of their body weight. • 96% of eligible patients hospitalized at Clay County Hospital from August, 2018 – May, 2019 received Transitional Care Management. • Over 400 eligible patients were provided supplies to aid in self-management of their chronic disease. System-Level Outcomes • Health coaching was integrated into the hospital diabetes education program. • The health coaching program expanded to include diabetes prevention. • Activities and services developed by the project are now embedded into daily operations of both hospital and clinics. The processes which were developed to carry out activities such as diabetes education, annual wellness visits, transitional care management visits and care coordination will go far beyond the funded grant project. These activities have now become part of the way care is offered in the hospital and clinics. These services offer staff the opportunity to take a deeper look at the whole patient to determine what factors in their life may be affecting their overall health. Staff can then work to help patients address these issues, which in turn have a positive impact on their health. While these outcomes may not be immediately measurable, the long-term impact to health of the patient and the overall health care system will most likely be positive. Overall the project advanced Quality Improvement (QI) by educating a

	cohort of individuals on the concept and use of the PDSA cycle. The team evaluated and modified many of the grant activities using the PDSA cycle. Staff involved in each activity varied, and each new staff cohort received education on the PDSA model. As a result, Clay County Hospital and Medical Clinics now have many staff who are educated on the use of the PDSA model. They can now utilize this model for continuous quality improvement throughout the organization.
Sustained Impacts	Most elements of the program are continuing following the end of grant funding, including: • Annual Wellness Visits, the Transitional Care Management program, Diabetes Education Prevention Education, improved adherence to preventive health guidelines for clinic patients, and Care Coordination. The sustained impact goes far beyond the activities which were developed and will be sustained beyond grant funding. This grant has allowed staff to broaden the way they think about providing patient care and move beyond just focusing on treatment to looking at the whole individual and the value of their overall well-being (physically, mentally, environmentally, etc.) to their health. There is a more intentional focus on the value of prevention in the maintenance of an individual's health. Many of the programs implemented through the grant have changed the way both the clinical staff and the patients view what it means to be involved in their healthcare. This grant has also provided the opportunity for the development of a very collaborative relationship between the inpatient and clinic side of the hospital. These two units are now closely intertwined in providing the best care to the patients during and after their hospital stay. All of these things are overarching themes that will carry forward regardless of the specific grant activities which are sustained. The short-term goal of positive health outcomes for our participants was met. Participants in each of the grant funded activities saw positive health outcomes, such as reduced body weight, lowered A1Cs, reduced body fat, and increased physical activity levels. Long-term impacts include sustainable process/program development in several areas and an integration of care coordination staff within the daily operations of both the clinics and the hospital. These relationships and programs will be sustained and will have a lasting impact on the patients and the community as a whole. Overall the program and associated outcomes can be utilized as a model to leverage billable services to drive overall population health measures within the clinic and/or hospital system. The activities and programs which were implemented advanced the overall care provided to patients by looking at the whole person rather than just the treatment of their specific health need at the time of their visit. In theory, this model of care delivery will improve the overall health of the patients and result in savings on future healthcare dollars expended for these individuals.
Challenges & Lessons Learned	The biggest struggle the team experienced during implementation was the inability to pull usable data from the EHR system. As a result, much of the data collection throughout the grant period was done manually. The team utilized spreadsheets to track data on each grant activity. During Year 3 of the grant project, much of the data that was collected on diabetes education and the PT2 program was done through the Chronicles Diabetes program. Both manual and electronic data were analyzed and presented as needed. The data collected was utilized to determine

	which program activities would be sustainable beyond the project funding. Throughout the course of the grant project, there was significant provider turnover in the clinics. This turnover has resulted in a struggle to identify more than one program champion to help drive the grant services. It was also difficult initially to get provider buy-in to refer patients for their Annual Medicare Wellness visit. The project team provided education to both the providers and nurses on the Annual Wellness visit and worked with the Medical Director and Case Management team at the hospital to design a process for referral. After going through a full PDSA cycle on the Annual Wellness Visit, they are beginning to see some improvement. Provider turnover has hindered the ability to drive this service as well. In spite of success in implementing the Transitional Care Management program within the Clay County Hospital, the team has struggled to get other facilities on board. Patients often require a higher level of care and must be hospitalized at larger nearby facilities. These facilities have experienced a high turnover rate in their own case management staff over the course of the grant cycle, making it difficult to get timely notification of discharges.

Missouri

Cox-Monett Hospital, Inc.

Project Organization Information						
Organization Name	Cox-Monett Hospital, Inc. (d.b.a. CoxHealth)					
Organization Type	Hospital					
Address	1423 N. Jefferson Avenue					
	City:	Springfield	**State:**	MO	**Zip-code:**	65802
Organization's Project Contact	**Name:**	Lauren Holland				
	Phone:	417-236-2596				
	Email:	Lauren.holland@coxhealth.com				

Project Overview	
Title	Small Health Care Provider Quality Improvement Program
Goal(s)	To improve access to healthcare services and outcomes for patients living with chronic disease through increased care management and automation of care coordination
Objectives	• Improve clinic quality and patient care by engaging patients in their own care • Make recommendations needed for preventive and chronic care • Improve and track patient responses for greater satisfaction • Remove administrative burden from clinic and care management staff • Improve decision support and reduce the variability of care • Track and measure clinic financial improvements • Help physicians manage revenue from recommended patient care • Support physicians in pay-for-performance programs to enhance documentation required to support reimbursement
Focus Area(s)	• Chronic Disease • Chronic Care Management • Behavioral Health
Counties Served	Barry, Lawrence, and Stone Counties

Consortium/Network Partners	**Organization Name**	**City/County**	**Organization Type**
	Cox Monett Hospital (CMH)	Monett/Barry	Hospital
	Cox Medical Center Branson (CMCB)Branson	Branson	Hospital
	Barry County Health Department	Cassville/ Barry	Public Health Department
	Lawrence County Health Department	Mount Vernon/ Lawrence	Public Health Department
	Stone County Health Department	Galena/Stone	Public Health Department
	Barry County Connections	Monett/Barry	Community Collaborative
	Missouri State University	Springfield	University

Evidence-Based Quality Improvement Model(s)	Patient Centered Medical Home (PCMH) Model The purpose of the PCMH Model is to create a framework for comprehensive and coordinated care in the context of individual, cultural, and community needs. Medical, behavioral, and related social service needs and supports are coordinated and provided by the provider, emphasizing education, activation, and empowerment through interpersonal interactions and system-level protocols. Patients and their relationship with their primary care team are at the center of the health/medical home.
Needs Addressed	Barry, Lawrence, and Stone Counties are located in Southwest Missouri. They have a high rate of poverty (18%, compared to state and national rate of 15%) and average median income lower than Missouri's average of $46,123, and the national median income of $54,054. Cox Monett Health (CMH) serves one of the largest per capita Hispanic populations in the state, well above the state average of 4%. Cultural barriers lead to health disparities resulting from poor health literacy, lack of health insurance, and a higher than average rate of obesity and chronic disease. The rate of uninsured individuals is high at 21%, and the population aged 65 and older exceeds that for the state (21.8% average for the counties compared to 15.4% for the state). The area economy is driven partially by agriculture and entertainment affecting seasonal unemployment. These realities make it difficult to provide coordinated primary care.
Target Population(s)	Residents of Barry, Lawrence, and Stone Counties who are economically depressed, afflicted with multiple chronic conditions, without a primary care physician, and who presented to the Emergency room during the project period. Located throughout Barry, Lawrence, and Stone Counties, the eight primary care clinics included in this project are all designated as Rural Health Clinics. Last year, these clinics treated 23,196 patients; 15% of those patients had a chronic health condition identified by 9,741 separate chronic disease diagnosis codes. The hospital recognized the need to move patients toward preventive primary care and reduce avoidable Emergency Department (ED) visits for non-emergent conditions. In addition to the clinic population, patients presenting to the ED who were without a Primary Care Provider (PCP) were also included. In 2012, this patient pool registered roughly 6,600 visits to the ED. Care management and coordination services were needed to equip patients to seek the appropriate level of care, leaving resources available for those with true medical emergencies.
Services & Activities	The Program utilized the PCMH model to achieve the following: • Utilization of automated population health management; • Greater access to behavioral health services through the implementation of telemedicine software; • Utilization of patient data to identify gaps in care and quality improvement opportunities; • Utilization of the LEAN process, an evidence-based quality improvement methodology model, in underperforming clinics. Automation of population health management was implemented using the Phytel Outreach program. This technology allowed for timely and coordinated care for patients, through the use of evidence-based chronic and preventative care protocols to identify and notify patients due for care, while tracking and measuring compliance, quality, and financial results. Initially the results were encouraging, but ultimately,

	CoxHealth made the decision to end the contract with Phytel and invest in hiring internal discharge callers to conduct direct patient outreach.
Project Results	
Outcomes	Patient Health Outcomes • Patients whose blood pressure (BP) was adequately controlled (<140/90) increased by 5.98% - an extremely difficult measure to improve. • Nearly 64.58% of diabetics had a HbA1c below 8% and 62.96% had LDL below 100 mg/dL • 88.92% of hypertensive patients achieved BP below 140/90. • Patients who had a positive screen for tobacco use and who received cessation counseling interventions increased from 93.8% to a consistent 100%. Since tobacco use is strongly correlated to a number of chronic diseases, this was a tremendous victory for the program. • The number of patients who had a positive depression screen and received a documented follow up plan increased from 6.55% to 57.69%. System-Level Outcomes • Integration of nurse care manager and care navigator within the eight primary clinics provided integral support to both patients and clinics. • The increased success of integrating telehealth within the primary clinics improved the quality measures of the patient centered medical home model. • Follow-up plan documentation for patients whose Body Mass Index (BMI) exceeded normal parameters increased by 12.73%. • Patients who had a positive screen for tobacco use and who received cessation counseling interventions increased from 93.8% to a consistent 100%. • Three full-time equivalent (FTE) Patient Outreach employees placed an average of 5,235 calls a month to unique patient phone numbers, resulting in more than 62,000 calls a year providing hospital discharge follow-up as well as reminders of new patient appointments. • Four clinics involved in the project completed LEAN training and implemented process improvement initiatives. The sites had improved cost savings: Cox Family Medicine and Obstetrics: $145,600; Cox Family Medicine Monett: $125,000; Cox Family Medicine Branson West: $25,000; Cox Family Medicine Kimberling City: $40,000
Sustained Impacts	The services and activities originally funded through the grant have been integrated into the operations of the clinics. The emphasis on team-based care focused on barrier identification and action planning; care gap closures; behavioral health screening and support; care coordination; basic medication reconciliation; patient activation; education and referral to local resources has assisted in reducing ambulatory-care sensitive admissions, ED visits, and total cost of care. Patients have been guided to take an active role in self-managing their condition(s); adhere to prescribed medication regimen; understand and have a plan for managing symptoms; know when to contact their physician; actively work with their provider(s) on a treatment plan; and reduce or eliminate avoidable re-admissions. The CoxHealth system has absorbed the nurse care manager and care navigator roles and the current Behavioral Health Counselor (BHC), with plans to hire two

	additional BHCs in the near future. Currently, the department has begun expansion of the integrated care management model and hiring of Nurse Care Managers, Social Workers, and Community Health Workers to support a widened scope to encompass a broader patient population. Specific tracks, or programs, have been developed to include Transitions of Care, Complex Care, and Advanced Illness Care.
Challenges & Lessons Learned	Provider and clinic staff engagement in the program has fluctuated over time, but overall their feedback on the program was positive. One of the barriers discussed with providers was their lack of time to complete many of the items now being provided through care management, such as smoking cessation, diabetes education, weight management, etc. Staffing was a challenge during the three years of the project; yet program staff adapted and utilized telemedicine in the behavioral health support, until they were able to find and hire the skilled staff necessary. Introducing telehealth services into the clinics improved access to care by connecting patients in rural areas to providers at distant sites. Challenges encountered by utilizing telehealth include limited space within clinics, high turnover rate among clinic staff requiring frequent re-education, appointment coordination, and rural attitude regarding telehealth and a hesitancy to engage with technology. The implementation of the Phytel Outreach program was initially encouraging, but the program was not well supported, and outreach to patients was occurring infrequently and incorrectly. As a result, in February 2018, ended the contract with Phytel and hired internal discharge callers to conduct direct patient outreach.

Alaska

Cross Road Medical Center

Project Organization Information						
Organization Name	Cross Road Medical Center					
Organization Type	Federally Qualified Health Center					
Address	P.O. Box 5					
	City:	Glennallen	**State:**	AK	**Zip-code:**	99588
Organization's Project Contact	**Name:**	Lari Maize				
	Phone:	907-822-3203				
	Email:	lmaize@crossroadmc.org				

Project Overview	
Title	Rural Quality Enhancement Program
Goal(s)	To improve patient quality of life and lessen time away from the community through enhanced care coordination and patient involvement
Objectives	• To provide culturally sensitive preventive and self-management health education • To provide focused health care management and patient navigation • To provide an integrated network approach to transitions to and from higher levels of care for high-risk patients
Focus Area(s)	• Care Coordination • Chronic Disease
Counties Served	Valdez-Cordova census area (roughly the same as a county designation)
Evidence-Based Quality Improvement Model(s)	The Plan, Do, Study, Act (PDSA) Model was used to implement quality improvement (QI) strategies for patient education/engagement, care coordination, care planning, and care transitions with referral hospitals. A major adaptation over the life of the grant was the decision to go from an informal, unwritten approach to using PDSA cycles, resulting in a more intentional process with written templates that were adopted.
Needs Addressed	Cross Road Medical Center is located in the Copper Valley. The most frequent causes of death include cancers, heart disease, stroke, and lower respiratory disease. There are also extremely high rates of unintentional injuries and deaths and suicide. There is significant need for preventive health services, health education, and routine screening and monitoring of key risk factors. Treatment options and follow-up require long-distance travel, which is typically about 220 miles for any type of higher-level treatment like hospitalization, appointments with specialty physicians, or advanced imaging referrals. This distance becomes even more of an obstacle when caring for high-risk patients with multiple diagnoses. Most people who live in rural, unincorporated Alaska have a very strong sense of independence and self-sufficiency, which seems to foster a culture of distrust toward government entities and healthcare as a whole. This mistrust of healthcare adds to the many other obstacles that include populations with limited income, geographic barriers to access, low health literacy, and emotional stressors.

Target Population(s)	The project focused on high-risk patients who reside in the Copper Basin and who have one or more of the following factors: diabetes, hypertension, or depression diagnosis, over 75 years old, two or more Medical Evacuations (MedEvacs) in the past year, Comfort One status, and/or frailty. The Copper Basin is relentlessly affected by chronic diseases such as hypertension, diabetes, cardiovascular disease, obesity, alcohol abuse, and tobacco-use. Limited resources, geographical challenges, and cultural characteristics combine to create health disparities for this population. Rural residents with multiple comorbidities and risk factors are at high-risk to have lasting health consequences when faced with lack of information or misinformation, barriers to coordinated care, and difficulties with transitions of care.
Services & Activities	There were four primary activities conducted through this grant. • Cross Road Medical Center focused on improving preventive health education to the public, specifically those patients seen in the clinic or pharmacy setting. Cross Road Medical Center's goal was to provide culturally sensitive, preventive health information that rural Alaskans could apply to their daily lives. For this initiative, it was determined that health education was best delivered to patients through new TV monitors located in the waiting room and all clinic exam rooms. The information was updated regularly to announce local preventive health screening opportunities and to highlight national wellness initiatives. Also, visiting nursing students helped provide current health education content as part of the required curriculum for their rural nursing clinical hours. • Registered Nurse (RN) Care Coordinators organized focused, relevant care planning for high-risk patients, all of which were regularly audited by the provider group and nursing staff. These plans were discussed at each morning's interdisciplinary huddle for purposes of care coordination. • Focused RN Care Coordination improved patient follow-up after clinic appointments and/or hospitalizations through the use of systematic records review and patient phone calls. This focused follow-up resulted in improved Universal Data System (UDS) and Performance Improvement Measurement System (PIMS) clinical performance measures numbers. • RN Care Coordinators were able to develop cooperative agreements with local hospitals allowing joint access to patient records for care coordination and follow-up. This allowed Cross Road Medical Center to provide improved and informed care to the high-risk patient population that had recently been discharged from local regional hospitals.
Project Results	
Outcomes	The value of RN Care Coordination to high-risk patients and the efficient flow of the clinic for all patients was clearly demonstrated during the length of the quality improvement grant. Through an increased focus on care coordination, individualized care plans were developed, preventive health education was widely disseminated, and the individual needs of each scheduled patient were communicated to the entire clinical team each day. Cross Road Medical Center was able to demonstrate success both qualitatively using patient feedback questionnaires and quantitatively through improved UDS and PIMS numbers that RN Care Coordination improved lives, especially for high-risk patients.

	Patient Health Outcomes • 70 patients saw an 86% increase in awareness of preventive health education, including local opportunities for preventive health care, including linking to visiting eye doctor services, mammography screenings, access to a female practitioner for PAP Smear exams, and local health fair information. • 95% of high-risk patients had a patient-specific care plan with personalized goals, after collaborating with their provider. • Data showed a 50% improvement in cohort patients with A1c > 9 or unreported (from 44% in Year 1 to 22% in Year 3) • The number of patients who received depression screenings increased by 47% (from 37.5% in Year 1 to 80% in Year 3) • Patient engagement and self-management of disease processes improved development of personalized care plans • Patient health outcomes improved, primarily due to their more frequent and regular provider visits. System-Level Outcomes • Started and maintained a tracking system of all patients admitted to local hospitals in order to coordinate care after discharge • Received access to 3 out of 4 local hospital EHRs (Electronic Health Records) in order to obtain patient records in order to facilitate coordination of care after discharge • Tracked 100% of patients sent from the FQHC to a higher level of care • 100% of patients sent from the FQHC to higher level of care were contacted by phone within one week of hospital discharge for Year 3, which was an increase from 60% in Year 1 • Improvement in Uniform Data System (UDS) and Performance Improvement Measurement System (PIMS) measures. A notable outcome from this project was the extent of the benefit of intensive coordination and follow-up with high-risk patients. This was expected by clinical staff, but the degree to which it positively impacted patient health surpassed all expectations. A number of providers, who had previously viewed care coordination efforts as an empty bureaucratic exercise, over time began to recognize the merits of the enterprise. As a result, this grant project increased provider buy-in for ongoing care coordination initiatives.
Sustained Impacts	Cross Road Medical Center plans to sustain all the grant QI activities with some modification to the follow-up for care plans. The follow-up is quite RN-intensive. It is done by phone and often takes multiple attempts to reach a patient and more time to administer the Patient Confidence Scale Assessment as well as to ask and hear about the patient's activities and health status. Cross Road Medical Center continues to explore ways to work within a more sustainable level of dedicated RN time while continuing the effort on a smaller scale than that supported by original grant funds. The main goals - to provide culturally sensitive preventive and self-management health education, focused health care management and Patient Navigation, and an

	integrated network approach to transitions to and from higher levels of care for high-risk patients - were achieved and enhanced overall patient care and coordination in several ways. First, the RN Care Coordinators found new rural Alaskan tools and methods for preventive health care education which not only benefited high-risk patients but the community as a whole. Second, the Care Coordinators also developed and refined patient-specific care plans for the patient cohort and high-risk patients. Finally, the increasing focus on care coordination helped the clinic improve the process of patient transitions to higher levels of care and then back to the community to assure that needed follow-up and referrals were met so that the patient did not "fall through the cracks." Continuous PDSA cycles allowed staff to make necessary changes which will continue to be of benefit long after the grant has ended. Quality improvement strategies that were developed or enhanced with grant funds will be sustained, including the focus on preventive care (hypertension and diabetes control), focused care planning and coordination, and follow-up within one week for all high-risk patients who were hospitalized. The Care Coordination staff highly recommend the implementation of the following strategies to other organizations seeking to improve patient care coordination: • The morning interdisciplinary huddle ensures that patients remains the focus and necessary referrals or preventive care and screenings are not overlooked. • The specific focus on care coordination benefits the entire patient population, not just high-risk patients. • Improved communication with local hospitals through health information exchanges was of tremendous benefit with regard to patient care coordination. It made getting patient records from these facilities a 10-minute waiting process rather than a 3-4 day waiting process. Partnering with local hospitals improves patient care coordination and saves time and effort for the facility in obtaining patient records.
Challenges & Lessons Learned	The following is a summary of challenges and strategies and lessons learned for addressing those barriers: Staff Turnover in Clinical Staff Group • Resolution: Due to staff turnover in the larger clinical staff group, key staff had to fill in for extra clinical duties. However, they brainstormed and found creative ways to leverage time more effectively. Part-time nursing staff were able to fill in blocks of time, allowing the Care Coordinators to work together for portions of shifts across the week. Turnover of current RN Care Coordinator and Project Director. • Resolution: Lengthened transition time for new personnel helped overcome many of the issues that could have occurred. The Electronic Medical Records (EMR)-provided care plan tool did not work properly despite numerous troubleshooting calls. • Resolution: Staff performed several PDSA cycles to test other care plan

	tools and finally chose AZARA in Year 2. EMR-provided clinical performance measure extraction tools did not work properly. • Resolution: Workflow and charting methods were adjusted to capture data for clinical performance measures. This required a tremendous time commitment from the Medical Provider and key clinical staff to hand audit all information to confirm accuracy. The EMR company continued to have issues and "bugs" every year with UDS and PIMS measure extraction tools which caused a great deal of difficulty at reporting time. With the assistance of the Alaska Primary Care Association, the clinic implemented AZARA in September 2018. It took several months to validate the data and learn the system, but this appeared to be the fix to get fast, accurate real-time data. Provider buy-in of care plan tool • Resolution: Reminders regarding the patients scheduled to be seen that day who needed care plans were reviewed daily at the morning huddle. The nursing staff assisted the provider as needed in producing the care plan. Continued turnover of hospital discharge planners • Resolution: Care Coordinators perfected online extraction of discharge data from hospitals and through PDSAs settled on an efficient method of working together to get this done. EHR will not be supported after September 2020. • Resolution: The current EHR announced that their system would not be supported after December 31, 2019. Several options are being considered and will be decided in the fall. Conversion to a new system will take a great deal of staff buy-in and training, but is necessary. It is hoped that a new system will solve some difficulties since the current EHR was cumbersome and difficult to use at times.

Arkansas

Daughters of Charity Services of Arkansas

Project Organization Information						
Organization Name	Daughters of Charity Services of Arkansas (DCSARK)					
Organization Type	Rural Health Clinic					
Address	161 South Main Street					
	City:	Dumas	**State:**	AR	**Zip-code:**	71639
Organization's Project Contact	**Name:**	Brenda Jacobs				
	Phone:	870-723-0105				
	Email:	Brenda.jacobs@dcsark.org				
Project Overview						
Title	Practice transformation through implementation of the Patient Centered Medical Home (PCMH)					
Goal(s)	To improve the health outcomes for adult patients over the age of 18 with co-morbid chronic disease diagnosis of diabetes, hypertension, and/or high cholesterol					
Objectives	• Strengthen current services, improve clinical outcomes, coordinate care by optimizing Success EHS (Electronic Health Systems) • Redesign patient flow • Enhance care transitions • Improve methods and processes to extract meaningful clinical data from the Electronic Health Record (EHR) to manage overall population health					
Focus Area(s)	Diabetes, Hypertension, High Cholesterol					
Counties Served	Arkansas, Ashley, Desha, Drew, and Lincoln Counties					
Evidence-Based Quality Improvement Model(s)	DCSARK organized its delivery system reform framework around the six elements of the Wagner Chronic Care Model (CCM) with an aim to achieving National Committee for Quality Assurance (NCQA) Patient Centered Medical Home (PCMH) recognition. The CCM model requires an approach to quality improvement that incorporates patient, provider, and system level intervention. Therefore, DCSARK formed a Quality Improvement Team consisting of the Project Director and five team members representing the six domains of CCM: organization of health care system; community linkages; self-management; decision support; delivery system design; and clinical information system. For each CCM element, strategies and deliverables were incorporated into the Work Plan. Using the Plan Do Study Act (PDSA) approach to continuous improvement, the team adopted the 90-Day Action Plan (90-DAP) and the daily "Team Huddle" techniques to guide implementation. Specifically, DCSARK sought to strengthen current services, improve clinical outcomes, coordinate care by optimizing the SuccessEHS system, redesign patient flow, enhance care transitioning, and improve methods and processes to extract meaningful clinical data from its Electronic Health Records (EHR) to manage overall population health. The QI team experienced an unanticipated breakthrough in data extraction, outcome measurement/benchmarking and population health management by integrating i2i population health management software with					

	SuccessEHS. DCSARK installed i2i population health management software to interface with the EHR and greatly simplified the process of aggregating and extracting unidentifiable patient-level clinical data from the established Chronic Disease Patient Registry (CDPR) at the provider and clinic level.
Needs Addressed	The service area lies in the southeast corner of Arkansas. The 4,071 square mile area is part of the "Mississippi Delta" region, with an estimated total population of 85,718. In this community, people often enter the healthcare system through the emergency room and preventive care takes a back seat to survival. Priorities are focused on taking care of their families' basic needs of food, shelter and transportation. Many are unemployed and/or disabled. The region is plagued by poverty, poor nutrition and food insecurity, lack of transportation, disability, low educational attainment, and low literacy. The population is predominantly White (52%), with a substantial African American population (45%) and a growing Hispanic population (3%). Approximately 25% live at or below the Federal Poverty Level.
Target Population(s)	The project focused on 1523 patients at two DSARK clinic sites who were over the age of 18 with co-morbid chronic disease diagnosis of diabetes, hypertension, and/or high cholesterol. The prevalence of chronic disease in Arkansas, particularly heart disease and diabetes, is much greater than that of the U.S. as a whole. More than 40% of the service area population is obese, 13% have a diagnosis of diabetes, almost 40% have high blood pressure, and more than 44% have high cholesterol. Therefore, the project focused its quality improvement efforts on these chronic conditions.
Services & Activities	In the three years of the grant cycle, DCSARK transformed its delivery system by setting priorities to achieve NCQA PCMH Recognition and by creating a data-driven quality improvement (QI) infrastructure. In its adaptation of the Chronic Care Model (CCM), DCSARK has emphasized Care Team training and operations and the optimal use of the EHR as a care management and reporting tool. These processes are now embedded in a QI program that measures, evaluates, and adjusts for continuous improvement. At the end of the grant cycle, DCSARK anticipated certification within six months. The project had no official consortium partners. However, four of the six CCM elements (community linkages, self-management, decision support, and clinical information systems), required DCSARK to develop a practical relationship with Delta Memorial Health (DMH) in Desha County. Specifically, DCSARK worked with DMH to conduct outreach activities related to its implementation of the Stanford Chronic Disease Self-Management Education Program (CDSMP) and entered into a formal agreement with DMH to share patient-level clinical data via the Health Information Exchange (HIE). In 2018, DCSARK executed a data sharing agreement with DMH that identified the clinical data to be shared between the two entities and provides for batch overnight reporting.
Project Results	
Outcomes	DCSARK transformed the practice and culture of its two rural medical clinics through implementation of the Wagner Chronic Care Model. Patient Health Outcomes • Improvement was documented in targeted patient health outcomes,

	including Low Density Lipoprotein (LDL) Management and Control and Blood Pressure control (<140/90) System-Level Outcomes • The clinic-wide culture shifted to a quality-oriented environment. • A well-defined and active Quality Management Team was established. • The team completed all criteria for NCQA Patient Centered Medical Home certification. • Improved workflows enhanced the patient experience. • Staff members were trained to offer CDSMP classes. • DCSARK's achievements were awarded the Arkansas Governor's Quality Award in 2017 and Small Health Care Provider Quality Improvement Program Evidence-Based Model Award in July 2018 Tactically, DCSARK's goal to achieve PCMH recognition provided the underlying basis for its quality improvement activities. With grant funding, DCSARK strengthened services and added a new service – the Chronic Disease Self-Management (CDSMP) program; improved clinical outcomes as evidenced by improvement in selected National Quality Forum (NQF) measures; better coordinated care by restructuring its delivery model to a Care Team and by optimizing use of the SuccessEHS in care management; and improved methods and processes for meaningful clinical data collection. Specific NQF quality measures focused on a target population of patients with poorly managed diabetes, hypertension, and high cholesterol.
Sustained Impacts	The project involved three major activities: EMR enhancements, staff development, and delivery of the CDSME program. All activities will be sustained going forward. The Small Health Care Provider Quality Improvement (SHCPQI) project had a positive financial impact on the operational budget. In looking at 2015 baseline clinic structure and billing revenue compared to 2018 clinic structure and billing revenue, implementation of CCM led to cost efficiencies and increased revenues. DCSARK was able to reduce physician full time employees (FTEs) from 2.0 to 1.55 while simultaneously increasing the number of mid-levels from 1.5 to 2.83 FTEs. Total provider staff increased from 3.5 FTE to 4.38 FTE. The staffing and management structures are in place to continue all QI activities. The increased third-party revenue is sufficient to sustain the QI activities beyond SHCPQI funding with costs absorbed by the operational budget. The vision for the impact of the SHCPQI project is improved population health and quality of life for rural patients residing in the Arkansas Mississippi Delta. The short- term outcomes indicate that the project's activities have moved the needle in the service area toward this vision. Improvement in clinical outcomes on a population health basis are now demonstrable via EMR data trends for selected chronic diseases measures. This capacity did not exist in the community prior to this project. Additionally, the availability of an evidence-based chronic disease self- management program is a new resource in the community. Organizationally, DCSARK has undergone a transformation in culture – shifting from a hierarchical top-down structure to a participatory management approach based upon regular and routine communication ad staff feedback via the daily Team Huddle. Additionally, clinical operations are shifting and will continue to shift from the

	traditional fee for service model to the pay for performance model. Finally, the organization is now using a data-driven approach to manage patient care and to implement small refinements to the workflow to improve care delivery. These institutional changes have substantial implications going forward, including improvement in chronic disease outcomes, reduced operational costs, and increased third party revenues. At the end of the project, PCMH recognition was achieved at the clinic located in Gould.
Challenges & Lessons Learned	DCSARK underestimated the length of time the project would need to customize the EHR to optimize data extraction and the time needed to train staff to become consistent and accurate EHR users. This data extraction and the time needed to train staff to become consistent and accurate EHR users was significantly more than anticipated. This delay had a cascading effect over the course of the entire project period. Specifically, this process impacted data capture and reporting capacity, the implementation of performance based compensation (VBC), and the NCQA certification process. In late 2017, DCSARK integrated the i2i population health management software as an EHR interface, enabling the organization to make a leap forward in its capacity to extract and share data. As a result, DCSARK was able to substantially make up for the initial timeline slippage. In late 2018, Greenway Health made the decision to migrate all its existing SuccessEHR customers to their Intergy EHR platform. Primary challenges anticipated with this migration include disruption to data collection and reporting, e.g., inaccurate data reporting, potential corruption of individual record fields, adverse impacts on the existing Chronic Disease Patient Registry, and uncertainty regarding i2i population health management software interoperability. However, DCSARK is much better positioned as a result of the SHCPQI project to rapidly mitigate this disruption. The project was hindered by the challenges in promoting and enrolling participants into the CDSME Program. DCSARK did not anticipate the difficulty in engaging community partners in the delivery of CDSME workshops without compensation for workshop leader training costs and personnel time, and the difficulty in recruiting/enrolling participants. As a result, only one CDSME workshop was conducted during the project period with 12 participants completing the six-week course. Without community partners hosting at least some of the workshops, a plan to “catch-up” in Year 3 did not succeed, since it was not feasible for two trained DCSARK providers to commit time for 30 weeks. The team has explored the possibility of patient-level billing for program participants using appropriate behavioral health codes; however, current behavioral health billing policies require that behavioral health programs are operated under the direction of a credentialed behavioral health specialist and that this provider is onsite. DCSARK is in the process of determining the feasibility of adding a credentialed LCSW provider to the staff in order to bill for the program. Substantial documentation and evaluation of the project implementation/process are key to assessing the effectiveness of the strategies and activities undertaken by any project – when a project fails, it is likely due to ineffective strategies and/or obstacles to implementation. When a project successfully achieves its outcomes, an implementation (process) evaluation tells how and why. The consistent use of

	PDSA, a 90-Day Action Plan and an adapted Agile project management approach (daily Team Huddle) guided DCSARK's continuous quality improvement efforts and is a fundamental component that can be replicated by other organizations to achieve QI goals and objectives.

Mississippi

Delta Health Alliance, Inc.

Project Organization Information						
Organization Name	Delta Health Alliance, Inc.					
Organization Type	Non-profit					
Address	435 Stoneville Road					
	City:	Stoneville	**State:**	MS	**Zip-code:**	38776
Organization's Project Contact	**Name:**	Hilary Meier				
	Phone:	662-686-4121				
	Email:	hmeier@deltahealthalliance.org				

Project Overview	
Title	Small Health Care Provider Quality Improvement
Goal(s)	To improve quality and operational efficiency while significantly improving health outcomes for patients with chronic illness, including diabetes, hypertension, heart disease, and asthma, and share learned information with other rural communities
Objectives	• Implement a clinic-wide clinical practice using the Plan, Do, Study, Act Model (PDSA) • Identify Quality Improvement (QI) goals for clinical practice and patient outcomes • Build data collection and analysis reporting capacity to support QI in the clinic
Focus Area(s)	• Quality Improvement • Diabetes • Hypertension
Counties Served	Washington County
Evidence-Based Quality Improvement Model(s)	The Quality Improvement initiative used Patient Centered Medical Home (PCMH) as the organizing framework for the QI initiative. The focus was on improving clinic operations, systems of care coordination, use of multidisciplinary teams, integration of social determinants of health, and protocols for data capture and utilization for improvement primarily for two diseases: diabetes and hypertension. Delta Health Alliance (DHA) began implementing the LEAN model initially. LEAN is a Quality Improvement model that focuses on cutting out unnecessary steps in the delivery of a service so that on the steps that directly add value are taken. Program staff faced challenges with its uptake among clinic staff at Leland Clinic. The program staff observed that the LEAN Model was not a good match with the clinic staff; it required a significant amount of training, and there was little buy-in from staff. Besides staff turnover, another barrier to full implementation of LEAN was that the QI staff lead was not located at the clinic. The decision was made to adopt the PDSA Model in its place because it was simple to understand and made the most sense to the clinic staff. They were able to do staff training at the clinic rather than having to send staff off site for training (as was required for LEAN Model training). Because

	they only have two providers at the Leland Clinic, their priority was to have them in the clinic as much as possible rather than at off-site trainings.
Needs Addressed	Leland Medical Clinic (LMC), a recognized Rural Health Clinic and certified Level-2 Patient Centered Medical Home, has 4,462 active patients; 37.5% are ages 18-49 and 36.2% are aged 50 and higher. The majority, 71.3% of patients, are Black or African-American, 23.4% are White, 4.2% are Native American, and 1.1% are of Hispanic or Latino descent. Over 63% of clinic patients have hypertension; 38.2% are diagnosed with Type 2 Diabetes Mellitus; 31.1% have had an acute myocardial infarction or have coronary artery disease, 9.7% have been diagnosed with asthma; 73% have multiple chronic conditions; and 66.2% have smoked or are current smokers. It is important to note the understandable reticence of minority populations to access care even when it is available. There is a general lack of trust, which must be overcome by providers who serve these populations.
Target Population(s)	The QI project focused on patients of the Leland Medical Clinic who are the highest utilizers of care in terms of hospitalizations and re-hospitalizations, patients with two or more chronic conditions, and/or patients who come to the clinic more than twice a year. While the PCMH model had proven extremely effective in improving patient outcomes, LMC's clinicians and Patient Advisory Panel recognized that there were significant opportunities for improvement in clinic operations, systems of care coordination, use of multidisciplinary teams, integration of social determinants of health, and protocols for data capture and utilization for improvement.
Services & Activities	Key clinical outcome measures were assessed using an electronic health records (EHR) system to monitor disease maintenance and disease progression from baseline. Staff acquired data from the EHR network at baseline and every 6 months to serve as longitudinal data points for individual patients. Data were assessed at 6-month intervals in comparison to the baseline. To assess specific health outcomes such as A1C, LDL, and BMI control, lab tests were performed. Once results were reported they were added to the patient files to maintain current accurate data. Patient surveys were given at the end of each appointment and submitted anonymously to provide an accurate picture of how patients felt about their experiences and their care. Quarterly meetings with the Patient Advisory Board also provided feedback on their experiences and changes they felt needed to be made.
Project Results	
Outcomes	Patient Health Outcomes • Patients' control over uncontrolled high blood pressure increased from 24.6% to 33%. • Patients' control over their A1c levels increased from 15.2% to 42%. • The number of patients with a chronic condition who had blood pressure and/or A1c levels tested every 3 months increased. • The number of children and adolescent patients receiving weight assessment and counseling for Nutrition and Physical Activity increased from a goal of 50% to 72%. System-Level Outcomes • Leadership transitioned from the Lean Model to the PDSA Model with almost 100% buy-in from all staff. • Staff was able to resolve issues with correct outcome data in the EHR data

	collection system. • Providers were trained on the Electronic Medical Records optimization so that they could see their numbers and clearly know where improvement was needed. • Patient satisfaction surveys showed improved scores.
Sustained Impacts	The planning team for this initiative conducted a literature review on sustainability of organizational change, which included the following as necessary for maintaining and continuing to advance on the progress made by a quality improvement initiative: senior and clinical leadership engagement, staff involvement and training, sustainable infrastructure, suitable fit with organization's strategic aims and culture, and effective system progress supervision. Following implementation over the three years of the grant, these elements are still necessary to continuing the work and are all in place. Specific sustained QI activities include: • Ongoing data collection of outcome measures through the EHR system. • Review of outcomes each month by the Clinic Director, Nurse Informaticist and Quality Improvement team to identify trends, and track changes over time. • A discussion within this group of probable causes for negative outcomes, with follow up research by the Nurse Informaticist as needed. • Presentation of findings quarterly, including outcomes and potential solutions, to both the Leland Medical Clinic (LMC) Patient Advisory Board and their Board of Directors. • Action by LMC staff on recommendations by both groups to improve operations. These activities have become integral for Leland Medical Clinic practice. and will continue as part of the regular clinical workflow. Short term impacts include documented improvement in patient satisfaction as well as patient health outcomes. In addition, LMC will see the long-term positive effects of this project through continually improved services. Both clinical delivery and customer service have been improved through the QI process implementation. One of the elements noted earlier is the reluctance of some patients, particularly African-American patients, to access care. Both providers at the clinic are Caucasian and LMC is cognizant of how patients may perceive this. Through the QI efforts, patient service and comfort levels have increased, and more new patients have come to the clinic. Increased access to care that patients feel comfortable receiving has been an unstated but large success of this project.
Challenges & Lessons Learned	Staff attitudes have changed significantly throughout the three years of the grant. In the beginning, staff members were resistant and felt that "this is another meeting or training that isn't going to really affect me." Over time, there has been more staff engagement and greater understanding of how improvements are affecting patients in a positive way. Providers look forward to seeing the measure numbers increase and discuss ways to improve now measures or outcomes if they are not where they would like for them to be.

	There were several new policies and workflows that had to be changed to be successful with this QI initiative. The biggest challenge was and will continue to be making sure the measure numbers were pulling correctly from the EHR system. The QI specialist worked diligently with the EHR team to ensure that their measure numbers were correct and continually engaged with them on new measures to make sure the workflows were correct.

North Carolina

Granville-Vance District Health Department

Project Organization Information						
Organization Name	Granville-Vance District Health Department					
Organization Type	District Public Health Department					
Address	101 Hunt Drive					
	City:	Oxford	**State:**	NC	**Zip-code:**	27565
Organization's Project Contact	**Name:**	Wendy Smith				
	Phone:	252-492-7151				
	Email:	wsmith@gvdhd.org				

Project Overview			
Title	Granville Vance Public Health Improvement Program: Integrated Approaches to Chronic Disease Management		
Goal(s)	To decrease readmission rates and improve quality of life for chronic disease- specific patients		
Objectives	To reduce readmission rates by 30% over 3-year period for patients with Congestive Heart Failure (CHF), Pulmonary, and other Cardiac Disease		
Focus Area(s)	Chronic Disease Coordination of Care Emergency Department Utilization and Readmissions		
Counties Served	Henderson/Vance County		
Consortium/Network Partners	**Organization Name**	**City/County**	**Organization Type**
	Maria Parham Health	Henderson/ Vance	Hospital
	Vance County Department of Social Services	Henderson/ Vance	Social Services
	Vance County Emergency Medical Services	Henderson/ Vance	Emergency Medical Services
	Rural Health Group	Henderson/ Vance	Federally Qualified Health Center
	Cardinal Innovations	Henderson/ Vance	Mental/ Behavioral Health
	Northern Piedmont Community Care	Henderson/ Vance	Community Case Management
Evidence-Based Quality Improvement Model(s)	Model for Improvement Community Case Management (CCM) Model Plan, Do, Study, Act (PDSA) Model		

Needs Addressed	Many clients served by the local health department are Medicaid recipients or uninsured. Approximately 7% of the population identifies as Hispanic/Latino, while 51% of the population in Vance County identifies as Black or African American. Immense disparities of health outcomes exist within the population across the lifespan. Challenges or barriers to accessing care include embedded generational poverty, lack of transportation, lack of public infrastructure encouraging healthy behaviors, low median household income, and low education attainment. These social determinants of health have a combined negative affect on health outcomes in a population.
Target Population(s)	Patients who have complex comorbidities, high need for intense care and education, and high rates of Emergency Department (ED) visits and readmissions. The target population was not just the most complex, but also the most expensive to treat. The burden of chronic disease was affecting the quality of care as well as cost associated for the care for those with a primary diagnosis of Congestive Heart Failure (CHF), Chronic Obstructive Pulmonary Disease (COPD), Pneumonia, other cardiac disease, or Chronic Kidney Disease (CKD) with at least one secondary diagnosis, three or more hospitalizations in past 90 days, or high risk for hospitalization, as determined by the provider.
Services & Activities	The QI activities conducted throughout the funded grant project included: • Choosing a monitoring system that would best meet the needs and goals associated with the grant Aim and work plan. • Completing training of the system, which also included creating procedures related to patient remote monitoring • Creation of forms (i.e. enrollment form, disenrollment form, patient agreement form, etc.) • Creation of data dashboard for tracking data After the sale of the area's home health agency, leaders and staff adjusted their approach to create the Community Case Management Consortium to address needs of high risk-high utilization patients who also had Congestive Heart Failure, Chronic Obstructive Pulmonary Disease, Diabetes, and Chronic Kidney Disease. The Consortium developed their Aim and Goals: • The Aim of the CCM Consortium is to provide community resources and continuity of care for those entering and returning frequently into the health care system in Vance County, NC. • The goals include integrated and coordinated whole person care approached, systems change, health equity, and working together as a trauma-informed community so patients can more seamlessly access services. Activities included: • Developing a referral process and provider referral form, • Conducting "lunch-and-learns" with specialists related to the target diseases, and training provider offices on how to complete the referral forms.
Project Results	
Outcomes	Patient Health Outcomes • Enrolled patients had a 0% readmission rate during monitoring episodes, and ED visits decreased by 94%.

	• 218 interventions prevented readmissions and inappropriate ED usage. • Referrals resulted in 86% enrollment rate. • Only one enrolled patient made one ED visit during the monitoring period. • Patients showed increased compliance to recommended care, preventive services, and lifestyle changes, resulting in better quality of life. • Cost of care was decreased for patients. System-Level Outcomes • The Community Case Management consortium grew from 7 to 10 agencies. • New partnerships formed within the consortium. • Data showed increased cost savings. • The program was highlighted in the Rural Health Information (RHI) hub's *The Rural Monitor* in February, 2019. Initially staff relied heavily on the Model for Improvement, a tool for accelerating improvement, to define the aim of the project and determine what data would be measured. After several cycles of PDSA, the program was expanded to embrace the Community Case Management (CCM) Model. The key primary clinical standards utilized for patient care delivery of the grant project included American Family Physician (AFP), American Medical Association (AMA), and Centers for Medicare and Medicaid Services (CMS).
Sustained Impacts	This project resulted in two different activities – one which was sustained and one which was not sustained due to funding/reimbursement issues. The first activity, the Community Case Management Consortium, which focused on decreasing emergency department and readmission utilization, has continued because each agency represented provides in-kind dollars of the specific agency to continue the work. The second activity, remote patient monitoring, has not been sustained because of the current lack of reimbursement for service by insurance companies and the cost associated with such an activity. The staffing and management structure of the Health Department is unchanged and continues to support the CCM consortium. Consortium members continue as partners in the Community Case Management role and are providing institutional support for their participation. The Community Case Management Consortium will continue to have an effect on the target population and the community as a whole. The impact includes addressing social determinants of health for the targeted population and assisting with connecting these patients with community resources to address the determinants that are affecting their health. Another impact is the increased partnership among the consortium members, existing and new, that will assist all partners to work as a team to assist the health issues and improve the quality of life for these patients by changing patient health beliefs and empowering them to improve their health. The grant project provided short-term impact related to decreased emergency department use and readmissions among the targeted population, high-utilization patients, through the remote patient monitoring (RPM) and provider standing orders

	directing nurses how to address abnormal vital sign ranges related to their diseases, therefore, preventing emergency department visits and/or hospital admissions. The remote patient monitoring provided a long-term impact with patients by educating them on their disease, learning to understand or read their bodies, and what to do to address any changes before they are in need of emergency medical attention. This was one of the most prevalent comments made by patients at the end of their monitoring episode. RPM is the key to decreasing emergency department visits and/or hospital admissions, which in turn saves insurance companies' money, and, most importantly, provides the patients with a better quality of life. The downside is that insurance companies either do not provide reimbursement for remote monitoring or do not offer enough to cover the expenses related to the program. A Return on Investment (ROI) analysis on RPM is needed to convince the insurance companies to invest in such a program.
Challenges & Lessons Learned	Integration of appropriate, timely, and coordinated care with the targeted population and achieving patient engagement and buy-in to their health are key components for improving health outcome, reducing costs, and improving quality of life. One of the biggest challenges, barriers and solutions related to the grant project was that six months into Year 1 of the grant cycle, Granville Vance Home Health (leading agency at grant application/award) was sold and this required program leaders to take a look at the grant and determine how to focus on the same goals and objectives without the primary referral source. They developed a plan to reach out to Pulmonologists, Nephrologists, Cardio-Pulmonary Rehab, hospital Discharge Planners, and Cardiac and Primary Care providers affiliated with Maria Parham Health, Granville Health Systems, and the Health Department's Primary Health Clinic. Meetings were conducted with these providers to explain how the system works, who the target population is, and the benefits of referring these specific patients to the CCM program. Lunch and Learns were conducted with these providers, and the program was well received by all. There were several challenges with the remote patient monitoring program funded by the grant. One of the biggest challenges was the lack of referrals from providers. This was mainly due to the fact that providers do not have enough time allocated with patients to address everything such as a program that could benefit them. A lesson learned is that any agency wishing to offer a service such as RPM needs to have staff located within their practice who can review patient files and contact those patients who meet the criteria to participate in the program.

Missouri

Great Mines Health Center

Project Organization Information						
Organization Name	Great Mines Health Center (GMHC)					
Organization Type	Federally Qualified Health Center (FQHC)					
Address	#1 Southtowne Drive					
	City:	Potosi	**State:**	MO	**Zip-code:**	63664
Organization's Project Contact	**Name:**	Gregory Roeback				
	Phone:	573-438-8359				
	Email:	groeback@gmhcenter.org				

Project Overview			
Title	Small Health Care Provider Quality Improvement Program		
Goal(s)	• Expand the quality improvement efforts of GMHC by expanding the function and scope of the quality improvement department • Coordinate care for patients with chronic disease and an increased risk of hospitalization		
Objectives	• Reduce Emergency Department (ED) visit rate and the 30-day readmission rate by 20%		
Focus Area(s)	• Chronic Obstructive Pulmonary Disease (COPD) • Stroke • Heart Disease (Heart Failure and Hypertension).		
Counties Served	Washington and St. Francois Counties		
Consortium/Network Partners	**Organization Name**	**City/County**	**Organization Type**
	Washington County Memorial Hospital	Potosi/ Washington County	Hospital
Evidence-Based Quality Improvement Model(s)	The evidence-based quality improvement models used for this program were the Plan, Do, Study, Act (PDSA) Cycle from the Model for Improvement and the Chronic Care Model. The PDSA Cycle was used to address issues such as patients who needed additional support in managing their illness outside of the hospital setting on an ongoing basis. The team utilized PDSA formats for cancer screenings, diabetic screenings, and ED visits as well as hospital admissions. Along with these PDSA cycles, trending graphs with qualitative and quantitative data were included. Improving patient understanding of their own disease and treatment, health literacy, and assisting patients in overcoming barriers to disease management were all key components of the project. The project also adapted elements of the Chronic Care Model and its six domains of practice and applied them to the conditions of COPD, cardiovascular disease, and stroke. Application of the Chronic Care Model strongly informed and enabled		

	successful work around achieving Patient- Centered Health Home (PCMH) and PCMH recognition. A powerful adaptation of these Quality Improvement models was to link QI goals to graphic visualization through graphs and charts of the trend data for each QI goal. This allowed the Quality Team to provide powerful stories to the providers and care team to celebrate success and reinforce the culture of QI in the organization.
Needs Addressed	The racial distribution of the overall population is 95% white, generally aligning with that of the full patient panel of GMHC. Ninety-five percent of school-age children living in Washington County are eligible to participate in the Free and Reduced- Price lunch program; whereas in Missouri overall 51% of children are eligible. This rate has continually increased since 2011 when the rate was 60%, indicating a significant increase in the overall poverty level in the county. The median household income is $37,810 in the county compared to $51,542 in Missouri and $57,652 in the U.S. Additionally, 20% of the total population is living at or below 100% of the Federal Poverty level. County-wide 14% of the population is uninsured, which is higher than the state rate of 10%.
Target Population(s)	The program focused on three chronic diseases including Chronic Obstructive Pulmonary Disease (COPD), Stroke, and Heart Disease (Heart Failure and Hypertension). A county-wide needs assessment conducted in 2015 revealed that county hospitalization rates for strokes, chronic obstructive cardiovascular disease, and heart disease were higher than Missouri rates, with heart disease the most frequently hospitalized chronic condition in Washington County. An integrated quality improvement team was developed to review patient hospitalization and emergency department (ED) utilization data in order to identify patients who needed additional support in managing their illness outside of the hospital setting
Services & Activities	The integrated quality improvement team met monthly to review patient hospitalization and emergency department utilization data for the targeted patients to identify patients who needed additional support in managing their illness outside of the hospital setting. Transitional Care Management (TCM), which is interactive contact with patient (or caregiver), was made within two business days of discharge, and a face-to-face visit was scheduled within seven days of discharge. Patients were provided specific information about their conditions to improve their health literacy skills. Information was provided about how to find information and services for their specific health conditions. Also, patients were taught additional ways of communicating their needs and preferences to healthcare providers and how to respond to information and services they were given. Guidance was provided to patients to aid in understanding healthcare choices, consequences, and context of the information and services in order for the patients to best decide which information and services matched their needs and preferences. Through the grant, GMHC was able to build a Quality Assurance/Quality Improvement (QA/QI) Team. It started with two RNs initially and expanded to include a referrals department with a Referral Coordinator and a Community Health Worker (CHW). This quality team built a framework for measuring quality data leading to exceptional standards and patient care. The QAQI team ensured providers were aware of standards of care and that patients were informed of upcoming care. It is anticipated that with the increase in patients, the QAQI team will continue to grow moving in the future.
Project Results	

Outcomes	Patient Health Outcomes • Improvements in targeted and general patient health outcomes. • Increased patient engagement, especially for patients enrolled into the PCMH. • Patients demonstrated 100% compliance with follow-up appointments after hospital discharge. • The rate of ER visits by patients with COPD decreased by 67% in the last year. System-Level Outcomes • Collaboration with the local hospital increased to provide disease-specific patient education classes to improve patient understanding of disease management. • Increased collaboration and cohesion among staff for team- based care as a result of QI work. • GMHC became PCMH-credentialed to use guidelines to increase case management efforts to prevent readmissions. • GMHC became PCMH-credentialed to enroll high-risk patients into health home. The QI Team was able to see improvement in patient lives as well as in connections with other counterparts throughout the county. They were able to ensure patients were receiving the best possible care inside the clinic and also outside the clinic as well. Continuity of care is an important aspect of patient care and, with this grant funding, GMHC increased efforts to work with the local hospital to ensure patient care was consistent and high quality. The Quality Department now takes more detailed look at ED visits and patient admissions as well as focusing on ways to reduce both of these. GMHC now has extended hours and is open on most Saturdays from 8-1. This helped to reduce the number of patients who needed care outside business hours due to acute issues such as COPD exacerbation and helped avoid costly ED visits and potential overnight admissions.
Sustained Impacts	All the grant project activities will continue post funding. The hospital will continue to work jointly with the Great Mines Quality Team to focus on GMHC patients who are frequently seen in the ED of the hospital and have frequent readmissions. In addition, the team will expand the scope of cases for QI strategies to an ever-growing array of conditions, patient groups, and processes. The sustained impact is the change in the relationship between the critical access hospital and the Federally Qualified Health Center (FQHC) and the direct, positive impacts on the patients that both organizations serve. Where there was once unchecked competition and duplication of services and efforts, there now exists a strong commitment to provide quality-driven, coordinated care to the community. Before either organization hires a new primary or behavioral health care provider, the need for the provider is discussed between the organizations to ensure that a similar effort is not being undertaken by the other facility. This avoids unnecessary costs and duplicative efforts. The data capacity of GMHC has grown exponentially with the increase in patients

	and improvement in patient care. Each patient comes with a subset of potential care gaps and preventive screenings. There is potential for expansions in the future as GMHC continues to focus on population health. The short-term impact of this project was a reduction in emergency room visits and inpatient hospitalizations over the course of the grant period, due to the targeted efforts of GMHC and Washington County Memorial Hospital personnel. The long-term impact will be a reduction of costs to the hospital (including the cost of providing uncompensated care) and a reduction of cost to the patient as well and insurers/payers. It is hoped that patients struggling with health complications related to heart disease, chronic obstructive pulmonary disease and stroke/cerebrovascular disease will experience a longer and better quality of life due to the targeted care management efforts provided by Great Mines Health Center.
Challenges & Lessons Learned	Patient compliance and engagement was an on-going issue. Some patients did not follow through with scheduled appointments, switched providers and locations when they had payments due, or were receiving medications they requested but were not clinically indicated for related to a patient's particular treatment. The partnership between the hospital and FQHC, by design, helped to mitigate the issues in terms of being able to track patients through their health system encounters. One goal of the project, which specifically linked to the construct of the Patient-Centered Medical Home, was to establish a relationship between the patient and care manager at the health center. Care managers worked to maintain contact with patients both during health center visits and also between visits via telephone or other messaging options. The Missouri Health Information Exchange provided the opportunity to retrieve patient data from multiple sources to support delivery and coordination of care.

Kansas

Greeley County Health Services, Inc.

Project Organization Information						
Organization Name	Greeley County Health Services, Inc. (GCHS)					
Organization Type	Critical Access Hospital					
Address	506 3rd Street					
	City:	Tribune	**State:**	KS	**Zip-code:**	67879
Organization's Project Contact	**Name:**	Chrysanne Grund				
	Phone:	785-852-4230				
	Email:	cgrund@mygchs.com				

Project Overview			
Title	Controlling Our Area's Chronic Health – Health COACH		
Goal(s)	To improve chronic care management for rural patients and providers through the use of health coaches and care coordination		
Objectives	• Re-design the office visit • Provide Health Coach support to target patient population • Provide coordinated care • Improve health outcomes for rural health patients • Create a shared learning system		
Focus Area(s)	• Care coordination • Health coaching		
Counties Served	Greeley, Wallace, Sherman, Logan, Wichita and Hamilton Counties in Kansas and Cheyenne and Kiowa Counties in Colorado.		
Consortium/Network Partners	**Organization Name**	**City/County**	**Organization Type**
	Greeley-Wallace County Healthcare Foundation	Sharon Springs	Foundation
	Dixon Drug Store	Tribune and Sharon Springs	Private business
	Wallace County Health Department	Sharon Springs	Health Department
	Greeley County Health Department	Tribune	Health Department
	Kansas Frontier Community Health Network	Regional/ Western KS	Consortium of hospitals and health organizations
Evidence-Based Quality Improvement Model(s)	Greeley County Health Services used the Plan, Do, Study, Act (PDSA) quality improvement model, a four-step model for carrying out change. This circular method of improvement can be repeated for continuous change efforts.		

	Using the PDSA cycle allowed program staff to test small changes in ways that were somewhat less stressful for staff. Multiple cycles were implemented in different areas of the clinic. One of those PDSA cycles involved strategies to improve the triage processes of collecting vitals, tobacco screens, depression screens, allergies, medications, surgical and family histories. At the beginning of the grant project some of these items were not collected at all or at very low percentage, but by the end of the grant, significant improvement was evident when compared with baseline prior to the project start date. Experience taught staff to complete PDSA cycles in small, methodical changes. As an example, when work began on the triage process, instead of trying to improve all of the elements of triage, they started with medication reconciliation, then histories, etc. The project involved several elements, including the re-design of the patient office visit. Both patients and providers were unsatisfied with the traditional method of moving the patient from one department to the next and wanted to create a new and more satisfying experience for the patients. Staff had originally planned to utilize more of the LEAN methodology for quality improvement but quickly found that the PDSA cycle changes were more relevant to the need to completely redefine the office visit rather than just to modify existing processes.
Needs Addressed	For someone who is experiencing a chronic disease or a new diagnosis with a serious illness, navigating the diagnosis and a whole new world of specialists, healthcare information, multiple organizations and bills, the journey may seem insurmountable. The Control Our Area Chronic Health (Health COACH) project was an initiative to improve health outcomes for the patient population struggling to manage chronic conditions, including diabetes, cardiovascular disease, and obesity.
Target Population(s)	The Health COACH project targeted all those patients who utilize the services of Greely County Health Services, including the hospital, two rural health clinics, and two long-term care facilities. The needs addressed included the need for health coaching support for patients with chronic diseases, the need for coordinated care for those patients and the need for enhanced chronic disease management through Health Information Technology and improved patient education on chronic disease prevention and management.
Services & Activities	• Health COACH visits were conducted with patients with chronic disease. These visits included a re-design of the office visit with a more thorough triage, COACH presence during the visit including scribing the visit, and a follow-up with the patient following the visit. • Patient Care Coordination supported seriously and chronically ill patients. • Patients were educated through individual and community-based health outreach.
Project Results	
Outcomes	Patient Health Outcomes • The Health COACH program overall demonstrates strong clinical quality outcomes. • In one physician's practice alone, improved clinical outcomes were as follows: ○ 97.5% of Health COACH patients had a hemoglobin A1c below 9 as

	opposed to his general patient population and as compared to 86.5% of the general clinic patient population. o 76.5% of the Health COACH patients with a BMI outside normal parameters received interventions as compared to 62.2% of the general patient population. o A remarkable 98.7% of Health Coach patients have a controlled blood pressure as compared to 95.8% of his general population and compared to 82.64% of general clinic patient population. System-Level Outcomes • The triage process of collecting vitals, tobacco screens, depression screens, allergies, medications, surgical and family histories improved significantly. • A survey of Health COACH patients showed a 77% satisfaction rate. • Standards were created for qualified health coaches. Four of five nurses and medical assistants are now Qualified Health Coaches. In early 2019, two earned financial quality bonuses for their outstanding performance on quality items. • GCHS created/hosted a successful Rural Health Best Practices Conference in Fall 2018 GCHS considers their improved office visit redesign to be a best practice for quality improvement. This type of visit is consistent with characteristics of the Patient Centered Medical Home when combined with excellent, evidence-based chronic disease care and demonstrated at a very rural level. This practice model has gained the respect of clinicians and patients alike. The concept of "wrapping" rural patients with a high quality visit and the support of a Health COACH produced improved health outcomes for the patient. The Health COACH program has also contributed to such improved quality outcomes that GCHS has been asked to present at a boot camp for quality with the Kansas Clinical Improvement Collaborative, an ACO in which GCMS is a participant. This cooperative network has been a great resource toward the care of patients, particularly as they present to the hospital and emergency department.
Sustained Impacts	Most of the elements of the project will be sustained, since the core elements of the project are well-suited to future sustainability. The challenge will be in maintaining the enthusiasm and emphasis on the project once grant funds are gone. Some of the strategies for doing this are to continue to seek quality-based reimbursement strategies that are improved through the Health COACH visits. These strategies will also work in the process to regain Patient Centered Medical Home status, which is a framework from which this project was developed. The sustained impact for the community from this project will mostly likely be seen through the redesign of the office visit. The grant program has created a new model of visit which provides additional support and service for patients. The visit enhances their satisfaction and also provides additional support to the physician. It produces higher quality clinical outcomes as compared to the non-Health COACH population. Finally, the program has added additional financial value to the organization by having a higher charge per visit for Health COACH patients which is

	typically a result of increased labs, radiology and other evidence-based recommendations. The higher charge results in additional revenue through insurance payers to GCHS in the form of payment for labs, x-rays and additional ordered procedures, such as colonoscopies or other recommendations. The partnerships created through this grant will have a long-lasting impact on other communities as well. Through the Kansas Frontier Community Health Improvement Network, GCHS has the unique opportunity to work with patient engagement groups to attempt to improve the quality of their life and to achieve their health goals. This will bring additional resources to GCHS and also to local community partners.
Challenges & Lessons Learned	GCHS encountered several changes to the project beginning with the initial staffing. The early project had been imagined to have a nurse in the "Head" Health COACH role. Instead they were fortunate to have had the opportunity to work instead with a Physician Assistant who brought tremendous dedication and vision to the role. They understood from the beginning that they would not be able to sustain a PA in that role, but it was extremely helpful to have someone with that level of knowledge and professionalism to develop the clinical components of the program. They had also planned on sharing the model across all clinical professions but realized within only a few months that it would not be economically viable and would be best suited to a physician's practice. Another change to the early concept was the plan to have only one or possibly two health coaches. They soon realized that it made more sense to have all support staff trained in the COACH model to accommodate for absences and to best serve the patients.

California

Hi-Desert Memorial Health Care District

Project Organization Information						
Organization Name	Hi-Desert Memorial Health Care District					
Organization Type	Federally Qualified Health Center (FQHC)					
Address	6540 LaContenta Road					
	City:	Yucca Valley	**State:**	CA	**Zip-code:**	92284
Organization's Project Contact	**Name:**	Kathy Alkire				
	Phone:	760-820-9223				
	Email:	kalkire@mbhdistrict.org				

Project Overview	
Title	Integrated approaches and patient education and support for effective chronic disease management/prevention to improve patient outcomes
Goal(s)	To reduce Emergency Department (ED) visits and 30-day readmissions by engaging patients in their own health through education and support
Objectives	• To form a Community Health Coalition/Rural Resource Network to identify, analyze, and reduce inappropriate ED utilization and 30-day readmissions • To implement coordinated and collaborative care systems utilizing a Quality Improvement (QI) model to improve health care delivery and population/community outcomes
Focus Area(s)	• Chronic Disease • ED utilization • 30-day readmissions
Counties Served	San Bernardino County

Consortium/Network Partners	**Organization Name**	**City/County**	**Organization Type**
	Hi-Desert Medical Center	Joshua Tree/San Bernardino	Hospital
	Hi-Desert/Morongo Basin Healthcare District/CHC	Yucca Valley and Twentynine Palms/San Bernardino	Self-FQHC, LIFT Transportation
	New Pharmacy	Yucca Valley and Twentynine Palms/San Bernardino	Pharmacy
	The Way Station	Joshua Tree/San Bernardina	Non-profit family services center
	Valley Star Behavioral Health	Yucca Valley	24 Hour Crisis

		and Twentynine Palms/San Bernardino	Walk-In Center and Crisis Residential Treatment Center
	Pacific Clinics	Yucca Valley/San Bernardino	Family Resource Center
	San Bernardino County Department of Adult and Aging Services	Yucca Valley/San Bernardino	County Adult and Aging Services
	Center for Healthy Generations	Yucca Valley/San Bernardino	Health and Wellness Social Center
	Senior/Community Centers	Yucca Valley, Joshua Tree, Twentynine Palms/San Bernardino	Senior Centers and Parks and Recreation Districts
	Reach Out Morongo Basin	Twentynine Palms/San Bernardino	Neighbors Helping Neighbors
	Morongo Basin Transit Authority	Morongo Basin/San Bernardino	Public Transit, Ready Ride
Evidence-Based Quality Improvement Model(s)	Plan-Do-Study-Act (PDSA) Model Chronic Care Model The Plan-Do-Study-Act (PDSA) cycle was used to test and implement changes for a proactive practice approach to care for people with chronic disease in a primary care setting. Using the many PDSA cycles, implementation of programs developed in such a way that enabled the team to test, study, and make changes based on results. The PDSA model was integrated with the evidence-based Chronic Care Model (CCM), which categorizes the essential elements of a health care system and encourages high-quality chronic disease management. The CCM reflects Hi- Desert's goals and objectives of collaboration with health systems and community resources, empowering and activating patients to do the work necessary to care for their health, implementing problem-focused strategies to assist in medical self-care and identifying and addressing barriers to health improvement. The PDSA and CCM kept the project team focused during the execution and refining of each program.		
Needs Addressed	The median household income in the service area is $38,630 and the per-capita income is $19,597 – both well below state and national averages. The graduation rate for the Morongo Basin is less than fifty percent, and the unemployment rate for the Morongo Basin is consistently higher than the overall rate for California. The racial and ethnic differences between communities requires that all health care services be developed and delivered through culturally competent and demographically sensitive programs. Approximately 12.4% of the population is best served by a language other than English and this language is often Spanish. The families and children in the Morongo Unified		

	School District have dire economic needs, and are now served no-cost breakfast and lunch due to food insecurity. The geographical dispersion, transportation issues, and poverty seriously restrict access to health care services, patients' ability to keep appointments, and access to proper medication management. Chronic and acute conditions often worsen prior to treatment and can become unstable even after treatment has commenced, because patients do not always have the resources to fully manage their treatment plans.
Target Population(s)	The funded grant project was designed to address the needs of the socioeconomically disadvantaged population of the rural, impoverished, geographically isolated 1800-square-mile area in the Mojave high desert region of eastern San Bernardino County (SBC), known as the Morongo Basin. The pressing local needs for disease management for all ages and payers, the high utilization of the Emergency Department (ED) as primary care, and the high numbers of preventable 30-day hospital readmissions called for a program of community outreach, provision of health and human resources, and population education facilitated through Hi-Desert's Quality Improvement and Outreach Teams and consortium partners.
Services & Activities	The funded grant project was designed to address quality assurance and performance improvement gaps and improve the processes of delivering quality patient care in order to improve the well-being and quality of life of communities in the Morongo Basin. The project team worked to meet quality indicators and program goals of reducing Emergency Department visits and 30-day readmissions through patient phone calls; diagnosis and medication follow-up; patient, staff, provider, and community education; and improving upon the effectiveness of current health care services through standardization, coordination, reporting, and evaluation. Hi-Desert addressed community needs through the formation of a rural health network of public and private health care providers and support services for residents in the Morongo Basin. Hi-Desert's leadership reinforced training, and monitored and evaluated employee behavior in order to sustain the culture enhancement of providing evidence-based, high-quality care, and education. Community Health Coalition members aggregated, analyzed, and distributed community needs assessment and prevalence of chronic diseases data during meetings, and implemented the components of the Chronic Care Model (CCM) to better meet the needs of coalition partners, patients, and community members. Based on the results, and utilizing the CCM approach, coordinated and collaborative care strategies were designed and implemented for target populations through chronic care management education to patients, partners, and community residents. Hi-Desert successfully implemented the Hospital to Home (H2H) program to case manage patient health/chronic disease through class enrollment and disease management support, created process flow sheets, and educated hospital staff on timeliness of referrals to meet program goals of chronic health management. They also implemented the Living Well (LW) Diabetes Management Education Program to improve patient quality of life through patient support, coaching sessions, and case management to achieve successful patient outcomes and prevent complications. Before beginning the Centers for Disease Control (CDC) Diabetes Prevention

	Program (DPP) with patients and community members, it was offered first to employees as a wellness program. Several employees have participated and shared their healthy lifestyle behaviors with co-workers and patients, which has benefited them as well as class enrollment. CDC full recognition is expected in the short term.
Project Results	
Outcomes	Patient Health Outcomes • 82% of participants enrolled in the Hospital to Home (H2H) program avoided unnecessary ED visits and re-hospitalizations. • Living Well (LW) chronic care management education program participants lost weight (89%); decreased Body Mass Index (89%); dropped A1clevels (93%); reduced blood pressure (93%); and lowered total and LDL cholesterol and triglycerides (86%). System-Level Outcomes • Hi-Desert Uniform Data System (UDS) HgA1c Poor Control QI Measure decreased by 36-37 %, exceeding the goal of 20%, each year of grant activities from 99% poor control in 2015 before grant implementation to 25% in 2018. • A Community Resource Directory was developed listing coalition contacts and services provided. • A partnership with a transportation program increased patient compliance in appointments, education and support sessions. • Patient case management resulted in increased access to care, patient engagement and compliance, and better prevention of re- hospitalization. • A partnership with the National Park system “Take a Hike” Program increased patients’ activity levels. • Patient compliance to recommended lifestyle changes, chronic disease management, and complication prevention increased. The implementation of the Community Health Coalition, RN case management in the H2H care transition program, and the LW chronic disease management education programs approach supported the whole person to succeed in managing their chronic conditions. With the comprehensive LW education and support team consisting of a registered nurse, registered dietitian, and a social worker/therapist, 2018 program participants showed a total reduction of over 200 pounds, a decrease of 45.2 points in their BMI, 35.4 points in A1C, 141 points systolic blood pressure and 69 points diastolic blood pressure, and over 1,000 points in total cholesterol, triglycerides and LDL.
Sustained Impacts	All elements of the program will be sustained. The Community Health Coalition partnerships and communication have been firmly established. The great need continues for support and resources to address social determinants of health to assist in prevention of ED utilization and hospitalizations, so it, and the established Community Resource Directory, will continue. The Hi-Desert/Morongo Basin Healthcare District will continue funding of the Community Health Coalition. Hospital to Home (H2H) Care Transition Program with RN case management prevents 30-day hospital readmissions, and diagnosis-related emergency department visits, and feeds into health/chronic disease management and

	prevention education programs. This service will also continue. For each new patient, Hi-Desert receives $234.43 and for each existing patient, $174.74. Many patients are referred to additional CHC medical specialties such as general surgery, pain management, chiropractic, and behavioral health in addition to medical appointments, further adding to funding for these activities. Recently gained access to the Care Continuity site provides notifications and access to hospitalized patients from three local desert hospitals, and tripled H2H enrollment in the first three weeks of use. LW Chronic Disease Management will be sustained by converting the current support group session model to a shared visit model for reimbursement to sustain the program. Current staff includes a nurse, dietitian, and LCSW therapist alternating meeting monthly with patients for on-going support in the LW chronic disease management education program. A medical provider will be added and will transition to the shared visit model for added health management and $174.74 per participant payment. When both sites support 20 patients with two shared visits per month, the shared visit model would sustain program activities. As more diagnoses (COPD, hypertension, heart failure, heart disease, anxiety, depression) are added, the number of patients and/or groups will expand to prevent diagnoses-related ED visits and hospitalizations and show positive health outcomes for participants. LW Diabetes Prevention will be sustained through the 15 separate MDPP HCPCS G-codes listed for Medicare and Medi-Cal/Medicaid reimbursement, ranging from $15.00 to $165.00 per participant, for providing the CDC Diabetes Prevention Program. Hi-Desert is in pursuit of CDC Full Recognition status. Hi-Desert/Morongo Basin Healthcare District's mission strives for healthy communities, and any expenses remaining after CMS reimbursement will be covered by the District as part of their 5-year strategic plan. With the successful outcomes derived from the Living Well programs, the team trained staff and providers to improve practices and workflows with care teams and shared visits to provide proactive, systematic, and intensive care for patients with chronic conditions and complex health needs. Utilizing the Chronic Care Model the Living Well education team emphasized focus on prevention of chronic disease development and/or complications through lifestyle changes, preventive exams and tests, and case management. Through implementation, evaluation, and data collection and analysis, Hi-Desert documented system processes to better meet the needs of the target population, as well as other local health care needs. During HRSA partnership and grantee meetings, and through Technical Assistant referrals, the team has connected and shared program tools for replication by other small, rural communities. Staff will continue documenting processes for replication by others and work on creating an easy-to-follow procedural guide, reproducible template, participant intake form, program evaluation, and data collection.

Challenges & Lessons Learned	One challenge was the need for partner and provider understanding of the process, learning opportunities, and informed action of the PDSA cycle. Just because the PDSA process was successful, that does not always mean the studied project, program, or activity would be successful without the complete understanding and buy-in from the players involved in the process/activity. PDSA cycle and CCM training was presented at partner and provider meetings to assist in better understanding. Alignment of PDSAs to organizational goals (i.e. UDS HgA1C Poor Control) as well as grant program goals helped foster understanding and gain leadership support. Applying organizational relevancy led to empowerment of team members working toward common goals for improved clinical outcomes. Another challenge came in implementing the CCM into the organization to bridge the gap between the grant-funded program's evidence-based chronic disease care and the organization's clinical care practices. After successful implementation with the program and consortium partners, gaining approval and facilitating change in the clinical setting proved time-consuming. Project information was presented about the CCM at meetings, and policies were written and implemented so that the procedures described would be in place to equip the clinical team with the information, decision support, and resources necessary to deliver high-quality care. When grant activities and health center activities aligned, providers, staff, and patients increased in the motivation, skills, and confidence necessary to produce positive health outcomes

Ohio

Holmes County General Health District

Project Organization Information						
Organization Name	Holmes County General Health District					
Organization Type	Public Health Department					
Address	85 North Grant Street					
	City:	Millersburg	**State:**	OH	**Zip-code:**	44654
Organization's Project Contact	**Name:**	Mike Derr				
	Phone:	330-674-5035				
	Email:	mderr@holmeshealth.org				

Project Overview			
Title	Holmes County Primary Care Provider Quality Improvement Project		
Goal(s)	To improve the quality of health care delivery to patients of primary care practices in Holmes County by improving structured quality improvement methodology		
Objectives	• Establish and maintain a multi-agency workgroup to oversee quality improvement projects • Plan initiatives to improve performance • Implement quality improvement plans • Evaluate the impact of the initiatives		
Focus Area(s)	• Chronic Disease • Quality Improvement		
Counties Served	Holmes County		
Consortium/Network Affiliation	Holmes County Primary Care Provider Network		
Consortium/Network Partners	**Organization Name**	**City/County**	**Organization Type**
	Hostetler Management Group	Marshallville/ Wayne	Healthcare Consultant
	Holmes Family Medicine	Millersburg/ Holmes	Primary Care Practice
	East Holmes Family Care	Berlin/Holmes	Primary Care Practice
	Millersburg Clinic	Millersburg/ Holmes	Primary Care Practice
Evidence-Based Quality Improvement Model(s)	Initially, the Chronic Care Model was used as the frame for Quality Improvement (QI) for the partner practices but found that it was not well understood or easy for the practices to adopt and was demanding intense support to try to make it work. After the Holmes County General Health District (HCGHD) realized that the practices were informally using aspects of Plan, Do, Study, Act (PDSA) in their practices, they adopted PDSA as the QI model for the work. The effective adoption of PDSA by the practices is the result of at least three mutually reinforcing strategies by HCGHD: 1) provision of the PDSA toolkit 2) reporting of monthly performance data by practice		

	and provider, with trend charts and benchmarks, and 3) routine facilitated QI peer exchange.
Needs Addressed	Approximately 98 percent of Holmes County residents are white, non-Hispanic. However, approximately 45 percent of county residents practice the Amish faith and 44 percent of residents reported they speak languages other than English in their home. Like many other rural and Appalachian counties, Holmes faces a unique set of socioeconomic challenges. Only 56 percent of the population attains a high school diploma or higher and only 10 percent complete a college degree. Despite lower educational attainment, the percentage of people in Holmes County living at or below the federal poverty line is 10 percent lower than the state average (14 percent). Only 64 percent of Holmes County residents younger than 65 years of age reported health care coverage through private insurance or government sponsored programs. While rates for cancer, stroke, chronic lower respiratory disease, and unintentional injuries were lower than the state average, death rates resulting from heart disease were higher than the state average. Mortality rates associated with heart disease, cancer, stroke, and unintentional injuries have decreased, while stroke and chronic lower respiratory disease have increased since 1999. A substantial percentage of adults in Holmes County have a chronic condition, do not regularly use preventive health care services, and engage in behaviors associated with the increased risk for chronic diseases.
Target Population(s)	The target population included patients served by three primary care practices which are members of the Holmes County Primary Care Provider Network. The project was designed to address congestive heart failure, chronic obstructive pulmonary disorder and closing the referral gap between primary and specialty care. Additionally, the program was designed to increase patient engagement and compliance in their chronic disease management and provide financial incentive for practices to support patients in disease management efforts.
Services & Activities	Many of the grant activities stemmed from monthly QI workgroup meetings. Activities included the review of the practices' quality measures, discussions around issues facing each practice and the community, collaboration among health care providers, and collective PDSA work. Through grant funding, the Hostetler Management Group (HMG) provided the practices with data and support in collecting that data and worked to identify opportunities for each practice to receive reimbursement based on quality measures. To respond to needs identified in the meetings, partnering practices and HCHD developed several other resources. Mycarelinx.com is a Holmes County-specific service directory that was developed with project funding. Doctors utilized this website to provide referrals to patients and the general public, using it to discover services that they might not otherwise have known were available. HCGHD produced an annual marketing campaign that educated citizens on the importance of preventive care. The 2018 campaign focused on the pneumonia vaccine, and the 2019 campaign focused on general preventive care. Holmes County has a low pneumonia vaccination rate compared to state rates, and pneumonia was a leading cause of death in Holmes County. The goal was to improve vaccination rates from 54% to 57% and to reduce the fatality of pneumonia-related illnesses. Holmes County improved the vaccination rate by at least 3%, and pneumonia -related death is no longer one of the leading causes of death in the county. Finally, in the spring of 2019, the HCGHD was able to begin a free diabetic support group open to the public.

Project Results	

Outcomes	Patient Health Outcomes
	• Overall improvements in patient outcomes included:
	  ○ Reduced morbidity and mortality as result of increased preventive care;
	  ○ Better chronic disease management due to improved rates of screenings and follow-up for BMI, depression, tobacco use, and alcohol consumption; and
	  ○ Increase in prevention patient visits.
	• Pneumonia vaccinations increased by at least 3% across all three primary care practices, with one practice producing an 11% increase.
	• Pneumonia dropped from the 4th leading cause of death (25 deaths per year) in the county to no longer being in the top 6 leading causes of death.
	• Diabetic patients in two primary care practices showed a 3-4% improvement with blood pressures <140/90.
	• In one primary care practice there was a 7% increase of patients with A1c levels < 8 and 5% increase of patients with A1c levels < 7.
	• One primary care practice had a 22% improvement in Body Mass Index (BMI) screenings and follow-up measures.
	
	System-Level Outcomes
	• Three independent primary care practices collaborated to initiate multi-faceted approaches to address health issues in Holmes County.
	• PDSA Quality Improvement workflow innovation was integrated into the culture of all three practices.
	• Overall system quality improvements included:
	  ○ Increased Quality Improvement and reporting capacity in all three practices;
	  ○ Emphasis on closing gaps in evidence-based practice;
	  ○ MyCareLinx website to market preventive services to community;
	  ○ Broader perspective on population health; and
	  ○ Improvement in overall county health rankings.
	
	The project had success in beginning to close the referral gap between primary and specialty care. Throughout the project, grant funds were utilized to provide opportunities for specialty doctors to come and give presentations to the physicians. In addition, a survey of physicians cited the building of relationships and collaboration between the practices and the health department as an important outcome from the project.

Sustained Impacts	All components of the grant project will continue, with some modification. HCGHD and partnering clinics will sustain the QI workgroup meetings, but on a quarterly basis rather than monthly. The benefits of this meeting have not only been observed by the HCGHD, but explicitly stated by the partner practices. The Health District has observed the transition from the practices learning about QI to its becoming a natural part of their discussions in the meetings. Additionally, these meetings create accountability for the practices and encourage continual goal- setting to meet new quality measures as previous goals are accomplished. All of the current workgroup members have agreed to continue to meet. HCGHD will also sustain the creation of the reports on quality measures for each practice. These reports give a multitude of

	benefits. The practices are encouraged to continue QI processes as they see improvements, are challenged to find solutions when the numbers stay the same or decline, and provides benchmark data to evaluate their QI efforts. Finally, HCGHD will sustain the community outreach that has stemmed from the grant: support of MyCareLinx.com, the annual preventive care marketing campaign, and the creation of a diabetic support group. All three of these community outreach activities have provided value to the community by providing reliable health information in an easily accessible manner and in a variety of formats that will reaches all parts of a diverse population. Once the project ends, HCGHD will no longer pay practices for deliverables and will not provide data analysis monthly, but rather quarterly. However, the spirometers and data reporting programs that the grant project has funded for the practices will remain and provide additional sustainability. The collaboration and trust that developed among the health district and the practices that participate in the workgroup will have a long-term effect on the community. The clinic practices and the health district had the opportunity to work through community issues collectively. Now that these relationships have formed, in the future partners can approach issues with a collaborative effort rather than each entity individually working to solve those issues. The training that each practice received in the PDSA model will have a lasting impact. By receiving training and having several years of practice with HCGHD and HMG available as guides, the practices have been equipped to continue these processes after the grant ends. By continuing QI in their practices, providers will improve their quality of care and their reimbursement for quality care, both of which will benefit the practices and the community. The model of collaboration between the health department and primary care practices in a county would benefit many other rural communities. Through this project, the partners have proven that collaboration has a measurable effect on health outcomes at the patient level and the community level. The experience and the challenges in creating this collaboration, obtaining buy-in, identifying champions, and then sustaining relationships would be useful to others hoping to create a similar program.
Challenges & Lessons Learned	One challenge was achieving buy-in from the doctors and staff within each practice that did not attend the workgroup. Initially it was challenging to get those staff members to see the value of integrating QI into their practice. Through continued QI training and improvements in quality measures, members of the practices were able to recognize the value of QI. HCGHD has begun to see a shift in the mentality of those staff members who do not participate in the workgroup. Many of the respondents to a recent survey acknowledged that QI has been important in their offices and would like to see it continue, though perhaps on a smaller scale. Another challenge has been change in those participating in the workgroup. The first change came when the practice from the hospital left the group and that line of communication with the hospital was lost. However, it did not change the commitment of the remaining workgroup members and overall did not greatly impacted the project. Most recently, two of the physician representatives to the workgroup left their clinics, but their spots in the workgroup were filled by other staff

	members of their clinics who are enthusiastic about QI and improved quality of care and have become assets to the workgroup. Having both of these individuals join the workgroup will greatly help to continue to integrate a culture of quality in their practices. One key lesson learned was that having a third-party facilitator like HMG is a great asset in creating and sustaining partnerships. Having an unbiased party from outside the community helped overcome existing bias and assisted in negotiating partnerships. Another lesson learned is that in integrating any QI model into an office, identifying a champion is a crucial component. The presence of a champion ensures that the practices maintain a QI focus, and they serve as a resource in the office to those with questions about QI, thus encouraging a culture of quality. Without a champion from each practice it would have been significantly more difficult to implement PDSA.

Kentucky

Mercy Health Partners of Southwest Ohio

Project Organization Information						
Organization Name	Mercy Health Partners of Southwest Ohio (d.b.a. Marcum and Wallace Memorial Hospital)					
Organization Type	Critical Access Hospital					
Address	60 Mercy Court					
	City:	Irvine	**State:**	KY	**Zip-code:**	40336
Organization's Project Contact	**Name:**	John Isfort				
	Phone:	606-723-2115, ext. 8210				
	Email:	jisfort@mercy.com				

Project Overview			
Title	Medication Therapy Management (MTM) Program		
Goal(s)	To prevent unnecessary emergency department (ED) visits or hospital admissions caused by medication error or misuse		
Objectives	To utilize medication therapy management (MTM) in a targeted patient population focusing on 6 chronic disease states to educate patients and prevent medication errors and misuse as well as increase compliance		
Focus Area(s)	• Chronic Disease • Behavioral Health		
Counties Served	Estill, Lee, and Powell Counties		
Consortium/Network Affiliation	Project HOME Network		
Consortium/Network Partners	**Organization Name**	**City/County**	**Organization Type**
	Juniper Health Care	Beattyville/Lee	Federally Qualified Health Center (FQHC)
	Foothills Clinics	Clay City/Powell	FQHC
	Mercy Health Clinics	Clay City/ Powell Beattyville/Lee Irvine/Estill	Provider Based Rural Health Center (RHC)
	Estill Medical Clinic	Irvine/Estill	RHC
	Estill County Emergency Health Services	Irvine/Estill	Emergency Medical Service (EMS)
	Estill County Health Department	Irvine/Estill	Public Health
	Lee County Health Department	Beattyville/Lee	Public Health
	Hospice Care Plus	Irvine/Estill	Palliative Care

	US Acute Care Solutions	Irvine/Estill	Emergency Physicians Group
	Kentucky Homeplace	Clay City/Powell Beattyville/Lee Irvine/Estill	Lay Health Workers
	Estill County Board of Education	Irvine/Estill	Public School District
	Kentucky Rural Health Information Organization	Stanton/ Powell Beattyville/Lee Irvine/Estill	Health Information Organization
	Westcare	Irvine/Estill	Substance Abuse Center
	Bluegrass.org	Irvine/Estill Stanton/ Powell	Community Mental Health Center
	Children's Clinic	Irvine/Estill	Rural Health Clinic (RHC) - Pediatric
	Estill Development Alliance/Chamber of Commerce	Irvine/Estill	Chamber of Commerce
	Whitehouse Clinics	Irvine/Estill	FQHC
	Mountain Comprehensive Care	Clay City/Powell	FQHC
Evidence-Based Quality Improvement Model(s)	Chronic Care Model The utilization of a Chronic Care Model was favored by the providers within the Project HOME Network due to demonstrated success of the model in rural practice settings, its effectiveness with patients with one or more chronic disease states, and its ability to be clinically and financially sustained beyond the funded grant period. Clinical information systems assisted in identifying at-risk patients through evidence-based screening algorithm that was embedded within the Electronic Health Record (EHR) system EpicCare. EpicCare was able to identify potential non- adherence issues by analysis of utilization of the ED and other high-cost health services, high-risk medication use by drug class and disease state, and pharmacologic indicators of medication-related problems. This electronic screening process, combined with physician and registered pharmacist referrals, provided for an identifiable population that benefited from enrollment in an ongoing Medication Therapy Management (MTM). As the program progressed it was discovered that there was a real need to enhance medication reconciliation (med rec) for those patients admitted from the ED. Providing additional reconciliation by a registered pharmacist added another layer to ensure patient safety and enhance the quality of care. By working with the primary care providers, a team concept approach was developed which maximized the benefits of the two disciplines working together for the patient.		
Needs Addressed	Lee, Estill, and Powell counties are situated within the Eastern Kentucky		

	Coalfield of Central Appalachia. There are high rates of poverty and continued economic distress, with diminished health capacity and reduced health services. Defined by rugged, difficult terrain, each county directly straddles the thickly wooded Daniel Boone National Forest. The forest limits transportation between community sites. Residents of Lee County may be required to complete a 45-minute drive time to access the only available 24-hour emergency facility at Mercy Health Marcum and Wallace Hospital (MHMWH). There is limited transportation infrastructure in the service area with no major interstates passing in proximity through the area. The combined population of Lee, Estill, and Powell counties is estimated at 35,174. Though this population is relatively homogenous in terms of racial identity (with more 95 percent of the population self-identifying as white or Caucasian), cultural preferences, such as politics, schools, and industries, vary greatly across county lines throughout the region.
Target Population(s)	The grant project focused on patients with congestive heart failure (CHF), diabetes, chronic obstructive pulmonary disease (COPD), asthma, hypertension, and or behavioral health diagnoses who over utilize the Emergency Department (ED). The Project HOME Network (PHN) program was developed to deliver program activities in the Eastern Kentucky counties of Lee, Estill, and Powell. Studies report that only 56 percent of U.S. adults are receiving the recommended clinical care for chronic illnesses. An immediate problem that contributes to this diminished quality of care is the continued fragmentation of the U.S. health care system, which risks suboptimal health outcomes and increased patient morbidity through poor care coordination. The original focus of the PHN was to identify "super utilizers" (6 > ED visits in previous 12 months) presenting in the emergency department (ED) of MHMWH and whose acute and long-term care needs were better addressed, and at lower cost, in ambulatory settings and patient-centered medical homes. However, the success of any super-utilizer program ultimately requires the inclusion of comprehensive Medication Therapy Management (MTM) services that recognize among the patient population the risks for non-adherence and polypharmacy (the use of multiple and sometimes inappropriate medications to treat a chronic condition or illness).
Services & Activities	The primary focus of the grant was on Medication Therapy Management (MTM). However, as time progressed other services were needed including medication reconciliation, patient education, and annual wellness visits (AWV). During the grant period 960 patients were served. Services provided by the Pharmacist included: • Medication Therapy Management (MTM) • Medication Reconciliation • Prescription Assistance • Annual Wellness Visits (AWV) • Patient Education The Pharmacist provided medication review and recommendations in all the above areas. In addition, the Pharmacist provided patient education to COPD patients in the proper use of inhalers and the importance of maintaining a consistent medication regimen. The prescription assistance program provided over $25,000 in direct cost savings to the patients enrolled in the MTM program. This was a direct benefit of providing MTM as the patient would not have been aware of these cost saving programs without the direct encounter with the Pharmacist.

Project Results	
Outcomes	Patient Health Outcomes • 858 patients were seen by a registered pharmacist since February, 2017. • 108 patients were provided prescription assistance, saving an average of $256 monthly. • 582 medication reconciliations were performed, 546 medications added, 390 medications removed, 35 medication strengths changed, 306 frequencies changed, 40 formulations changed, and 4 significant interactions identified. • Improvements were seen in patient medication adherence and preventing unnecessary ED and Primary Care Provider (PCP) visits. • There was an annualized reduction in ED visits from February 2017 – September 2018, with potential savings of $54,250. System-Level Outcomes • Clinics recognized the importance of helping control the costs of medication for high-need patients. • Pharmacist became an integrated part of the care support team. • The 340B program was highlighted, educating providers about a resource that has long been underutilized. • The Pharmacist role expanded, with providers seeking out pharmacy more often with questions and for assistance to ensure that patients were able to obtain medications prior to discharge. • The Project HOME Network's MTM program was recognized with a Clinical Innovation Award at the Small Health Care Provider Quality Improvement Grant conference in Washington DC in June 2018. The MTM program allowed a one-on-one in person setting with the pharmacist that usually lasted 45-60 minutes. The encounter was personal and allowed the interaction of the patient with the provider and pharmacist at the same time. This ensured a "buy in" from the patient to have the primary care provider (PCP) encourage them to do what the pharmacist recommended. In turn, this supported greater care coordination across the continuum of care spectrum.
Sustained Impacts	Certain elements of the grant program are being sustained. The Medication Reconciliation (Med Rec) process was deemed essential to the quality-of-care initiative by providing a pharmacist review of all meds after the patient was admitted to the hospital from the ED. Though in-person Medication Therapy Management (MTM) in the patient's primary care clinic is innovative, it may not necessarily be sustained due to the fact that the payers are providing this service remotely via telephone. The grant program changed the way health care was delivered from the ED to the inpatient floor. Medication reconciliation (Med Rec) by a pharmacist was added to those patients admitted to the hospital from the Emergency Department (ED). In addition to the medication reconciliation that was normally performed by the nursing staff, an extra med rec was performed by a Pharmacist which provided an additional level of safety and protection for the patient.

Challenges & Lessons Learned	In Kentucky, Medication Therapy Management (MTM) is not a reimbursable service. Some private insurance companies do pay for an MTM encounter but it is limited. Medicare Part D will pay for an annual MTM encounter for those patients that meet the specific insurance plan's eligibility. This makes Medicare the primary source of sustainability for the MTM program, with a typical reimbursement of $50 - $70 for an MTM encounter. However, multiple modes of MTM delivery authorized by various insurance companies sometimes complicated scheduling and billing for MTM services. Marcum and Wallace Hospital does not currently have a retail pharmacy. The MTM Outcomes platform is set up to distribute patients for MTM services via a retail pharmacy. In 2018, Mercy Health merged with Bon Secours Health. It was discovered that Bon Secours was providing MTM services and receiving payment. A workgroup was developed with pharmacists from Bon Secours and Mercy Health. The Bon Secours pharmacists assisted the PHN to develop a "virtual" pharmacy to allow the hospital to receive patients through the MTM Outcomes platform. This would allow the PHN to receive Medicare patients that were eligible for MTM services. However, it was discovered that MTM Outcomes was still referring patients to the primary pharmacy where the patients filled their prescriptions. Due to the fact that the PHN virtual pharmacy did not have a history of filling medications, no patients were referred through Outcomes. Mercy Health Marcum and Wallace Hospital is currently exploring the possibility of developing an onsite retail pharmacy to serve employees, staff and patients. However, it would not be a public retail pharmacy. Not all patients who were identified as possible candidates from the Emergency Department (ED) used a Primary Care Provider (PCP) from the network area. In some cases, these patients did not have a PCP. For these patients, it would be difficult to have them travel to the hospital for MTM services as well as inappropriate to have them come to a Project HOME Network (PHN) clinic that did not see the patient. To address this problem, the PHN actively worked to locate neutral sites to provide MTM services. The Project HOME Network had planned to use the Kentucky Health Information Exchange (KHIE) to connect the MTM Pharmacist with all the PHN clinics. However, although most PHN clinics are members of KHIE, they have been unable to connect with their respective Electronic Health Records (EHRs). One solution to the connectivity barrier was to use the MHMWH CarePath portal. In addition, each clinic agreed to provide the MTM Pharmacist access to their Electronic Health Record (EHR). The PHN executed Business Associate Agreements (BAA) with all clinical partners and the MTM Pharmacist completed clinic-specific HIPAA training. The PHN will continue to attempt full integration with KHIE beyond this grant effort. Replication of the MTM program in other primary care clinics and critical access hospitals (CAH) that have a 340 B prescription program has the potential to significantly help patients with the cost of their prescription medications. Patients who can afford to obtain their medications will ultimately be more compliant and subsequently healthier.

	A quality MTM program is predicated on obtaining clear clinical and operational data. An agency that is considering MTM services should provide for primary data collection to include emergency department (ED) visits before and after MTM/Med Rec, pharmacist recommendations to the primary care provider, primary patient diagnosis, hospital readmissions, medication adherence, and affordability of medication. This information would assist the program in evaluating effectiveness and allow for adjustment where needed.

California

Mountain Health and Community Services, Inc.

Project Organization Information						
Organization Name	Mountain Health and Community Services, Inc.					
Organization Type	Federally Qualified Health Center (FQHC)					
Address	1388 Buckman Springs Road					
	City:	Campo	**State:**	CA	**Zip-code:**	91906
Organization's Project Contact	**Name:**	Ruby Kirby				
	Phone:	619-478-5254				
	Email:	rkirby@mtnhealth.org				
Project Overview						
Title	Quality Improvement Program					
Goal(s)	To increase compliance with medical regimens and improve the health of patients living with chronic conditions					
Objectives	• Implement a person-centered, team-based plan of care for patients • Improve patient outcomes for 7 chronic conditions					
Focus Area(s)	• Care Coordination • Chronic Disease					
Counties Served	San Diego County					
Evidence-Based Quality Improvement Model(s)	Continuous Quality Improvement (CQI) Mountain Health chose the Continuous Quality Improvement (CQI) model for project implementation. CQI is a management philosophy that helps to reduce waste, increase efficiency, and increase both internal and external satisfaction, permeating the culture of an organization and stressing the need for teamwork and accountability at all levels of the organization. The model was introduced and implemented through staff who directly relate to Patient Centered Medical Home (PCMH), Training, or Quality. The success of the tobacco cessation and adult BMI compliance initiatives are the direct result of this strong quality model.					
Needs Addressed	The rural east region of San Diego County that Mountain Health serves is a unique area with a geography that present challenges to its residents. Residents are extremely isolated from basic services, including transportation, healthcare, and access to food. At an altitude of 2,000 to 4,500 feet, snow, ice, and/or fog can make roads impassable in the winter, and dry, uninterrupted woodlands make fires an ever-present danger that threatens safe passage and can close Freeway 8, the interstate lifeline road running through the Mountain Empire/East County region. Unemployment, poverty, and low educational attainment are factors in this region's designation as an "Opportunity Zone," reflecting the low-income, economically depressed nature of the area.					

Target Population(s)	The project targeted patients with coronary artery disease, obesity, hypertension, and chronic obstructive pulmonary disease (COPD) who live in the rural eastern portion of San Diego County. Residents of the Mountain Empire have higher mortality rates than San Diego County overall. The top four areas include coronary health disease (151.9% vs 107.8%), stroke (41.8% vs 33.1%), diabetes (23.8% vs 18.6%), and COPD (46.5% vs 32%). Unhealthy behaviors, including smoking, lack of physical activity, and consumption of fast foods all contribute to the disproportionate share of chronic diseases affecting residents of the East County.
Services & Activities	Program implementation involved creating a training curriculum which focused on teamwork and team-based care. In order for the care team to develop a person-centered approach to patient care, it was necessary to redesign several work flows. The team began using patient goal assessment forms, which included patients' goals in order to achieve buy-in in their own care. To redesign the approach to solicit information from the patient, Mountain Health created the Gaps in Care position. This team member developed a follow-up template in Excel that was used to track how patients are contacted. The team also implemented the Next Gen Hub, an application within the NextGen Electronic Medical Records platform which allowed the development of reports based on specific patient populations, such as diabetes and hypertension. Another focused activity was to leverage existing technology within NextGen to contact patients and track a patient's status in order to measure the impact of the plans that had been put in place. The first step was to begin using NextGen NextPens, a pen that digitally transcribes the patients' response to forms and uploads them directly into Next Gen, thus reducing staff utilization and errors. The next step was to utilize Next Gen's Patient Portal, an application that allowed staff to contact patients with phone call reminders of upcoming appointments. The Patient Portal also allowed staff to filter patients into focused campaigns addressing hypertension, diabetes, asthma, well child physicals, and more.
Project Results	
Outcomes	Patient Health • Patients benefited from personalized care plans which reflected their own goals for health improvement. System-Level Outcomes • Patient Centered Medical Home (PCMH) status was achieved for 5 of 6 clinics; • Body Mass Index (BMI) screening improved from 77% compliance to 97% compliance. • While many patients continue to use tobacco, tobacco counseling improved from 77% to 90%. • Staff involvement, training, and education continues and is expected to show marked improvement in other outcomes. The key project outcome of this grant was to instill the PCMH model into the organization and to foster a culture of team-based care. PCMH is a care delivery

	model whereby patient treatment is coordinated through their primary care physician to ensure they receive the necessary care when and where they need it, in a manner they can understand. Using the PCMH model, Mountain Health was able to pair medical assistants to providers. This led to patient stability as patients returned for their care, since they could see the same provider, the same assistant, the same care coordinator. All staff use the same material, and all have the same objectives. Each month as data was collected, the Quality team gathered to discuss the impacts the medical teams were having on the patients.
Sustained Impacts	The portions of the original work plan that will sustain include: the use of Patient Portals, Population Health, NextGen, Care Coordination, and Gaps in Care to track and improve quality of life for patients with cardiovascular disease, diabetes, hypertension, and coronary artery disease. The main positions that will remain intact and wholly unchanged are the Care Coordinator and the Gaps in Care positions. These positions add tremendous value to the organization, having been instrumental in raising productivity percentages from 70 to 80%. They also add revenue to the organization; by bringing patients in for needed appointments, they are covering the costs of the positions. The team-based approach adds benefits not only to the organization but most importantly, to the patients. Patients who meet care coordination criteria benefit from increased access to care and lead healthier and more productive lives. Previously, Mountain Health did not have a policy or program in place to track and contact patients with chronic or uncontrolled conditions. The new model of care, PCMH, has instilled a mindset to all staff to ensure access to care and education for those who need services.
Challenges & Lessons Learned	Mountain Health experienced staff turnover, including the project lead, several times during the grant cycle. The high rate of turnover hindered the organization from making a much quicker change in the clinics. One of the biggest lessons learned is the importance of having multiple staff members involved in quality initiatives. It was difficult after each staff change to regroup and get back on track because of the lack of information sharing. Another significant barrier was difficulty in getting full buy-in from medical staff, including previous Medical Directors. While the team was developing workflows that would help patient needs or streamline processes, they met serious resistance any time a new process or product was developed. Persistence and provider advocates were instrumental in effecting organizational change.

Michigan

Northwest Michigan Health Services, Inc.

Project Organization Information						
Organization Name	Northwest Michigan Health Services, Inc.					
Organization Type	Federally Qualified Health Center (FQHC)					
Address	10767 E. Traverse Highway					
	City:	Traverse City	**State:**	MI	**Zip-code:**	49684
Organization's Project Contact	**Name:**	Gwendolyn Williams				
	Phone:	231-861-2130				
	Email:	gwilliams@nmhsi.org				

Project Overview			
Title	Culture of Quality Project		
Goal(s)	To create a sustainable quality improvement culture with patient-centered care		
Objectives	• To achieve Patient Centered Medical Home (PCMH) designation • To improve clinical quality measures		
Focus Area(s)	• Care Coordination • Quality Improvement		
Counties Served	Antrim, Benzie, Grand Traverse, Leelanau, Manistee, Mason, and Oceana Counties		
Consortium/Network Affiliation	Michigan Community Health Network		
Consortium/Network Partners	**Organization Name**	**City/County**	**Organization Type**
	Michigan Community Health Network	Lansing	Clinically Integrated Network (CIN)
	Great Lakes Practice Transformation Network (Altarum Institute)	Lansing	Non-profit
	Michigan Quality Improvement Network	Lansing	Health Center Controlled Network (HCCN)
	Michigan Health Information Network (University of Michigan)	Lansing	University
	State Innovation Model (Michigan Department of Health and Human Services)	Lansing	Government
Evidence-Based Quality Improvement Model(s)	Implementation followed the Model for Improvement, with its capacity for rapid-change Plan, Do, Study, Act (PDSA) cycles. Employees were trained in this model organization-wide. It was applied through 5 preventive or chronic care-focused multi-disciplinary, multi-site quality improvement teams that met regularly to focus on testing workflow changes and improving care. The model was taught to all new employees and was part of the orientation of employees to quality improvement		

	teams. A quality improvement coach was trained and assigned to each team along with provider champions and team leaders. Northwest Michigan Health Services contracted with Michigan Public Health Institute to provide training at all sites for all staff in the Model for Improvement. Staff found the tools and techniques provided to be easy to use and were able to participate in quality improvement teams with coaches who supported their use. Team leaders had monthly meetings with the coaches to share their experiences and support further training. Northwest Michigan Health Services created PDSA worksheets the teams were able to use to record their tests of change.
Needs Addressed	The service area is notable for its lack of access to primary care and behavioral health providers, transportation and linguistic barriers, and high rates of chronic disease. The area has higher adult obesity, diabetes, asthma, heart attack, stroke, and cardiovascular disease. The population-to-primary care provider ratio across the seven counties is 1,803:1, compared to 1,050:1 nationally; and the population- to-mental health provider ratio is 1,471:1, compared to 400 nationally. This lack of providers hinders access to needed health services and impacts health disparities in primary care chronic disease management, substance use, and mental health.
Target Population(s)	A cohort of 721 patients with hypertension and/or diabetes was followed during the implementation of the quality improvement initiative to examine the current culture, function, and flow of activities; eliminate points of waste and ineffective practices; and implement measures to improve clinical performance and enhance efficiency.
Services & Activities	The project created a "Quality Department" within Northwest Michigan Health Services that had two staff, a Quality Officer (the Project Director for the grant project) and a Quality Improvement (QI)/ Data Coordinator to implement a structure of multi-discipline, multi-site quality improvement teams focused on improving outcomes for five clinical areas of focus. The entire staff received training in tools and techniques of quality improvement and the Model for Improvement. Northwest Michigan Health Services implemented processes to achieve accreditation as a Patient-Centered Medical Home (PCMH). Facilitated by the QI / Data Coordinator position, they implemented multiple data exchanges and partnerships improving coordination of care: 1. Integrated Data System (Azara DRVS) for population management, pre- visit planning, comparison to other health centers, and reporting 2. Data infrastructure changes, including connecting to the state MIHIN (health information network) jump-started Northwest Michigan Health Services receiving admission, discharge, and transfer data on a timely basis from across the state for attributed patients The project improved education and self-management support for patients with diabetes and hypertension, including providing self-monitoring devices for blood glucose and blood pressure. A Registered Nurse (RN) Care Manager was added into the project to help focus on the cohort of patients with diabetes or hypertension and to coordinate transition of care services, and a care coordination role was established for community health workers, who became certified CHWs in the process. An Enabling Services Program was established defining roles, responsibilities and goals for care management and care coordination and implemented social determinant of health screening and follow-up for its patient population.

Project Results	
Outcomes	Patient Health Outcomes • Overall mean arterial blood pressure scores of the hypertensive cohort decreased from a baseline in 2017 of 98.2 to 93.2 by May, 2019 • Blood pressure under adequate control (<140/90) improved from 62.29% in 2017 to 80.9% in 2019 with an average change of 4.4 points in mean arterial blood pressure score • A1c levels in the diabetes cohort improved from 40% out of control (A1c >9) in 2017 to 23.8% in 2019 • Among the combined 721 hypertensive and diabetic patients, hospitalization readmissions improved from a baseline of 34 (among 22 patients) in 2017 to 19 readmissions (among 13 patients) in 2018 • Emergency Department visits decreased from 599 (208 patients) in 2017 to 367 visits (151 patients) in 2018, after implementation of patient-centered wellness home and care management/care coordination System-Level Outcomes • Improvement in overall quality of care was reflected in the improvement of 12 out of 15 Uniform Data System (UDS) measures from 2016 to 2017 and 13 out of 16 measures from 2017 to 2018 • Over the course of the grant cycle, Northwest increased capture of quality incentive funds by 611%, from $24,000 in 2016 to $219,345 in FY19, allowing for sustainability of the project At the beginning of the project Northwest Michigan Health Services hired a QI / Data coordinator who assisted throughout the project in data collection, utilization and dissemination. This position was also instrumental in implementation of an integrated data system, Azara DRVS that dramatically improved the dissemination of quality data for all clinical staff throughout the organization. DRVS produces pre-visit planning sheets with gap reports for medical teams (huddle reports); produces dashboards for performance on clinical measures per provider, per site, and for the organization; and compares to other health center performance in the clinically integrated network (MCHN). Data in DRVS pulls from eClinicalWorks, the electronic health record used throughout Northwest Michigan Health Services. At the end of year one of the grant, Northwest established a cohort of patients with hypertension and/or diabetes to focus work around care management and care coordination for that group. Additionally, dissemination of data occurred on a regular basis through the QI Teams as they reviewed data monthly for the outcomes and care metrics they were aiming to improve.
Sustained Impacts	The majority of grant activities and services initiated by this project have been sustained. Of greatest importance to maintain is the overall culture of quality, which was embedded into new hire training and formalized in quality improvement team charters. Northwest Michigan Health Services leadership is committed to continuing the staff positions supported by this project, through seeking additional grants or using funds from enhanced value-based payments received as a result of the increase in quality, or other operational funds if necessary. Northwest Michigan Health Services evaluated sustainability of the projects/activities based on a strategic management plan and goals to move in the direction of readiness for

	value-based payments in future. Partnerships established in this project will support continuation. The following activities/services will be continued: • Care management/care coordination including transition of care and longitudinal care management • Social determinant of health screening and referrals by certified community health workers • Enhanced data structures (Azara DRVS, advanced training for electronic health record, connection to state data system) • PCMH accreditation through AAAHC • Quality Department with QI / Data Coordinator role • Multi-disciplinary quality improvement teams focused on specific aims, either multi-site or single-site The culture and quality of services provided by Northwest Michigan Health Services has been irrevocably altered through the activities of the grant. Formalized into the structure of the organization are policies, procedures and work flows for treating diabetes and hypertension and for care management, care coordination, data management, and QI team development and operation. Partnerships with outside organizations to address social determinants of health will also have lasting impact for patients. Involvement of providers in achieving quality metrics represents a culture shift at Northwest Michigan Health Services that will also provide sustained impact. Other primary care settings interested in broadly improving clinical quality measures could benefit from hiring staff that focus work on data systems as an initial starting point. Availability of high quality, validated data for clinical quality measures allows for teams to accurately measure the impact of implemented tests of change. For federally-qualified health centers, measuring year-to-year improvement in UDS measures is a recommended way to measure impact of a culture of quality.
Challenges & Lessons Learned	The significant challenge of becoming PCMH-accredited in an accelerated time frame was met by hiring an outside consultant and devoting considerable management and staff resources. Training and implementing new information technology systems was a challenge in year one, followed by challenges in establishing and enforcing standardized workflows in years 2 and three. Along with new information technology resources, dissemination of data and communication of team work was a challenge throughout the grant period. Northwest Michigan Health Services allowed the QI Teams to disseminate data on progress of their work, resulting in a few provider "report cards" that compared individual provider performance to other providers, their site, and the organization overall, and it also provided periodic QI Newsletters for all staff. Implementing care management/care coordination/population management to its fullest was a challenge that began in year 2. Northwest Michigan Health Services created an RN Care Manager position and further defined care coordination with additional training for certified community health workers and referral coordinators in the organization. Fully implementing the philosophy of team-based care has been a

	challenge relating to care management/care coordination that is ongoing and is being addressed in the organization's management plan. A lesson learned was that an organization needs to hold fast to using data at all levels to improve process change and needs to continually train and support new leaders in using PDSA cycles to promote change. Northwest Michigan Health Services made an intentional decision initially to limit mid-level and upper-level management's involvement and participation in quality improvement teams in order to allow the teams to freely approach the work, but this had the effect of putting up barriers in communication and sometimes limiting adoption and spread of operational workflows. In year 3 of the grant, mid-level management was invited to attend team meetings as was the Chief Operating Officer, who was new to the organization in the final grant year. The Project Director was a member of the senior leadership team and worked to bridge the information gap for the Medical Director and Chief Operating Officer. Including more leadership in the teams from the beginning would be a lesson learned for future team formation.

Maine

Pines Health Services

Project Organization Information						
Organization Name	Pines Health Services					
Organization Type	Federally Qualified Health Center (FQHC)					
Address	74 Access Highway					
	City:	Caribou	**State:**	ME	**Zip-code:**	04736
Organization's Project Contact	**Name:**	Theresa Knowles				
	Phone:	207-907-7077				
	Email:	tknowles@pchc.com				

Project Overview			
Title	Developing Standardized Systems to Support Data Collection and Quality Improvement		
Goal(s)	To develop an infrastructure to support data collection and quality improvement activities across the Accountable Care Organization (ACO)		
Objectives	To develop a replicable model of Quality Improvement (QI) that can be applied to multiple settings/organizations		
Focus Area(s)	Quality Improvement		
Counties Served	Penobscot, Aroostook, Waldo, Piscataquis, and Somerset Counties		
Consortium/Network Affiliation	Community Care Partnership of Maine (CCPM), an Accountable Care Organization (ACO)		
Consortium/Network Partners	**Organization Name**	**City/County**	**Organization Type**
	Penobscot Community Health Care	Bangor/ Penobscot	Federally Qualified Health Center (FQHC)
	Fish River Rural Health	Fish River/ Aroostook	FQHC
	Millinocket Regional Hospital	Millinocket/ Penobscot	Rural Health Center (RHC)
	Katahdin Valley Health Center	Patten/ Aroostook	FQHC
	Hometown Health Center	Newport/ Penobscot	FQHC
Evidence-Based Quality Improvement Model(s)	Plan, Do, Study, Act (PDSA) cycles: During monthly action plan calls, the QI team comprised of the two performance improvement coaches, data analyst, and care manager reviewed pertinent data showing clinical quality, financial, or utilization performance, and developed an action plan for improvement. The QI team, along with the team at each participating organization, selected a plan for improvement, identified an intervention, and determined how and when to measure success. After revisiting the plan, the team either adopted or abandoned the intervention or made changes. Staff used multiple		

	PDSA cycles like this to drive change and improvement. Most of the Federally Qualified Health Centers (FQHCs) were familiar with the PDSA model, so there was there was no need to adapt or change the model for the implementation of this grant initiative.
Needs Addressed	Prior to project implementation, there was no infrastructure to support Quality Improvement (QI) activities across the ACO, including no staff dedicated to QI, no common QI model, and no plan for training staff within each member organization. Many of the organizations were geographically distant, utilized different electronic medical records (EMRs), and had varying expertise among staff able to do the QI work.
Target Population(s)	The project targeted all active patients in Penobscot, Aroostook, Waldo, Piscataquis, and Somerset Counties. Maine is the most rural state in the nation with the oldest population in the country, and as a result there are high rates of diabetes, cardiovascular disease, and respiratory disease. Maine residents also show high patterns of Emergency Department (ED) utilization, particularly for a wide range of mental health issues. Substance abuse, alcohol, and drugs remain a big problem and take a high human and financial toll. Opiate addiction is also a major problem in Maine, particularly in the northern portion of the state where treatment options are limited. Lack of transportation options for medical appointments is a problem for many in the service area.
Services & Activities	Pines Health Services selected a small portion of clinical and utilization measures to report on to all members and had them send their performance on these measures to the QI project team and the ACO on a quarterly basis. This allowed the team to identify those organizations that were performing exceptionally well on some of the measures and to identify best practices, which were then shared with the other members. Receiving this data on a quarterly basis also allowed the project team to identify the measures that they needed to focus on in order to show improvement as an organization. This data was then sent to the QI project team to create graphs, which were circulated to member organizations. These performance-based graphs were then shared on action plan calls on a monthly basis to drive decision-making and quality improvement within each organization. They were also used to determine whether the interventions implemented in the member organization's PDSA cycles were working or if they needed to be adjusted again. The overall performance of the ACO and all member organizations was reviewed as a group in their monthly Quality and Clinical Integration Committee meeting as a way to share best practices and to learn from one another.
Project Results	
Outcomes	Patient Health Outcomes • ED utilization decreased across all members resulting in better outcomes for patients as they received in more appropriate care settings. System-Level Outcomes • An audit tool was developed to identify discrete fields for each organization to enter/collect data. • Written workflows were developed for data input, collection, validation and reporting. • A predictive analytics tool for Maine Health Information Exchange (HIE)

	helped to identify patients who needed additional support. • A central Quality Improvement team was developed to perform monthly action plan calls with the organizational QI teams to drive improvements. • The concepts from the project were applied to all ACO members. • Members achieved over $6 million in shared savings in 2018. The QI team was able to standardize workflows in care management on the use of the predictive analytics tool with the Maine HIE, HealthInfoNet. The tool enabled staff to risk-stratify the population to identify those with highest risk of mortality, heart attack, stroke, ER utilization, admission, and readmissions, thereby helping to allocate limited care management resources for those with the greatest need. The HIE was also used as a communication tool, since 99.1% of Maine residents have data in the tool. Members were able to use the tool to find reports and documentation that they might not have received from a hospital, specialist, or PCP office. Shared workflows and resources increased efficiency and encouraged a platform of shared learning and improvement. By ensuring EMR access for project team members for almost all of the members in the ACO, the team was able to look at the documentation to identify more efficient and accurate ways of entering data as well as identify gaps in care needed for improvement. A data audit form was used by the data analyst at the start of the project, and on a yearly basis, to identify all of the key discrete fields in the EMR to be sure that they were retrievable. This was helpful in ensuring accuracy of the quarterly data sent to the team for analysis and dissemination.
Sustained Impacts	All elements of the program will be sustained. All members of the project team, data analyst, performance improvement coach, Director of Care Management, and Quality Improvement Director continue in employment, and a care management medical assistant will be hired. On-site or GoTo meeting evaluations of member organizations' EMRs are continuing to provide feedback and support. All members involved in the ACO-CCPM continue with the program, and two additional organizations have recently joined. Through implementation of this project, the member organizations have developed a process and infrastructure to properly enter, retrieve, and act upon clinical quality and utilization data to improve outcomes for all active patients in their service area. Outcomes of patients with chronic disease, are improving, the entire population is receiving appropriate preventive care, and patients are receiving care in the most appropriate setting. The intent at the start of the project was to invest in infrastructure (HRSA grant-project staff) that could work with organizations to improve their performance. By lowering the cost of care, improving quality, and achieving shared savings from participation in ACO contracts, the member organizations are able to sustain all interventions and infrastructure implemented with grant funding and will remain viable in the coming years. The organizations achieved over six million dollars in shared savings in 2018, even after covering all costs for staff, supplies, and other infrastructure.

Challenges & Lessons Learned	The most significant barrier was the geographical spread of the participating member organizations throughout the state, requiring staff to find other ways to communicate and support member organizations in their quality improvement efforts. Implementation of GoTo meetings allowed each organization to remotely pull up action plans and data and review together as a team. Because of ongoing challenges with data collection and validation from the participating sites, staff developed a tool that identified the percent difference in denominator from the last time data (previous quarter) was reported, so that staff could review and determine whether the variation was appropriate or ask that they investigate and re-run the data. The data analyst for the grant also helped validate the reports to be sure that the data was consistent and accurate. Another major challenge throughout this project was staff turnover at the sites and within CCPM. Many of the organizations had challenges with turnover of their quality, data, operations, and care management staff which was very challenging for the organization as well as the grant staff. To address this, QI staff had all organizations put workflows and processes in writing to help with staff training and redundancy when staff turnover occurs. This practice also helped CCPM grant staff in being able to review these documents and provide ideas for change or improvement or to share best practices with other members of the ACO.

Alaska

Providence Health & Services-Washington

Project Organization Information						
Organization Name	Providence Health & Services- Washington (d.b.a. Providence-Valdez Medical Center)					
Organization Type	Hospital					
Address	3200 Providence Drive					
	City:	Valdez	**State:**	AK	**Zip-code:**	99686
Organization's Project Contact	**Name:**	Olivia Foster				
	Phone:	907-834-1826				
	Email:	Olivia.foster@providence.org				

Project Overview			
Title	Alaska Care Management Consortium (AKCMC)		
Goal(s)	Utilize Duke University's Care Coordination model to manage and prevent chronic disease conditions through collaborative partnerships		
Objectives	To decrease the inappropriate usage of emergency department resources through intentional and purposeful care coordination efforts and education		
Focus Area(s)	Inappropriate utilization of Emergency Department		
Counties Served	Valdez-Cordova and Seward Counties		
Consortium/Network Affiliation	Alaska Care Management Consortium		
Consortium/Network Partners	**Organization Name**	**City/County**	**Organization Type**
	Valdez Medical Clinic	Valdez/Valdez Cordova	Primary Care Clinic
	Seward Community Health Center	Seward/ Seward	FQHC
	State of Alaska Public Health	Valdez/Valdez Cordova	Public Health Clinic
Evidence-Based Quality Improvement Model(s)	• Chronic Care Model • Population Health Model		
Needs Addressed	In Valdez, Alaska the population size is approximately 4,000 people, with 73% white, 1% Black/African American, 13.9% American Indian/Alaska Native, 4.6% Asian, 5.1% Hispanic/Latino and 6.9% reporting two or more races. There are 14.9% uninsured, and 9.2% live below the poverty line. Valdez is located in Prince William Sound and is a fishing port for both commercial and sport fishing industries. Valdez is also located at the terminus of the Trans-Alaska Pipeline. In the summer months, Valdez hosts the commercial fishing industry & tourism. The commercial fishing industry employs migrant workers as fish processors and fishermen. The fish processing population each season is made up of approximately 1000 workers who travel from both		

	domestic and international areas, such as Serbia, Ukraine, Czech Republic, Poland, Japan, Belgium, Puerto Rico, and nearly all fifty US states. Workers tend to come from lower socioeconomic backgrounds and, if they are domestic, carry Medicaid or no insurance. If international, they typically carry Aetna travel insurance. Most of these insurances are not accepted by the local Valdez Medical Clinic or Providence Valdez Medical Center. The State of Alaska Public Health Department provides services based on a sliding scale and will not turn anyone away for the inability to pay. Disease rates in these countries vary and can range from measles to mumps and tuberculosis. In Seward, Alaska, the population size is approximately 2,800 people, 72% White, 2.4% Black or African American, 16.7% American Indian/Alaska Native, 1% Asian, .18% Pacific Islander, 5.8% two or more races, and 2.4% Hispanic/Latino. Seward is located in Resurrection Bay. Its main economy consists of commercial fishing and seasonal tourism. Seward also houses a maximum security prison, which houses approximately 500 inmates.
Target Population(s)	The program targeted the fish processing workforces of Peter Pan Seafoods and Silver Bay Seafoods in Valdez, Alaska. Workforce is approximately 1000 individuals coming from the Continental United Stated and internationally. Alaska Care Management Consortium addressed the preventable usage of Emergency Department (ED) services by individuals with poorly managed chronic disease conditions in rural Alaska. Most preventable Emergency Department admissions stemmed from fish processors' inability to access care at the Valdez Medical Clinic with hours of operation that did not meet their needs. This population typically works 16 hour shifts and has a very limited amount of time to perform self-care, making primary care visits much more difficult due to hours of operation and ability to bill.
Services & Activities	The target population was originally identified as patients 50 or older with at least one chronic condition (diabetes, high cholesterol, asthma, cancer, chronic kidney disease, congestive heart failure, obesity, depression or substance misuse) and with at least one admission to the ED or inpatient stay within last year. Outreach started first with cold calls and mailers sent to those who expressed interest in the program. After unsuccessful recruitment attempts, follow-up calls were made to individuals to encourage them to fill out the mailer. Even after three phone call attempts were made, the program enrolled only a few patients in the program. In year two, because of low patient enrollment in the program, program leaders were forced to re-examine the target population. It was determined that overuse of the ED was on the rise for workers of the local fish processing plant. A Fish Processing Alliance was created with the Department of Public Health, Valdez Medical Center, and Providence Valdez Medical Center to begin delivering service and education to fish processing plant employees. Health education sessions on how to stay healthy throughout the season, clinical and community services available in town, and information on free screening, including Sexually Transmitted Infection (STI) screening, were offered on the job site by staff from the Department of Public Health and the Providence Valdez Medical Center's Care Coordinator. As a result, the ED usage rate dropped by 59% that year. In Seward, the Stanford Model for Chronic Disease Self-Management (CDSMP) Course was completed by the Care Coordinator to support program implementation there. In year three, the Population Health Committee was launched and included: Valdez City Schools, the City of Valdez,

	Prince William Sound College, Safeway Pharmacy, the Hospital Administration, State of Alaska Public Health, Providence Valdez Counseling Center, Valdez Medical Clinic, Sound Wellness Alliance Network Executive Director, private physicians, Valdez Native Tribe, and Valdez Food Bank. The Fish Processing Alliance expanded to include: Prince William Sound Community College, Safeway Pharmacy, Advocates for Victims of Violence (AVV), the State of Alaska Public Health, Providence Valdez Counseling Center and the Valdez Medical Clinic.
Project Results	
Outcomes	Patient Health Outcomes • Workforce knowledge about healthcare resources increased. • Workforce engagement increased access to self-care using multiple social activities. • Access to healthcare advice (Nurse Hotline, Counseling Center hotline, HealthForce Hotline) was expanded. • Crucial information was made available in Serbian, Ukrainian, Russian, Polish, and Spanish to meet workforce needs. • Free STI identification and treatment, condoms, family planning, and immunizations services were offered by State of Alaska, Valdez Public Health. • Inappropriate use of emergency department services decreased. System-Level Outcomes • Partnerships were formed with local resources to create robust alliances for linking people to human resources and support. • Valdez collaborated with fish processing plants to better prepare for and anticipate the needs of the fish processors. • The Fish Processing Alliance was formed using a multidisciplinary team to meet the needs of this unique population. • Collaboration of the Fish Processing Safety Operations and Safeway Pharmacy created the capacity to buy over-the-counter bulk supplies for the workforce at a wholesale rate. • The Care Coordinator in Seward was trained to use the Stanford Model of Chronic Disease Self-Management to support the implementation of a program with a long-term care facility. • Population Health Committee members were given Population health training. • Partnering with local resources was beneficial to the success of Population Health activities. Alaska Care Management Consortium was able to link people to human resources and support.
Sustained Impacts	All elements of the program have been sustained. The work of population health will be continued in Valdez and will be supported with other grants and reimbursement streams of funding. Population health had powerful downstream impacts. Fish processors were extremely grateful for the education and health resources. Seward's care coordination efforts will be continued as well, most likely with Mountain Haven Long Term Care, which is part of Providence Seward Medical Center. The willingness of staff to make program adjustments to focus on the fish processing plan population was a key factor contributing to sustainability. Another contributing factor was allowing for customization of population health initiatives

	based on the local circumstances of both sites. It is anticipated that this work will evolve and create a more healthful environment for fish processors where they can thrive both in health and social well-being. By utilizing resources more efficiently in rural Alaska, the healthcare system is better suited to retain and grow physician and nurse resources. This work not only impacts those individuals that are underserved in rural communities, but it also helps to keep a thriving physician workforce. Healthcare services in Valdez have gone from a reactive care model to a more preventative care model that anticipates the needs of the populations served. This work can certainly pertain to all sorts of industries that impact rural communities across the United States. The work that has been initiated can be modeled to any industry, especially those that are underserved and have limited or no access to healthcare. Healthcare must first partner with local business to create alliances to identify and anticipate the needs of transient populations and the healthcare institutions that serve them.
Challenges & Lessons Learned	Valdez: The program ran into challenges when attempting to engage individuals, via phone calls. Program staff found that having an individual that was already involved in the patient's care that could provide a warm-handoff (introduction to care coordinator) was much more effective. However, the most successful engagement occurred when program staff met program participants in the community at locations they frequented (i.e., place of employment). This was especially true if they were being paid to listen to content and engage with the presentation. When staff arrived at the processing plants for on-site STI clinics, turnout surpassed expectations. So many individuals would show up for free services that staff could not see them all. Working with fish processors meant that several languages were spoken, so identifying translators early on was important. This helped to get materials created in languages that each individual could understand. Another barrier was the long 16-hour shifts, sometimes for several months straight. This made it difficult for even the healthiest person to stay healthy throughout the season. Fish processing plant workers had increased risks for chronic disease conditions, like asthma and lung infections in the wet, cold environment. Low socio- economic status also made it difficult for individuals to get access to care, especially if they did not have insurance or were on Medicaid, leaving them with gaps in access to care. Many individuals did not realize that their Medicaid would not work in Alaska. The Primary Care Clinic did not have a sliding scale fee-for- service, therefore if processors had no way to pay, they would have no other choice than to use the ED for services. The program attempted to assess medication needs at the beginning of the season and set up symptom/medication lists that could be provided at a reduced cost by partnering with the local pharmacy. Seward: The barrier of siloed services did not support needed care coordination and caused program delays in Seward. There were too few business agreements which limited the ability to reach all residents, depending on which primary care provider was utilized. Program staff worked to establish more business agreements. Staff retention was also a challenge. Program staff began to identify back-up points of contact to adapt to turnover when needed.

North Carolina

Roanoke Valley Health Services, Inc.

Project Organization Information						
Organization Name	Roanoke Valley Health Services, Inc.					
Organization Type	Rural Health Clinic					
Address	1385 Medical Center Drive					
	City:	Roanoke Rapids	**State:**	NC	**Zip-code:**	27870
Organization's Project Contact	**Name:**	Tiffany Mose				
	Phone:	252-535-8436				
	Email:	Tiffany.mose@vidanthealth.com				
Project Overview						
Title	Transforming Primary Care to Improve Health Outcomes					
Goal(s)	To improve outcomes of Medicare Patients with multiple chronic conditions through the Chronic Care Management program and Medicare Annual Wellness Visits					
Objectives	• Perform outreach and education to assigned Medicare patients about the Annual Wellness Visit (AWV) and schedule the appointment for this population • Develop a Chronic Care Management (CCM) Program and enroll assigned, eligible Medicare patients • Perform outreach and education to assigned Medicaid patients about the importance of the Medicaid Preventative Visit and schedule the appointment for this population					
Focus Area(s)	• Chronic Disease • Annual Wellness Visits (AWV) • Care Coordination • Transitional Care Management (TCM)					
Counties Served	Halifax, Northampton, and Warren Counties					
Consortium/Network Affiliation	ACO Coastal Plains Network for Medicare Shared Savings					
Evidence-Based Quality Improvement Model(s)	Plan, Do, Study, Act (PDSA) Chronic Care Management (CCM) The PDSA model was used as a pilot prior to the start of the grant period to incorporate Chronic Care Management within Roanoke Clinic. Through lessons learned using the PDSA model, the practice was able to make improvements to the enrollment process, improved documentation, and efficient outreach to enrolled patients allowing continued growth of the program. One lesson learned during implementation was the importance of documenting every step of PDSA; they began to take detailed minutes during the bi-weekly project meetings so that they could track what was adjusted and what impacts were made as a result.					
Needs Addressed	The three-county service area is designated as Tier 1 economically distressed by the North Carolina (NC) Department of Commerce. The average age for this population is 44.5 years and older with 25% of the population being 60 years old or higher. These counties have high poverty rates, low median household					

	incomes, low educational attainment rates, and high levels of unemployment. The most prevalent chronic conditions are Diabetes Mellitus, Hypertension, Chronic Obstructive Pulmonary Disease (COPD), and Asthma.
Target Population(s)	The project targeted patients with Medicare and Medicaid insurance who had not received a preventive healthcare visit in the 12-24 months prior to the start of the grant cycle. A large number of the project's target population were not utilizing preventive type healthcare visits prior to the start of the project. Preventive visits allow for early screening, diagnosis and detection of health problems and any contributing factors which result in the treatment's being less complicated in the earlier stages.
Services & Activities	• System was established for identifying Medicare, Medicaid and Medicaid/Medicare dual-eligible patients who were eligible for an AWV or Medicaid Preventive Visits and provided outreach to schedule the visits. • A Transitional Care system was developed for tracking Emergency Department (ED) utilization and then reached out to all patients who visited the ED. They added monthly ED utilization reports to bi-weekly meeting agendas, reviewed trends, and attempted to identify causes. • A Chronic Care Management program was established for patients with Diabetes, hypertension, COPD, asthma, and other chronic conditions. By increasing the use of preventive visits, they were able to identify needed preventive screenings and/or vaccines and utilize the additional time to explain the importance of these preventive services. The additional visits also provided the opportunity for chart reviews and gathering any needed consult notes from specialists to improve quality of care. The staffing model used for the grant project allowed for pre-planning of visits to address outstanding quality measures, and utilization of the Chronic Care Management program allowed for enhanced monitoring of needed services.
Project Results	
Outcomes	Patient Health Outcomes • AWV utilization by assigned Medicare beneficiaries increased from a baseline of 2.4% to 40% by the end of Year 3. • There were 523 patients enrolled in CCM program, and over 2,578 CCM calls completed by the end of Year 3. • Medicaid Preventive Visit utilization increased from a baseline of 1.7% to 58% by the end of Year 3. • The cost of care for patients was reduced by keeping patients healthy and monitoring hospital readmissions and ED utilization. System-Level Outcomes • A successful CCM Programs was developed and sustained over the course of the grant cycle. The original staffing model was adjusted to move from employing Certified Nursing Assistants (CNA) to employing Medical Assistants (MA) for more efficient use of staff time for billable services. • Roanoke Valley Health Services built an effective clinical team for providing patient-centered care through patient engagement and outreach between office visits.

	• The clinic successfully employed the preventive health focus to improve health outcomes and prevent or reduce progression of chronic disease in the target population. This quality improvement initiative has resulted in a culture change within the clinic by shifting focus to quality for every patient, not just Medicaid and Medicare patients. There is more collaboration within the clinic and a more team-based approach. Panel managers, Medical Assistants, and providers meet together monthly at a minimum to talk more about their patients and their needs for quality care. Additionally, partnerships have been established with other community resources, including the community case management team, community paramedic program, hospital readmission team, patient advisory committee, and the Opioid AHEC/ Duke grant team.
Sustained Impacts	All activities and services of the grant project will be sustained. The practice will continue to offer, schedule, and perform a minimum of 1200 Medicare Annual Wellness Visits (AWVs) per year to patients with Medicare or Medicare Advantage as their primary insurance. The practice will continue to offer, schedule, and perform Medicaid Preventive Visits to its assigned Medicaid population. By offering/providing these preventive services, the practice will be better positioned to accommodate the upcoming Medicaid transformation. The staff can proactively manage and identify barriers in care for patients who utilize the Medicaid preventive visit. The practice will continue to offer and enroll eligible Medicare patients into the Chronic Care Management Program (CCM) and plans to continue to expand the program. The clinical team at Roanoke Clinic is utilizing the consistent focus on preventive care as a strategy to improve outcomes and quality of life for patients. This focus contributes to the prevention and/or improvement of chronic diseases and to the reduction in cost of care to both the organization and the health system. Educating patients about the importance of preventive care and the effects on their health outcomes has led to increased engagement, communication, and partnerships. The clinical team has been able to identify and address barriers to care and social determinants that impede on the patients' ability to comply with care plans. The development and evolution of the care team and this targeted focus on preventive care has changed the culture of the practice from acute, episodic care to consistent, comprehensive care for the patient. This grant project has provided the foundation for the practice to expand its services to include behavioral health in the primary care setting. The ultimate goal is for the services provided at Roanoke Clinic to encompass the full scope of being the patients' medical home. Expanding reimbursed programs, such as telemedicine and tele-monitoring to increase the usage of primary care was a portion of the initial sustainability plan; however, throughout the grant program, the care team concluded that social determinants and other behavioral or mental health issues have a significant impact on the patients' abilities and willingness to engage in the healthcare planning and delivery processes. Transitioning the focus from expansion of services to enhancement of services (by treating the whole patient) betters serve the patient and aligns with the overarching goal of the project to improve health outcomes of the patients. The practice plans to integrate behavioral health, to address social

	determinants and behavioral issues that impact chronic disease management while continuing all of the work related to the current grant project and the Patient Centered Medical Home staffing model to become fully integrated.
Challenges & Lessons Learned	The initial staffing structure included the use of CNAs; however, the barriers and limitations of their scope of practice were quickly realized. The leadership team concluded that the utilization of Medical Assistants would better meet the needs of the practice and grant project. The team also learned over the grant period that the work would require more staff than originally anticipated to complete the proposed work. There are currently six panel mangers and two case managers directly involved with the program.

Iowa

Sanford Health Network

Project Organization Information						
Organization Name	Sanford Health Network					
Organization Type	Critical Access Hospital					
Address	118 N. 7th Avenue					
	City:	Sheldon	**State:**	IA	**Zip-code:**	51201
Organization's Project Contact	**Name:**	Richard Nordahl				
	Phone:	712-324-6026				
	Email:	Richard.Nordahl@sanfordhealth.org				

Project Overview			
Title	Sanford Patient-Centered Medical Home		
Goal(s)	To create partnerships for healthier communities to improve chronic disease outcomes		
Objectives	To implement a comprehensive approach to primary care in which healthcare professionals provide coordinated, consistent, and continuous care when and where needed on eight chronic conditions		
Focus Area(s)	• Chronic Disease • Coordination of Care		
Counties Served	O'Brien and Sioux Counties, Iowa and Mahnomen and Clearwater Counties, Minnesota		
Consortium/Network Partners	**Organization Name**	**City/County**	**Organization Type**
	Sanford Sheldon Medical Center	Sheldon/ O'Brien	Critical Assess Hospital
	Sanford Bagley Medical Center	Bagley/ Clearwater	Critical Access Hospital
	Sanford Mahnomen Clinic	Mahnomen/ Mahnomen County	Critical Access Hospital
Evidence-Based Quality Improvement Model(s)	The project team used the evidence-based QI models of Robust Process Improvement (RPI) and Plan Do Study Act (PDSA) to move the health care organizations toward high reliability. Throughout the three years, the project team discussed how the combination of RPI and PDSA was a valuable tool in the implementation and sustainability of the advanced medical home model. The team shared best practices of using the two QI tools so that each site could learn from each other.		
Needs Addressed	An increase in the number of aging residents, lower than average household income, and distance to the nearest medical facility are all contributing factors to health disparities in the target population counties. In addition, lack of public transportation, transportation costs, and road and weather conditions are critical access barriers to health care institutions and services in the region.		

Target Population(s)	The project served patients of the Sanford Health Network from the multi-county area in rural Iowa and Minnesota. Disparities in health outcomes and access to health care are very real for rural populations, particularly for racial and ethnic minorities, the elderly, and the poor, all of whom are faced with disparities in the overall rate of disease incidence and mortality as compared with the health status of the general population. Rural residents generally have a lower annual income, less education, and overall poorer health status than their urban counterparts. Although the region is primarily Caucasian, there are higher than average American Indian and Hispanic populations, who tend to have a higher prevalence of chronic disease and limitations in relation to demographics, geography, health behaviors, and access to health services.
Services & Activities	The following is an overview of key activities implemented under this grant: • The Advance Medical Home (AMH) model was integrated in varying degrees at each site, using the Plan, Do, Study, Act (PDSA) and High Reliability Health Care process improvement tools. • An online training module for staff was developed and launched. This education was designed around creating an understanding of the Patient Centered Medical Home (PCMH) model and the components/roles that comprise it. • Health coaches were integrated into all sites to assist chronic care patients with more effectively manage their conditions. • Prevent T2, a CDC-recognized lifestyle change program to prevent Type 2 diabetes, was presented in a series of classes. One site focused energy on streamlining the diabetes program by collaborating with the quality team, nurses, and providers to improve coordination of patients' labs and appointments. This improved coordination led to more productive office visits for both the patient and physician. • A Transition Care Management (TCM) program was implemented to provide continuum of care from discharge to home setting by ensuring that patients understand their plan of care. • Relationships and collaborations were established with entities inside and outside the Sanford system to increase patient accountability and participation in their own care. • Patient charts and pre-visit reviews were continuously monitored to identify patients to introduce to the program and to coordinate self-management sessions for patients and families. • Age-appropriate depression screening of patients was implemented at one site. • Sites focused on bridging gaps in communication, cohesiveness, and collaboration among health care team members to ensure best practice implementation for improved quality and safety for patients. • Patient perception and employee satisfaction and perspective surveys on the AHM process were conducted, and team meetings were held to review the data.
Project Results	
Outcomes	A major project accomplishment was the development and launch of an online training module on the Patient Centered Medical Home (PCMH) model. The project involved numerous staff from various departments to develop, revise, and finalize the online course. The online course served as a tool for establishing the infrastructure necessary for the success of the grant project. Educating the staff at each of the sites ensured that staff were trained and had buy-in to the new way of delivering healthcare. Each of the participating sites reached different phases of implementation of the

	Advance Medical Home (AMH) model. Together the project team worked collaboratively to share best practices and problem-solve issues.
	
	Patient Health Outcomes
	• Mahnomen:
	  ○ Screening rates for 12-17-year-olds increased from 0% to 35% with the screening tool approved by MNCM and CMS.
	  ○ Adult screening rate increased from 13% to 78% within the 100 day plan.
	• Bagley: The percentage of patients achieving optimal diabetes care increased by 7% to 10%.
	• Sheldon:
	  ○ Quality numbers for diabetes, asthma, hypertension, and breast cancer increased.
	  ○ The number of patients overdue for labs/office visits decreased.
	
	System-Level Outcomes
	• Mahnomen:
	  ○ A diabetic pilot project was developed, with a quality team to manage patients and identify patients appropriate for the medical home or health coach visits.
	  ○ A Transition Care Management (TCM) program was launched to assist with transition of Medicare patients from discharge to home.
	• Bagley:
	  ○ A full-time, permanent Health Coach position was added at the Bagley Clinic.
	  ○ Improved coordination led to more productive office visits for patients and physicians.
	• Sheldon:
	  ○ The improved communication model was utilized to improve collaboration between health care team members.
	  ○ A Prevent T2 class was implemented.
	  ○ The Transition Care Management program ensured continuum of care from discharge to home.

Sustained Impacts	All services funded through the grant have continued. Each location saw the benefits to patients and providers alike and are resolved to continue efforts to fully implement the Advanced Medical Home model. Sanford Health has begun planning for expansion of the health coaching services to satellite clinics in other locations in Iowa. Involvement in this grant led to more comprehensive visits to address primary care concerns and preventive health solutions by working with registries and identifying issues prior to appointments. In addition, there was increased use of Electronic Medical Records (EMR) to collect data and impact population health. Staff began to be more proactive and engage patients while they were in the clinics for non-wellness visits to discuss health maintenance items such as vaccines, colonoscopies, mammograms, hypertension, cervical cancer, etc. By taking this

	approach, the project teams were able to catch such illnesses as cancer and high lab levels and tackle them early.
Challenges & Lessons Learned	Over the course of the three years, the project team faced several challenges, ranging from hiring staff to determining the correct model of care delivery for the Integrated Health Therapist (IHT). The consortium members are located in rural communities which added to the complexity to recruit specialized positions such as RN Health Coaches and Integrated Health Therapists. For the RN Health Coach positions in Bagley and Mahnomen, it became necessary to utilize travel funds to cover mileage for staff since the staff resided outside the communities. The core team worked together to support each other and remove obstacles in the way of recruitment. Another area where the project team faced a challenge was in the integration of therapists. Prevalence of mental illness is similar between rural and urban residents; however, the services available are very different. Many rural communities lack adequate services and face challenges related to accessibility, availability, and acceptability. These obstacles were lessened in the targeted communities as a result of the grant program. Integrating therapists into the primary care clinics, either in person or through telemedicine, provided the primary care providers support that was needed in an ongoing outpatient basis as well as for any acute/episodic behavioral issues.

Nebraska

Santee Sioux Tribe of Nebraska

Project Organization Information						
Organization Name	Santee Sioux Tribe of Nebraska					
Organization Type	Tribal Clinic					
Address	110 S Visiting Eagle Street					
	City:	Niobrara	**State:**	NE	**Zip-code:**	68760
Organization's Project Contact	**Name:**	Meagan Sailer				
	Phone:	402-857-2300				
	Email:	Meagan.sailer@ihs.gov				
Project Overview						
Title	Santee Health Center Quality Improvement Project					
Goal(s)	To create and utilize a comprehensive quality improvement program that will objectively measure the impact of existing and new best practices on Type 2 Diabetes Mellitus					
Objectives	• To improve the quality of diabetic services and related complications of obesity, cardiovascular disease, tobacco use, and inactivity occurring in the Native American population					
Focus Area(s)	Diabetes					
Counties Served	Knox County					
Evidence-Based Quality Improvement Model(s)	Plan, Do, Study, Act Model (PDSA) The Quality Improvement (QI) team implemented the PDSA model into the daily environment by implementing daily handoff tools. The QI team met, formulated a plan, put it into action, evaluated the outcomes, and strategically made changes to the process to better fit clinic needs. Then they put the plans into action and continued to do it daily. Once the plan was put into action, the QI team was able to see an increase in diabetic foot care, eye/dental care, lab work and blood pressure monitoring. They were also able to show an improvement in the tobacco and depression screens. Once the improvement of screening and questionnaires started, an improvement in compliance gradually became evident. The model helped the QI team find a problem with the system and fix it, and then continue to tweak it as needed. This model became an addition to the daily work flow of the clinic.					
Needs Addressed	The Santee Sioux Reservation is quite isolated, with the nearest medical center being approximately 47 miles away. This one Indian Health Service (IHS) region has the highest (or near highest) national rates of smoking, unemployment, obesity, cardiovascular disease and diabetic disease among all remaining seven regions. According to the 2000 census, the median income for a household in the village was $16,250, and the median income for a family was $17,813. According to the 2010 census, the racial makeup of the main village of Santee was 2.9% white, 92.5% Native American, and 4.6% from other races. The median age in the village was					

	21.8 years. 45.4% of residents were under the age of 18; 9.8% were between the ages of 18 and 24; 27.2% were from 25 to 44; 14.5% were from 45 to 64; and 3.2% were 65 years of age or older. Those statistics reveal that a majority of the population lives below the poverty line and that multiple social determinants of health have played a role in the extremely lower than average life expectancy among the Santee Sioux people.
Target Population(s)	The project focus was on diabetic patients who receive their primary care at the Santee Health and Wellness Center. The diabetic registry was made up of 127 patients ranging in age from 27 to 83 years old. At the onset of this funding opportunity, the prevalence of Type II Diabetes Mellitus (T2DM) was over 22% (2.9 times greater than its broader U.S. cohort), and approximately 25% of the Santee community had A1Cs greater than 9%. Cardiovascular Disease (CVD) prevailed at a rate of 33%, and incidence of cigarette-smoking was 78%, with over 50% of the populating reporting a sedentary lifestyle. In addition, the Santee Health and Wellness Center did not have a rigorous Quality Improvement (QI) program, and staff recognized the need to create a QI program that would result in an organizational culture that could achieve the best possible outcomes for clinical improvements.
Services & Activities	The most impactful activity was the creation of a Quality Improvement Program. They key challenge identified within the health system was the lack of a system for evaluating the quality of care being delivered. Prior to funding, the clinic had never had a QI program that was able to (1) objectively measure the impact of best practices on treatment outcomes, and (2) determine how new treatment recommendations actually compare with each other. Noted activities conducted by the QI team are listed as follows: • Maintain and consistently hold QI Committee meetings at the Santee Health Center to evolve evidence-based care for patients on the Santee Diabetic Registry. • Maintain social and/or tribal cultural activities incorporating opportunities to learn about traditional healthy food, physical activities, and lifestyle practices to enhance mental and emotional wellbeing. These activities include: Diabetic wellness day, culinary education courses, wellness and lifestyle programs, and implementation of a patient resources center. • Continue the multidisciplinary mobile prevention and screening unit to reach T2DM patients in the rural area who do not regularly come to the clinic.
Project Results	

Outcomes	Patient Health Outcomes
	• Among the target population, there was a slight improvement in overall A1c results.
	
	  • The number of individuals on the Diabetic Registry with A1c scores exceeding 11.00 decreased from 17% of baseline to 11.0%.
	  • The number of diabetic patients on the Santee Diabetic Registry who were diagnosed with CVD and have a mean blood pressure less than 140/90 has improved from 52% to 58%.
	  • Patients have a greater understanding of their conditions and the

	purpose for the recommendations in their care plans. System-Level Outcomes • Community-based social and tribal cultural activities were implemented, including opportunities to learn about traditional healthy food, physical activities, and lifestyle practices to enhance mental and emotional wellbeing. • A multidisciplinary mobile prevention and screening unit was implemented to reach patients who do not regularly come to the clinic. • Health information technology was optimized within the Health Center. • A holistic wellness program was created for the Santee community. • The Santee Health & Wellness Center was named as a clinical rotation site for senior nursing students in Community Health at Mount Marty College. The opportunities for ongoing and sustainable collaboration and resource sharing between the Santee Health Center and Mount Marty College are many and will benefit both the students and the people of the Santee Sioux Nation. The QI team is confident that providing a transcultural community health clinical experience will cultivate and develop cultural competence that will result in an infrastructure to support academic tribal partnership to address quality tribal health concerns and the growth of the nursing profession. Finally, the grant opportunity had positive impacts among the Health Center employees by creating and finalizing a multidisciplinary QI team. The creation of the QI planning team has resulted in improved employee morale, collaborative lateral/horizontal communication, and improved teamwork, which are essential elements for quality care, patient safety, and project sustainability.
Sustained Impacts	All elements of the program will be sustained beyond the grant. Because tribal leaders and clinic directors have seen improved efforts in creating a comprehensive diabetic QI program and a positive community and patient reaction, funding will be sustained through the tribe. The funding strategies include third-party revenue, SDPI (Special Diabetes Program for Indians) funding, and IHS clinic funds. Continuation of the multidisciplinary mobile health prevention team will be funded through the H&C (hospitals and clinics) fund that the clinic is allotted through Indian Health Services. Not only will the long-term creation/implementation of a Quality Improvement Program greatly benefit the tribal primary care practice, but the long-term effects of this funding opportunity will also leave lasting impacts on the tribal community. The multidisciplinary QI team brought together representatives from across active community groups and structures to map work flow routines, promote health messages, share information, identify cases, provide referrals, and assist with patient follow-up. This experience has shown that community service providers - and the community in general - have a large role to play in improving services and creating better community health facility linkages. The PDSA model has been successful and presents great potential for replication in

	other communities. The QI team found it to be an approachable model. The PDA models facilitated the identification of challenges early on in the implementation of QI efforts and make even small changes appropriately. The QI staff were able to see how the changes work and make adjustments, as the team deemed fit. In this way, they could work through any challenges and smooth out QI changes to workflow before going to full scale. The positive experience in PDSA cycles at the Santee Health and Wellness Center has highlighted the value of QI work for everyone and has made further adoption of QI more assured.
Challenges & Lessons Learned	Difficulties in staffing limited initial success. In Year 1, the primary data analyst took another position elsewhere, and then in Year 2, the program director retired. Data extraction, analysis, and grant activities did not stop, but slowed down significantly until another position was created to aid in grant reporting and activities. Upon the departure of the program director and recruitment of the grant assistant, challenges arose in work plan continuation. It appeared there was a lapse in accountability as well as a disconnect in reaching the target population. It became apparent that the project was reaching only a small number of the targeted diabetic population. While the numbers and improvements seemed promising in the few diabetics who were enrolled in the program, the overall goal appeared to be out of reach without more patient participation. These challenges were addressed appropriately with the reorganization of a QI team. First proper replacement of staff was accomplished. After that was done, the new QI team used PDSA to create daily huddles and a handoff tool and to bring together a comprehensive network of community groups to share information, identify cases, provide referrals, and assist with patient follow-up when appropriate.

Illinois

Sarah Bush Lincoln Health Center

Project Organization Information						
Organization Name	Sarah Bush Lincoln Health Center (SBL)					
Organization Type	Non-profit corporation					
Address	1000 Health Center Drive					
	City:	Mattoon	**State:**	IL	**Zip-code:**	61938
Organization's Project Contact	**Name:**	Carol Ray				
	Phone:	217-258-2405				
	Email:	cray@blhs.org				

Project Overview			
Title	Small Health Care Provider Quality Improvement Program		
Goal(s)	To support transitions of care and increase patient engagement in the care of Congestive Heart Failure (CHF) and Chronic Obstructive Pulmonary Disease (COPD)		
Objectives	• To support transitions of care and increase engagement among the CHF and COPD patients seen in an ambulatory care setting • To improve patient self-management • To reduce Emergency Department (ED) visits and hospital admissions		
Focus Area(s)	• CHF • COPD		
Counties Served	Clark, Coles, Cumberland, Douglas, Edgar, Effingham, Jasper, Moultrie, and Shelby Counties		
Consortium/Network Partners	**Organization Name**	**City/County**	**Organization Type**
	Eastern Illinois University Health Promotion Department	Charleston/ Coles	University
	Annie Fahy Consulting	Asheville/ Buncomb	Independent consultant
Evidence-Based Quality Improvement Model(s)	SBL used an embedded Care Coordination model. A multidisciplinary team led by an RN Care Coordinator and supported by a Social Services Clinician and two Care Coaches were co-located with providers in the Mattoon Family Medical Center (FMC) clinic. Their efforts were focused on a target population of CHF and COPD patients. The project's approach to care delivery incorporated shared decision-making in the delivery of care coordination. Care team members 1) assessed patient engagement and health literacy; 2) identified patients who have the potential to become activated or increase their activation; 3) assessed the patient environment and brought actionable recommendations to the plan of care; and 4) applied Motivational Interviewing (MI) strategies to engage the patient in shared decision- making and to encourage self-management activities. A favorable case for project replication or expansion was made based on the		

	improved health outcomes, reduced hospitalizations, and reduced emergency room visits throughout the three-year project.
Needs Addressed	Rates of hospitalization and deaths due to CHF and rates of COPD diagnoses were higher in every county in the project service area in comparison to state and national rates. The population with incomes below the federal poverty level was 15.1%, 36.8% of the population fall below 200% of the poverty level. Across the nine-county region of the project service area, 15% of the adult population age 18 to 64 lack health insurance coverage if all income levels are considered; however, for persons in this age group with incomes below 200% of the federal poverty threshold, 52.6% have no health insurance. Of the region's population over the age of 25, 13.2% do not have a high school diploma (compared to 6.9% for Illinois.) An estimated 8% of the population lack basic prose literacy skills. Many residents are employed in hourly wage jobs, with varying schedules of availability due to work hours or child care demands.
Target Population(s)	The project focused on patients with a diagnosis of CHF or COPD and two or more ED visits in the past 12 months or two or more hospitalizations in the past 12 months. By supporting transitions of care and increasing engagement among CHF and COPD patients seen in an ambulatory care setting, SBL improved patient self- management and reduced ED visits and hospital readmissions.
Services & Activities	The goal of the grant project was to support transitions of care and increase engagement among CHF and COPD patients seen in the Mattoon FMC ambulatory setting to improve patient self-management. Success was measured in terms of decreased visits to the ED and decreased hospitalizations for patients enrolled in the project. Care team members assessed patient engagement using Insignia's Patient Activation Measure (PAM) and applied motivational interviewing strategies to encourage patient self-management activities. The care coaches assessed the patient's home environment to address additional patient/caregiver needs. The following processes were used to identify and stratify patients for enrollment: • Enrollment required a referral from the patient's Primary Care Provider (PCP), but the project took a "no wrong door" approach, and patients were identified based on clinical data or hospital utilization. • After a referral was received, the Care Coordination team contacted the patient, obtained appropriate consent and confirmed eligibility using screening tools (SF-12 functional health assessment, PHQ-9 clinical depression screening) and project-established criteria. • The care team stratified candidates through use of the PAM tool and additional information was gathered at face-to-face intake. • The Care Coordination Care Coaches applied MI strategies to identify the patient's critical care needs and establish the initial care plan and goals. • Patient activation and clinical measures for the enrolled population were assessed on an ongoing basis (no less frequently than every 6 months) to monitor project progress and to determine when patients should be transitioned between levels of care or graduated to a lower acuity level. The project partnerships included two organizations/training experts who assisted the project by developing specific skills among the care team members, (i.e., how to assess and improve patient health literacy and acquiring the necessary skills for motivational interviewing). The partnering organizations were consulted during the planning stages of the project in order to identify the time and resources needed for

	staff training. During implementation, the partners provided feedback and recommendations regarding potential future directions for staff skill enhancement.
Project Results	

Outcomes	Patient Health Outcomes:
	• Hospitalizations for the cohort decreased by 21% from the baseline in the first year and 15% from the baseline in the second year
	• Emergency Department visits for the cohort decreased by 56% from the baseline in the first year and 69% from the baseline in the second year
	
	System-Level Outcomes
	• The project improved the resources and skills of the SBL care team, including:
	  ○ Assessing and improving patient health literacy, and
	  ○ Motivational Interviewing.
	• Various levels of staff have an enhanced ability to review and present data internally to show outcomes.
	• The project had complete buy-in from family practice physicians who had care coordination embedded in their practices.
	• The project received the Small Health Care Provider Quality Improvement Program's Quality Improvement Champion Award in July 2018.

Sustained Impacts	SBL will continue the program and plans to support it financially. Going forward, SBL plans to adopt a centralized model for Care Coordination. In reviewing the prior success, it was apparent that clinic-based care coordinators are effective, but it is not realistic to duplicate the embedded model in all 17 clinics administered by the organization. However, lessons learned from the embedded model, can be applied in the centralized model to reach additional clinics and additional patient populations. SBL intends to retain the clinical staff positions (RN Care Coordinator, Social Worker, and Care Coaches.) The focus in the next three years will be directed toward establishing and supporting care coordination for the Medicare Advantage Risk population. These activities will be referred to as Transitional Care and will be administered by the Director of Quality, under supervision of the Director of Safety Quality Care Coordination & Risk Management. The collective efforts of a centrally located care team not only offers benefits to individual staff members (e.g., peer support, resource sharing, etc.) but also presents a greater potential for better alignment of care practices across the various providers and clinic settings. SBL is planning on purchasing an additional platform from Cerner that will replace the IBM Watson Care Manager platform. The Cerner HealtheCare platform will support Chronic Care Management and Transitional Care Management activities. Both of these activities will be billable services and enable tighter alignment and procurement of Electronic Health Record (EHR) data, enabling more efficient processes for staff. Partnerships for this project were established with Annie Fahy Training Consultants and the Eastern Illinois University Department of Health Promotion. These partnerships grant supported the establishment and enhancement of skills necessary for effective care coordination, i.e., assessing and developing health literacy among the target population and understanding and practicing motivational

	interviewing. There is no plan to continue the specific partnerships which supported these activities, but ongoing skill enhancement of care team members and others will be assumed as part of staff members' annual continuing education activities.
Challenges & Lessons Learned	The most significant challenge during implementation was the organization's delayed launch of a new Electronic Medical Record (EMR) system (originally planned for October 2016 but delayed until April 2017). This affected the staff's ability to quickly identify the patient population with regard to criteria for inclusion in the grant project and presented some initial challenges in tracking and documenting patient outcomes. A manual patient record review was employed to identify candidates for the target population, and the first patients were enrolled in January 2017. While staff quickly became proficient in the new EMR system to document and monitor needed patient information, the assessment of the system's potential support for population health management can best be described as ongoing. Additionally, the organization added another EMR platform to the mix to help address care plan management. However, it required duplication of documentation because the new platform did not migrate data to the main EMR system. In Year Two of the project, staff sought to add the use of patient tele-monitoring, but this was ultimately not successful due to vendor restrictions regarding the allowable environment for use of the leased equipment (i.e., specifically with regard to pest control in patient homes). An additional barrier to providing the home monitoring units to the enrolled population was a potential conflict with regulations which prohibit patient enticements with regard to waiving the rental costs for low-income patients enrolled in the project.

Wisconsin

Shawano Medical Center

Project Organization Information						
Organization Name	Shawano Medical Center (d.b.a. ThedaCare Medical Center)					
Organization Type	Hospital/Physician Services					
Address	100 County Road B					
	City:	Shawano	**State:**	WI	**Zip-code:**	54166
Organization's Project Contact	**Name:**	Sandra Groenewold				
	Phone:	920-716-1350				
	Email:	Sandra.groenewold@thedacare.org				
Project Overview						
Title	Small Health Care Provider Quality Improvement Program					
Goal(s)	To establish, maintain, and expand a multidisciplinary, team-based care model in primary care clinics in Shawano, Clintonville, and Waupaca					
Objectives	• To improve health outcomes for patients with diabetes and hypertension • To strengthen chronic disease management • To improve patient engagement					
Focus Area(s)	• Diabetes • Hypertension					
Counties Served	Shawano and Waupaca Counties					
Evidence-Based Quality Improvement Model(s)	• Team-Based Care • Ambulatory Care Pharmacist • Community Paramedic The Team-Based Care model expands the roles of the individuals within the care team, including medical assistants acting as care team coordinators, scribes documenting the office visit in real time, Registered Nurses (RNs) working in the patient care area having closer proximity to and better communication with physicians and advanced practice clinicians (APCs). Pharmacists and Community Paramedics are considered part of the extended care team to assist the front-line care team as additional resources. The integration of pharmacist services enhanced the ability of the care team to provide quality, evidence-based treatment of diabetes and hypertension, resulting in improved long-term outcomes and quality of life for patients. It also reduced provider workload outside of office visits and allowed them to focus more on their patients in the office. The pharmacist utilized motivational interviewing to understand patient barriers to change and help them overcome those barriers. The Community Paramedics were accepted by patients in their homes and allowed the extension of care to address the psychosocial factors that patients and their care teams may not have realized were impacting their health. They performed medication reviews to ensure that the current medication list was correct, without expiration or duplication of medications. They were trained to be trauma-sensitive and use motivational interviewing to engage with patients and set patient goals.						

Needs Addressed	In the service area, 17.4% of residents live at or below the Federal Poverty Level; the poverty rate for residents of Menominee County is 30.1%, compared to 13.2% for the State of Wisconsin. The average per capita income among service area residents is $34,543 per year (below the state and national averages of $42,121 and $43,735, respectively). Residents face many challenges including obesity, diabetes, high blood pressure, alcohol abuse, and lack of access to primary care.
Target Population(s)	The project focused on patients living in Shawano, Clintonville, Tigerton who have a ThedaCare physician and are over 18 with a diagnosis of diabetes (A1c >9) or hypertension that is not well-controlled (BP >140/90). The target areas are burdened by chronic disease risk factors and premature death rates that are higher than those statewide. Many of these issues are particularly burdensome for the area's senior citizens, American Indian tribes, rural farm families, and low-income populations.
Services & Activities	• Ambulatory Care Pharmacist & Collaborative Practice Agreements They successfully embedded the Ambulatory Care Pharmacist into the Team-Based Care model, working primarily with patients who had hypertension and diabetes. The pharmacist utilized collaborative practice agreements for both diabetes and hypertension, which allowed her to independently manage those conditions, including medication changes, ordering and interpreting labs, and scheduling follow-up at appropriate intervals. The pharmacist was able to provide the following services: o Timely medication dose escalations and medication additions to help improve diabetes and hypertension control more rapidly and reduce clinical inertia; o A better patient experience, with fewer handoffs and quicker responses to questions and concerns; o Managing medication changes due to insurance formularies to ensure optimal medication management at the lowest cost for the patient; o Education around diabetes and hypertension to providers and clinic team members to help keep everyone up to date on current medication treatments and assist in unifying the messages given to patients about diabetes and hypertension. • Community Paramedic The Community Paramedic provided crucial information about what was happening with patients outside the clinic walls and what barriers patients were facing about which providers might not be aware. The Community Paramedic was able to provide the following services: o Medication reviews to ensure clinic medication list matches what patient is taking; o Review all the medications in the home to ensure removal of expired or duplicate medications; o Trauma-sensitive care. The initiative was structured to meet the unmet needs of rural patients with complex medical conditions (hypertension & diabetes). They identified barriers including medication cost, health literacy, and numerous psychosocial factors that impacted patients (things that providers were not aware of). They partnered with their colleagues in diabetes education, wound care, emergency department social work, hospital care management, MedData, billing, and quality to build relationships and learn from one another.

Project Results	
Outcomes	Patient Health Outcomes • Increased contact with patients between visits served to remove many barriers to medication use. • Quality results for Shawano patients with diabetes who received pharmacist services compared to those who did not receive pharmacist services showed a greater relative improvement (15.5% versus 3.9% for A1c< 8%; 12.7% versus 1.7%for A1c > 9%). System-Level Outcomes • Provider workloads were reduced. They reported an estimated average of 31.5 minutes saved per provider per day by having the pharmacist address blood pressure checks and manage disease state between physician office visits. • Provider dashboards were improved to show current real-time metrics at patient level detail. • Relationships were built and strengthened and resources were shared to reduce gaps in patient care. • Ambulatory Pharmacist began working with non-Team-Based care providers late in the grant cycle, and improvements were seen in those patients also. The improvement in patient quality numbers for diabetes >9 and uncontrolled hypertension have been significant within the organization with the addition of the ambulatory pharmacist. Because of the collaborative practice agreement in place with the pharmacist, blood pressure checks could be completely and independently managed by the pharmacist in most situations. Blood pressure checks are now addressed same day when the pharmacist is in the office and patients are notified sooner of any changes to their medications. This further reduces providers' workload and allows them to focus on the patients they are seeing in the office each day.
Sustained Impacts	All of the activities and services funded through the grant will be sustained. The Ambulatory Pharmacist role will be sustained and grown. This has become the 5-year plan of the new pharmacy director for ThedaCare. With leadership support, continuation of study, and adjustment of what the pharmacist can do, the collaborative practice agreements will continue to grow and change. ThedaCare will continue to look for billing opportunities to fund this role. They are exploring value-based care contracts and/or working with the ThedaCare accountable care organization. The Community Paramedic role will continue providing crucial information about what happens with patients outside the clinic walls and what barriers they patients face. This tighter communication between provider and patient improves the longitudinal care of each patient. The ThedaCare Foundation will continue funding to support this subset over the next three years. The integration of the Ambulatory Pharmacist and the Community Paramedic

	program has enhanced the ability of the clinical care team to provide quality, evidence-based treatment of diabetes and hypertension, resulting in improved long-term outcomes and quality of life for patients. Providers and patients alike report high satisfaction with the team-based approach to quality care.
Challenges & Lessons Learned	The initial grant design established a multidisciplinary, coordinated care model to improve services for medically complex patients at ThedaCare clinics, and funding was provided for a 0.5 FTE pharmacist and 1.0 FTE Registered Nurse (RN). They encountered barriers early in the grant period that required multiple project adjustments. These included significant changes in organizational leadership, difficulty recruiting for the RN position, loss of one of their physician champions, and a change in grant project director. Fortunately, there were other changes happening within the organization that allowed them to adapt the project and integrate it into the Team-Based Care initiative that was already occurring within their system. They were able to align with organizational stakeholders to merge the grant work into this system-driven initiative. Lessons learned included the importance of developing an understanding and appreciation of the culture in the Shawano tribal community. They also saw how implementing a trauma-sensitive approach made a huge difference. They realized they needed more training and education around trauma-informed care for the team-based care staff in order to provide more culturally sensitive care. Lastly, a key learning was the importance of listening and learning from team members to enable them all to make positive impact on both patients and providers.

North Carolina

St. Luke's Hospital, Inc.

Project Organization Information						
Organization Name	St. Luke's Hospital, Inc.					
Organization Type	Critical Access Hospital					
Address	101 Hospital Drive					
	City:	Columbus	**State:**	NC	**Zip-code:**	28722
Organization's Project Contact	**Name:**	Michele O. Trofatter				
	Phone:	828-894-0824				
	Email:	Michele.trofatter@slhnc.org				

Project Overview	
Title	Foothills Health Network Small Health Care Provider Quality Improvement Program
Goal(s)	To implement delivery reform and impact Emergency Department (ED) utilization rates by addressing the underlying causes of non-emergent ED visits
Objectives	• To identify patients with > 3 Emergency Department visits in the previous year • To implement ED case management and care coordination and tracking of health status outcomes to address both medical and social needs • To use evidence-based treatment to improve the quality and delivery of healthcare services • To use intervention and education of identified patients to ensure placement into a medical home • To create and increase availability of medical care outside regular business hours to address non-emergent and primary care needs • To use an evidence-based transitional care model to reduce or eliminate hospital readmissions for primary and/or complicating conditions, improve health outcomes after discharge, and enhance patient and family caregiver experience with care
Focus Area(s)	Emergency Department (ED) utilization reduction
Counties Served	Polk County
Consortium/Network Affiliation	Foothills Health Network

Consortium/Network Partners	**Organization Name**	**City/County**	**Organization Type**
	Blue Ridge Community Health Services	Polk County	Federally Qualified Health Center (FQHC)
	The Free Clinics of Hendersonville	Polk County	Free Clinic
	Polk Fit, Fresh and Friendly	Polk County	Community Consortium

Evidence-Based Quality Improvement Model(s)	Emergency Department High Utilizer Case Management Model. Initially they had used the Bridges Model, but after one year, they switched to the Emergency Department High Utilizer Case Management Model. Transitions of care and readmissions risk assessment was based on using the LACE tool at admission to assess patients for readmission risk. The Hospitalist nurse navigator worked with the Department of Case Management to make sure every admitted patient had a care plan in place and understood discharge instructions, medications, and contacts for care in an expanded effort to reduce readmissions.
Needs Addressed	The Polk County population of 20,500 is predicted to increase over the next 10 years in the number of adults over age 65, while the overall population remains flat. Chronic diseases are major contributors to the top causes of mortality: cancer, heart disease, and Chronic Lower Respiratory Disease (CLRD). The current rates of diabetes (15.4%) and prediabetes (9.4%) are higher than the overall rates reported in the region (14.4% and 7.4%, respectively). Mental illness is also a common reason residents need access to care which may or may not be available in the area. Polk County has one of the highest suicide rates in the state of North Carolina.
Target Population(s)	The focus of the grant-funded project was on patients with high Emergency Department utilization rates in the previous year and/or patients assessed for readmission risk. The project was created to address the number of patients without a medical home using the ED for non-emergent care; to address the patients with more than six visits per year; and to improve the transitions of care for admitted patients to reduce readmissions. St. Luke's Hospital partnered with Blue Ridge Polk Health to pilot an after-hours night clinic. Additionally, during Year 2, they added technology access to their needs list to reflect the hospital's need to provide state-of the art technology and trainings for staff and community members related to implementation of the EPIC Electronic Medical Records (EMR).
Services & Activities	• Emergency Department High Utilizer Case Management Discharge callbacks, assessment of needs, referral to community resources, high-touch follow-up for high utilizers were a large part of the Registered Nurse (RN) Case Manager position during the project. The RN Case Manager continued to run a 30-day report on the top utilizers to monitor patient needs as an internal tracking tool, as well as an external tool to see other ED's the patient may be utilizing. These cases were logged into FHASES (a web-based information system) to monitor and document the program. • Transitions of Care and Readmission Risk Assessment Use of the LACE tool to assess appropriate patients at the time of admission, the real-time readmission risk assessment, and transitions of care planning are handled through the Hospitalist Nurse Navigator position. The procedures and policies developed by the RN Case Manager in 2018 were transferred to this position for maintenance of the role in January 2019. The Hospitalist Nurse Navigator works with the care plan created by the Department of Case Management to make sure the patient understands their discharge instructions, medication instructions, and follow-up care plan. • Monthly Targeted Resource Team Meeting This monthly meeting began in October of 2018 to help the community resource providers create a forum to care for patients with excessive needs who were

	seeking services at multiple points of entry. The hospital / network created confidentiality agreements and Business Associate agreements, as well as patient care documents to help provide a care continuum in Polk County. The RN Case Manager has been successful in engaging with several of these individuals. • Upgraded Classroom A classroom upgrade project with staff trainings and community access to Patient Portal education and other relevant programming was a Year 2 program activity which created successful quality improvement program perception within the hospital. Staff members who had no previous experience with Foothills Health Network or grant funding were able to understand and experience the benefits provided to the hospital and the community directly. Community members will soon receive these same benefits, as the hospital uses this facility to teach My Chart and other Patient Portal classes. The classroom provides an on-site learning environment for the EPIC EHR installed at St. Luke's in February 2019. Providers, staff, and community members all have access to the upgraded classroom and a trainer provided by Atrium Health to learn the new system, including My Chart. These services formerly would have been provided only in the Atrium facility, Cleveland Hospital, in Shelby, NC about 45 minutes away. • Extended Hours of Care at Polk Health Center- A collaborative effort with Blue Ridge Health provides the only after-hours access to primary care in Polk County. Appointment slots are almost always full and patients who work in jobs without benefits of time off appreciate the extended hours of care.
Project Results	
Outcomes	Patient Health Outcomes • 574 unique patients received 2,052 episodes of ED Case Management care coordination. • 80% reduction in ED visits by a cohort of the top 15 ED high utilizers as a result of ED High Utilizer Case Management interventions over 3 years (396 visits to the ED in Year 1 to 128 visits in Year 2 and 77 visits in Year 3). • Decrease by over 50% in the number of unnecessary visits by the top 15 high utilizers (395 in Year 1, then 297 in Year 2, and 187 in Year 3). • The number of patients who have a primary care provider increased. • The number of patients seeking non-emergent care at the ED decreased each year. System-Level Outcomes • Reduction in readmissions ratio from Year 1 (0.964) to Year 3 (0.564) after beginning the real-time readmission risk process and use of the LACE tool to assess most admissions. • A partnership was created which successfully provided evening primary care in the community. The highest ED utilizer at the beginning of the grant was making 46-50 visits to the ED per year for the previous three years (2014-2016). This patient has sarcoidosis and diabetes. By year two of the grant, the patient had only 13 ED encounters. In grant year 3, the patient had 5 ED encounters. Education, intervention, and support from the ED Case Manager helped to get this patient to use her Primary Care Provider, rather than the ED, for most health needs.

Sustained Impacts	Most of the services will be sustained beyond the grant term. The Targeted Resource Management Team Meeting created a community forum for coordinating care of patients using resources and services from multiple agencies, and it has become an important care management tool for the community. It will continue on a monthly basis, led by the hospital. Transitions of care and readmission risk assessment have been incorporated into the daily work of the Hospitalist Nurse Navigator and have improved the readmission rates for the hospital. This activity and collaboration with Case Management will continue after grant funding. The upgraded classroom has encouraged Atrium Health to provide St. Luke's with a part-time trainer who provides instruction to the community on My Chart and to local providers on web-based medical record access with the new EPIC system. Blue Ridge Health-Polk provides after hours care through a collaborative agreement with the Foothills Health Network. This evening care, currently one night each week, is the only alternative to the ED in Polk County. They will expand next year if the new urgent care facility moving into the community does not significantly alter their business model. The long-term impact of the quality improvement grant on St. Luke's Hospital and the Polk County community will be significant for many years. The ability to work collaboratively with other health care providers in the community rather than compete to provide care for patients without the ability to pay allowed partners to leverage all of their resources to provide services in the best interest of the patient. The services implemented through the grant provided a footprint for St. Luke's and helped to establish a baseline for what could be possible should the timing, funding, and strategic vision of the hospital align in the future. It should be noted that Emergency Department Case Management in a Critical Access Hospital requires a long-term investment strategy and understanding by the hospital management team. In the short term, a hospital may experience volume changes that seem to negatively impact financial benchmarks. However, over time, the patients who need to use the ED are able to get better and faster services, and many of the patients find more appropriate care in outpatient settings. ED Case Management doesn't stop all abuses or misuses, but it can improve care for everyone.
Challenges & Lessons Learned	The most significant challenge for this grant was the constant personnel turnover. During the 3-year grant period, the hospital had four different CEOs, two Chief Nursing Officers, two Directors of Case Management, and three Quality Improvement Directors/Nurses/LEAN supervisors (different titles each person). The Project Director, who stayed with the grant from beginning to end, is the glue that held the grant together during this extreme stress.

Ohio

Trinity Hospital Twin City

Project Organization Information						
Organization Name	Trinity Hospital Twin City					
Organization Type	Critical Access Hospital					
Address	819 N. First Street					
	City:	Dennison	**State:**	OH	**Zip-code:**	44621
Organization's Project Contact	**Name:**	Jennifer Demuth				
	Phone:	740-922-7450, ext. 2198				
	Email:	jdemuth@trinitytwincity.org				

Project Overview			
Title	Chronic Disease Management Program		
Goal(s)	To improve health outcomes for adults with two or more chronic conditions through creation of a Chronic Care Management/Chronic Disease Management (CCM/CDM) Program		
Objectives	• Improve the health status of patients with chronic disease • Reduce the number of hospital Emergency Department visits due to chronic disease • Utilize health IT solutions to coordinate patient care		
Focus Area(s)	• Chronic Disease • Emergency Department (ED) admissions		
Counties Served	Tuscarawas, Harrison, and Carroll Counties		
Consortium/Network Partners	**Organization Name**	**City/County**	**Organization Type**
	Trinity Health System	Steubenville	Hospital
	STI Innovations	Encinitas, CA	Behavioral Health Software Provider
Evidence-Based Quality Improvement Model(s)	Care Improvement Model Model of Improvement – Plan, Do, Study, Act (PDSA) The Care Improvement Model was already in use at Trinity Hospital Twin City (THTC) and its hospital-owned and operated group medical practice, Trinity Medical Group (TMG) and provided an overarching structure to guide the project and achieve the goal of providing comprehensive chronic disease management treatment and education to substantially improve the care of adults with chronic diseases. Since the project demanded a number of care model changes within a compressed timeframe, they also used the Model of Improvement framework to provide the Quality Improvement (QI) team with both a strategic focus and a tactical approach. The model's Plan, Do, Study, Act (PDSA) component provided a simple yet well-defined structure to achieve quality improvements in both THTC and TMG.		

Needs Addressed	The population of the three counties is 97% Caucasian, with African Americans and Native Americans comprising 1% of the total. The population mainly consists of the working poor, senior citizens, and individuals with disabilities who are dependent on Medicare/Medicaid. They are challenged by poverty, transportation difficulties, and low educational attainment. In Tuscarawas County 13.6 % of the population is at or below the federal poverty level, and more than 60% of the population lives on less than 200 percent of the federal poverty level. In 2010, per capita income was $21,724 in Tuscarawas County, compared to $25,857 in Ohio and the national average of $28,051. Moreover, 15% of Tuscarawas County residents are uninsured compared to 14% for Ohio and 11% for the US.
Target Population(s)	The project focused on adults with two or more chronic diseases, especially those with heart disease, high cholesterol, chronic obstructive pulmonary disease (COPD), diabetes, hypertension and/or obesity. Prior to the receipt of grant funding, there were no chronic disease management programs in the area for adults. Therefore, most adults went without adequate care, resulting in higher healthcare costs through inpatient readmissions and Emergency Department (ED) visits. Over 21% of ED visits in the year prior to the start of the grant program were attributed to adults who had symptoms and complications from chronic diseases. The hospital's group medical practice, Trinity Medical Group, had a record of over 3,000 adult patients who suffer from two or more chronic diseases. The project also aimed to serve those adults with chronic diseases who experience challenges around social determinants of health due to financial stressors, not having insurance coverage, and/or not having a regular medical provider.
Services & Activities	The project utilized nurse patient navigators to help deliver coordinated care, education, and support for hospital and medical group patients who have two or more chronic diseases. The primary objectives of this project were to improve the health status of patients with chronic disease, reduce the number of hospital emergency department visits due to chronic disease, and utilize innovative health IT solutions to coordinate patient care. Nurse patient navigators provided monthly coordinated care phone calls and/or visits with enrolled patients and also conducted annual wellness visits with enrolled patients. The activities were based out of the hospital-owned group physician practice, Trinity Medical Group (TMG). TMG has 17 providers consisting of primary care physicians, nurse practitioners, and physician assistants. Each of the TMG providers served as a source of referral to the chronic disease management program. Through the project, TMG was able to further embed the Model for Improvement system in its activities in order to test changes made, structure data collection and reporting, and reinforce an evidence-based practice culture. THTC worked with Trinity Health System of Steubenville, Ohio, and STI Innovations on this project for assistance with staff training and health information technology implementations.
Project Results	
Outcomes	Patient Health Outcomes • 436 patients were enrolled in the program. • Patient health status, quality of life, and adherence to care plans

	improved. • 95% of patients and 83% of medical providers reported being satisfied with the program. • 46% of patients decreased their body mass index; 50% of diabetic patients lowered their A1c levels. • More than 50% of patients saved money on prescription medications and durable medical equipment. System-Level Outcomes • Hospital senior management became convinced of the program's value, resulting in the hospital funding 2 additional patient navigator positions and agreeing to sustain the program with community benefit allocations. • A source of sustainable project revenue was established through billing for services. There are three achievements that they consider most significant: 1. Being able to serve more than 436 patients with two or more chronic diseases even though the program consistently suffered from staff vacancies. One patient navigator had two different 3-month medical leaves of absence, and during 8 months of the three-year grant period, the program was without one full-time navigator due to challenges with finding the right candidates to take the job. 2. Earning the support and respect of the medical providers (doctors and advanced practice professionals) for the program's value. Most providers quickly learned the value of the program and realized they could team up with the navigators to give patients the best possible care. 3. The ability to earn program revenue and track that revenue to aid in sustainability. Revenue through billing for services totaled over $70,000 in the second year of the grant and $110,000 in the third year.
Sustained Impacts	All project activities will continue beyond the grant cycle. These activities include enrolling patients in the Chronic Care Management program so that patient navigators can maintain regular contact to ensure both their health needs and their other needs (social determinants of health like housing, medical supplies, transportation, and etc.) are met. Annual wellness visits with patients with chronic diseases will also continue. These activities are sustained due to the program outcomes which have been communicated to audiences within and outside of the hospital and medical group. Finally, the consortium will also continue; STI Innovations has agreed to let staff continue to use their behavioral health software, and Trinity Health System provides oversight for the hospital and medical group. Chronic care management services are covered by Medicare for those 65 and older, but Medicaid does not cover those services. However, the hospital administration has seen the merit in helping Medicaid patients, and administration has agreed to allow the program to continue to care for the most at-risk Medicaid patients. The cost of services will be covered through fee for services (receiving revenue from Medicare and insurance providers) and also through the hospital's generous community benefit policy.

	Sustained impacts include: • Service delivery within Trinity Medical Group offices have been transformed. The patient navigators go beyond just helping patients with direct healthcare services to essentially helping patients improve their overall quality of life. They assist many patients with the following needs: access to behavioral health education intervention through STI innovations software tools, medication management, access to transportation, access to medical equipment, and provision of cost-savings programs for prescription medications through the hospital's 340B program participation. • The program was designed to meet the unique health care needs of the rural community. Patients often must travel long distances to seek care, a task made more difficult by a lack of an affordable public transportation system in the region. This contributes to a tendency to delay seeking care, which aggravates health problems and leads to more expensive interventions upon receiving care. The program responds to this challenge by emphasizing a proactive, streamlined approach that minimizes patient travel requirements by consolidating treatment and medical testing whenever feasible. THTC's experiences and outcomes could easily be replicated in other rural communities. The data and work in building a sustainable revenue source could be used to convince other rural organizations to secure grants and/or seed money to begin this type of project with the security of knowing that if hard work is applied, this type of program can be sustainable. Additionally, the care improvement model is one that can be easily adapted to other organizations in order to ensure ongoing quality improvement takes place. Finally, any organization can collect the kind of the biometric health data and patient and medical provider satisfaction data to inform their decision-making for making continuous improvements to their programs.
Challenges & Lessons Learned	Like many healthcare providers, the team struggled with patient compliance. Patient navigators provided education and help to patients, but many patients were unwilling or unable to follow the instructions for their own care. The navigators worked to improve patient compliance by sharing tips for what has been working with their patients and brainstorming with each other for strategies to reach particularly challenging patients. Navigators employed motivational interviewing techniques during patient encounters and also began a strategy of "trading" patients. They found that some patient personality types responded better with different patient navigators, so by aligning personalities, they were able to improve patient compliance. Additionally, they implemented a "two-way street agreement" between patients and patient navigators that outlined expectations of both patients and navigators. The agreements helped improve compliance as well. Some medical providers were hesitant to use templates within the electronic medical record (EMR) system. The informatics specialist scheduled half-days in each of their offices to train and work with the providers and their staff members, showing how to input patient data into appropriate "boxes" on the template rather than free-texting data. The providers have shown improvement in using less free- texting, but there is still room to make more progress in this area.

	They have struggled with staff vacancies. They are actively spreading the word through social media, hospital website, and word-of-mouth to recruit qualified job candidates and continue to explore innovative solutions to this challenge. They found that co-pays are sometimes too costly for patients. While most insurances have just a $10 to $15 monthly co-pay for chronic disease management services for those aged 65 and older, some insurances charge $20 to $25 a month, which can be cost-prohibitive for seniors on a limited income. Navigators worked with those seniors to enroll them in THTC's charity care program in order to assist them with this out-of-pocket expense. Additionally, they shared testimonials with seniors about how much money some patients have been able to save on medications through the help of the patient navigators. This helped some potential new patients see the cost-savings benefit of enrolling in the program.

Michigan

Upper Peninsula Health Care Solutions, Inc.

Project Organization Information						
Organization Name	Upper Peninsula Health Care Solutions, Inc.					
Organization Type	Non-profit Organization					
Address	853 W. Washington Street					
	City:	Marquette	**State:**	MI	**Zip-code:**	49855
Organization's Project Contact	**Name:**	Janey Joffee				
	Phone:	906-226-4286				
	Email:	jjoffee@uphcs.org				

Project Overview			
Title	Upper Peninsula Health Care Solutions Quality Initiative		
Goal(s)	To improve diabetes and cardiovascular disease chronic care management practices in the primary care setting across the Upper Peninsula of Michigan		
Objectives	• Promote quality improvement efforts and cultivate an evidence-based culture • Optimize use of health information technology • Prepare clinics to transition to value-based reimbursement models to sustain improvement efforts		
Focus Area(s)	• Quality Improvement • Diabetes • Cardiovascular Disease		
Counties Served	Alger, Baraga, Chippewa, Delta, Dickinson, Gogebic, Houghton, Iron, Mackinac, Keweenaw, Luce, Marquette, Menominee, Ontonagon, and Schoolcraft Counties in the Upper Peninsula; Cheboygan County in the Lower Peninsula		
Consortium/Network Affiliation	UP Quality Improvement Consortium		
Consortium/Network Partners	**Organization Name**	**City/County**	**Organization Type**
	Aspirus Ironwood Hospital and Clinics, Inc.	Gogebic	Hospital, 3 Rural Health Clinics (RHC)
	Aspirus Iron River	Iron	Critical Access Hospital (CAH), 3 RHCs
	Aspirus Laurium	Houghton	CAH, 3 RHCs
	Aspirus Ontonagon	Ontonagon	CAH, 2 RHCs
	Dickinson County Health system	Dickinson	Hospital, 8 RHCs
	LMAS Health Department	Luce, Mackinac, Alger, Schoolcraft	Health Department, 4 sites

	Michigan Wisconsin Family Practice	Dickinson	RHC
	Mackinac Straits Health System	Mackinac	CAH, 4 RHCs
	Rivertown Clinic	Cheboygan	RHC
	Munising Memorial Hospital	Alger	CAH,RHC
	Riverside Medical Associates PC	Chippewa	RHC
	Superior Family Medical Associates	Chippewa	RHC
	Upper Great Lakes Family Health Center	Marquette, Houghton, Iron, Menominee, Ontonagon	8 FQHCs
	Keweenaw Bay Indian Community Health Center	Baraga	Tribal Health Center (FQHC Look-Alike)
Evidence-Based Quality Improvement Model(s)	LEAN for Healthcare is the QI model utilized by UPHCS in their coordination of clinic work. Each organization took a unique approach to the implementation of LEAN concepts. Initially, there was some resistance as staff assumed that LEAN meant cutting staff or that LEAN was an assignment to be completed. UPHCS staff worked to reframe clinic staff perceptions to seed organizational culture change that included the implementation of LEAN. Most grant participating clinics now apply LEAN principles and methodologies to improve work flow and systems and include the coaching of new staff in LEAN principles to further enhance their own skills and to develop problem-solving capabilities in others.		
Needs Addressed	Rurality is the primary factor that influences life in Michigan's Upper Peninsula (UP). The region makes up roughly 1/3 of the State of Michigan's land mass, but only 3% of the population. It takes more than six hours to drive from one end of the peninsula to the other. Travelers will encounter multitudinous wild life, poor road conditions, dangerous weather, and sporadic cell phone service. Only three communities have populations of greater than 10,000 residents. Other factors that influence life in the UP include: an aging population, high unemployment and difficult economic conditions, and shortages of healthcare providers.		
Target Population(s)	Patients with cardiovascular disease and diabetes in 43 UP primary care clinics were targeted for this project's Quality Initiative. The prevalence of Diabetes is above the national average in the 15 counties of the UP (12% compared to 11% in the US). Heart Disease is the number one reason for hospitalization and the leading cause of death among residents of the UP. This project addressed the issue by meeting the need for additional support in the area of chronic disease management by implementing the Chronic Care Model and optimizing the use of Electronic Health Record (EHR) systems to access and utilize data in patient care to identify and address gaps.		
Services & Activities	Four broad categories of activities were addressed through the grant-funded project. Each activity helped to meet the project objectives of promoting quality improvement efforts by developing an evidence-based culture, making optimal use of health information technology, identifying populations in need of improved care by using data to assess care gaps, and sustaining improvement efforts by preparing clinics to transition to value-based reimbursement models. The activities included: • Workforce development opportunities were facilitated by UPHCS. • The program supported the use of certified electronic health record		

	technology (CEHRT) and utilization of patient registry tools • On-site, quality improvement-focused work sessions were planned and conducted with primary care clinic staff • The grant project initiated and sustained a formalized, inter-organizational Quality Improvement Collaborative. Through the Quality Improvement Collaborative, grant participating clinics provided continuous input and feedback on the work being conducted under the grant. All training, subject matter experts, and product presentations were selected using guidance from participants.
Project Results	
Outcomes	Patient Health Outcomes • Patients benefitted as the quality and delivery of healthcare services improved. System-Level Outcomes • Extensive training for staff members of 43 grant participating clinics (18 Rural Health Clinics (RHC), 9 Federally Qualified Health Centers (FQHC), 1 tribal health center/FQHC look-alike, 5 hospital affiliated clinics, 7 Critical Access Hospitals (CAH) clinics, and 3 independent clinics, including: ○ Health Coach Certification training ○ LEAN for Healthcare training ○ Certified Diabetes Educator training ○ Michigan Rural & Community Health Documentation, Coding & Billing Bootcamp Leveraging HIT for Improved Transitions of Care ○ Aligning Quality Improvement with Financial Incentives • All participating RHCs are participants in an Accountable Care Organization (Caravan Health) through the Michigan Center for Rural Health. • All eligible clinics and health systems reported for the CMS quality payment program (MIPS) and the Medicaid Meaningful Use Program for EHR utilization. • UPHCS built a custom data collection tool for use in grant-participating clinics to collect complex clinical quality measure data and monitor complex patients while simultaneously automating data entry for grant reporting. • All participating clinics have been designated as Patient Centered Medical Homes (PCMH) through the Blue Cross Blue Shield of Michigan PCHC program. Many also have received assistance from UPHSC in retaining their designation and implementing Provider Delivered Care Management. UPHCS received a Data Innovation Award from the Federal Office of Rural Health Policy (FORHP). The award recognized UPHCS for commendable dedication to quality improvement data innovation as a FORHP Patient Level Data Pilot participant, demonstrating exemplary contribution to furthering improvements to the quality, efficiency, and effectiveness of grant program reporting, including the development of a data collection tool that could automate field population, significantly reducing data entry time and errors.

Sustained Impacts	The UP Quality Improvement Consortium has been formalized into the Upper Peninsula Clinic Quality Committee (UPCQC) in order to sustain the impact of the project. Local Grant funding, participant fees and membership dues are used to fund collaborative workforce development projects that the committee identifies as priorities. The 43 existing clinical sites have been invited to participate in bi-monthly meetings, with the goal of expanding to include non-grant participating clinics. The most important on-going activity is formalizing the Quality Improvement Network into the Upper Peninsula Clinic Quality Committee. This committee will help to sustain the positive impact achieved by participating clinics and help to guide region-wide clinic quality improvement efforts in the future. The primary short-term impact of the grant funded project was the recognition by clinic staff of the importance of accurate data to the health outcomes of patients. In a few short months, the habits enacted in an evidence-based culture resulted in the clear identification of gaps in care for patients that can, subsequently, be closed. The long-term impact is the improved health outcomes of the populations served by grant participating clinics. When staff habitually monitors chronic conditions and provides consistent patient education, improvement may be slow, but the evidence is undeniable. The training and integration of new clinical workflows culminated in a distinct increase in the level of trust between physicians and the care management staff supporting them. Nursing staff is more confident in the services that they are able to provide and in the billing structures in place to support the work that they do. Lean concepts, tools, and principles are, generally, better understood in clinics throughout the UP. Many clinics codified policies in writing, improved existing policies, and created new policies as a part of their quality improvement work. In addition, most grant participating clinics improved their existing clinical workflows during work sessions. For some, it was a matter of learning to use their EHR system to generate reports and analyzing them for opportunities to improve. For others, building routine daily huddles into workflows improved communication and coordination between care teams and facilitated more efficient operation. Still others implemented panel management into their practice in order to identify care gaps and anticipate upcoming care needs.
Challenges & Lessons Learned	There were a number of significant challenges and barriers during the implementation of the funded grant project. • Changes in the local healthcare industry: Some hospitals in the service area were acquired by larger, regional health systems that are not headquartered in Michigan. New protocols and lines of accountability introduced by these out-of- state systems created some barriers to the project implementation priorities. Some clinics were reluctant to participate; others had to delay participation while seeking approval from their health systems' headquarters. Clear communication with consortium members, outlining the value of the project to their quality improvement efforts, and the creation of a local peer network in the UP have aided in overcoming these barriers. • Large service area: Consortium members are spread throughout the 15 counties of Michigan's Upper Peninsula (the UP). Reaching outlying clinics to provide hands-on assistance with the implementation of data tracking,

	data retrieval and the utilization of data to improve work flows and care quality required detailed logistical foresight. Additionally, the assembly of consortium members for networking, discussions of best practices, and formal trainings were hindered by distance and frequent inclement weather. The use of teleconferencing hardware and software to broadcast quarterly meetings helped to make them more accessible to consortium members. UPHSA also implemented a HIPAA-compliant web-based portal (BoardEffect), complete with a discussion forum and a document library, for use as a training platform and a means to disseminate information to the group more efficiently. • Shortages of human capital: Despite its size, the UP's population is only 311,000 souls. The small market limits the availability of experienced personnel to fill roles in many of the clinics that we work with. The short-staffing issues are felt more acutely when replacing lost staff can take months, especially for highly specialized skillsets. The grant project was designed to expand institutionalized knowledge, effective workflow process design, and access to a local network of peers facing the same challenges have reduced the burden imposed by these barriers. • Changes to quality-based incentive programs and EHR software: UPHCS was able to help transfer affected clinics to patient registries for quality reporting. Group learning via the peer network and participant portal was effective in providing assistance in addressing these challenges. Several important aspects should be noted when implementing a quality improvement initiative in rural primary care clinics, including: • Face-to-face meetings are essential. Webinars, conference calls, and other remote learning opportunities work well to support the work conducted on-site, in the clinics. However, clinical staff seems to buy in to concepts more readily when they are able to practice them immediately in a real-world setting. • Patient feedback and provider feedback are the most important indicators to measure. When people become aware that the project responds to their input, they engage more broadly and more deeply in the concepts that the project is attempting to promulgate. • The most important thing about the implementation of LEAN methodology in the clinic setting is that people working on implementation should anticipate resistance. Clinic staff, especially small rural clinic staff, have a significant work load and LEAN will appear, at first, to be another item on their "to-do" list. It is important to reframe perceptions early, so that clinic staff see it as a way to check items off of their "to-do" list more efficiently and effectively. It should also be noted that Lean might connote lay-offs to some staff and it is important to make it clear that these tools are intended to help them provide better care for more people, not to help the clinic function with less personnel.

Missouri

Washington County Memorial Hospital

Project Organization Information						
Organization Name	Washington County Memorial Hospital (WCMH)					
Organization Type	Hospital					
Address	300 Health Way					
	City:	Potosi	**State:**	MO	**Zip-code:**	63664
Organization's Project Contact	**Name:**	Amber Coleman				
	Phone:	573-438-5451				
	Email:	acoleman@wcmhosp.org				

Project Overview			
Title	Quality Matters		
Goal(s)	To improve the quality of life of the patients served by Washington County Memorial Hospital and clinics		
Objectives	• Improve health outcomes • Enhance chronic disease management • Create better engagement of patients		
Focus Area(s)	• Chronic Disease Management • Remote patient monitoring • Smoking Cessation		
Counties Served	Washington, St. Francois, Iron, and Crawford Counties		
Consortium/Network Affiliation	National Rural Accountable Care Consortium (NRACC) - ACO		
Consortium/Network Partners	**Organization Name**	**City/County**	**Organization Type**
	National Rural Accountable Care Consortium (NRACC)	Clackamas, OR	ACO
Evidence-Based Quality Improvement Model(s)	The Quality Improvement (QI) model used was Plan, Do, Check, Act (PDCA). Since this model is cyclical in nature, it was used in a continuous manner for ongoing improvement. Program staff recognized challenges patients experienced using the remote patient monitoring equipment. Multiple strategies were tried during the Do and Check phases of the model in order to get remote monitoring equipment to function properly for some of the most rural participants.		
Needs Addressed	Washington County's population is primarily English-speaking Caucasians. In 2015, 25% of the county was living at or below poverty level. The unemployment rate was 9.5%, 5% higher than the state and national averages. Only 7.8% of the population hold a bachelor's degree or higher. Washington County currently ranks 107 out of 114 counties in Missouri for overall health factors. Chronic diseases are prevalent. The county ranks higher than the Missouri state average for Chronic Obstructive Pulmonary Disease (COPD), heart disease, and stroke/cerebrovascular disease. In 2015, 34% of adults in Washington County were smokers, which is double the national average and greater than 10% over the state average.		

Target Population(s)	The grant program focus was on patients served by Washington County Memorial Hospital and clinics. The purpose of the Quality Matters grant was to improve health outcomes, enhance chronic disease management, and to create better engagement of the patients served. The overall goal was to improve the quality of life of the patients served in the target region. Patients over-use the Emergency Department (ED) because they often cannot afford regular medical appointments. By educating people more thoroughly about their diseases and giving the tools to monitor their diseases more closely, the use of the ED for chronic disease management purposes would improve.
Services & Activities	WCMH and its four rural health clinics implemented multiple activities. The first activity was remote patient monitoring. Clinic staff and providers chose patients for remote monitoring who had chronic conditions that needed better control. Patients were educated on the equipment that they would take to their homes for daily use. Equipment options included blood pressure cuffs, glucometers, scales, and pulse oximeters. After using the equipment, the results were sent to a cloud-based system that clinic staff could monitor. If results were abnormal, clinic staff would be sent an email. Staff would share results with the provider and could then contact the patient if new orders were given. Another activity from Quality Matters was aiding patients from the clinic and hospital setting with smoking cessation. Though WCMH patients were provided education in clinic and given literature to help them quit smoking, this was often not enough for them to be successful in their endeavor. Through the grant, patients were provided nicotine replacement products, which proved to be effective and successful. Patients were given a four-week supply of nicotine patches to use. Patients were then required to come in for a follow-up appointment to get additional supplies. Some patients could successfully break the habit after a period of time using only the first step of the patches. Other patients worked their way through the three steps available for nicotine replacement. Patient Information Binders were a very successful component of the Quality Matters grant. Program staff worked with hospital departments that interact with inpatients and with nursing staff to develop a binder given to every patient who was admitted to the hospital. The binder included information related to the patient's hospital stay: patient rights, Advance Directives, patient portal, hospital information, and other pertinent information. The binder also includes a place for any education that is done with the patient and/or family during the stay. There is a dedicated spot for the updated medication list upon discharge. This is particularly helpful when the patient goes for a follow-up visit or to the ED. There is a list of important phone numbers included in the binder and a notebook for the patient or family member to jot down any questions that may arise.
Project Results	
Outcomes	Patient Health Outcomes • 35% of patients enrolled in remote patient monitoring graduated from the program. • 10 patients gave up smoking for good. • Hospital readmission rates dropped to 4.1% overall.

	• 100% of patients admitted to the hospital were given a patient information binder. System-Level Outcomes • The system's focus on annual wellness exams and smoking cessation produced positive results for increasing numbers of patients. • The patient information binders became a successful and established mode of patient education. • Staff were disappointed with the struggle to maintain support from providers and cooperation from patients. During the grant period 46 total patients took advantage of the smoking cessation aids. That increased drastically from 4 in Year 1 to 32 in Year 2. Some patients who started the cessation plan in year 2 were still participating in Year 3, and 10 additional patients joined the program. Of these patients, 8.7% were successful in their attempts to quit smoking. Many of these patients had tried unsuccessfully multiple times to quit smoking. Throughout the grant period, 25 patients used the remote patient monitoring equipment. Nine of those patients, 36%, graduated from the program, no longer needing the daily upload of data as a result of the control they developed over their disease processes. These patients also learned not to let their diseases advance to the point of needing to go to the ED. The hospital readmission rate dropped in 2018 to 4.1% overall. This is due in part to the use of Teach Back when doing discharge teaching and the use of the patient information binders.
Sustained Impacts	Most of the services funded through the grant will be continued, including: • The use of patient information binders for all of the admitted patients at WCMH. • Support for patients trying to stop smoking with the aid of smoking cessation tools, either nicotine patches or nicotine gum. • Support with equipment that patients with chronic disease need to monitor their diseases at home. This can include scales, blood pressure cuffs, or pulse oximeters. One component of grant activities that was not deemed successful was remote patient monitoring. Difficulties with connectivity and low physician support were factors in this decision, as well as lack of patient support and buy-in. This area of the grant work was a constant struggle. WCMH did not see enough value in the program to deem it worth sustaining. Another area of the grant that was not successful was the chronic care management (CCM). Again, physicians did not see the value in this service. With the constant turnover of physicians and nurse practitioners during the grant period, the CCM volume never reached greater than 15 patients at one time. The Quality Matters team, along with WCMH administration, decided this area would not be continued at the end of the grant cycle. It is the intention of the Quality Matters team to continue the work that was started

	with this grant. By educating people about their chronic conditions and how their day-to-day actions can affect their disease, they are given the opportunity to improve their lives. This impacts their families and the generations to come. If children are raised in an environment that does not include smoking cigarettes, they're less likely to pick up the habit, which in turn will impact yet another generation. The focus on annual wellness exams and their benefits to patients produced both a short-term and a long-term impact. The short-term impact was seen in the increasing numbers of patients, for consecutive years, getting wellness exams. The long-term will come because the Quality Matters team will continue to focus on the benefit of getting wellness exams done annually. More and more patients and their families are hearing why an annual wellness exam is important. Many patients do not have extra income, but since the exams are free of charge, it is easier for patients to commit to doing it. The exams and the preventive diagnostics that go along with them will catch conditions before they are advanced, costly, and harder to treat. This will impact families by preventing deaths, increasing awareness for familial diseases, changing life styles, and improving the quality of life.
Challenges & Lessons Learned	Staff turnover: The first challenge faced was the turnover in hospital administration. The hospital Chief Executive Officer (CEO), who had been a strong supporter of the grant plan and believed in the work, transitioned from this position. This loss in daily leadership and support of the work was difficult. The grant project was explained to the new CEO, and support was obtained. During this change, the physician providers dropped some aspects of the grant work, and it took a while to restore buy-in. Partner transition: Another challenge was when an original partner dropped out of the consortium. Program staff then had to adjust their original plan for including a Chronic Care Manager (CCM). It was decided to hire a nurse to fill this position, and a search began for the right nurse for the job. This, too, proved to be a difficult task. Three times, nurses were hired, and three times, the nurse grew frustrated when she didn't get the level of participation she expected and left the position. The Quality Matters team decided to work out the final months of the grant by taking on the responsibility of CCM upon themselves. This was a challenge. The idea of a CCM is good one. Unfortunately, the buy-in from physicians and patients never grew to a level that would be needed to support a fulltime CCM. Broadband connectivity: The most disappointing in regard to success was the remote patient monitoring. The patients often lived in very rural areas that have poor cellular connectivity. The unpredictability of cellular connectivity negatively impacted this program. For those patients, different cell phone providers were tested for connectivity, but adequate reception was not achievable. For the patients who did use the remote patient monitoring, it was a moderate success. The readmission rate for these patients improved. Patients were learning more about their chronic diseases and how day-to-day decisions affected their health. Some patients who were diagnosed with chronic conditions were provided with equipment to use at home to keep tabs on their current health state. These patients, when they remembered, brought results of their daily testing back to follow up appointments so staff could note changes.

Louisiana

Winn Community Health Center, Inc.

Project Organization Information						
Organization Name	Winn Community Health Center, Inc.					
Organization Type	Federally Qualified Health Center					
Address	431 West Lafayette Street					
	City:	Winnfield	**State:**	LA	**Zip-code:**	71483
Organization's Project Contact	**Name:**	Mary Green				
	Phone:	318-648-0375				
	Email:	mgreen@winnchc.org				

Project Overview			
Title	Cen-LA Healthcare Improvement Plan (CHIP)		
Goal(s)	To improve health outcomes and quality of life for targeted high-risk patients with chronic disease		
Objectives	• To implement a health coaching program • To promote behavioral health services utilizing the Program to Encourage Active, Rewarding Lives for Seniors (PEARLS) Model • To expand the case management program		
Focus Area(s)	Chronic Disease and Depression		
Counties Served	Winn Parish		
Consortium/Network Partners	**Organization Name**	**City/County**	**Organization Type**
	Winn Parish Medical Center	Winnfield/ Winn	Hospital
	Winn Parish School Board	Winnfield/ Winn	School District
	Louisiana Primary Care Association	Baton Rouge/East Baton Rouge	Primary Care Association
Evidence-Based Quality Improvement Model(s)	Program to Encourage Active, Rewarding Lives for Seniors (PEARLS), an evidence-based depression program, tailored as a co-morbidity solution in the chronic disease environment The PEARLS work plan follows a solution-focused, behavioral activation design. The Tracking Chart helps to track patient progress over their time in the program. The worksheet supports clinicians in organizing the session with patients by first reviewing patient progress, identifying new problems, goals, solutions, activities, obtaining a confidence scale from the patient and identifying one physical and social activity for the patient to achieve by the next visit.		
Needs Addressed	Cen-LA Healthcare Improvement Partnership (CHIP) focuses on issues related to poverty, unemployment, lack of insurance, rural isolation, healthcare provider		

	shortage, and poor health status. The service area rates unfavorably for prevalence in and mortality from diabetes, mortality from congestive heart failure and prevalence of Chronic Obstructive Pulmonary Disease (COPD). CHIP addressed the growing burden of chronic disease in the area as well as positioned health care providers for the pay for performance environment.
Target Population(s)	Rural underserved patients,18 and older, with a diagnosis of chronic diseases: Chronic Obstructive Pulmonary Disease (COPD), Diabetes Mellitus (DM), and/or Congestive Heart Failure and depression
Services & Activities	• A patient group was identified for the health coach, PEARLS-trained Licensed Clinical Social Worker, and a case manager. • One-on-one health coaching sessions and behavioral health services were provided to enrolled patients • Monthly liaison calls were made to patients enrolled in CHIP program • A diabetic education class was initiated and held once a month for 6 classes • Quarterly meetings were held with the program patients focusing on COPD/Diabetic education • Consortium meetings with project partners were scheduled to discuss activities progress made with grant project The services and activities were accomplished by a Licensed Clinical Social Worker implemented PEARLS with identified patients. The Patient Liaison was a Registered Nurse who helped patients gain the knowledge, skills, tools, and confidence to become active participants in their care so that they could reach their self-identified health goals. The program also increased access to a Case Manager focused on coordinating care for the chronic disease patient. As part of the project, the Chronic Care Model (CCM) was adapted to include a quarterly face-to-face component. The model has been successful in increased adherence to treatment plan adherence and utilization of services such as preventive care services. The addition of the face-to-face, lunch-and-learn component has been important to patient retention in the program.
Project Results	
Outcomes	Patient Health Outcomes • A total of 310 patients enrolled into the program, exceeding the goal of 58, with a retention rate of 46.6% • Improvements to targeted patient health outcomes were made, including 88% of retained patients now receiving an annual wellness exam • Increased patient engagement with improved two-way communication (i.e., patients reaching out to the health coach, with 140 actively engaged in the program) • 76% of patients with diabetes had a reduction of A1c levels while participating in the program, and 72% currently have an A1c of less than 7% • Patients referred to behavioral health services had improved Patient Health Questionnaire - 9 (PHQ-9) scores, glucose readings, and medication compliance • Trusting relationships were developed between health coaches and patients, bridging the gap between clinician and patient, further helping

	patients navigate the health care system System-Level Outcomes • A patient liaison (health coaching) program was established and proved valuable in changing patient behaviors and providing measurable outcomes • A formal Quality Department was developed within a Federally Qualified Health Center • Behavioral health services were further integrated into the primary care setting, focusing on patients with chronic care conditions • The team-based approach to care was improved, with reviews of patient data and morning team huddles • Chronic Care Management staff were trained in health coaching, with increased data analytic skills and increased knowledge of addressing depression in senior populations • Winn Community Health Center (WCHC) participated in an area Accountable Care Organization (ACO), Louisiana Medicaid Managed Care Organization (MCO), and Medicare incentive programs
Sustained Impacts	• The current program activities of Patient Liaison and Behavioral Health intervention will be continued, but they will be focused on patients who have uncontrolled Diabetes Mellitus (DM) or Hypertension (HTN). • The patient liaison program with its direct patient contact was valuable in changing patient behaviors and providing measurable outcomes. The behavioral health component was also effective, although it was met with some resistance by patients due to stigma issues. • The referral process between the chronic care and behavioral health departments will remain open, but PEARLS will not be the main focus. • The staff will continue to work in cooperation with the project partners. Current staff will be retained, with duties for continued activities integrated into each person's overall job function for Winn Community Health Center. As an FQHC, WCHC currently receives Quality Improvement (QI) Supplemental Funding from HRSA based on clinical indicators, part of which will be dedicated to on-going project activities. A formula is being developed to determine the QI Supplemental funding percentage attributed to the activities of CHIP, and further refined to determine allocations between Behavioral Health and Patient Liaison services. Medicare pays for chronic care management, which will be billed by the Patient Liaison to provide earned revenue. WCHC will also test charging a monthly fee for those patients without third-party reimbursement for CCM services. Behavioral Health Services are billable services by FQHCs; Medicare and Medicaid pay FQHCs an enhanced rate, while self-pay patients pay based on a sliding scale. The project data consistently demonstrated that rural patients with a diagnosis of uncontrolled DM/HTN who received the patient liaison services implemented under the project had greater positive health outcomes, lower DM/HTN-related Emergency Department visits and higher levels self-efficacy in managing their overall health. A primary short-term impact was the ability for providers to assist patients with acute problems, preventing the situation from becoming emergent.

	The long-term impact was the confirmation that assisting patients and providing continued education on preventive measures improved their overall long term health.
Challenges & Lessons Learned	The Patient Liaison, through one-on-one direct patient communication, can resolve patient issues with both the provider and patient in a quick and efficient manner. The personal nature of the program elicits a close bond between staff and patients. It allows for making personal connection, providing the patient with confidence in their healthcare provider and support. The team-based focus of PEARLS was helpful in more fully integrating the behavioral health services. However, the time and skill required for patients to fill out assessment forms in sessions was burdensome. In addition, the PEARLS method is somewhat exclusionary to individuals with bipolar and schizophrenia. It may help to utilize with other screening tools relevant to measure mental health symptom severity over time. Stigma is often associated with therapy, especially for the patient with only mild/moderate depression and whose main goal is treatment for their Chronic Illness. Challenges exist in building rapport when having to focus time on completing a PEARLS worksheet during the therapy visit. The approach was sometimes difficult for individuals independently to identify and resolve problems and goals on their own given their education, socio-economic status, and severe lack of health literacy. This required the clinician to give suggestions and provide additional guidance, although that was not recommended by the model.

Glossary of Terms

Term	Description
Accountable Care Organization (ACO)	ACOs are networks of hospitals, physicians, specialists, and other combinations of providers that voluntarily contract with a payer to share the medical and financial responsibility for coordinating the care of an assigned population.
Advanced Medical Home (AMH)	The Advanced Medical Home (AMH) program is North Carolina's primary vehicle for delivering care management as the state transitions to Medicaid managed care. The AMH program requires prepaid health plans (PHPs) to delegate certain care management functions to AMHs at the local level.
Chronic Care Model (CCM)	The Chronic Care Model (CCM) is an organizational approach to caring for people with chronic disease in a primary care setting. The CCM identifies essential elements of a health care system that encourage high-quality chronic disease care: the community; the health system; self-management support; delivery system design; decision support, and clinical information systems.
Critical Access Hospital (CAH)	Critical Access Hospital is a designation given to eligible rural hospitals by the Centers for Medicare and Medicaid Services. Eligible hospitals must meet the following conditions to obtain CAH designation: Have 25 or fewer acute care inpatient beds; be located more than 35 miles from another hospital; maintain an annual average length of stay of 96 hours or less for acute care patients; and provide 24/7 emergency care services.
Electronic Health Record (EHR)	An EHR is an electronic version of a patient's medical history that is maintained by the provider over time, and may include all of the key administrative clinical data relevant to that persons care under a particular provider, including demographics, progress notes, problems, medications, vital signs, past medical history, immunizations, laboratory and other data and reports.
Federally Qualified Health Center (FQHC)	FQHCs are community-based health care providers that receive funds from the Health Resources and Services Administration to provide primary care services in underserved areas. They must meet a stringent set of requirements, including providing care on a sliding fee scale based on ability to pay and operating under a governing board that includes patients.

Health Information Exchange	A Health Information Exchange is a system that provides the capability to electronically move clinical information among disparate healthcare information systems and maintain the meaning of the information being exchanged.
LEAN	LEAN is a Quality Improvement process that focuses on cutting out unnecessary and wasteful steps in the creation of a product or the delivery of a service so that only steps that directly add value are taken.
Patient Centered Medical Home	Patient-Centered Medical Home is a care delivery model whereby patient treatment is coordinated through their primary care physician to ensure they receive the necessary care when and where they need it, in a manner they can understand.
Plan-Do-Study-Act	The Plan-Do-Study-Act cycle is a model for improvement that tests a change by planning it, trying it, observing the results, and acting on what is learned.
Rural Health Clinic	Rural Health Clinics (RHC) are designated by CMS and can be public, nonprofit, or for-profit healthcare facilities. RHCs must be located in rural, underserved areas. They are required to use a team approach of physicians working with non-physician providers such as nurse practitioners, physician assistants, and certified nurse midwives who staff the clinic at least 50% of the time. RHCs are required to provide outpatient primary care services and basic laboratory services.
Six Sigma	Six Sigma is a quality improvement process that seeks to improve the quality of process outputs by identifying and removing the causes of defects (errors) and minimizing variability in processes.
Transition Care Management (TCM)	The Centers of Medicare and Medicaid Services created CPT Transitional Care Management (TCM) codes (99495 and 99496) to address the significant non-face-to-face work involved in coordinating services for a beneficiary after discharge from a hospital, observation admission, or skilled nursing facility.

HRSA

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