



U.S. Department of Health and Human Services

REPORT TO CONGRESS

**DEMONSTRATION PROJECT ON
COMMUNITY HEALTH INTEGRATION
MODELS IN CERTAIN RURAL COUNTIES**

FINAL REPORT

Executive Summary

There are 1,350 Critical Access Hospitals (CAHs) across the United States.¹ Many of these small, rural hospitals serve as the hubs for health care in sparsely populated areas isolated from population centers, known as “frontier” areas, where the provision of essential health care services may not be financially viable given low patient volumes. Congress authorized a demonstration project to “test new models for the delivery of health care services in eligible counties for the purpose of improving access to, and better integrating the delivery of, acute care, extended care, and other essential health care services to Medicare beneficiaries.”²

Section 123 of the Medicare Improvements for Patients and Providers Act of 2008 (P.L. 110-275), as amended by Section 3126 of the Affordable Care Act of 2010 (P.L. 111-148), authorized the “Demonstration Project on Community Health Integration Models in Certain Rural Counties.” The Federal Office of Rural Health Policy (FORHP) in the Health Resources and Services Administration (HRSA) and the Center for Medicare and Medicaid Innovation in the Centers for Medicare & Medicaid Services (CMS) jointly administered the demonstration project, implemented as the Frontier Community Health Integration Project Demonstration (FCHIP). The purpose of the demonstration was to explore ways to increase access to, and improve the adequacy of, payments for acute care, extended care, and other essential health care services provided under the Medicare and Medicaid programs in eligible counties; and to evaluate regulatory challenges facing such providers and the communities they serve. The authorizing legislation also required two reports to the Congress, which included an interim report due within 2 years of the implementation of the demonstration project and a final report due within 1 year of completion of the demonstration project. The interim report presented the background, design, and structure of FCHIP along with preliminary results from the first year of the demonstration project. This final report expands on the interim report, with findings from the duration of the 3-year model and recommendations for legislative and administrative action.

Based on the legislative criteria and the response to the 2014 solicitation, the demonstration project included 10 participating CAHs located in three states: Montana, Nevada, and North Dakota. The demonstration began on August 1, 2016, operated for 3 years, and included three interventions:

1. **Ambulance services:** Allowed Medicare to pay participating CAHs for ambulance services at 101 percent of the reasonable costs instead of the Medicare ambulance fee schedule rate even if there is another CAH or other providers or suppliers of ambulance services located within a 35-mile drive of the participating CAH.
2. **Skilled nursing facility/nursing facility beds:** Allowed participating CAHs to have up to 35 inpatient beds instead of the statutory limit of 25 acute care inpatient beds. Participating

¹ As of January 17, 2020.

² Section 123(a) of the Medicare Improvements for Patients and Providers Act of 2008 (P.L. 110-275), as amended by Section 3126 of the Affordable Care Act of 2010 (P.L. 111-148).

CAHs could only use the additional beds as swing beds for the provision of skilled nursing facility (SNF) or nursing facility (NF) level of care.³

3. **Telehealth:** Allowed Medicare to pay participating CAHs serving as originating sites in hosting telehealth services at 101 percent of costs for overhead, salaries, fringe benefits, and the depreciation value of telehealth equipment, instead of the fixed originating site fee.

Two participating CAHs implemented multiple interventions, while eight participating CAHs implemented one intervention. Under the demonstration project, two participating CAHs implemented the ambulance intervention, eight participating CAHs implemented the telehealth intervention, and three participating CAHs implemented the SNF/NF bed intervention.

As required by the authorizing legislation, FORHP, an office within HRSA, provided technical assistance in two phases to the participating CAHs. In the first phase, HRSA provided support to the Montana Health Research and Education Foundation (MHREF) for stakeholder engagement of eligible CAHs to identify key policy issues and areas of need that could inform CMS's development of the demonstration. In November 2012, MHREF published a report providing an overview of the challenges facing frontier providers and communities and introduced a potential model for a new integrated 'Frontier Health System' that would assist in the development of a demonstration aiming to achieve the goals in the authorizing legislation. In addition to this framework document, which provided a brief look at the challenges and opportunities facing frontier communities, MHREF delivered six white papers providing a more in-depth analysis and data reflecting specific frontier health care service delivery issues.⁴ The second phase focused on implementation support activities such as improving community awareness of new or increased health services to facilitate local residents' access to, and establishing beneficial provider partnerships for, telehealth specialty care. CMS's implementation activities included making payments, securing necessary Medicare waivers, and monitoring demonstration progress. CMS also monitored selected hospital-level and intervention-specific performance and quality measures.

Participating CAHs reported that the ambulance and SNF/NF bed interventions were implemented relatively easily with little burden on the participating CAHs, as they were able to use existing resources or idle capacity. For the telehealth intervention, first year efforts focused on developing and improving administrative and clinical processes and generating more community awareness of telehealth availability. Because of these efforts, the number of Medicare telehealth encounters increased from one in the year prior to the demonstration to 129 per year in the third year of the demonstration. The implementation of telehealth under the demonstration also had spillover benefits for community members served by other payers, as participating CAHs also reported 342 telehealth encounters for non-Medicare patients in the third year of the demonstration.

³ A CAH with Medicare swing bed approval may use any of its inpatient beds for either inpatient or SNF-level services. Medicaid coverage of NF Services is available only for services provided in a nursing home licensed and certified by the state survey agency as a Medicaid NF. In some state Medicaid programs, CAHs may provide NF services in swing beds.

⁴ Montana Health Research and Education Foundation. Framework for a New Frontier Health System: A Proposal to Establish a New "Frontier Health System" Provider Type and Conditions of Participation. Nov. 2012. Available at <https://www.ruralhealthinfo.org/new-approaches/pdf/framework-for-a-new-frontier-health-system-model.pdf>. See "Frontier Community Health Integration Program (FCHIP)" at <https://www.ruralhealthinfo.org/new-approaches/frontier-community-health-integration-program> for access to the white papers.

Findings

Data to evaluate the demonstration came from several sources. Data sources examined include fee-for-service Medicare claims and CAH-reported encounter and quality data. Medicaid and other payer claims data are not reflected in the findings described in this report due to issues of data availability. Qualitative findings were generated through interaction with the CAHs, site visits and interviews with a variety of stakeholders including hospital leadership (e.g., Chief Executive Officer, Chief Financial Officer, and Medical Director); affiliated providers; and hospital administrative support staff.

Progress and Accomplishments

- Under the ambulance intervention, the two participating FCHIP CAHs continued to provide ambulance transports, and they appreciated having the financial and operational flexibility to cover the costs of transporting patients.
- Although one participating CAH primarily drove the SNF/NF bed use increases, the three CAHs considered the SNF/NF bed intervention a success because the demonstration motivated them to make changes to physical infrastructure, staffing, and workflow to staff the additional capacity. The CAHs also reported that hospital leaders engaged with the local community more because of the demonstration.
- Telehealth services expanded and matured during the second and third years of the demonstration. Clinical practitioners and staff became more familiar with telehealth offerings, workflows and procedures, and patients became more familiar with telehealth options in their community. Participating CAHs also strengthened their relationships with distant providers.
- Implementation support provided by the FCHIP implementation contractor and technical assistance provided by MHREF were very helpful to the telehealth success. The CAHs appreciated the marketing and outreach assistance, as it helped the communities become aware of telehealth and SNF/NF services.

Challenges

- Across all three interventions, participating CAHs reported that finding and keeping clinical staff was a challenge due to their rural locations. Shortages of emergency medical technicians to staff ambulance transports and clinical practitioners available to provide SNF levels of care to patients in the additional SNF/NF beds continued to be a concern.
- In the course of the demonstration, CAH reported that they needed to use distant-site agreements to supply remote emergency telehealth services in their communities, though these costs could not be included in the cost calculation reimbursement mechanism used in this demonstration. Some participating CAHs reported distant-site contractual agreements to support community needs and/or other funding sources (e.g., grants) to cover the expense needed to render remote emergency telehealth services that were external to the demonstration. Among the participant CAHs there was a \$148 average cost per originating site encounter. This suggests the Medicare originating site fee alone may be insufficient to cover the fixed costs of providing remote telehealth emergency services (e.g., equipment, nursing staff) for remote CAHs.

Lessons Learned

- In the area of telehealth, CAHs reported positive impacts related to increased access to behavioral health care, pain management and substance use; reductions in no-show appointments; and reductions in the need for transfers of care. The CAHs generally intend to continue offering telehealth services at the \$26 payment rate instead of the 101 percent of reasonable costs as in the demonstration after the conclusion of the FCHIP demonstration, as they see it as a value-add for their communities.
- The perception of CAH staff was that ambulance intervention facilitated access to regional level-one trauma centers with associated specialists and services within driving distance. This change meant some participating CAHs used ground ambulance services to transfer patients directly to a level-one trauma facility instead of taking them to a nearby airport and flying them elsewhere for tertiary care. CAHs perceived this change as having a positive impact on quality of care and health outcomes.
- CAHs received positive feedback from patients and their families who were pleased that they could receive more skilled nursing care in the community. However, the demonstration offered little relief that was not already satisfied by the statutory bed maximum.
- CAHs participating in the ambulance and telehealth interventions believed that the payment model coupled with relatively low volumes of ambulance transports and telehealth encounters would not significantly change Medicare payment overall. However, the FCHIP CAHs with these interventions received higher Medicare payments for these services than if they were paid at the Medicare fee schedule rates.

Recommendations

Across all three interventions, a common theme was the difficulty in evaluating the effectiveness of the interventions due to small sample sizes. Therefore, a universal recommendation resulting from the FCHIP demonstration is that policymakers may consider expanding the number of rural communities eligible for participation in any future demonstration. Similarly, policymakers may also consider expanding the length of time authorized to test the demonstration. Longer demonstrations should provide additional encounters to test in the model, which would help to alleviate confounding factors associated with the short-term nature of the demonstration.

The report also makes intervention-specific recommendations. For the ambulance intervention, one participant CAH was able to hire a paid paramedic with a higher level of training compared to a volunteer. Policymakers may consider the implications this has for the quality of care available with cost-based ambulance reimbursement, along with the potential for cost-savings associated with avoidable air ambulance transfers. For both the ambulance and SNF/NF interventions, participant CAHs reported fewer challenges in implementation compared to the telehealth intervention. Though telehealth encounters had increased after addressing challenges in the first year of the demonstration, there ultimately was insufficient evidence to show that the demonstration improved access to telehealth more than what would have occurred without the demonstration. However, similar to the recommendation for the other two interventions, more inclusive eligibility criteria and longer timeframes in future demonstrations may provide more

conclusive evidence. Further, any future demonstration might consider the challenges of covering the fixed costs of providing telehealth emergency services in the demonstration CAHs.

Lastly, the demonstration period occurred before the onset of the COVID-19 public health emergency (PHE), declared on March 13, 2020, and the temporary regulatory changes and waivers implemented by CMS for duration of the PHE.^{5, 6} If these policy changes were in effect during the demonstration period, this could have affected the implementation of the three FCHIP interventions. Due to the PHE, CMS waived the requirements that CAHs limit the number of beds to 25 at 42 CFR §485.620. CMS made a number of telehealth changes during the PHE including allowing the residence to be an originating site. CMS policy changes also affected ambulance services, for instance, allowing Part B ambulance emergency transports to destinations other than a hospital. The report does not consider these temporary regulatory changes in the findings or the discussion. Therefore, the recommendations within this report should be considered in the context of these policy changes for as long as they remain in effect.

Summary and Conclusions

Even though the FCHIP demonstration consisted of three very different interventions, participants noted several commonalities that influenced the effectiveness of the demonstration, regardless of the specific intervention type: CAH's remote location and low population density, as well as commitment to the community, workforce, and technical assistance. A payment change (for ambulance and telehealth services) or an increase in capacity (for SNF/NF services) alone cannot significantly change demand for services, and demand is hard to influence when there are relatively few individuals within a community eligible for a FCHIP-related service. However, regardless of the intervention type, each participating CAH reiterated that importance of leveraging the FCHIP demonstration to garner community goodwill and trust. All CAHs across interventions noted some degree of training and education of staff because of the demonstration and that technical assistance, marketing, and outreach support provided as a part of this demonstration's operationalization under FORHP were critical.

⁵ Centers for Medicare & Medicaid Services. Medicare and Medicaid Programs; Policy and Regulatory Revisions in Response to the COVID-19 Public Health Emergency. Interim Final Rule with Comment Period. April 6, 2020. Available at <https://www.federalregister.gov/documents/2020/04/06/2020-06990/medicare-and-medicaid-programs-policy-and-regulatory-revisions-in-response-to-the-covid-19-public>

⁶ Centers for Medicare & Medicaid Services. COVID-19 Emergency Declaration Blanket Waivers for Health Care Providers. June 2020. Available at <https://www.cms.gov/files/document/summary-covid-19-emergency-declaration-waivers.pdf>

DEMONSTRATION PROJECT ON COMMUNITY HEALTH INTEGRATION MODELS IN CERTAIN RURAL COUNTIES INTERIM REPORT

Table of Contents

Executive Summary	ii
Findings.....	iv
Progress and Accomplishments	iv
Challenges.....	iv
Lessons Learned.....	v
Recommendations	v
Summary and Conclusions	vi
Table of Contents	vii
Acronym List.....	ix
Legislative Authority	10
Introduction.....	11
Overview	12
Ambulance Services	13
SNF/NF Beds	13
Telehealth.....	14
Home Health Services.....	15
Implementation	16
Technical Assistance and Implementation Support	17
Performance Measures	17
Hospital-Level Quality Measures	18
Intervention-Specific Measures	19
Telehealth.....	20
Findings.....	20
Hospital-Level Quality Measures	20
Medicare Beneficiary Quality Improvement Project (MBQIP).....	21
Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS)	23
Intervention-Specific Findings.....	23
Ambulance Services (implemented at two CAHs)	23
SNF/NF Beds (implemented at three CAHs).....	27

Telehealth (implemented at eight CAHs)	31
Recommendations	38
Cross-Intervention Recommendations.....	38
Intervention-Specific Recommendations	39
Ambulance	39
SNF/NF Beds	39
Telehealth.....	40
Summary and Conclusions	40
Appendix 1: Hospital-Level Quality Metrics	43
Appendix 2: Swing Bed Quality Measures	47

Acronym List

AFS	Ambulance Fee Schedule
ALS	Advanced Life Support
BY	Baseline Year
CAH	Critical Access Hospital
CMS	Centers for Medicare & Medicaid Services
ED	Emergency Department
EDTC	Emergency Department Transfer Communication
EMT	Emergency Medical Technician
FCHIP	Frontier Community Health Integration Project Demonstration
FORHP	Federal Office of Rural Health Policy
HAC	Healthcare-acquired Condition
HAI	Healthcare-associated Infection
HCAHPS	Hospital Consumer Assessment of Healthcare Providers and Systems
HRSA	Health Resources and Services Administration
LOS	Length of stay
LTC	Long-term care
MAC	Medicare Administrative Contractor
MBQIP	Medicare Beneficiary Quality Improvement Project
MDS	Minimum Data Set
MHREF	Montana Health Research and Education Foundation, Inc.
MIPPA	Medicare Improvements for Patients and Providers Act of 2008
NEMESIS	National Emergency Medical Services Information System
NF	Nursing facility
PFS	Medicare Physician Fee Schedule
PHE	Public Health Emergency
PY	Performance Year
SNF	Skilled nursing facility

Legislative Authority

Section 123 of the Medicare Improvements for Patients and Providers Act of 2008 (P.L. 110-275) (MIPPA), as amended by Section 3126 of the Affordable Care Act of 2010 (P.L. 111-148), authorized the “Demonstration Project on Community Health Integration Models in Certain Rural Counties.” The Department of Health and Human Services implemented the demonstration project as the Frontier Community Health Integration Project Demonstration (FCHIP). The authorizing legislation’s stated purpose for the demonstration project was to “(1) explore ways to increase access to, and improve the adequacy of, payments for acute care, extended care, and other essential health care services provided under the Medicare and Medicaid programs in eligible counties; and (2) evaluate regulatory challenges facing such providers and the communities they serve.”

The authorizing legislation required eligible participants in the demonstration to be (1) a Rural Hospital Flexibility Program grantee under Section 1820(g) of the Social Security Act (42 U.S.C. 1395i-4(g)); and (2) located in a state in which at least 65 percent of the counties in the state are counties that have 6 or less residents per square mile. Based on these criteria, only Critical Access Hospitals (CAHs) located in five states were eligible to participate in this demonstration project: Alaska, Montana, Nevada, North Dakota, and Wyoming. The legislation limited the demonstration to not more than four states. Within the qualifying states, CAHs were eligible to participate if they (1) furnished one or more of home health services or hospice care and (2) had an average daily inpatient census of five or less. There was an additional requirement that skilled nursing facility (SNF) services were available in the county in a CAH using swing beds or a local nursing home. The demonstration project was required to be budget neutral, meaning that the aggregate payments do not exceed the amount paid if there were no demonstration project.⁷

The authorizing legislation requires two reports to the Congress, which included an interim report due within 2 years of the implementation of the demonstration project, and a final report due within 1 year after completion of the demonstration project. The interim report presented the background, design, and structure of FCHIP and preliminary findings from the first year of the demonstration project. This final report expands on the interim report using the information gained from the last 2 years of the demonstration project and provides recommendations for legislative and administrative action.

⁷ In the Fiscal Year 2017 Hospital Inpatient Prospective Payment System final rule, CMS finalized a policy that, in the event it is determined that aggregate payments under the demonstration exceed the payments that would otherwise have been made, CMS will recoup payments through reductions of Medicare payments to all CAHs under both Medicare Part A and Part B. Given the 3-year period of performance for FCHIP and the time needed to conduct the budget neutrality analysis, in the event the demonstration is found not to have been budget neutral, any excess costs will be recouped over a period of 3 cost reporting years, beginning in Calendar Year 2020. See 81 Fed. Reg. 56762, 57064-57065 (Aug. 22, 2016).

Introduction

Health care providers eligible for FCHIP had to be Medicare Rural Hospital Flexibility Program grantees. Section 1820 of the Social Security Act (42 U.S.C. 1395i-4) established the program, under which individual states may designate certain facilities as CAHs. The Centers for Medicare & Medicaid Services (CMS) will certify a facility as a CAH if the facility is located in a state that has established a Medicare Rural Hospital Flexibility Program, the facility has been designated as a CAH by the state in which it is located, and the facility meets other criteria such as the CAH conditions of participation. Regulations governing payments to CAHs for services to Medicare beneficiaries are located in 42 CFR Part 413.

There are 1,350 CAHs across the United States.⁸ CAHs are small rural hospitals that, as required by statute, provide 24-hour emergency care; have no more than 25 acute care inpatient beds; are at least a 35-mile drive from another hospital or CAH or at least a 15-mile drive from another hospital or CAH in an area with mountainous terrain or only secondary roads;⁹ and provide inpatient care for a period that does not exceed, as determined on an annual average basis, 96 hours per patient. CAHs often serve as the hubs for health care in the most sparsely populated areas isolated from population centers, known as “frontier” areas, where the provision of essential services may not be financially viable given low patient volumes.

Medicare generally pays CAHs at 101 percent of reasonable costs for services furnished to Medicare beneficiaries (i.e., inpatient, outpatient, and SNF-level services). Despite cost-based payment, some CAHs, particularly those with lower inpatient volumes and those serving market areas with smaller populations, experience poorer financial performance than other rural hospitals.¹⁰ In their applications to participate in FCHIP, several CAHs reported that financial constraints often limited the extent of their available health care services. These facilities hoped their participation would illustrate some of the unique considerations of facilities in frontier areas due to low volume and small size.

FCHIP tested whether enhanced payments using alternative payment methodologies would increase access to care, increase the integration and coordination of care among providers within the community, and improve the quality of care. A specific objective of FCHIP was to support CAH and local delivery systems in keeping patients, whom the CAH might otherwise transfer to distant providers, in the community.

⁸ As of January 17, 2020.

⁹ There was an exception to the statutory distance criteria. If the facility did not meet either of the distance criteria, as an alternative, it must have been certified as a CAH prior to January 1, 2006, based on state designation as a “necessary provider” of health care services to residents in the area (Section 1820(c)(2)(B)(i)(II) of the Social Security Act).

¹⁰ Holmes, George M., et al. “The Financial Performance of Rural Hospitals and Implications for Elimination of the Critical Access Hospital Program.” *The Journal of Rural Health*, vol. 29, no. 2, 2013, pp. 140-149. DOI: 10.1111/j.1748-0361.2012.00425.x

Overview

The Federal Office of Rural Health Policy (FORHP), an office within the Health Resources and Services Administration (HRSA), and the Center for Medicare and Medicaid Innovation, a center within CMS jointly administered the 3-year demonstration project, which started on August 1, 2016, and ended on July 31, 2019.¹¹ CMS and FORHP collaborated on outreach to providers and other stakeholders and coordinated monitoring, technical assistance, and evaluation activities.

Key provisions of MIPPA integral to the design of the demonstration project include the purpose, payments, and affected services, as follows:

- **Purpose:** “(1) explore ways to increase access to, and improve the adequacy of, payments for acute care, extended care, and other essential health care services provided under the Medicare and Medicaid programs in eligible counties; and (2) evaluate regulatory challenges facing such providers and the communities they serve.”
- **Payment:** “Health care providers in eligible counties selected to participate...shall... instead of the payment rates otherwise applicable under the Medicare program, be reimbursed at a rate that covers at least the reasonable costs of the provider in furnishing acute care, extended care, and other essential health care services to Medicare beneficiaries”
- **Services:** The demonstration focuses on acute care, extended care, and other essential health care services. Extended care services means “(A) home health services, (B) covered skilled nursing facility services, [and] (C) hospice care.” Other essential health care services mean “(A) ambulance services, (B) physician services..., (C) public health services..., [and] (D) other health care services determined appropriate by the Secretary.”

In administering the demonstration, the legislation required CMS to determine the provisions of titles XVIII and XIX of the Social Security Act that should be waived that are relevant to the development of alternative payment methodologies and directed FORHP to provide technical assistance to participants. A cooperative agreement between FORHP and the Montana Health Research and Education Foundation (MHREF), established by the Montana Hospital Association, produced materials to inform the design of the demonstration project. In collaboration with the Montana Office of Rural Health and administrators from nine Montana hospitals, MHREF conducted fieldwork to identify unique challenges facing hospitals in frontier communities and developed a series of six white papers in addition to the report, “Framework for a New Frontier Health System.”¹² The purpose of these white papers was to inform CMS of the key issues and concerns of potential frontier participants as it developed the demonstration. The white paper topics included:

¹¹ The process of implementing the demonstration project authorized in Section 123 of MIPPA spanned 8 years from 2008 to 2016 to accommodate the development and approval of the project and its mandated provisions of budget neutrality and applicable Medicare payment waivers.

¹² Montana Health Research and Education Foundation. Framework for a New Frontier Health System and White Papers. Nov. 2012. Available at <https://www.ruralhealthinfo.org/new-approaches/pdf/framework-for-a-new-frontier-health-system-model.pdf>. See “Frontier Community Health Integration Program (FCHIP)” at <https://www.ruralhealthinfo.org/new-approaches/frontier-community-health-integration-program> for access to the white papers.

- White Paper #1: Referral and Admission/Readmission Patterns
- White Paper #2: Frontier Telehealth
- White Paper #3: Frontier Quality Measures and Pay For Performance
- White Paper #4: Frontier Long-term Care Issues/Swing Bed Use
- White Paper #5: Frontier Cost Report Issues
- White Paper #6: Frontier Health Care Workforce

Using this information, CMS implemented components of these recommendations as the FCHIP demonstration that were in alignment with the already existing fee-for-service cost-based payment structure of eligible participant CAHs. CMS designed FCHIP to meet the goals and objectives of the authorizing legislation and identified four interventions for which CMS could implement specific waivers of Medicare payment rules as authorized by Section 123(i) of P.L. 110-275. These interventions are below.

Ambulance Services

During the demonstration, CAHs and entities owned and operated by CAHs were eligible to receive cost-based payment (101 percent of reasonable costs) to provide ambulance services, but only if they meet the following conditions:

1. If the CAH or the entity is the only provider or supplier of ambulance services located within a 35-mile drive of the CAH; or
2. If there is no provider or supplier of ambulance services located within a 35-mile drive of the CAH and there is an entity owned and operated by a CAH that is more than a 35-mile drive from the CAH, payment for ambulance services furnished by that entity is 101 percent of the reasonable costs of the entity in furnishing those services, but only if the entity is the closest provider or supplier of ambulance services to the CAH.

If the CAH does not meet these conditions, Medicare pays for CAH ambulance service based on the Medicare Ambulance Fee Schedule (AFS). FCHIP allowed Medicare to pay participating CAHs 101 percent of reasonable costs of furnishing ambulance services irrespective of other providers or suppliers of ambulance services located within a 35-mile drive of the CAH. All other rules affecting the provision of ambulance services still applied. CMS designed this intervention with the intent to improve access to emergency medical services by providing reasonable cost-based payment to participating CAHs for payment for ambulance services, thereby allowing them to invest in needed staff, training, and support. FCHIP sought to test whether this higher payment could allow them to improve the coverage of their service areas and minimize the use of more expensive air transport services due to gaps in ground-based coverage.

SNF/NF Beds

The statute currently limits CAHs to no more than 25 inpatient beds. A CAH with CMS approval to provide post-hospital SNF care may use any of its 25 inpatient beds as “swing beds” to furnish SNF-level services. The demonstration allowed participating CAHs to have up to 35 inpatient beds. However, the CAH could use the 10 additional inpatient beds only to provide SNF or

nursing facility (NF) levels of care. Medicare pays for the covered services furnished to a Medicare beneficiary in a CAH swing bed based on 101 percent of reasonable costs.

Swing beds allow CAHs to use some acute beds for certain non-acute services where patients still require an inpatient level of care and are not ready for discharge to a community setting. This can include SNF-level services, such as occupational or physical therapy, wound care, and intravenous antibiotic administration; hospice care; and NF-level Medicaid services such as long-term care (LTC). In areas with no or very few rehabilitation or SNFs, swing beds may be the only avenue to receive these health care services locally.

CMS designed the SNF/NF bed intervention with the intent to improve access to SNF and NF care and to reduce the need to refer patients out of the community for post-acute care and LTC services due to availability issues (e.g., waiting lists, delays in admissions). The intent was that allowing the CAH to use up to an additional 10 inpatient beds could allow participating CAHs to:

- Reduce delays in discharge from higher-cost inpatient care, thereby lowering acute care lengths of stay;
- Provide an appropriate level of care within the community by improving access to rehabilitation and LTC services;
- Limit out-migration of patients by providing needed services in the community; and
- Improve utilization of staffing and facility resources (i.e., economies of scale).

Telehealth

During the time of the demonstration, Medicare paid for telehealth services furnished via a telecommunications system by a physician or certain other practitioners to an eligible individual who is not at the same location. Medicare defined telehealth services to include professional consultations, office visits, office psychiatry services, and other services specified by the Secretary, only when furnished under specific conditions.¹³ Payment was limited to those services on CMS' approved list of Medicare telehealth services.

Patients receive Medicare telehealth services in a permissible "originating site" (where the patient is located) from a practitioner located at a separate "distant site" using telehealth technology (equipment) with secure transmission as the bridge between the two.¹⁴ During the demonstration, CMS would pay for most Medicare telehealth services only if furnished using synchronous (i.e., real-time, live-video) technology, rather than asynchronous (store-and-forward) modalities.¹⁵ The law only allowed certain types of health care settings in certain geographic areas to serve as originating sites. The statute included CAHs among the allowable types of settings that can serve

¹³ 42 U.S.C. Sec. 1395m (m)(4). <https://www.gpo.gov/fdsys/pkg/USCODE-2016-title42/pdf/USCODE-2016-title42-chap7-subchapXVIII-partB-sec1395m.pdf>.

¹⁴ 42 U.S.C. Sec. 1395m (m)(4)(C). <https://www.gpo.gov/fdsys/pkg/USCODE-2016-title42/pdf/USCODE-2016-title42-chap7-subchapXVIII-partB-sec1395m.pdf>.

¹⁵ 42 U.S.C. Sec. 1395m (m)(1) (asynchronous "store-and-forward" technology may be used for a federal telemedicine demonstration program conducted in Alaska or Hawaii). <https://www.gpo.gov/fdsys/pkg/USCODE-2016-title42/pdf/USCODE-2016-title42-chap7-subchapXVIII-partB-sec1395m.pdf>

as an originating site. CAHs, however, must also meet the statutory geographic requirements pertaining to rural location to be able to serve as originating sites.¹⁶

The Medicare Physician Fee Schedule (PFS) provided for payment to distant site practitioners who furnished a Medicare telehealth service in an amount equal to the amount paid to the practitioner if the service had been furnished in-person. The PFS also provided for payment to the originating site, including CAHs, an originating site facility fee, which amounted to approximately \$26 in 2019. The larger share of the payment for a telehealth service goes to providers outside of the rural originating site as the professional fee. In frontier health care settings with low patient volumes, anecdotal evidence pointed to this originating site fee being insufficient to cover the fixed costs of providing telehealth services (e.g., equipment, nursing staff). At the same time, residents of frontier communities arguably stood to benefit from telehealth services because of the long travel distances required to access many specialty services.¹⁷

FCHIP paid participating CAHs in hosting telehealth origination services at 101 percent of costs, instead of the Medicare PFS originating site facility fee. Reimbursable costs included overhead, salaries, fringe benefits, and the depreciation value of the telehealth equipment. The Medicare payment to distant site practitioners for telehealth services did not change under the demonstration project. All other Medicare requirements regarding payment for telehealth services continued to apply, including that Medicare only paid for telehealth services furnished using synchronous audio-video technology to connect the practitioner and patient.¹⁸ The demonstration project did not cover services that use asynchronous technologies, including those involving data collected, stored, and sent to a practitioner for later review.

CMS designed this intervention with the intent to encourage the increased use of telehealth to improve access to services, reduce travel barriers for patients, and improve support for local providers.

Home Health Services

For home health services, CMS proposed an enhanced payment for home health travel mileage. CMS did not implement this intervention because none of the CAHs chosen to participate in the demonstration proposed to implement this intervention. Consequently, participating CAHs only implemented three interventions.

¹⁶ 42 U.S.C. Sec. 1395m (m)(4)(C) (originating sites must be in rural locations and be an eligible provider type as listed in this section of the code). <https://www.gpo.gov/fdsys/pkg/USCODE-2016-title42/pdf/USCODE-2016-title42-chap7-subchapXVIII-partB-sec1395m.pdf>

¹⁷ Montana Health Research and Education Foundation. White paper #2: Case Study on Frontier Telehealth. 2012. <https://www.ruralhealthinfo.org/new-approaches/pdf/case-study-on-frontier-telehealth.pdf>

¹⁸ Because the demonstration period occurred before the onset of the COVID-19 public health emergency, temporary regulatory changes applicable to telehealth services in response to the public health emergency are not applicable for the purposes of FCHIP and are not included in the discussion in this report.

Implementation

The process for soliciting applications from CAHs for the demonstration began in January 2014 when CMS issued a Request for Applications. In the application process, CAHs were required to meet the eligibility requirements in the authorizing legislation and to submit a proposal to enhance health-related services that would complement those currently provided by the CAH and better serve the community’s needs.

CAHs in five states (Alaska, Montana, Nevada, North Dakota, and Wyoming) were eligible to participate in the demonstration, although the authorizing legislation limited the number of participating states to four. Subsequently, ten CAHs in three states (Montana, Nevada, and North Dakota) met the criteria to participate in FCHIP. The selected applicants only proposed the ambulance, SNF/NF beds, and telehealth interventions. Tables 1a and 1b show the ten participating CAHs and their proposed intervention(s). Two CAHs implemented the ambulance services intervention, three implemented the SNF/NF bed intervention, and eight implemented the telehealth intervention. Two CAHs implemented more than one intervention. The selected CAHs began their participation in FCHIP on August 1, 2016.

Table 1a. Critical Access Hospitals Chosen for Frontier Community Health Integration Project Demonstration

Project Sites (CAHs)¹⁹
Montana
Dahl Memorial Healthcare Association, Ekalaka, MT
McCone County Health Center, Circle, MT
Roosevelt Medical Center, Culbertson, MT
Nevada
Battle Mountain General Hospital, Battle Mountain, NV
Grover C. Dils Medical Center, Caliente, NV
Mt. Grant General Hospital, Hawthorne, NV
Pershing General Hospital, Lovelock, NV
North Dakota
Jacobson Memorial Hospital Care Center, Elgin, ND
McKenzie County Healthcare Systems, Watford City, ND
Southwest Healthcare Services, Bowman, ND

¹⁹ Individual CAH names are blinded in the rest of the report, and instead are identified by a consistent label throughout (e.g., CAH 1, CAH 2).

Table 1b. Implementation of Interventions for Frontier Community Health Integration Project Demonstration

Project Sites (CAHs) ²⁰	Intervention (denoted by X)		
	Ambulance	SNF/NF Beds	Telehealth
CAH 1			X
CAH 2			X
CAH 3			X
CAH 4			X
CAH 5		X	
CAH 6			X
CAH 7	X		X
CAH 8			
CAH 9		X	X
CAH 10	X	X	X
Totals per intervention	2	3	8

Technical Assistance and Implementation Support

The legislation authorizing FCHIP required FORHP and CMS to administer jointly the demonstration project. Section 123(e)(2)(B) of the authorizing statute required FORHP to provide technical assistance to the selected participants related to the requirements of the demonstration project. Through a cooperative agreement funded by FORHP technical assistance was provided to the participating CAHs, including the following activities:

- Improving community awareness of new or increased health services to facilitate local residents’ access;
- Establishing beneficial provider partnerships for telehealth services; and
- Consulting with rural health experts to integrate new or increased services into the CAHs’ clinical delivery systems, such as Telehealth Resource Centers funded by FORHP to provide assistance, education, and information to increase the availability of telehealth services to underserved populations.

Performance Measures

As with all CMS demonstrations, monitoring performance and the quality of care was an essential part of FCHIP, which included a core set of quality and performance measures:

- Assess the impact of intervention-specific payment changes on the ability of participating CAHs to expand access to needed services for Medicare beneficiaries;
- Quantify Medicare costs for the expanded array of services;

²⁰ Individual CAH names are blinded in the rest of the report, and instead are identified by a consistent label throughout (e.g., CAH 1, CAH 2).

- Document potential changes in utilization related to the use of these expanded services; and
- Monitor the impact of participation on hospital financial and quality performance.

Quality measures and performance measures included in the demonstration were required to meet the following criteria:

- Do not add significantly to the participants' reporting burden;
- Align with existing national and/or state measures;
- Can be calculated, whenever possible, from administrative data such as claims; and
- Apply to all hospitals universally (i.e., the core measures).

Existing quality and performance measures (modified as necessary) and protocols met these criteria. Each participating CAH had to submit hospital-level and intervention-specific performance and quality metrics on a quarterly basis.

Hospital-Level Quality Measures

CAHs reported nine hospital-level quality measures under FCHIP. Four were from the FORHP-developed Medicare Beneficiary Quality Improvement Project (MBQIP).²¹ Five were from the Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) survey, which is a survey administered to patients treated at a hospital to assess patient experience with care. These measures pertained only to the hospital inpatient and outpatient services and did not cover patients receiving swing bed services (LTC and post-acute). Table 2 lists the hospital-level quality measures. Appendix 1 provides more detail on the hospital-level quality measures.

²¹ See <https://www.ruralcenter.org/tasc/mbqip>.

Table 2. Frontier Community Health Integration Project Demonstration Hospital-Level Quality Measures

Medicare Beneficiary Quality Improvement Project (MBQIP) measures
Outpatient (OP)-20: Median time in emergency department before being seen by healthcare professional
OP-27: Influenza vaccination coverage among healthcare personnel (percent of healthcare workers given influenza vaccination)
Immunization (IMM)-2: Immunization for influenza (percent of patients given influenza vaccination)
Emergency Department Transfer Communication (EDTC): Patients transferred from Emergency Departments (ED) with necessary communication (percent of patients)
Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) measures
HCAHPS: Composite 1: Communication with nurses (always communicated well)
HCAHPS: Composite 2: Communication with doctors (always communicated well)
HCAHPS: Composite 3: Responsiveness of hospital staff (always received help when wanted)
HCAHPS: Composite 6: Discharge information (given information about recovery at home)
HCAHPS: Composite 7: Care transitions (understood care when left the hospital)

Intervention-Specific Measures

Ambulance

The performance measures collected for the ambulance intervention included (1) four National Emergency Medical Services Information System (NEMSIS) measures developed from a national database and protocols and (2) the number of transports. The participating CAHs implementing this intervention collected these NEMSIS measures:

- Chute time: time from dispatch notification to ambulance unit response (en route);
- Scene time: time of arrival until time left the scene;
- Unit back in service time: time the ambulance unit is released by the hospital; and
- Percentage of patients with suspected cardiac chest pain who were administered aspirin.

Of these four NEMSIS measures, only one, the “scene time,” is useful for comparison purposes. Since the “chute time” can depend on the ambulance duty staffing arrangements (e.g., residing at a garage or at home), the time at the scene may be a better measure of performance. There was an insufficient number of transports at the participating CAHs to compare the aspirin administration measure, and the “unit back in service” time measure did not have an available national benchmark.

SNF/NF Beds

CAHs are exempt from submitting the Minimum Data Set (MDS), which is a federally mandated process for the clinical assessment of all residents in Medicare- and Medicaid-certified nursing homes. Because of the exemption, few, if any, CAHs voluntarily report their swing bed care through the MDS. Consequently, a new data collection was necessary to capture clinical performance measures for the SNF/NF bed intervention. The demonstration used three LTC quality measures from Montana's Performance Improvement Network, which included a select set of swing bed performance measures.

The three measures are:

- Healthcare-associated infections (HAIs): rate of four types of infections - catheter-associated urinary tract infection, central line-associated bloodstream infection, *Clostridium difficile* infection, and Methicillin-resistant *Staphylococcus aureus* infection;
- Healthcare-acquired conditions (HACs): pressure ulcers rate; and
- Annual percentage of residents vaccinated against influenza.

Appendix 2 provides more detail on these measures.

Telehealth

With respect to the telehealth intervention, the performance measure is the number of originating site encounters furnished by the participating CAH.

Findings

Data to evaluate the demonstration came from several sources. Data sources examined include fee-for-service Medicare claims and CAH-reported encounter and quality data. Medicaid and other payer claims data are not reflected in the findings described in this report due to issues of data availability. Qualitative findings were generated through interaction with the CAHs, site visits and interviews with a variety of stakeholders including hospital leadership (e.g., Chief Executive Officer, Chief Financial Officer, and Medical Director); affiliated providers; and hospital administrative support staff. These sources and contractor reports from the independent evaluation contractor, RTI International, the implementation contractor, Social & Scientific Systems, Inc., and the technical assistance contractor MHREF serve as the basis for the findings below.

Hospital-Level Quality Measures

We observed variation in MBQIP performance. Variation in reported quality measures existed among CAHs, as well as across quarters for each CAH, and in comparison to state and national benchmarks. The low threshold reflected in the reporting requirement guidelines and variations in overall and low hospital inpatient and ED volumes could contribute to these variations across CAHs. The tables in Appendix 1 provide a description of the quality measures (Table A1-1), along with results from selected representative quarters (Tables A1-2 and A1-3).

Medicare Beneficiary Quality Improvement Project (MBQIP)

MBQIP measures are reported by CAHs as part of the Medicare Rural Hospital Flexibility (Flex) program. Measures cover four domains: patient safety/inpatient, patient engagement, care transitions and outpatient. While some state and national level benchmark data was available for each MBQIP measure, the small FCHIP sample sizes for many of the procedures and activities complicated any comparisons. Given that CAHs are only required to report data on at least one MBQIP core measure, for at least one quarter, in at least two of the four quality domains, the state and national benchmark data for specific measures may not reflect all CAHs in a state or nationally. Table A1-2 of Appendix 1 is a representative quarter for MBQIP measures and presents the MBQIP results for the first quarter of 2018. Some general observations about the measures are below.

OP-20 Door to Diagnostic Evaluation by a Qualified Medical Professional: Median time patient spent in the emergency department before they were seen by a healthcare professional

- Nevada, Montana, and North Dakota state benchmarks, as well as the national benchmarks, varied from 9 to 28 minutes. Montana state averages were generally better than the two other states as well as the national data.
- CAH 8 and CAH 9 consistently demonstrated better outcomes than state and national benchmarks. CAH 8 leadership shared that providers were immediately available to see patients arriving in the ED. CAH 9 did not provide an observable reason but shared it was likely due to the low patient volume in the ED and that providers were present.
- CAH 2 had consistent and much lower quarterly values than the other CAHs in their state. Its leadership shared that it was due to the small facility size, on-campus dorm availability for traveling providers, and providers' preferences to work in the ED, versus inpatient floors, while on shift. CAH 3 staff indicated some of its providers only worked in the ED and not in the inpatient setting and providers were more frequently at the hospital during patient arrivals. CAH 4 leadership shared that time varied greatly due to contract providers' availability to support the ED, inpatient, or both settings, and the time it took the providers to drive to the facility.
- CAH 5 and CAH 6's data were slightly lower than the state and national data. CAH 7's data were generally or slightly higher than when compared to the other CAHs in the state and against state and national benchmarks.

OP-27 Influenza Vaccination Coverage among Healthcare Providers: *Percent of healthcare workers given influenza vaccination*

- Nevada, Montana, and North Dakota state benchmarks, as well as the national benchmarks, were consistently above 85 percent.
- CAHs ranged in their immunization rates and there was no trend in whether each was consistently above or below state and national averages or in whether they were above or below each other.
- CAH 1 and CAH 3 were consistently above state and national averages and the other CAHs, while CAH 4 was slightly below state and national averages. CAH 2 fluctuated above and below the state and national averages.
- CAHs 5, 6, and 7 were consistently below state and national averages, though there was some variation across the CAHs during the demonstration.

IMM-2 Immunization for Influenza: Percent of patients assessed and given influenza vaccination (inpatient)

- Nevada, Montana, and North Dakota state benchmarks, as well as the national benchmarks, varied from 68 percent to 88 percent. The national averages were generally higher than state averages, although Nevada tended to outperform both Montana and North Dakota during the beginning of the demonstration, but fell behind by Quarter 4 of 2017.
- CAH 8 and CAH 9 both saw consistently higher numbers than state averages, with CAH 8 in particular at near 100 percent across the demonstration. CAH 10 was only able to provide values for Quarter 4 of 2016, and with the influenza vaccinations at about half the rate of the state average.
- CAH 3 saw higher rates than the state average across the demonstration. CAH 1 saw inpatients that had already received a vaccination prior to their hospital stay, and did not have data for much of the demonstration. CAH 2's rates were much lower than the state averages. After CAH 4's initial Quarter 4 of 2016 rate of 27 percent, its rate of vaccination roughly matched that of the state average.
- CAH 6 was the only CAH in its state with consistently reported values, all of which fell below the state averages. CAH 7 did not provide vaccinations, and most patients of CAH 5 received immunizations at other facilities or declined.

EDTC-All or None: Percent of patients transferred from ED to another healthcare facility that have all necessary communication with the receiving facility personnel

- Nevada, Montana, and North Dakota state benchmarks, as well as the national benchmarks, varied from 58 percent to 88 percent over the course of the demonstration. National averages steadily improved from 74 percent to 85 percent over the demonstration, while state averages varied slightly more. Montana state averages began at 58 percent in Quarter 3 of 2016, fluctuated between 65 percent and 70 percent in 2017, and finished at 77 percent in Quarter 2 of 2019.
- CAHs 8, 9, and 10 improved substantially from their baselines. CAH 8 maintained a 100 percent EDTC rate from Quarter 2 of 2017 through the end of the demonstration. CAH 9 began at 10 percent in Quarter 3 of 2015, then maintained numbers around state averages through 2017, despite some issues with missing documentation; 100 percent was reported from Quarter 1 of 2018 onward, until a decline to 67 percent in Quarter 2 of 2019. CAH 10 began at 5 percent in Quarter 3 of 2015 and then improved to above state averages until Quarter 4 of 2017, when it experienced a slight dip to 58 percent. CAH 10 then rebounded to 92 percent by Quarter 2 of 2019, and finished at or above state baselines.
- CAHs 1, 2, 3, and 4 all began with a baseline around 40 percent. CAH 1 improved to 100 percent through 2017, with an unexplained decline in Quarter 1 of 2018 to 52 percent before rebounding. CAH 2 values were inconsistent throughout the demonstration. CAH 3 maintained higher numbers than state baselines throughout the demonstration. CAH 4 maintained higher numbers than state baselines through the demonstration, except for Quarter 1 and Quarter 2 of 2018.
- CAH 5 trended upward during the demonstration, and maintained higher than state baselines from Quarter 2 of 2018 onward. CAH 6 had inconsistent results through the demonstration, tending to be lower than the state baseline. CAH 7's numbers also fluctuated, but tended to be higher than the state baseline.

Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS)

The HCAHPS survey is a voluntary survey administered to patients treated at a hospital to assess patient experience with care. The CAHs submitted quarterly HCAHPS measures identified in Table A1-1 of Appendix 1. There was great variation across CAHs from quarter to quarter, for a particular hospital, and in comparison to state and national benchmarks. Sometimes there were no eligible patients to survey, and since this is a voluntary survey, response rates varied. In addition, each composite is comprised of between two and three questions and each patient surveyed may not have answered each question.

To compare the FCHIP CAH scores to state norms, the results from Quarter 4 of 2018, October 1, 2018, to December 31, 2018, are the representative quarter. Table A1-3 of Appendix 1 shows the results from this quarter. To facilitate a comparison, an average of the five composite HCAHPS scores was calculated for each CAH. Based on the table in Appendix 1, most of the FCHIP CAHs composite scores were at or higher than the respective statewide averages. The three Nevada CAHs exceeded the state composite average of 69 percent, the average North Dakota CAH scores were slightly below the composite state average of 77 percent, and two of the three Montana CAHs had scores above the composite state average of 75 percent.

Intervention-Specific Findings

Ambulance Services (implemented at two CAHs)

Access

- Among the two FCHIP ambulance CAHs, there were 457 ground ambulance transports billed to Medicare during the FCHIP demonstration. Among those transports, there were 269 unique Medicare beneficiaries, consisting of 162 (60 percent) having 1 transport, 73 (27 percent) having 2 transports, 20 (7 percent) having 3 transports, and 14 (5 percent) having 4 or more transports over the 3-year period. Table 3 shows the number of ambulance transports billed to Medicare by the FCHIP CAHs.
- Table 4 shows the distribution of ground transport distance experienced by the 2 FCHIP CAHs and 24 other CAHs in the intervention states that also provide ambulance services. For CAH 7, the larger volume FCHIP CAH, the average transport in 2019 was 36 miles/transport, about the same as it was prior to the demonstration, 37 miles. The median transport mileage at CAH 7 was 6 miles in the Performance Year (PY) 2 and PY 3.²² CAH 10 had several very long transports of 749 miles (2017) and 724 miles (2019). These long mileage transports suggest that FCHIP ground transport could have been substituted for more expensive air transport, but we were unable to confirm.

²² PY 1 is August 2016-July 2017, PY 2 is August 2017-July 2018, and PY 3 is August 2018-July 2019.

Table 3. Number of ambulance transports billed to Medicare at FCHIP CAHs

	Ambulance Transports (count)						
	Pre-FCHIP			FCHIP			
	BY 3	BY 2	BY 1	PY 1	PY 2	PY 3	Total
	2014	2015	2016	2017	2018	2019	2017-2019
Ambulance intervention FCHIP CAHs (n=2)	182	145	175	160	165	132	457
CAH 10	44	43	63	38	64	51	153
CAH 7	138	102	112	122	101	81	304
Other FCHIP CAHs with ambulances, not in ambulance intervention (n=2)	118	122	136	120	146	157	423
CAH 1	90	99	117	93	137	139	369
CAH 8	28	23	19	27	*	18	45
Other ambulance billing CAHs in ambulance intervention states (2 states, n=24)	3,492	3,590	3,659	3,695	3,763	3,754	11,212

Notes: (1) The FCHIP demonstration started August 1, 2016, so Baseline Year (BY) 3=August 2013-July 2014; BY 2=August 2014-July 2015; BY 1=August 2015-July 2016; PY 1=August 2016-July 2017; PY 2=August 2017-July 2018; PY 3=August 2018-July 2019. (2) Years with fewer than 10 ambulance transports represented as *.

Table 4. Ambulance Mileage Distribution for Medicare transports at FCHIP CAHs²³

CAH	Statistic	Pre-FCHIP			FCHIP		
		BY 3	BY 2	BY 1	PY 1	PY 2	PY 3
		2014	2015	2016	2017	2018	2019
CAH 10	Minimum	1.0	1.0	1.0	1.0	1.0	1.0
	25 th Percentile	1.0	1.0	1.0	2.0	1.0	2.0
	Median	14.0	10.0	13.0	23.5	11.5	13.0
	75 th Percentile	39.5	34.0	40.0	43.0	37.0	45.0
	Maximum	423.0	107.0	166.0	749.0	174.0	724.0
	Mean	33.8	19.3	25.6	51.4	23.0	64.9
CAH 7	Minimum	1.0	0.0	0.0	0.0	0.0	0.0
	25 th Percentile	1.0	1.0	0.0	0.0	0.0	1.0
	Median	13.0	14.0	1.0	6.0	6.0	6.0
	75 th Percentile	80.0	176.0	29.0	171.0	174.0	24.0
	Maximum	180.0	190.0	180.0	180.0	177.0	192.0
	Mean	51.1	63.0	37.2	56.4	53.4	36.0
Other ambulance billing CAHs in ambulance intervention states (2 states, n=24)	Minimum	0.0	0.0	0.0	0.0	0.0	0.0
	25 th Percentile	1.0	1.0	1.0	1.0	1.0	1.0
	Median	5.0	4.0	4.0	5.0	5.0	7.0
	75 th Percentile	44.0	37.0	38.0	44.0	44.0	45.0
	Maximum	171.0	153.0	151.0	150.0	173.0	180.0
	Mean	27.2	25.6	25.0	25.2	26.5	30.6

Notes: The FCHIP demonstration started August 1, 2016, so BY 3=August 2013-July 2014; BY 2=August 2014-July 2015; BY 1=August 2015-July 2016; PY 1=August 2016-July 2017; PY 2=August 2017-July 2018; PY 3=August 2018-July 2019.

Performance, Expenditures, and Cost

- Advanced Life Support (ALS) Services
 - ALS was available on both CAH's transfers and transports, although personnel did not need them for all runs. ALS is a set of life-saving protocols and skills that extend basic life support to further maintain circulation, and provide an open airway and adequate ventilation (breathing). These are typically provided to patients whose care needs during transport are not as intensive as those provided during a critical care transport but are above those provided by basic life support.
 - Both CAHs only used air transfer when medically necessary. This was due to ALS availability and transfer capabilities via ground transport. One Emergency Medical Services Director and one Coordinator identified several cases, including two Medicare stroke patients, where ALS services possibly prevented a hospital admission or a readmission. On another occasion, staff transported a patient on a ventilator via ground transport, thereby averting an air transport.

²³ A transport can be billed to Medicare and reimbursed if a beneficiary dies after the ambulance has been dispatched but before the beneficiary is loaded into the ambulance. In this circumstance, there is a base reimbursement but no mileage or rural adjustment.

- Demonstration cost-based payments resulted in \$240,000 more than the Medicare AFS payments in PY 1 and PY 2 to the two CAHs.²⁴ Most (90 percent) of the \$240,000 in additional payments for ambulance services was attributed to one CAH.

Staffing, Infrastructure, and Administration

- Participating CAHs relied almost exclusively on volunteer emergency medical technician (EMT) staff, and recruiting new staff is difficult in frontier areas. The staffing of EMTs was an issue before FCHIP, and it continued to be an issue during the demonstration. Because of the low population density in the FCHIP communities, recruitment of additional EMT staff was a challenge. Although the CAHs had nearly 20 volunteers, in practice, the same few volunteers routinely responded to the emergency calls, which contributed to EMT burnout.
- The enhanced payment under FCHIP allowed CAH 7 to employ a paramedic (ALS-certified) who was previously an unpaid volunteer without this certification. For transports that required a higher level of training, it would be reasonable to associate the increased cost for the intervention implemented at CAH7 with a higher level of ambulance quality.

Progress and Accomplishments

- Under the ambulance intervention, participating FCHIP CAHs continued to provide ambulance transports, although the demand for these services declined during the demonstration.
- As shown in Table 3, the number of Medicare billed ambulance transports fluctuated over the demonstration. In PY 3, the two FCHIP ambulance CAHs had 132 transports, compared to 175 in the year before the demonstration (2016). Both CAHs experienced declines in their Medicare ambulance transport volumes over the 3-year demonstration period, a combined decrease of roughly 25 percent. According to site visit interviewees, fluctuations in ambulance transports are common. The CAHs were not expecting the change to cost-based FCHIP reimbursement to directly influence demand for ambulance services. Thus, the reduction in ambulance transports unlikely resulted from the demonstration.

Challenges

- Because of their remote locations, CAHs have historically had challenges recruiting EMTs who staff the ambulances. It appears cost-based reimbursement for the FCHIP ambulance intervention alone could not change the available workforce in frontier areas.

Lessons Learned

- The perception by site visit interviewees was that the ambulance intervention facilitated access to regional level-one trauma centers with associated specialists and services within driving distance. The change to cost-based reimbursement meant that participating CAHs could use ground ambulance services to transport patients directly to a level-one trauma facility instead of taking them to a nearby airport and flying them elsewhere for tertiary care. CAHs interviewees viewed this as a positive for the quality of care and health outcomes, while reducing beneficiary transportation costs compared to air ambulance.

²⁴ With a cost audit lag, only 2 years of data was available at the time of this report.

- Cost-based reimbursement resulted in \$240,000 more in payments to the two CAHs through PY 2. The ambulance costs were only slightly higher than the Medicare AFS at one CAH, but much higher at the other. With the very limited sample of two CAHs and the great variation in costs, there are no conclusions drawn about the generalizability of the higher FCHIP ambulance costs.
- The demonstration was not able to test whether the ambulance intervention had reduced costs associated with the use of air transports, except anecdotal suggestions that CAHs could have substituted lower cost ground ambulances.

SNF/NF Beds (implemented at three CAHs)

Access

- In PY 1, the three CAHs implementing this intervention increased their bed capacity by 18 beds in total, a 20 percent increase over the pre-demonstration capacity. With this increased capacity, the participating CAHs assumed that they could treat more patients in their own communities. As one CAH administrator explained, the additional inpatient beds allowed under the demonstration and the revenue those beds generated would allow the CAH to serve patients previously turned away. Prior to the demonstration, the CAHs reported having to make difficult decisions about which patients to admit and which to refer to larger hospitals depending on bed availability rather than on the ability to provide the necessary services.
- Table 5 shows the number of SNF admissions billed to Medicare at FCHIP CAHs. Among the 3 FCHIP CAHs, 301 SNF admissions were billed to Medicare during the 3-year FCHIP demonstration. There were 204 unique Medicare beneficiaries treated with the following recidivism rates: 145 (71 percent) had 1 admission, 41 (20 percent) had 2 admissions, 11 (5 percent) had 3 admissions, and 7 (3 percent) had 4 or more admissions.
- In PY 2, SNF admissions increased by 13.8 percent over PY 1. The 36.6 percent increase at CAH 5 drove this increase. In PY 3, SNF admissions fell in aggregate by 6.5 percent from the PY 2 levels. Site interviews acknowledged the decline, but they could not give a reason for the decline.
- CAH 5 experienced growth in SNF admissions through PY 2. SNF admissions leveled off at 56 patients in the final year of the intervention, still much higher than before the demonstration started. With excess bed capacity, it is unknown if the third year admission reduction was the result of lower demand, or if it was part of the transition back to the statutory maximum of 25 beds.
- While the median SNF length of stay (LOS) varied, both CAH 5 and CAH 9 SNF stays increased over the demonstration, while CAH 10 SNF stays declined. By the end of demonstration, the SNF LOS of the three FCHIP CAHs, 10 days, was the same as the pre-FCHIP base year (2016), also 10 days
- In summary, the SNF LOS was the same as before the demonstration, 10 days, and the SNF admissions were higher (100 admissions in PY 3 compared to 81 in BY1). CAH 5 drove the increase in admissions after FCHIP began. Similarly, other CAHs billing for SNF/NF admissions in two FCHIP states were also trending towards fewer or the same level of admissions, so CAH 5's experience of increasing SNF admissions appears to be unique.

Table 5. FCHIP Medicare SNF Admissions and SNF Admissions, 2014–2019

	SNF Admissions							SNF Median length of stay (days)			
	Number				Year over Year Change in Admissions			Pre-FCHIP	FCHIP		
	Pre-FCHIP	FCHIP			FCHIP				2016	2017	2018
	2016	2017	2018	2019	2017	2018	2019				
FCHIP SNF/NF Intervention CAHs (n=3)	81	94	107	100	16.0%	13.8%	-6.5%	10.0	7.0	8.0	10.0
CAH 5	36	41	56	56	13.9%	36.6%	0.0%	9.0	6.0	6.0	9.0
CAH 9	13	22	20	15	69.2%	-9.1%	-25.0%	8.0	5.0	7.5	15.0
CAH 10	32	31	31	29	-3.1%	0.0%	-6.5%	11.0	14.0	15.5	10.0
Other FCHIP CAHs not in SNF/NF intervention (n=7)	165	147	188	157	-10.9%	27.9%	-16.5%	11.0	11.0	10.0	12.0
CAH 1	*	*	*	*	*	*	*	n/a	15.0	14.0	11.0
CAH 8	16	15	*	*	-6.3%	*	*	7.5	13.0	8.5	16.5
CAH 2	15	17	28	26	13.3%	64.7%	-7.1%	13.0	7.0	11.0	20.5
CAH 6	16	18	17	21	12.5%	-5.6%	23.5%	11.5	13.0	8.0	9.0
CAH 3	76	61	77	50	-19.7%	26.2%	-35.1%	14.5	10.0	10.5	11.5
CAH 4	21	16	24	21	-23.8%	50.0%	-12.5%	7.0	12.5	9.0	15.0
CAH 7	21	19	29	26	-9.5%	52.6%	-10.3%	10.0	10.0	13.0	9.0
Other SNF/NF billing CAHs in SNF intervention states (2 states, n=79)	4,025	3,956	3,891	4,038	-1.7%	-1.6%	3.8%	8.0	8.0	8.0	8.0

Notes: (1) n/a=not applicable because the hospital did not have any SNF admissions. (2) Years with fewer than 10 SNF/NF admissions represented as *.

Performance, Expenditures, and Cost

- Performance on Quality Measures (Detailed in Appendix 2):
 - The inpatient quality metrics used in the SNF/NF intervention are: (1) HAIs, (2) HACs, and (3) the influenza immunization percentage. Appendix 2 shows the computational methods. The HAI and HAC measures show the relative number of cases per 1,000: number of cases/number of patient days x 1,000. The immunization percentage is computed at one time of the year. Because the number of HAC and HAI events was very small and variable, a comparison of the FCHIP CAH rates to state averages is an unreliable statistic. Since influenza immunizations can be obtained in the community, the immunizations rates for hospitals are also unreliable indicators of hospital performance. Subject to the above caveats, the following summary of the SNF/NF measures is below.
- Healthcare-Associated Infections (HAI):
 - During PY 1 and PY 3, CAH 10 experienced none or between one to two HAIs per month, and did better than, or a little above, the state rates. However, from October 2017 through February 2018, it experienced a noticeable increase in HAIs. During these months, its rate was higher than the state rates.
 - Over the 3-year demonstration, CAH 9 experienced HAIs in only 8 months, mostly during PY 1. It typically had one to two HAIs in months when HAIs occurred. In 1 month, there were three, and in 1 month, there were four. It experienced no HAIs in PY 3. Even though CAH 9 experienced very low numbers of HAIs, because CAH 9 had such low SNF/NF/LTC patient days, its rates were higher than the state rates.
 - In each of the three PYs, CAH 5 consistently experienced HAIs aligning with higher rates than the state. The number of HAIs ranged from one to eight in a month. In only 7 of 36 months did it not experience a HAI. In PY 2, CAH 5 created a goal to decrease the HAI rate to 2 percent or less. CAH 5 remained below 2 percent based on SNF/NF bed days for most of the PY; monitoring and communicating opportunities through departmental meetings and daily rounds contributed to the low rate.
- Healthcare-Acquired Conditions (HAC)
 - Over the 3-year demonstration, CAH 10 experienced no HACs, except for 5 months when it experienced one HAC and 1 month when it experienced two HACs. With this excellent performance, it routinely did better than the state average.
 - Over the 3-year demonstration, CAH 9 only had one HAC in each of 2 months. With this excellent performance, it routinely did better than the state average.
 - In PY 1, CAH 5 experienced one HAC in 1 month; however, over time, and peaking in PY 3, CAH 5 experienced more monthly HACs. The number of monthly HACs ranged from one to five in each month that HACs occurred. During these months, CAH 5's rate was higher than the state's rate. In PY 2, CAH 5 created a goal to decrease HACs to 2 percent or less. CAH 5 had one instance of a HAC in December 2017 and May 2018; however, three and five occurred in June and July 2018, respectively. This was due to an increase of pressure ulcers. With better staff training for pressure ulcers, more frequent turning, reconditioning schedules with residents, improved communication during rounds, care conferences with family members involved, and better preventive care, staff were able to manage this condition much better and reduce the prevalence of its occurrence, resulting in a decline in frequency of HACs in PY 3 (for which CAH 5 had the same goal).

- Immunizations
 - All three hospitals demonstrated excellent influenza immunization rates, assessed all eligible patients, and immunized those who wanted the vaccine. All hospitals conducted an annual assessment in the fall with all inpatients, and then as they admitted new patients throughout the rest of the year. Upon admission, hospitals asked patients whether they preferred to receive the immunization. Even though CAH 5 exceeded state rates, it created a goal to reach 90 percent immunization in both PY 2 and PY 3, which it reached in PY 2.
- Cost
 - Because CMS continued to reimburse SNF services at cost, the same method as before, no new costs resulted from the demonstration. Conceptually, higher utilization would allow CAHs to spread overhead costs over a greater volume, thus reducing the cost per day. With the inpatient census of one CAH exceeding the statutory maximum of 25 beds, there is some evidence that CAHs attained greater efficiencies for cost-based reimbursement in PY 2.

Staffing, Infrastructure, and Administration

- Most staff reported that the demonstration motivated CAHs to make changes to physical infrastructure, clinical staffing, and workflow modifications to their inpatient services. CAHs also reported that the demonstration reinforced hospital commitment to engagement with the local community.
- MHREF provided technical assistance to FCHIP CAHs, including marketing and outreach services across interventions. These services included updating the CAH websites, social media posts, press releases, newspaper inserts, brochures, radio advertisements, and mailing postcards to the community to inform them of bed availability and hospital services.

Progress and Accomplishments

- CAHs received positive feedback from patients and their families who were pleased that they could receive more skilled nursing care in the community.
- Only one participating CAH consistently used the extra SNF/NF beds allowed under the FCHIP demonstration, and the other two CAHs were, for the most part, able to meet community needs for SNF care without the FCHIP policy change.
- The three participating CAHs reported that the FCHIP SNF/NF bed intervention allowed the hospitals to showcase their commitment to the community by keeping patients in the community for medical care and allowed for the possibility of reducing transfers to other hospitals as well as increasing the provision of ancillary services.
- Some CAHs reported that the MHREF's technical assistance and marketing and outreach support helped to engage the community, increase awareness of the services the CAHs provided including SNF/NF beds, and create a positive image of the hospital. For example, site visit interviewees reported that MHREF provided some CAH directors of nursing with talking points to share with referring clinical practitioners and with area institutions such as SNFs. In addition, MHREF gave some general awareness materials to CAHs to make available to the public.

Challenges

- A shortage of clinical practitioners available to provide NF levels of care was a concern among some CAHs.
- It was not clear why demand for SNF services declined during the demonstration period. Participant CAHs expressed concerns about exceeding the 25-bed limit, which would go back into effect by the demonstration's end in 2019. In other words, there may have been some demand for these additional SNF/NF beds if not for the time-limited nature of the demonstration, a constraint that would not have otherwise existed in a non-demonstration scenario.

Lessons Learned

- During the demonstration period, there was inadequate demand to fill the additional beds for SNF and NF care. Two of the three CAHs never had an inpatient census that approached the 25-bed statutory maximum, and the third CAH was able to use some of the increased capacity above 25 beds. While the factors responsible for the demand for SNF and NF services were unclear, it is likely that the economies of the two involved states had some influence. The CAH that could use the additional beds is located in a region that experienced significant growth due to economic forces related to natural resources. The two other CAHs are located in an area that was not experiencing an economic boom.
- Initial pre-demonstration work that went into informing the FCHIP design indicated a need in frontier communities for additional SNF/NF beds. However, the majority (seven) of the nine Montana CAHs that informed the development of the SNF/NF bed intervention ultimately did not participate in the FCHIP demonstration (see discussion of white paper in the overview of this report). This suggests the need for further investigation and/or demonstration testing to understand confounding factors that may limit utilization of additional SNF/NF beds more broadly outside of the small sample of the three CAHs participating in this intervention.

Telehealth (implemented at eight CAHs)

Access

- Before FCHIP, only one of the eight FCHIP CAHs had provided a Medicare telehealth originating site service (telehealth encounter), whereas by PY 3, six had done so. Table 6a shows the telehealth encounter statistics for Medicare (from claims data) and Table 6b shows the total number of encounters for all payers (reported by the CAHs). In PY 1, Medicare telehealth encounters increased from 0 to 40 for the year, to 120 in PY 2, and then to 129 in PY 3. The total number of telehealth encounters also dramatically increased, to 189 in PY 1, 405 in PY 2, and 507 in PY 3.
- While eight of the ten CAHs participated in the telehealth intervention, only three billed more than one Medicare telehealth encounter by the end of the demonstration (in PY 3). Thus, only three FCHIP CAHs implemented the intervention for Medicare beneficiaries. However, the five CAHs that provided few or no Medicare encounters provided telehealth encounters to other payers, based on CAH reported statistics.
- Among the 8 FCHIP CAHs, 289 telehealth encounters were billed to Medicare during the course of the FCHIP demonstration. Of the 289 Medicare encounters, 99 beneficiaries (66 percent of non-duplicated beneficiaries) had 1 encounter, 22 (15 percent) had 2 encounters, 11 (7 percent) had 3 encounters, and 18 (12 percent) had 4 or more encounters.

- The top specialties involved in Medicare telehealth encounters were cardiac (24 percent), physical medicine/rehabilitation (20 percent), nephrology (15 percent), and behavioral health (11 percent).

Table 6a. Telehealth Encounters for FCHIP and Other CAHs

		Medicare Telehealth Encounters (count from claims data)						
		Pre-FCHIP			FCHIP			
		BY 3	BY 2	BY 1	PY 1	PY 2	PY 3	Total
		2014	2015	2016	2017	2018	2019	3 Years
Telehealth FCHIP CAHs (n=8)		0	0	*	40	120	129	289
Change year over year						200.0%	7.5%	
FCHIP Telehealth CAHs								
	CAH 1	0	0	*	*	*	*	*
	CAH 8	0	0	0	0	0	0	0
	CAH 2	0	0	0	0	*	0	0
	CAH 9	0	0	0	0	0	0	0
	CAH 6	0	0	0	26	29	32	87
	CAH 3	0	0	0	*	66	73	139
	CAH 4	0	0	0	*	*	*	*
	CAH 10	0	0	0	11	22	22	55
Other telehealth billing CAHs in telehealth intervention states (3 states, n=38)		491	537	696	1,126	1,466	1,554	4,146
Change year over year			9.4%	29.6%	61.8%	30.2%	6.0%	

Notes: (1) The FCHIP demonstration started August 1, 2016, so BY 3=August 2013-July 2014; BY 2=August 2014-July 2015; BY 1=August 2015-July 2016; PY 1=August 2016-July 2017; PY 2=August 2017-July 2018; PY 3=August 2018-July 2019. (2) N/A = not available. (3) * = 1 to 9 encounters.

Table 6b. All Payer Telehealth Encounters for FCHIP CAHs

	All Payer Telehealth Encounters (reported by CAHs)				
	FCHIP			Total	
	PY 1 2017	PY 2 2018	PY 3 2019		
Telehealth FCHIP CAHs (n=8)	189		405	507	1,101
Change year over year			114.3%	25.2%	
FCHIP Telehealth CAHs					
CAH 1	10		15	18	43
CAH 8	11		11	*	29
CAH 2	*		11	*	21
CAH 9	12		16	18	46
CAH 6	83		137	253	473
CAH 3	20		131	152	303
CAH 4	13		19	10	42
CAH 10	36		65	43	144
Other telehealth billing CAHs in telehealth intervention states (3 states, n=38)	N/A		N/A	N/A	
Change year over year					

Notes: (1) The FCHIP demonstration started August 1, 2016, so PY 1=August 2016-July 2017; PY 2=August 2017-July 2018; PY 3=August 2018-July 2019. (2) N/A = not available. (3) * = 1 to 9 encounters.

Performance, Expenditures, and Cost

- Improved access to specialty care through telehealth, according to CAH leadership, may have helped reduce ED visits. One CAH reported that its telehealth pain management patients were more likely to adhere to medication visit check-ins and likely to maintain compliance with medication management. Patients were more likely to keep appointments and not forgo treatment due to the reduced travel barriers and costs. They felt that these improvements in access and continuity of care contributed to better health outcomes.
- All CAHs relayed that telehealth patient satisfaction was very favorable. Being able to receive care locally and not having to travel to the nearest available specialty services, which often involved significant time, was very important. Patients greatly appreciated the reduction of travel burdens (e.g., costs, travel time, overnight stays, and loss of time from work, school, and other daily obligations). CAH leadership reported that many patients also felt more engaged in their treatment plans.
- CMS contracted with a Medicare Administrative Contractor (MAC) to conduct cost report audit reviews for the ten selected CAHs over the course of the 3-year demonstration period. Cost reports are a collection of worksheets that calculate the costs of a specific provider for supplying health care services to Medicare beneficiaries. The cost reports for providers participating in the FCHIP demonstration were reviewed to verify reasonableness of reported expenses, revenues, and statistics. Reasonableness analysis of cost focuses on expenses incurred by the CAH to determine whether the cost is necessary and proper for patient care.²⁵

²⁵ For the intervention of additional swing beds to provide acute, skilled or nursing services, reasonable costs include the

The MAC audited and compared cost with and without the demonstration. Using audited PY 2 data,²⁶ the average cost of the originating site encounter was \$148 compared to a Medicare PFS rate of roughly \$25. In the first 2 years of FCHIP, Medicare paid \$33,000 more than it would have paid without the demonstration.

Staffing, Infrastructure, and Administration

- Staff and clinical practitioner familiarity and satisfaction with telehealth varied but were generally positive.
- As staff and clinical practitioners referred patients to care using telehealth, they became more comfortable with the processes and more confident in the outcomes.
- Variations in infrastructure affected how CAHs used telehealth. CAHs reported variation in whether a CAH had a dedicated space for telehealth or had to rely on multi-use spaces. In general, CAHs preferred private spaces optimized for telehealth with factors such as acoustics and lighting than shared spaces for privacy and technical stability. One site noted that it had no appropriate space for patients to engage in telehealth. Conversely, another reported that staff had received special dispensation to conduct telehealth encounters in their affiliated rural health clinic, and a third had recently built a new facility and created a separate space for telehealth appointments. Some CAHs indicated that they would like better equipment to support telehealth, including higher-resolution cameras and screens, as well as multiple cameras and screens. (Generally, the telehealth configuration includes a cart with a video screen and associated peripherals that allow the site to conduct the visit.)
- Most CAHs reported the telehealth intervention was a success. In the three active telehealth CAHs, the following strategies were observed:
 - **CAH 3:** Beginning in PY 2, CAH 3 began offering pain management telehealth consults that not only contributed to CAH 3's increase in total consults but also to the increase in the total number of collective CAH telehealth consults that year. In this PY, CAH 3 was the only CAH to use telehealth for pain management. When CAH 3 began offering echocardiograms, acknowledging its elderly population had histories of heart disease, it experienced a large increase in cardiology telehealth use in PY 2. By the end of the demonstration, cardiology was the most common use of telehealth for CAH 3.
 - **CAH 10:** In PY 2, CAH 10 began conducting telehealth consults for nephrology patients at a hospital 35 miles away. The other hospital's staff was stretched thin and could not respond to patient needs because its nursing staff and providers were also providing services for nearby schools. Staff from the other hospital focused on student mental health telehealth needs and referred nephrology patients to CAH 10. This referral pattern continued on a consistent monthly basis throughout PY 2 and PY 3.
 - **CAH 6:** CAH 6 was the only CAH to offer tele-genetics throughout the demonstration. Patient awareness and requests generated the use of this offering. Its increase from 2 to 16 visits reflected its staff's initiative in discussing this option with patients. CAH 6 also offered dietary consultations via telehealth. It was the second most used specialty used for

operating expenses of staffing, supplies, other direct costs related to care of inpatients and overhead costs. For the intervention of ambulance services, reasonable costs are defined as costs necessary to operate the ambulance service, including staffing such as salaries and fringe benefits, supplies, other operating expenses, and indirect costs, such as allocated overhead. For the intervention of telehealth, reasonable costs include staffing, other direct costs, overhead, and depreciation value of telemedicine equipment were audited via the Medicare Cost Report.

²⁶ Cost data for PY 3 was not available in the time for this report.

telehealth at CAH 6 after behavioral health. This declined by the end of PY 3, due to a limitation in using telehealth for dietary consults. Dieticians, not diabetic educators, perform telehealth consults. A registered nurse could order a prescription for a diabetic educator but not for a dietician; only a doctor of medicine could order a prescription for a dietician. In rural areas, a majority of providers are non-physician providers, such as advanced practice registered nurses or physician assistants, limiting the ability to conduct dietary consults.

- Telehealth services expanded and matured during PY 2. Clinical practitioners and staff became more familiar with telehealth offerings, workflows, and procedures and patients became more familiar with telehealth options in their community. CAHs strengthened their relationships with distant providers.
- CAH staff reported that training clinical practitioners on how to best leverage telehealth services to improve patient care facilitated more referrals for telehealth. CAH administrators and telehealth staff observed that most telehealth encounters resulted from referrals for specialty care. Because referrals to telehealth were not a routine part of clinical practice, CAH administrators found value in training providers to adapt their workflows to support specialty referrals through telehealth. As practitioners referred more patients to care using telehealth, they became more comfortable with the processes and more confident in the outcomes. CAH administrators reported that peer-to-peer sharing of telehealth success stories also improved telehealth referrals, highlighting the importance that a clinical champion has in promoting uptake of this service.

Progress and Accomplishments

- Three of the eight telehealth Demonstration CAHs benefited from the ability to retain revenue for laboratory, radiology, and other diagnostic and support services that would otherwise be lost when patients leave the community to access specialty care.
- Telehealth reduced the frequency and need for patients to travel (including the need to transfer) to other hospitals, often involving multi-hour trips. Having the opportunity for providers to collaborate and treat patients locally helped improve continuity of care and care integration with the non-medical needs patients had.
- As noted in the lessons learned, the FCHIP CAHs were successful in implementing telehealth both for Medicare and for other payers. Of the many success stories, one stands out to report. A non-Medicare patient had been living with back pain for years. After trying surgery and pain-relieving injections that required numerous trips to the nearest pain management specialist located 2 hours from his home, he received access to another pain management specialist through telehealth at the FCHIP CAH. He had a 30-minute appointment with the specialist who referred him to physical therapy. With physical therapy, the individual experienced significant improvements. During a follow-up telehealth encounter with the pain management specialist, he declined pharmaceutical pain management because he felt much better. He reported that the telehealth encounter and subsequent referral to physical therapy saved him financially, emotionally, and physically.²⁷

²⁷ As told to a CAH administrator by the patient.

Challenges

- To implement the FCHIP telehealth intervention, CMS and the MAC had to determine the appropriate cost to be included in calculating the cost-to-charge ratio for telehealth services and determine reasonable and allowable cost to be included on the Medicare Cost Report for the demonstration. Several CAHs had entered into contract agreements with telehealth distant site providers specifically to purchase emergency physician support services for telehealth services. Based on the FCHIP CAH telehealth contract agreement, some of the costs relate to Part A and some were physician costs related to Part B. While some of the CAHs' contractual expenses for providing telehealth reflected services payable under Part A, only non-professional Part B costs for telehealth origination were reimbursable under the demonstration.
- As part of the contracts with distant-site providers, the distant-site providers would permit their physicians and nursing staff availability using videoconferencing equipment on a 24 hour per day/every day per week basis to meet the CAH's needs, regardless of utilization.
- CAHs noted that there are fees charged by the distant-site provider to their facilities to supply the physician and nursing staff availability and other physician-related services particularly related to emergency services via telehealth. These costs are not included in the cost calculation reimbursement mechanism used in this demonstration. They suggest these costs remain a challenge for them in implementing emergency services and recommend that these expenses be included in future cost based calculations designed to support telehealth payment.
 - Under the demonstration, the CAHs were only entitled to the telehealth origination site of services payment increased to being reimbursed on a cost basis. The distant-site providers are paid as normal. It should be noted that CMS was precluded from including these costs in its methodology. The remote emergency physician support services fees were not allowed under the CAH demonstration payments due to regulations regarding ED Physician Availability in a CAH at 42 CFR 413.70(b)(4).
 - The CAHs reported that these distant-site agreements were necessary to supply emergency telehealth services in their communities. This included some substantial expenses, such as the costs associated with the provision of 24/7 availability of emergency services and other telehealth implementation fees at the distant site. As a result, several CAHs continued to rely on outside funding (e.g., grants) to cover the physicians service fees and other fees within the distant-site provider agreements or focus their efforts on other types of telehealth offerings.
- Licensing and credentialing were more challenging for some CAHs than others. For distant site physicians and practitioners to deliver telehealth services at the CAH, they must be licensed in the state in which the CAH is located and credentialed²⁸ at the CAH itself.²⁹ Licensing and credentialing are very time-consuming processes, and CAH staff had to process the credentialing requests of distant providers in addition to their other daily duties. Thus, the time spent to credential providers varied, and long waits were noted by both CAH staff and distant provider telehealth staff as a barrier to a specialists' willingness to be a telehealth provider.

²⁸ To be credentialed at a clinical facility means that the facility has reviewed the clinical practitioner's qualifications and identified the set of services the practitioner can deliver for the facility.

²⁹ According to the requirements of 42 CFR 485.616(c), the CAH may choose to rely on the credentialing decisions made by the governing body of the distant-site hospital, rather than requiring that they be credentialed by the CAH. However, for reasons specific to the CAHs, some pursued credentialing by the CAH itself.

- Some clinical practitioners were resistant to using telehealth in their ED because the agreement required the distant provider to route all calls to a hospitalist and the clinical practitioners preferred to speak directly with a specialist.

Lessons Learned

- The FCHIP CAHs were successful in implementing telehealth both for Medicare and for other payers. The reasons for this success seem to be due the following:
 - Administrative and clinical champions were essential to the growth and sustainability of a telehealth program.
 - Training clinical practitioners on how to leverage telehealth services to improve patient care facilitated more referrals for telehealth.
 - Community need for specific specialties influenced CAHs decisions about which telehealth services to offer.
 - External technical assistance and marketing support for education and outreach were useful and appreciated. MHREF provided technical assistance to FCHIP CAHs, including significant resources for marketing such as templates, pamphlets, and appointment cards with a note of telehealth availability.
- A comprehensive implementation strategy based on a solid understanding of operational, financial, payment, and clinical issues is critical to building a successful telehealth program.
- Having sufficient numbers and types of distant site providers available to respond to originating site providers' requests was critical for telehealth advancement. Not having the right specialist available when a patient's need arose typically resulted in a patient not obtaining the care he or she needed. To successfully schedule telehealth appointments, engage in timely follow-up of specialists' recommendations, and handle billing and insurance, CAH and distant provider staff must communicate frequently. Distant site provider availability directly impacted the number of specialty services available via telehealth. For the FCHIP demonstration, a primary distant site provider organization in each state partnered with CAHs in that respective state. With these partnerships, CAHs had access to additional providers with telehealth privileges across multiple specialties.
- Over the entire demonstration period, CAHs located in the same states as FCHIP CAHs also experienced rapid growth in providing Medicare telehealth encounters. These CAHs continued to receive payment under the Medicare Fee Schedule and did not receive technical assistance from MHREF. During PY 1, the 38 non-FCHIP CAHs in Montana, Nevada, and North Dakota increased their telehealth encounters by 54.9 percent over the 2016 levels (Table 6a). In PY 3, non-FCHIP CAHs telehealth originating encounters increased by 6 percent, roughly the same increase, 7.5 percent, that was observed in the FCHIP CAHs.

Recommendations

Section 123 of MIPPA, as amended by Section 3126 of the Affordable Care Act of 2010, required initial recommendations on ways to improve access to, and the availability of, health care services in eligible counties based on the findings of the demonstration project. At the time of publication of the interim report, there was insufficient evidence to make such recommendations. The law also requires a final report to Congress on FCHIP, together with recommendations for such legislation and administrative action as the Secretary determines appropriate. The report presents recommendations for each intervention, based upon the findings from all 3 years of the demonstration.

Cross-Intervention Recommendations

Small sample sizes in the demonstration made it difficult to come to any significant findings from the interventions. Because of this, this report does not make recommendations as to whether policymakers should consider permanently implementing the interventions at this time. The population from which to draw the sample in this demonstration was constricted by tight eligibility and design criteria that further restricted sample sizes. Section 123(d)(1)(B) of the FCHIP authorizing legislation defined the eligibility criteria and limited participation to the most rural or “frontier” CAHs and thus only those CAHs that were located in states in which at least 65 percent of the counties in the state were counties that had 6 or less residents per square mile. The legislation further defined eligibility in Section 123(d)(2)(B) by specifying that “the Secretary shall select eligible entities located in not more than 4 States to participate in the demonstration project under this section.” Ultimately, only 10 CAHs participated in the demonstration, with only 2 implementing multiple interventions.

In addition to expanded eligibility criteria, longer demonstration periods may be another tool to address the issue of small sample sizes. Section 123(f)(1) required the demonstration to be conducted for a 3-year period, but this duration may be insufficient for demonstrations specifically in frontier areas to achieve the number of encounters needed to conduct a robust evaluation. A new model may seek to test this intervention among a broader range of CAHs to assess a fuller picture of its effect on access and payment adequacy, given that the demonstration did provide data from one CAH to suggest potential access and quality benefits from expanding cost-based reimbursement for CAH ambulance services. A longer demonstration could also allow for a more complete assessment of the demand for and cost/benefit of additional SNF/NF beds in frontier CAHs. Similarly, more inclusive eligibility criteria and longer timeframes in future demonstrations may provide more conclusive evidence as to whether the demonstration would significantly improve access for telehealth.

Lastly, the demonstration period occurred before the onset of the COVID-19 public health emergency (PHE), declared on March 13, 2020, and the temporary regulatory changes and waivers implemented

by CMS for the duration of the PHE.^{30, 31} If these policy changes were in effect during the demonstration period, this could have affected the implementation of the three FCHIP interventions. Due to the PHE, CMS waived the requirements that CAHs limit the number of beds to 25 at 42 CFR §485.620. CMS made a number of telehealth changes during the PHE including allowing the residence to be an originating site. CMS policy changes also affected ambulance services, for instance, allowing Part B ambulance emergency transports to destinations other than a hospital. The report does not consider these temporary regulatory changes in the findings or the discussion. Therefore, the recommendations within this report should be considered in the context of these policy changes for as long as they remain in effect.

Intervention-Specific Recommendations

Ambulance

With one CAH exhibiting slightly higher costs than the fee schedule, and the other exhibiting much higher costs, there is a lack of consensus from this small sample on the adequacy of the FCHIP payment system. As a result, it is unclear whether expanding cost-based payments for ambulance services, beyond CAHs ambulance providers that currently satisfy the conditions of participation for these cost-based payments, would improve access to and the availability of this service. However, the demonstration did support the ability of one CAH to hire a paid paramedic with a higher level of training. This illustrated the concept that cost-based payment for ambulance at a CAH, regardless of its proximity to another ambulance provider, could improve access to higher acuity transports while potentially reducing the need to utilize more expensive forms of emergency transport in frontier areas. Forming a conclusive recommendation would require testing the ambulance intervention in a larger sample of rural providers.

SNF/NF Beds

The SNF/NF intervention allowed CAHs to increase their bed complement beyond the statutory limit of 25. Cost-based payments remained the same as before the demonstration. Only one of the three CAHs did not surpass the existing statutory 25-bed maximum. Another CAH had a census in excess of the 25-bed maximum in 1 year (average daily census of 28), but did not exceed the 25 maximum in the last year of the demonstration. Demand for SNF and NF services declined during the demonstration; therefore, the prospect of increasing beds beyond the statutory maximum could not be fully tested in frontier CAHs. While the results suggest that the participating communities did not have demand for the intervention beds over the course of the demonstration, it is unclear if there were confounding factors suppressing the demand for these additional SNF/NF beds.

³⁰ Centers for Medicare & Medicaid Services. Medicare and Medicaid Programs; Policy and Regulatory Revisions in Response to the COVID-19 Public Health Emergency. Interim Final Rule with Comment Period. April 6, 2020. Available at <https://www.federalregister.gov/documents/2020/04/06/2020-06990/medicare-and-medicaid-programs-policy-and-regulatory-revisions-in-response-to-the-covid-19-public>

³¹ Centers for Medicare & Medicaid Services. COVID-19 Emergency Declaration Blanket Waivers for Health Care Providers. June 2020. Available at <https://www.cms.gov/files/document/summary-covid-19-emergency-declaration-waivers.pdf>

Again, because of the small sample size involved, further study may be warranted on the demand for post-acute care in frontier communities and the effectiveness of a SNF/NF bed expansion in improving access while reducing costs per service among a larger set of communities for a longer timeframe. The short-term, temporary nature of the demonstration period may have been an issue in this intervention in particular. The fact that the demonstration was only 3 years long limited the data available to evaluate this intervention. Because the bed-expansion was a temporary expansion over a short timeframe, it is reasonable to expect the diversion of some potential long-term stays in the intervention CAHs because of concerns around patient transfers required with the reinstatement of the 25-bed limitation. In fact, data reported by intervention participants suggested this may have been a factor in reducing the census numbers during the last year of the demonstration. Still, data from PY 2 in one CAH did show evidence to support the concept of greater efficiencies associated with cost-based payment for expanded SNF/NF beds.

Telehealth

By the end of the demonstration in 2019, both FCHIP and non-FCHIP CAHs in the same states had about the same growth rates (6 percent) in telehealth encounters (compared to PY 2). The growth rate parity occurred despite the fact that the non-FCHIP CAHs did not have access to the technical assistance funded by HRSA and other demonstration benefits. Given the increase in telehealth utilization after technical assistance provided in PY 1, there is evidence to suggest that the FCHIP CAHs would have had more difficulty in implementing telehealth without the demonstration. Ultimately, however, there was little evidence that the demonstration improved access to telehealth more than what would have occurred without the demonstration, so the report does not provide a recommendation on expanding cost-based payment for telehealth at this time. Given the value of the technical assistance for the specific CAHs in the demonstration, one recommendation following from this may be the inclusion of technical assistance in future rural demonstrations.

The demonstration also highlighted that a number of CAHs were under pre-existing contracts with telehealth providers for the provision of emergency services. Under the demonstration, the CAHs were not entitled to reimbursement for the total costs associated with the contracts. The CAHs reported that these distant-site agreements were necessary to provide telehealth services overall. As a result, several CAHs had to continue to rely on funding external to the demonstration. Any future demonstration might consider the challenges of covering the fixed costs of providing telehealth emergency services in the demonstration CAHs.

Summary and Conclusions

Even though the FCHIP demonstration consisted of three very different interventions, participants noted several commonalities that influenced the effectiveness of the demonstration, regardless of the specific intervention type: remote location and low population density, commitment to the community, workforce, and technical assistance.

Remote location and low population density. The remote location of frontier CAHs in concert with low population density in CAHs' surrounding communities posed very significant challenges. A payment change (for ambulance and telehealth services) or an increase in capacity (for SNF/NF services) alone cannot significantly change demand for services, and demand is hard to influence

when there are relatively few individuals within a community eligible for a FCHIP-related service. Addressing these challenges is outside of the scope of the demonstration, yet these factors influence how successful CAHs could be at increasing service use and access to care under the FCHIP demonstration. CAHs noted that the FCHIP activities made available to them under the demonstration often did not fully appreciate how remote the communities are and the limitations associated with very low population density. As future rural and frontier demonstrations are considered, the realities of low volume settings need to be accounted for more directly and including payment mechanisms that look beyond the traditional fee-for-service, which affects evaluation capacity in low-volume settings given the limited number of encounters.

Commitment to the community. Regardless of the intervention type, each participating CAH reiterated the importance of leveraging the FCHIP demonstration to garner community goodwill and trust. Each CAH spoke repeatedly of a sense of responsibility to do what they could to provide access to high-quality health services that would allow individuals to stay within the community for their medical care. Moreover, FCHIP gave CAHs the opportunity to improve patient care more broadly. Even though FCHIP is a Medicare-focused demonstration, CAHs observed that changes they made, like adding more SNF/NF beds or offering access to more medical specialists through telehealth, had positive impacts on access to care for any patient, regardless of insurance coverage.

Workforce. All CAHs across interventions noted some degree of training and education of staff because of the demonstration. In addition, the CAHs noted that due to the remote location, finding and keeping staff was a challenge. Hospital leadership turnover was also an issue at several CAHs. Some CAHs relied on traveling or locum staff to bridge that gap. Other CAHs struggled to fill gaps and thus staff served multiple functions and did not necessarily have time to focus on the demonstration. Lack of staff, staff turnover, and staff's over-commitments, which left little time to focus on demonstration activities, may have impacted CAHs' success.

Technical assistance. CAHs noted that the implementation technical assistance and marketing/outreach support provided by MHREF was critical. Implementation support was helpful in establishing the necessary workflows and billing procedures that accompany some of the FCHIP activities. Marketing and outreach activities were key to share information about demonstration activities and garner community support. MHREF directed some of these efforts at community members and others at referring clinical practitioners or organizations. This technical assistance ended with the conclusion of the FCHIP demonstration.

Changes in the provision of FCHIP-related services. The provision of FCHIP-related services by participating CAHs was inconsistent. In general, CAHs participating in the telehealth intervention saw the most improvement, yet only three of the eight CAHs billed Medicare more than twice for a telehealth encounter. Moreover, only six of the CAHs billed Medicare for telehealth encounters, though all eight reported that they were providing telehealth to Medicare patients. Very few of the telehealth FCHIP CAHs were billing Medicare for telehealth encounters before the demonstration, so their improvement as a group was not surprising. In contrast, both ambulance and SNF/NF FCHIP CAHs were providing their respective services before FCHIP began, and most have not seen significant changes in service provision since. The two ambulance CAHs experienced fluctuating rates of ambulance transports, and they reported that they did not expect the FCHIP cost-based reimbursement to change demand or supply of ambulance services within their communities. Of the

three SNF/NF CAHs, only one experienced a consistent increase in SNF/NF admission rates since FCHIP began, while the other two were unsure why they have not been able to fill more of their additional SNF/NF beds. There was little evidence to suggest that the marketing and outreach assistance the CAHs received throughout the demonstration led to notable increases in hospital use beyond secular trends. For the telehealth intervention in particular, broad administrative challenges and limited infrastructure of the participating facilities diminished the ability of the participating CAHs to leverage quickly the additional payment opportunities afforded by the demonstration. Across the board, the persistent low-volume of services throughout the demonstration period complicated the ability to evaluate conclusively the success of the demonstration.

Appendix 1: Hospital-Level Quality Metrics

Each participating CAH was required to submit both hospital-level performance data and intervention-specific quality metrics on a quarterly basis, regardless of the intervention. Four of the measures came from MBQIP, a program supported by FORHP.³² The demonstration project took five measures from the HCAHPS survey, which is a survey administered to patients treated at a hospital to assess patient experience with care. National benchmarks are available for the MCQIP and HCAHPS measures. Table A1-1 describes the measures in more detail. The data sources are hospital-reported data downloaded from CMS' Abstracting and Reporting Tool, HCAHPS, and EDTC data.

³² See <https://www.ruralcenter.org/tasc/mbqip>.

Table A1-1. Nine Quality Measures Used in the Frontier Community Health Integration Project Demonstration

Measure	Operational Definition
Medicare Beneficiary Quality Improvement Project (MBQIP) measures	
Outpatient (OP)-20: Door to diagnostic evaluation by a qualified medical professional	Median time patient spent in the emergency department before they were seen by a healthcare professional
OP-27: Influenza vaccination coverage among healthcare personnel (single rate for inpatient and outpatient settings)	Percent of healthcare workers given influenza vaccination
IMM-2: Immunization for influenza	Percent of patients assessed and given influenza vaccination (inpatient)
EDTC measure Patients transferred from emergency department with necessary communication	Percent of patients transferred from emergency department to another healthcare facility that have all necessary communication with the receiving facility personnel
Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) measures	
HCAHPS: Composite 1: Communication with nurses	Percent of patients surveyed who reported that their nurses “Always” communicated well
Communication with doctors	Percent of patients surveyed who reported that their doctors “Always” communicated well
HCAHPS: Composite 3: Responsiveness of hospital staff	Percent of patients surveyed who reported that they “Always” received help as soon as they wanted
HCAHPS: Composite 6: Discharge information	Percent of patients surveyed who reported that “Yes” they were given information about what to do during their recovery at home
HCAHPS: Composite 7: Care transitions	Percent of patients surveyed who “Always” understood their care when they left the hospital.

Table A1-2. MBQIP Measure Results

FCHIP Hospital-level Quality Measures for 1st Quarter 2018 (January 1, 2018, to March 31, 2018)				
State/Hospital	MBQIP Measures			
	OP-20: Median time patient spent in the ED before seen by healthcare professional (minutes)	OP-27: Healthcare workers given influenza vaccination (percent)	IMM-2: Patients assessed and given influenza vaccination (percent)	EDTC: Patients transferred from ED to another healthcare facility that have all necessary communication (percent)
CAH 1	N/A	100	N/A	52
CAH 2	21	93	N/A	91
CAH 3	14	100	85	88
CAH 4	15	84	70	52
CAH 5	20	N/A	0	79
CAH 6	12	69	50	43
CAH 7	15	67	N/A	100
CAH 8	4	86	90	100
CAH 9	5	40	75	100
CAH 10	14	72	N/A	92
Nevada Statewide Averages	16	91	75	70
North Dakota Statewide Averages	17	80	85	81
Montana Statewide Averages	14	86	78	70
National Averages	16	89	87	81

Source: Social and Scientific Systems, Inc. Draft Final Report-Part A, January 31, 2020
N/A = not available

Table A1-3. HCAHPS Measure Results

FCHIP Hospital-level Quality Measures for 4th Quarter 2018 (October 1, 2018, to December 31, 2018)						
State/Hospital	HCAHPS Measures (percent of patients reporting)					
	Composite 1: Nurses “Always” communicated well (percent)	Composite 2: Doctors “Always” communicated well (percent)	Composite 3: “Always” received help as soon as they wanted (percent)	Composite 6: “Yes”, given information about what to do during recovery at home (percent)	Composite 7: “Always” understood their care when they left the hospital (percent)	Average HCAHPS Score (percent, average of Composite 1, 2, 3, 6, and 7)
CAH 1	100	100	100	100	83	97
CAH 2	100	100	100	100	33	87
CAH 3	71	79	52	88	19	62
CAH 4	100	100	100	100	100	100
CAH 5	67	56	33	100	44	60
CAH 6	50	50	75	100	50	65
CAH 7	93	93	57	63	65	74
CAH 8	100	100	100	100	100	100
CAH 9	73	100	50	60	60	69
CAH 10
Nevada Statewide Averages	75	73	65	85	49	69
North Dakota Statewide Averages	85	84	77	84	56	77
Montana Statewide Averages	80	83	76	85	53	75
National Averages	81	81	70	87	53	74

Source: Social and Scientific Systems, Inc. Draft Final Report-Part A, January 31, 2020

In cases where the FCHIP hospital did not report on a specific measure or measures, the cell is marked “.”

Appendix 2: Swing Bed Quality Measures

Measure	Definition
HAI-1: Healthcare-Associated Infection (HAI) per 1,000 (rate)	Number of HAIs in four types: Catheter-Associated Urinary Tract Infection, Central Line-Associated Bloodstream Infection, <i>Clostridium difficile</i> Infection, and Methicillin-Resistant <i>Staphylococcus aureus</i> infection. Exclude acute care; include only CAH swing/long-term care (LTC) beds cases.
	Numerator: Number HAIs x 1,000
	Denominator: CAH swing/LTC patient days (over same period)
HAC-1: Healthcare-Associated Condition: pressure ulcers per 1,000 (rate)	Number of pressure ulcers-Stages 2-4. Report all CAH swing/LTC bed patients with new/worsening Stage 2-4 pressure ulcers. Exclude acute care, include only CAH swing/LTC beds cases.
	Numerator: Number pres. ulcers x 1,000
	Denominator: CAH swing/LTC patient days (over same period)
IMM-2: Influenza immunization (percentage)	Number of patients given influenza vaccination during a year.
	Numerator: Number vaccinations at one time in year
	Denominator: CAH swing/LTC patient days at same time of year