Report to Congress

Rural Community Hospital Demonstration

Centers for Medicare & Medicaid Services

October 2018

CONTENTS

TABLE OF EXHIBITS

EXECUTIVE SUMMARY

The Rural Community Hospital Demonstration (RCHD) was originally authorized by Section 410A of the Medicare Prescription Drug, Improvement, and Modernization Act of 2003 (P.L. 108-173) (MMA). The goal of the demonstration is to assess the feasibility and advisability of cost based reimbursement for small rural hospitals too large to be Critical access Hospitals (CAHs). The demonstration examines the effect of an alternative payment methodology for inpatient hospital services in small rural community hospitals, defined as hospitals in rural areas, with fewer than 51 beds, 24-hour emergency care services, that are not eligible for designation as a Critical Access Hospital (CAH).

The demonstration has been extended twice since its initial authorization. It began in October 2004 as a 5-year demonstration, with a statutory limit of up to 15 hospital participants in states determined by the Secretary to have low population densities. The Secretary determined the 10 states with the lowest population density in which rural community hospitals were to be located in order to participate in the demonstration. Sections 3123 and 10313 of the Patient Protection and Affordable Care Act of 2010 (P.L. 111-148) (Affordable Care Act) extended the RCH
D for an additional 5 years, included the 20 least densely populated states, and allowed up to 30 participating hospitals. At the end of 2016, the 21st Century Cures Act of 2016 (P.L. 114-255) (Cures Act) extended the demonstration for an additional 5 years and allowed applications from all states but prioritized applications from the 20 least densely populated states, and continued to allow up to 30 participating hospitals.

Hospitals participate in the RCHD for a five year participation period and receive modified payments from the payments they would receive under the inpatient prospective payment system (IPPS). In the first year (referred to as a hospital's base year), hospitals are paid on the basis of reasonable costs for inpatient services delivered in acute-care beds or swing beds. In subsequent years, hospitals are paid the lesser of reasonable costs for that year or a target amount based on costs in the base year. The target amounts are calculated as a hospital's Medicare inpatient cost per diem in the base year adjusted for inflation, the hospital's case mix, and the volume of Medicare inpatient discharges. Payments under the demonstration are required to be budget neutral with respect to aggregate Medicare payments for all hospitals for a fiscal year. In order to comply with this requirement, CMS deducted payments made to participating hospitals in excess of IPPS levels from aggregate IPPS payments to all non-demonstration hospitals.

This report summarizes the findings from the RCHD under the demonstration periods authorized by the MMA and the Affordable Care Act to comply with the mandated due date for the report to Congress of August 1, 2018. Over this twelve-year period a total of 33 hospitals have participated in the demonstration -- 17 that participated during the MMA-authorized demonstration period, and an additional 16 that joined during the Affordable Care Act-authorized demonstration period. Seven hospitals participated under both periods. Because of the availability of finalized hospital cost reports, financial analyses based on cost report

information is reported through fiscal year 2013. Findings related to subsequent years will be released separately.

Summary of Key Findings

This report presents evaluation findings under three main evaluation questions designed to inform the observed impact of the demonstration. The evaluation questions and findings are presented below.

What are the characteristics of hospitals that participated in the RCHD?

Because the RCHD is voluntary, the evaluation compared the financial characteristics of participant hospitals that joined the demonstration against similar sized hospitals outside the RCH demonstration. The evaluation conducted its comparisons using the Medicare inpatient margin and total margin of institutions during the three year period before the RCHD's start. The evaluation also assessed how payments under the demonstration compared to what participants would have received outside the demonstration.

Key Observation: Hospitals participating in the RCHD predominantly had Medicare inpatient costs exceeding Medicare inpatient revenue in the years before joining the demonstration.

The analysis showed that hospitals in the demonstration had Medicare inpatient costs that significantly exceeded Medicare inpatient revenues *in the three years prior to joining the demonstration*. Although demonstration hospitals averaged negative Medicare inpatient margins in the three years before joining the demonstration, their total margins over this timeframe did not necessarily reflect poor finances. Hospitals with high Medicare inpatient costs during the base year (i.e., a hospital's first year in their participation period) may realize higher demonstration payments throughout a hospital's five year period of participation. Hospitals that participated in both demonstration periods (who had two five year participation periods) did not necessarily benefit, due to high costs in the first participation period's base year due to rebasing. The pattern of demonstration hospitals with Medicare inpatient costs significantly exceeding Medicare inpatient revenues was observed for both the MMA-authorized demonstration period and the Affordable Care Act authorized demonstration period. For hospitals that entered the demonstration in October 2004, this average was −24 percent during 2002–2004. By comparison, Medicare inpatient margins for eligible small rural hospitals that never joined the demonstration averaged +5 percent during 2002-2004.[1] RCHD hospitals participating in the Affordable Care Act extension period in 2011 had average Medicare inpatient margins of −21 percent in the three year period before joining the demonstration (2008–2010). Over the same three year period,

[1] The comparison group in a given year represents hospitals that would meet the requirements for the RCHD payment: rural hospitals with fewer than 51 beds, offering 24-hour emergency care services, and not eligible for CAH status. Comparison hospitals could come from demonstration or non-demonstration states. All hospitals that ever participated in the demonstration were excluded.

eligible small rural hospitals outside the demonstration averaged −2 percent Medicare inpatient margins.

Key Observation: RCHD payments for a given year can be lower than the payment a hospital would have received under IPPS and any applicable payment support options such as the Sole Community Hospital (SCH) or Medicare Dependent Hospital (MDH) programs.[2] RCHD payment amounts are influenced by a hospital's costs in its base year and by whether it has swing beds.

Payments to demonstration hospitals in a given year are determined as the *lesser* of reasonable costs or the target amount, either or both of which can be lower than the IPPS payment. Depending on a hospital's circumstances in that year and the payment arrangements for which it qualifies, RCHD payments can be lower than the payments a hospital would have received outside the demonstration. Although this is uncommon, three participant hospitals had a year in which the payments received under the demonstration methodology were lower than what they would have received outside the demonstration (see Appendix Table B.1). All three hospitals withdrew after incurring losses relative to IPPS.

In contrast to the RCHD payment methodology, under the IPPS, SCH payments and the MDH program provide the *greater* of the IPPS rate or a target amount (Exhibit 1). Depending on a hospital's payment context, these alternatives may provide more generous payments compared to RCHD payments, particularly in years 2 through 5. Over the course of the demonstration period included in this report, two participating hospitals closed and 10 withdrew or completed their participation period in the MMA demonstration and exited. Six of these hospitals withdrew to become CAHs and four withdrew to become SCHs. In interviews or documented accounts, seven of the ten hospitals that withdrew indicated they withdrew to pursue SCH or CAH status either because it was more financially sustainable or because becoming a SCH would offer higher payment because of the rebasing of SCH payments.

A facility's RCHD payment amount is influenced by costs in its base year, whether it has swing beds and the extent of care it delivers in swing beds. Participant hospitals may have high base year costs because of short term higher spending in the base year for facility improvements. Because target payments in later years are determined as updates of base year costs, high costs in a hospital's base year increase the likelihood a hospital will receive cost based payment after the base year and receive larger payments for the duration of the RCHD. Similarly, hospitals delivering a substantial share of care through swing beds receive higher payments because the RCHD swing bed payment rate is significantly higher than Medicare payment rates under the skilled nursing facility (SNF) PPS (this is described in more depth in section I of this report).

[2] Unless otherwise stated, wherever the report refers to payments a hospital would have received under "IPPS", those payments would include IPPS plus any special rural payment provisions applicable to a hospital, such as the Medicare Dependent Hospital (MDH) program, Sole Community Hospital (SCH) payments, or the Low Volume Adjustment.

Key Observation: Prior to joining the demonstration, RCHD participants tended to be in better overall financial condition than similar sized non-participant hospitals.

Despite their relatively low Medicare inpatient margins discussed above, hospitals that joined the RCHD were not necessarily weaker financially than comparable hospitals. In the three pre-participation years, the total margins of hospitals that participated in the demonstration were similar to or higher than the average total margins of similar sized non-demonstration hospitals. Hospitals that joined the demonstration during the 2005-2009 period had total margins averaging +4 percent in the 3 years prior to participation (2002-2004), which was higher than the +2 percent average for similar sized non-participant hospitals. Hospitals that joined under the extension authorized by the Affordable Care Act had average total margins of +3 percent in 2008–2010, compared to 0 percent for similar non-demonstration hospitals over the same period (see Exhibits B.3 and B.4 in the appendix).

What was the effect of the demonstration on hospital finances and other outcomes?

The evaluation examined several outcome metrics for payments under the demonstration, financial performance, quality, patient experience, and access to care, to assess the impact of the demonstration. The evaluation assessed outcomes among demonstration hospitals by comparing pre-demonstration performance against post demonstration performance. To further assess how the demonstration influenced outcomes, the evaluation also compared outcomes for demonstration hospitals against similar sized rural hospitals not participating in the demonstration.

Key Observation: The demonstration increased payments on a per hospital per year basis by 41 percent during FY 2005-2009 and 42 percent during FY 2011-2013**.**

Participation in the RCHD was associated with increases in Medicare payments for inpatient services. Relative to Medicare inpatient payments that hospitals would have received outside the demonstration, the RCHD increased Medicare inpatient payments, on average, by 41 percent in FY 2005-2009 and by 42 percent in FY 2011–2013[3]. The average increase among hospitals within a given year during the latter time period ranged between 35 percent and 47 percent. In FY 2013, the average hospital received payments that were 47 percent higher than they would have received without the RCH demonstration. Compared to payments under IPPS, the additional payment in that year corresponds to approximately $3,715 more per discharge (acute and swing bed discharges combined) and $1.95 million more per hospital. From FY 2005 to FY 2013, the average percentage increase in Medicare payments for RCHD participants ranged from a low of 33 percent (FY 2005) to a high of 56 percent (FY 2010).

[3] FY2010 was not reported because it was a rebasing year for RCHD participants continuing on in the first extension of the demonstration, as authorized by the Affordable Care Act.

Key Observation: RCHD payments improved total margins for RCHD Hospitals compared to similar non-demonstration hospitals.

The RCHD payment methodology improved hospital profitability as measured by total margins and was associated with modest improvements on other measures of financial viability. The evaluation compared the change in total margins for participant hospitals between the years prior to joining the demonstration and after starting the RCHD. Increases in hospital profitability were highest during a hospital's base year, which was associated with an average increase of 4 percentage points in total margins for hospitals joining during FY 2005-2009, and an average increase of 3 percentage points during FY 2011-2013 (see Appendix Exhibits B.3 and B.4). The total margins of RCHD Hospitals were also higher, on average than similar sized non-demonstration hospitals. For example, total margins for demonstration hospitals in FY 2013 averaged +1 percent, compared to -1 percent for similar non-demonstration small rural hospitals (this difference is not statistically significant).

Key Observation: Hospitals self-reported that RCHD payments support services, help with staff retention, and allow them to continue to furnish services. However, the demonstration had little quantifiable impact on quality for Medicare beneficiaries.

In interviews, hospitals stated that RCHD payments helped them to maintain provision of hospital services to their markets, helped with staff retention and recruitment, and allowed them to remain open. In select cases, participant hospitals stated that demonstration payments were used to add hospital services. However, improvements in hospital finances and operations were not associated with detectable improvements in quality of inpatient care or patient experience as examined in the evaluation. Participant hospitals in the RCHD exhibited similar readmission rates, in-hospital mortality, or patient ratings of care captured in the Hospital Consumer Assessment of Healthcare Providers Survey (HCAHPS) relative to similar non-demonstration hospitals. Quality of care measures for demonstration hospitals were on par with similar non-demonstration hospitals and followed similar trends over time.

What changes were RCHD participant hospitals expecting to make in anticipation of the demonstration's end?

At the end of the demonstration period authorized under the Affordable Care Act, the Cures Act had not been passed into law, leaving open the possibility that the demonstration would end with no extension. The evaluation's hospital interviews and annual surveys were used to examine the perspectives of RCHD hospitals and operational changes hospitals were planning to implement if the demonstration ended.

Key Observation: Demonstration hospitals anticipated using several strategies to remain financially viable after the potential end of the demonstration: converting to SCH, MDH, or CAH status; reducing provision of unprofitable hospital services; and joining hospital systems.

Given the potential for the end of demonstration payments, hospitals reported considering three types of strategies for remaining financially viable. First, demonstration hospitals would seek

participation in a rural payment support program such as SCH, MDH, low volume or CAH. The SCH program offers enhanced payments for hospitals that are the sole providers within a defined area and the MDH program provides increased payments for hospitals that are heavily dependent on Medicare beneficiaries. Hospitals indicated that transforming themselves to CAH status would be the most financially preferable because both inpatient and outpatient care services are paid on a cost basis but that converting to CAH status is not an option for some hospitals due to proximity restrictions and because it would require a reduction in the number of beds. A second strategy considered by some hospitals included discontinuing less profitable services to remain financially viable after the end of the demonstration. Services related to care coordination, community education, and mental health were reported as "not self-sustaining" and hospitals stated that they would likely no longer be furnished. A final strategy mentioned included affiliating with larger health systems or operating in a more collaborative manner with potential competitors. Affiliating with health care systems was cited as a means to bolster post-demonstration viability because these relationships could produce economies of scale through joint purchasing or shared staff systems. Joining health systems would also help hospitals gain expertise on how to render existing services more efficiently.

Recommendations for legislation and administrative action

The legislation in the MMA directs the Secretary to provide recommendations on the advisability and feasibility of RCHs for such legislation and administrative action as determined to be appropriate. This report does not include legislative recommendations, as those are typically included in the President's Budget. However, this Administration understands that one of the keys to ensuring that those who call rural America home are able to achieve their highest level of health is to advance policies and programs that address their unique healthcare needs. Therefore, CMS recently launched the agency's first Rural Health Strategy to help improve access to high quality, affordable healthcare in rural communities. The Rural Health Strategy is available at: https://www.cms.gov/About-CMS/Agency-Information/OMH/Downloads/Rural-Strategy-2018.pdf. As part of this Strategy, CMS is organizing and focusing its efforts to apply a rural lens to the vision and work of the agency.

I. INTRODUCTION AND CONGRESSIONAL MANDATE

Legislative Background

The Rural Community Hospital demonstration (RCHD) was authorized by Section 410A of the Medicare Prescription Drug, Improvement, and Modernization Act of 2003 (P.L. 108-173) (MMA) which directs the Secretary to "establish a demonstration program to test the feasibility and advisability of the establishment of rural community hospitals (as defined in subsection (f)(1)) to furnish covered inpatient hospital services (as defined in subsection (f)(2)) to Medicare beneficiaries." The eligibility criteria in subsection (f)(1) includes that a hospital must (1) be located in a rural area, (2) have fewer than 51 acute care inpatient beds, (3) make available 24-hour emergency care services, and (4) not be designated, or eligible for designation, as a Critical Access Hospital (CAH). Hospitals in the demonstration participate for a five year participation period with payment in the first year (which is called the base year in this report) being reasonable costs and, for subsequent cost reporting periods, the lesser of either reasonable costs or a target amount trended forward from the base year.

The demonstration began in October 2004 as a 5-year demonstration in the 10 least densely populated states.[4] Sections 3123 and 10313 of the Patient Protection and Affordable Care Act of 2010 (P.L. 111-148) (Affordable Care Act) extended the RCHD for an additional 5 years, included the 20 least densely populated states, and allowed up to 30 participating hospitals.[5] Section 15003 of the 21st Century Cures Act of 2016 (P.L. 114-255) (Cures Act) extended the RCHD for an additional 5 years and opened participation in the demonstration to hospitals in all states nationwide. Under the Cures Act, the Secretary is required, not later than August 1, 2018, to submit to Congress a report on the demonstration program, together with recommendations for such legislation and administrative action as the Secretary determines to be appropriate.

This report summarizes the findings from an evaluation of the RCHD per this legislative requirement. The hospitals included in this report entered the demonstration in three waves: in fiscal year (FY) 2005, FY 2009, and FY 2011–FY 2012. Hospitals that had begun participating in the demonstration period authorized by the MMA could opt to participate in the extension authorized by the Affordable Care Act. During 2004-2016, 33 hospitals participated in the RCHD. Seventeen of these hospitals participated under the MMA among which seven opted to continue in the Affordable Care Act extension which included a total of 23 participants. Additional hospitals also joined the demonstration after its extension under the Cures Act. However, information from this time period was not available at the time of writing this report, and thus the Cures Act experience is not examined in this report.

[4] The initial ten eligible states were Alaska, Idaho, Montana, Nebraska, Nevada, New Mexico, North Dakota, South Dakota, Utah, and Wyoming.

[5] The Affordable Care Act extension of the demonstration added Arizona, Arkansas, Colorado, Iowa, Kansas, Maine, Minnesota, Mississippi, Oklahoma, and Oregon to the list of eligible states.

Comparison of RCHD Payments to IPPS and Other Special Rural Payment Programs

Hospitals in the RCHD are paid under a cost-based payment methodology for acute inpatient stays in the first year and payments based on trended acute inpatient costs in subsequent years. By comparison, payment under the standard Inpatient Prospective Payment System (IPPS) pays nationally standard rates per discharge, adjusted for patient case mix, market conditions, and other factors. A hospital's first year in the demonstration is referred to as its base year, and in this year, a hospital is paid on the basis of reasonable costs of care for Medicare beneficiaries treated for inpatient acute-care or swing bed stays. In the years following the base year, hospitals are paid the lesser of reasonable costs or a target amount. The target amount is calculated as a hospital's Medicare acute inpatient cost per diem in the base year adjusted for inflation using the PPS market basket update factor, the change in the hospital's case mix relative to the base year, and the number of Medicare inpatient discharges. RCHD payments are composed of a payment for acute inpatient stays and a payment for swing bed stays, which are determined separately. A swing bed is an acute care bed used to furnish either acute or skilled nursing facility (SNF)-level care.

RCHD Hospitals with swing bed discharges are paid using the CAH payment methodology, which substantially increases the payment compared to what hospitals would have received outside the demonstration. Under the CAH payment methodology, swing bed costs reflect a blend of routine costs for acute beds and swing beds. Because costs for acute beds are in general much higher, blending the two together makes the calculated swing bed cost much higher than the typical swing bed cost. This results in substantially higher payment under the RCHD for swing beds compared to the payment that would have been made under the skilled nursing facility (SNF) prospective payment system. Moreover, because Medicare represents a larger share of swing bed days, the allocation attributes more overall costs to Medicare, and fewer costs to other payers. For RCHD Hospitals with swing beds, the cost (or target) payment for swing beds can more than offset low acute care bed payments (see Exhibit 4 for an illustrative example).

Medicare includes several payment programs for rural hospitals (Exhibit 1). The payment amounts under the RCHD relative to other Medicare payment programs can vary substantially depending on the individual circumstances of a hospital, including how high costs were in the RCHD base year and the use of swing beds. Sole Community Hospitals (SCHs) and Medicare Dependent Hospitals (MDHs) may receive payments based on their hospital-specific rate for base years that are specified in statute. In contrast, the RCHD base year is determined by the time of entry into the demonstration.[6] The RCHD payment methodology also differs from SCH and MDH payments in applying not only to acute care beds, but also to swing beds.

[6] For demonstration hospitals that continued their participation under the extension period authorized by the Affordable Care Act, the base year was reset to the hospital's fiscal year that began during federal fiscal year 2010.

Exhibit 1. Medicare Payment Programs and Demonstrations for Rural Hospitals

Payment Mechanism	Acute Care Services†	Post-Acute Services in Swing Beds	Outpatient Services
Critical Access Hospital (CAH)*	101% of reasonable costs	101% of reasonable costs	101% of reasonable costs
Rural Community Hospital Demonstration (RCHD)	**Lesser of reasonable costs or target amounts based on base-year costs updated to current year, case mix, and volume**	**Lesser of reasonable costs or target amounts based on base-year costs updated to current year, case mix, and volume**	-
Sole Community Hospital (SCH)	Greater of Federal IPPS rate or base-year costs updated to current year, case mix, and volume	Federal skilled nursing facility (SNF) PPS rate	Federal OPPS rate plus 7.1% for services other than drugs & biologicals if SCH
Medicare Dependent Hospital (MDH)**	IPPS rates plus 75 percent of the amount by which updated hospital-specific base-year cost exceeds the PPS rate.	Federal SNF PPS rate	Federal OPPS rate
Low-Volume Payment Adjustment***	Up to 125% of IPPS, MDH or SCH payment	-	-
Prospective Payment System	Federal IPPS rate	Federal SNF PPS rate	Federal OPPS rate

Abbreviations: *IPPS, Inpatient Prospective Payment System; OPPS, Outpatient Prospective Payment System; PPS, Prospective Payment System.*

Sources*: Payment Basics: Hospital Acute Inpatient Services Payment System, MedPAC, October 2013; Payment Basics: Skilled Nursing Facility Services Payment System, MedPAC, October 2013; Payment Basics: Outpatient Hospital Services Payment System, MedPAC, October 2013; CMS Manual System Pub. 100-19 Demonstrations, Transmittal 77, July 2011; MLN Matters (MLN9197-Revised), CMS, June 2015.*

† The RCHD, SCH, or MDH use different base years that may result in higher or lower payments to hospitals.

* *CAHs are technically considered a different provider type.*

** *This payment provision applies to discharges after October 1, 2006. Enhanced payments for MDHs have been extended through FY2017 (9/30/2017).*

*** *For FY 2005-2010, hospitals had to have 200 or fewer total annual discharges to receive a low volume adjustment. For FY 2011-2017, the threshold was increased to 1,600 Medicare discharges.*

Evaluation of the RCHD

This report addresses three main evaluation questions:

1. What are the characteristics of hospitals that participated in the RCHD?
2. What was the effect of the demonstration on hospital finances and other outcomes?
3. What changes were RCHD participant hospitals expecting to make in anticipation of the demonstration's end?

In answering these questions, the evaluation compared the performance of hospitals in the demonstration to that of similar sized non-demonstration hospitals who were used as

comparators for participant hospitals in the demonstration.[7] The evaluation examined several outcome measures reflecting hospital finances, quality of care, patient experience, and access to hospital services.

Market Typology Developed for the Evaluation

To account for market differences between hospitals related to performance in outcomes, the evaluation developed a market typology that was used to aid the understanding of the experience of hospitals in markets with different characteristics. The market typology for this report defines a hospital's market as Isolated, Competitive, or Frontier based on the total population and number of inpatient competitors within a 35 mile radius of the hospital:

- **Isolated** markets are defined as markets with fewer than three other acute care hospitals and market populations that declined between 2000 and 2010. These areas were often characterized by relatively higher unemployment and poverty rates than other market types.[8]
- **Frontier** markets were defined as markets with fewer than three other acute care hospitals and market populations that were steady or increased between 2000 and 2010.
- **Competitive** markets were defined as market areas with three or more other acute care hospitals within the market area.

The evaluation results presented in this report focus primarily on the demonstration period authorized under the Affordable Care Act: fiscal years (FY) 2011-2013 because the largest number of hospitals participated in the demonstration during this time, allowing for more statistical reliability. Lags in the availability of hospital cost report data at the time of writing this report precluded including FYs 2014-2016 in the analysis. The report also includes the demonstration's financial and operational impact from FY 2005-2009.

Section II of the report presents the key evaluation findings organized by each of the main research questions.

[7] Similar non-participant hospitals met all demonstration eligibility criteria but could come from demonstration or non-demonstration states. Similar non-participant hospitals used as comparators were not matched to participant hospitals.

[8] See Appendix A for more information on the market typology.

II. RESULTS

II.1 WHAT ARE THE CHARACTERISTICS OF HOSPITALS PARTICIPATING IN THE RCHD?

Payments under the RCHD varied across participating hospitals, with higher payments depending on a hospital's base year costs, presence of swing beds, and characteristics of its patient and market context. This section of the report describes the characteristics of hospitals that chose to participate in the RCHD, and were selected by CMS for participation, and discusses how various factors may influence a hospital's decision to participate and remain in the demonstration. This section does not include a discussion of the hospitals participating in the second five-year extension period authorized by the Cures Act.

Hospitals participating in the RCHD predominantly had Medicare inpatient costs exceeding Medicare inpatient revenue in the years before joining the demonstration.

Beginning with a hospital's second year in the demonstration, payments, as required by the authorizing legislation, are determined as the lesser of reasonable costs or a target amount based on costs trended forward using base year costs. Under this methodology, hospitals with high Medicare inpatient costs in the base year are more likely to receive cost based payment in succeeding years. Hospitals that participated in the RCHD averaged negative Medicare inpatient margins in the three years prior to starting the demonstration (see Appendix Exhibits B.3 and B.4).[9] Although on average hospital Medicare inpatient costs exceeded Medicare inpatient revenues by a large amount during the three years before beginning participation, total margins for hospitals were not necessarily unprofitable. The pattern of low prior Medicare inpatient margins holds for hospitals that participated in the MMA-authorized demonstration and for hospitals in the extension period authorized by the Affordable Care Act. The 13 hospitals that first entered the demonstration in FY 2005 had average Medicare inpatient margins of −24 percent during the preceding three years (2002–2004). Over the same period, Medicare inpatient margins of similar sized non-demonstration hospitals averaged +5 percent.[10] Hospitals that participated in 2011 under the Affordable Care Act authorized extension had a pre-participation average Medicare inpatient margin of −21 percent for 2008–2010, compared to a −2 percent Medicare inpatient margin for similar sized non-demonstration hospitals.

[9] Medicare inpatient margins are calculated as Medicare inpatient revenue minus Medicare inpatient cost divided by Medicare inpatient revenue. All financial indicators were calculated from the Healthcare Cost Report Information System (HCRIS) data following the methodology developed by the Flex Monitoring Team, which uses HCRIS data to help CAHs monitor the financial performance of their hospitals. See www.flexmonitoring.org/projects/measuring-financial-performance-in-cahs/ for more information.

[10] Similar non-demonstration hospitals used as comparators to demonstration hospitals in a given year met RCH eligibility requirements of fewer than 51 beds, offering 24-hour emergency care services, and not eligible for CAH status and meeting the same definition of rural. Hospitals used as comparisons could come from demonstration or non-demonstration states. Hospitals that previously participated in the demonstration were excluded from the comparison group.

Unlike other special payments for rural hospitals, it is possible for a hospital's RCHD payment to be lower than the payment it would have received under the inpatient prospective payment system (IPPS).

Under the demonstration, RCHD Hospitals receive the *lesser* of reasonable costs or the target amount. By comparison, other enhanced payments for rural hospitals such as SCH and MDH programs, provide the *greater* of the IPPS rate or a target amount (Exhibit 1). CAHs (which must have a smaller number of beds, short acute care stays, and meet restrictive proximity requirements) are paid at 101 percent of costs for inpatient, skilled nursing, and outpatient services.[11] Similar non-participant hospitals may also be eligible for low-volume adjustments, but participating hospitals cannot receive a low volume adjustment in addition to the RCHD payment.[12]

Although uncommon, a hospital's target amount or routine costs under the demonstration did in some cases fall below what it would have received under IPPS plus any applicable payment adjustments such as SCH, MDH, or the low volume adjustment. Over the course of the demonstration period included in this report, three participant hospitals had a year where they received RCHD payments that were lower than what they would have received outside the demonstration (Exhibit B.1). The difference between what a hospital would have received under the RCHD and what it would have been paid outside of the demonstration can be relatively large. During FY 2005 – 2013, three hospitals each had a year in which the RCHD payment was lower than what these facilities would have otherwise received under IPPS. The discrepancy ranged from approximately $266,000 to over $667,000 (see appendix Exhibit B.1). All three hospitals withdrew from the demonstration after incurring lower RCHD payments relative to IPPS.

Participant hospitals that joined the RCHD tended to be in better overall financial condition than similar sized non- demonstration hospitals.

The demonstration tended to enroll hospitals in stronger overall financial condition than similar sized non-demonstration hospitals, as indicated by total hospital margins. Although hospitals that joined the RCHD typically averaged significant negative Medicare inpatient margins in the years before joining the demonstration, on average, participant hospitals were stronger financially than eligible non-demonstration hospitals. Hospitals that joined the demonstration under the demonstration periods authorized by the MMA and Affordable Care Act tended to be stronger financially than similar non-demonstration hospitals. Hospitals active throughout the demonstration during the 2005-2009 period had total margins averaging +4 percent in the 3 years prior to participation (2002-2004), which was slightly higher than the +2 percent average for

[11] Note that SCH, MDH and RCHD are payment categories for acute care hospitals, but hospitals that become CAHs are considered a different provider type with distinct Medicare Conditions of Participation.

[12] Prior to the Affordable Care Act, a low-volume adjustment was available to hospitals that had fewer than 200 total discharges and were located more than 25 miles from the nearest hospital. RCHD Hospitals were eligible for these adjustments. Under the Affordable Care Act, the criteria were changed to include hospitals that had fewer than 1,600 Medicare discharges and were more than 15 miles from another hospital. RCHD Hospitals were not eligible for the low-volume adjustment under the Affordable Care Act criteria.

similar sized non-demonstration hospitals. Hospitals that joined under the Affordable Care Act extension had average total margins of +3 percent in 2008–2010, compared to 0 percent for similar sized non-demonstration hospitals (see Exhibits B.3 and B.4 in the appendix).

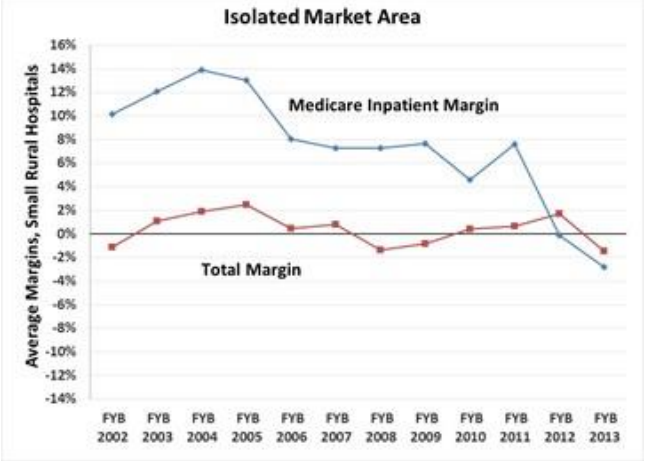
The financial condition of small rural hospitals eligible for the demonstration varied by type of market where the hospital was located. Hospitals in Isolated markets, which tend to have smaller and shrinking populations had the most tenuous finances. Hospitals in Competitive markets tended to have more robust margins reflecting their larger market populations but tempered by the presence of a larger number of competing hospitals. Hospitals in Frontier markets with growing populations and limited competition exhibited the strongest total margins.

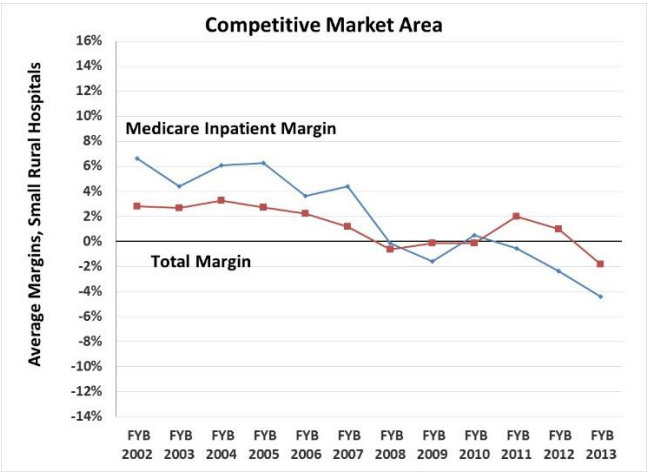
This report categorized each participating hospital as being in an isolated, competitive, or frontier market based on the number of nearby hospitals and whether the population in the area was declining (see page 10 for the definitions of each market type). The evaluation examined the relationship between finances and market type in all eligible small rural hospitals. The use of a larger sample serves to provide a more robust analysis and understanding of the overall context for this type of hospital. The results showed that the financial condition of small rural hospitals eligible for the demonstration varied by market type in a manner illustrating the different market contexts and environments of these facilities. A hospital's market context includes population demographic and economic characteristics as well as characteristics of its local health care system, and the extent of local providers competing with facilities for patient revenue. Small rural hospitals in less populated areas may face lower demand for inpatient care resulting in financial difficulties from higher average costs. Hospitals in areas with fewer competing facilities and larger populations with commercial and Medicare patients may provide more resources for hospitals to attract and retain staff, improve facilities and offer services that better meet community needs.

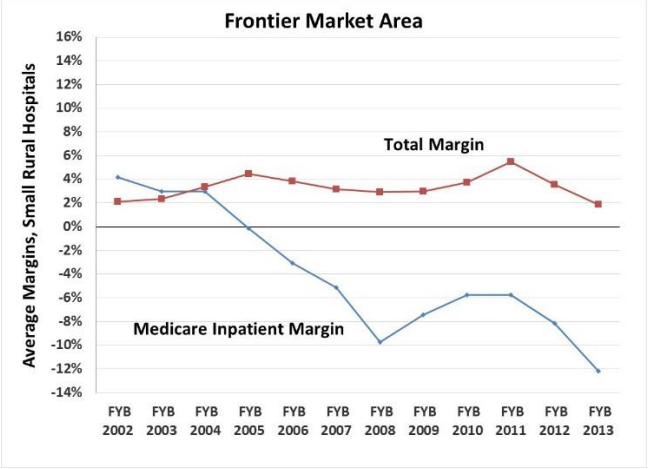
Isolated markets typify areas with smaller populations that are shrinking over time and that tend to be more economically disadvantaged, albeit with limited competition from other hospitals. The more limited population base and fewer competing facilities in these markets is reflected in their lower average total margins that range from -2% to 2% (Exhibit 2). Examination of cost report information for these facilities indicates that they averaged the highest Medicare inpatient margins across the three market types earlier in the demonstration. Medicare inpatient margins in Isolated markets have fallen in more recent years, reflecting declines in the profitability of furnishing Medicare inpatient services among small rural hospitals across all market types. Among RCHD hospitals, there is only one hospital in an isolated market.

Eligible small rural hospitals in Competitive markets are by definition located in areas with at least three or more competing hospital providers. On average, these markets are characterized by larger populations (nearly 130,000 on average for demonstration hospitals) but also have several competing facilities.

Exhibit 2: Medicare Inpatient and Total Margins for All RCHD Eligible Hospitals, by Market Type







Sources: HCRIS and Medicare final settled cost reports, FY 2002-13.

Although these markets tend to have larger patient populations, the populations in Competitive markets may vary widely in terms of demographic characteristics such as the proportion of aged, rates of employment and poverty, and racial composition. Analysis of market based data and hospital interviews suggest market demographic and employment context plays an important role in shaping patient demand and hospital finances. Overall, hospitals in Competitive markets averaged somewhat higher total margins than hospitals in isolated markets over time, ranging from -2% to near 4% (Exhibit 2). Medicare inpatient margins for hospitals across all markets trended down over time, with the largest decline over time seen in Frontier markets (Exhibit 2).

While hospitals in Frontier markets have growing populations and limited competition from other hospitals, populations in these markets may be significantly smaller than those of Competitive markets. Demonstration hospitals in Frontier or Isolated markets had populations averaging approximately 36,000 with some having populations below 10,000. Hospitals in Frontier markets had higher average total margins over time ranging from 2% to nearly 6% (Exhibit 2). However, unlike hospitals in the other two market types, hospitals in Frontier markets exhibited very low Medicare inpatient margins, especially in recent years. Medicare inpatient margins ranged from -12% to approximately 4%. The pattern of high total margins and low Medicare inpatient margins is consistent with recent studies by MedPAC associating the combination of negative Medicare inpatient margins and positive total margins with the

availability of private payers in the market.[13] See Appendix Exhibit B.2 for a list of RCHD hospitals and their market type.

Nearly one third of 33 participants in the demonstration withdrew from the demonstration. Many hospitals that withdrew cited the availability of more financially advantageous Medicare payment options.[14] Most participant withdrawals from the demonstration occurred during 2005-2009.

In the demonstration period covered by this report, the RCHD never reached the maximum authorized number of participating hospitals at any given period because of insufficient take-up and because hospitals withdrew from the demonstration or discontinued their participation. The latter includes cases where the participating hospital left when the RCHD payments were lower than the payments the hospital would have received outside the demonstration. (See Appendix Exhibit B.1.)

Exhibit 3: Participation in the RCHD by Solicitation Wave

Year of Entry to RCHD	New Starts	Active Throughout	Discontinued or Withdrew from RCHD	Closed	Hospitals that withdrew or discontinued from demonstration	
					Became IPPS, SCH, or MDH	Converted to CAH
Wave 1 under MMA (2004-2005) [1]	13	5	8	0	3	5
Wave 2 under MMA (2008-2009) [1]	4	2	1	1	0	1
Wave 3 under Affordable Care Act (2011-2012) [3]	16	14	1	1	1	0
Total	33	21	10	2	4	6

Notes: Withdrew = Participated for less than the five-year demonstration period (as of January 2014), including one hospital that was closed; Discontinued = Participated for their complete 5 year MMA period, but did not participate in the Affordable Care Act period.

[1] During this period, a maximum of up to 15 participants were permitted to be in the demonstration.

[2] In this wave of the demonstration, a maximum of 30 participants was permitted in the demonstration.

Exhibit 3 summarizes changes in hospital participation over time. Four of the eight withdrawals from the first wave occurred shortly after the start of the demonstration. Until the end of 2005,

[13] See Jeffery Stensland, Zachary R. Gaumer, and Mark E. Miller, "Private-Payer Profits Can Induce Negative Medicare Margins," Health Affairs, 25(5) (2010): 1045-1051; and Medicare Payment Advisory Commission, Report to Congress: Medicare Payment Policy (Washington, DC, March 2016), ch. 3.

[14] Accounts that hospitals provided through interviews with the evaluation and through accounts provided to the model team confirmed three hospitals converted to CAH status to secure a more sustainable and stable payment flow. Four hospitals who withdrew to switch to SCHs cited that a rebased SCH rate would offer greater payment. One of these hospitals since converted to CAH status.

states could waive the CAH "proximity" requirement for hospitals to be designated as necessary providers.[15] Of the 13 RCHD Hospitals initially selected, four hospitals in Nebraska withdrew from the demonstration and became CAHs late in 2005 under this waiver. With the departure of these hospitals, CMS issued a second solicitation and four additional hospitals were chosen to join the demonstration. Between 2008 and 2011, seven RCHD Hospitals left the demonstration, including two that opted not to re-apply for participation when the demonstration was extended under Affordable Care Act. Of these seven, one hospital closed, one became a CAH, and five hospitals returned to SCH status (one of which later became a CAH).

Among the 33 hospitals that ever participated in the demonstration, 22 participated in the demonstration in FY 2013 (one of which ultimately closed while in the demonstration), the latest year with available cost report data. This count includes 7 hospitals that participated prior to FY 2010, and 15 that joined the demonstration in FY 2011 or 2012. Observations on the characteristics of these 22 participating hospitals include:

- All but three of the 22 RCHD Hospitals qualified for other enhanced payments: 11 were designated as SCHs and eight as MDHs prior to the demonstration.
- Seven were public hospitals; the rest were not-for-profit.
- Participant hospitals were often affiliated with other organizations. More than half of the 17 not-for-profit hospitals belonged to larger health care systems. Over the course of the demonstration, two public hospitals and one independent non-for-profit hospital became part of larger systems.
- Demonstration hospitals had on average 39 acute beds and had an average daily census of about 12 beds. Sixteen of the demonstration hospitals operated swing beds, including 12 of the 16 hospitals that joined under the extension period authorized by the Affordable Care Act.

(See Appendix Exhibit B.2 for additional information and profiles of these hospitals.)

[15] From 1997 to 2005, governors could waive the requirement that CAHs be located more than 35 miles from the nearest hospital (or more than 15 miles in areas with mountainous or otherwise difficult terrain). Since 2006, the distance requirement applies to all hospitals seeking to convert to CAH status.

II.2 WHAT WAS THE EFFECT OF THE RCHD ON HOSPITAL FINANCES AND OTHER OUTCOMES?

This section of the report describes the evaluation's findings for outcome metrics that were used to assess the demonstration's impact. These outcomes included RCHD payments to hospitals, financial performance, quality, patient experience, and access to care. Apart from these metrics the evaluation also relied upon qualitative interviews and survey data to characterize how demonstration funds were used. Outcomes such as total margins were assessed by comparing a demonstration hospital's pre-demonstration performance against its post demonstration performance. In consideration of changes over time, the evaluation also compared outcomes for demonstration hospitals against similar sized rural hospitals not participating in the demonstration.

The demonstration increased payments on a per hospital per year basis by 41 percent during FY 2005-2009 and 42 percent during FY 2011-2013.

Relative to Medicare inpatient payments participating hospitals would have received outside the demonstration, the RCHD increased Medicare inpatient payments, on average, by 41 percent in FY 2005-2009 and by 45 percent in FY 2010–2013. In any given year in the latter time period, the percentage increase ranged from 35 percent to 47 percent. Variation in payments across hospitals within any given year was substantial, varying from $6,862 to $7,459,477.[16] As shown in Exhibit 4, in FY 2013, the most recent year examined, the average hospital received payments that were 47 percent higher than they would have received outside the RCH demonstration.[17] Compared to payments hospitals would have received outside the demonstration, the additional payment corresponds to approximately $3,715 more per discharge (acute and swing bed discharges combined) and $1.95 million more per hospital for this year. From FY 2005 to FY 2013, the average percentage increase in Medicare payments for all participating RCH participants ranged from a low of 33 percent (FY 2005) to a high of 56 percent (FY 2010). (See Appendix Exhibit B.5 for additional detail on the yearly payments above IPPS levels for FY 2005–2013.)

Most of the hospitals that joined the RCHD under the demonstration period authorized by the Affordable Care Act had swing beds, and swing bed payments constituted a large share of the total payments distributed under the demonstration. Of the approximate $40 million in additional payments for the 22 hospitals participating in FY 2012, $13 million represented payments for swing beds at the 16 hospitals with these beds. Among these hospitals, swing bed payments accounted for 43 percent of all the additional payments under the demonstration in that year.

[16] Only hospitals participating in the demonstration as of January 1, 2014 are included in this comparison. As shown in Exhibit B.5, there were five continuing hospitals in FY 2005 to FY 2008 and seven in FY 2009, compared to 16 in FY 2011 and 22 in FY 2012 and FY 2013. For this reason, the average from FY 2005 to FY 2009 is less stable and more influenced by individual hospital experience.

[17] Although HCRIS data were available for FY 2013, FY 2012 is the most recent year for which complete final settled cost reports are available for the demonstration hospitals. It was also the first year for which all 22 hospitals received RCHD payments.

Exhibit 4: Additional Payments above IPPS Payment Amounts for Active Participant Hospitals in the RCHD as of January 1, 2014

	FY 2011	FY 2012	FY 2013[a]
Number of RCHD Hospitals	16	22	22
Total Additional Medicare Inpatient Payments	$30,787,380	$39,959,893	$42,826,651
Total Percent Increase in Medicare Inpatient Payments over IPPS	34%	34%	39%
Avg Additional Payment over IPPS Per Hospital [b] (Standard Deviation)	$1,924,211 ($1,332,397)	$1,819,002 ($1,353,623)	$1,946,666 ($1,480,664)
Avg Additional Payment over IPPS Per Hospital (Range)	37% (6%-116%)	45% (0%-148%)	47% (6%-140%)
Average Additional Payment per Discharge [c] (Range during Year)	$3,090 ($365-$12,600)	$3,442 ($12-$13,607)	$3,715 ($651-$13,756)
Hospitals with Swing Beds	12	16	15
Average Additional Payment over SNF PPS (Standard Deviation)	$743,458 ($378,189)	$746,472 ($436,282)	$886,719 ($376,412)
Swing Bed Payments as Share of Hospitals' Additional Payments	29%	43%	31%

Source: Medicare final settled cost reports, FY 2005-2012, final or as submitted cost reports FY 2013.
The phrase "over IPPS" in the table refers to the payment amount a hospital would have received under IPPS plus any added payment from SCH, MDH, or the low volume adjustment.
[a] FY 2013 values subject to change.
[b] Additional payment is the total RCHD payment for acute care beds and swing beds
[c] Includes acute and swing bed discharges.

While the average increase in annual payments from the RCHD was fairly consistent over time at around 34%, the variation in annual payment between participant hospitals was substantial. The additional payment was as low as 0.1 percent and as much as 148 percent above IPPS plus, where applicable, SCH, MDH and low-volume adjustments that a participant hospital would have received outside the demonstration. The hospital with the lowest RCHD payment (0.1 percent) was lower than what would have been paid under the low-volume adjustment, but slightly higher than what the hospital would have received under IPPS. This is because RCHD payments include a higher proportion of bad debt in the determination of reasonable costs than IPPS.[18]

As noted previously, swing bed payments under the demonstration were significantly higher than payments would have been under the SNF PPS and could substantially increase a hospital's overall RCHD payment. The hospital with the highest increase in payment relative to what they would have received outside of the demonstration, received an additional $26,174 per swing bed discharge instead of the $3,808 it would have received in SNF PPS payments, leading to a 148 percent increase in total RCHD payments relative to what it would have received outside the

[18] One hospital received payments under RCHD that were 6.1% lower than what they would have received if they had not participated for FY 2012. They withdrew from the demonstration the following year. They left the program prior to January 2014 and are therefore not included in Exhibit 4.

demonstration. Its 40 swing bed discharges accounted for 80 percent of the additional payments from the RCH, with its 104 acute bed discharges accounting for the other 20 percent.

RCHD payments had the largest effect on hospital finances in base years, with typically smaller effects when hospitals received target payments. In some cases, the effect of swing bed payments was significant, yielding positive inpatient margins even under target amount payments.

RCHD payments provided the largest increases in Medicare inpatient margins in the base years when hospitals were paid on reasonable costs. Payments to hospitals in the base years were on reasonable costs which were usually higher than target payments (unless the hospital had very high base year costs). As a result, the effect of target payments on Medicare inpatient margins tended to be smaller than the boost provided by RCHD payments in the base years. The base year payments provided a temporary boost to Medicare inpatient margins in both periods of the demonstration included in this report. The increase in Medicare inpatient margins relative to the pre-demonstration average ranged from 29 percentage points during FY 2005-2009 and 25 percentage points during FY 2011-2013. In subsequent years, hospitals received the lower of a target payment (calculated by trending forward base year costs) or reasonable costs. In years two through five, most hospitals received target payments. For several hospitals, these target payments resulted in Medicare inpatient margins trending back below zero. In these cases, hospital costs per discharge rose more quickly than the IPPS market basket adjustment and case mix.

By design, Medicare inpatient payments under the RCHD methodology cover at most Medicare inpatient costs. However, a participant's patterns of Medicare margins over time differed based on a hospital's base year costs and the payments for swing beds. To illustrate the effect of these different mechanisms, Exhibit 5 presents trends in Medicare inpatient margins for three hospitals that participated in all years of the demonstration.

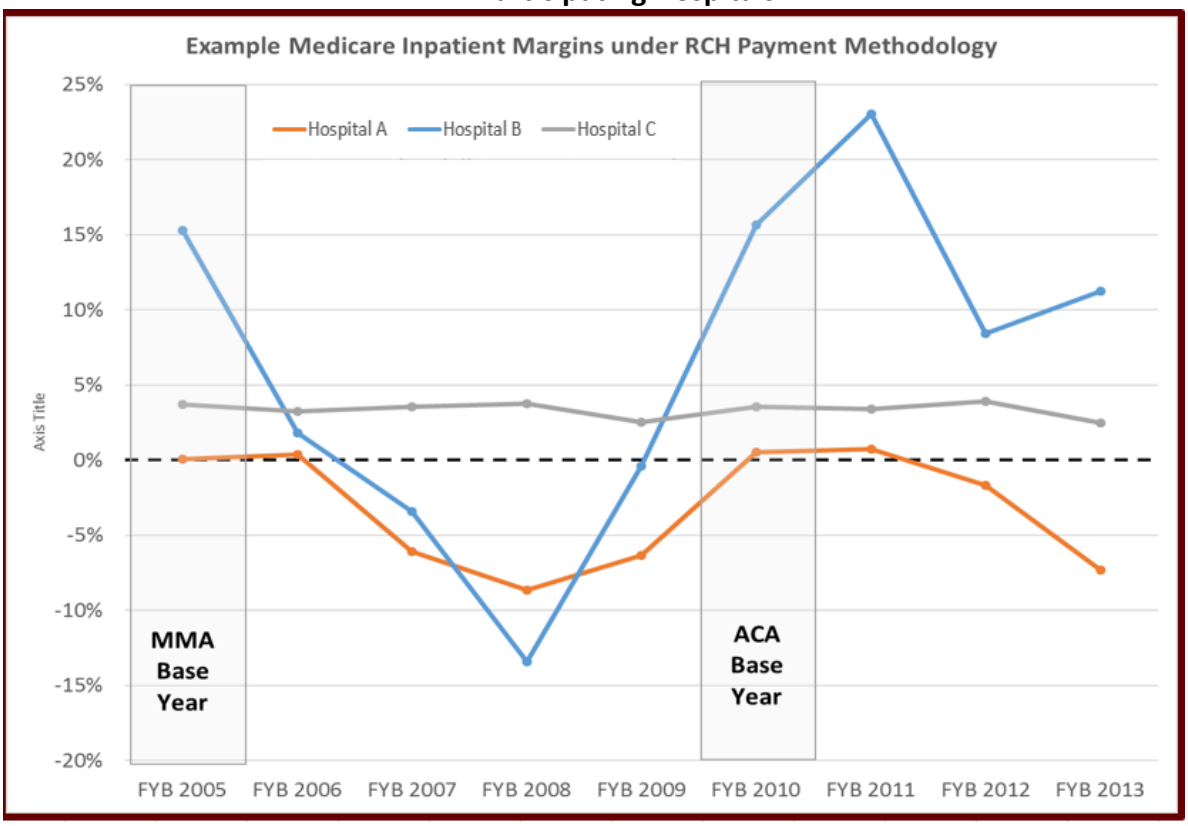
The first hospital (Hospital A) illustrated by the orange line in Exhibit 5, illustrates the role of the RCHD payments on Medicare inpatient margins for hospitals without swing beds. For this hospital, base-year (FY 2005) payment on costs yielded a Medicare inpatient margin near zero in the first year, with the add-back of bad debt bringing the margin slightly above zero. After two years in the demonstration, the hospital was paid on the target amount. Since the RCHD pays the lesser of reasonable costs or target amounts, these payments were below costs, resulting in negative Medicare inpatient margins. With costs rising faster than the target amount, the margin fell in subsequent years. Medicare inpatient margins broke even with the rebasing of the hospital's payments under the first extension period authorized by the Affordable Care Act (when the base year was reset to FY 2010).

The second hospital (Hospital B), illustrated by the blue line in Exhibit 5, provides an example of the role of the RCHD payments on Medicare inpatient margins for hospitals with swing beds. The large incremental RCHD payments for swing beds can increase a hospital's inpatient margin significantly. In FY 2012, RCHD Hospitals with swing beds had an average inpatient margin of +2.3

percent, compared to −6.5 percent for RCHD Hospitals without swing beds.[19] At this hospital, swing bed payments were enough to offset RCHD payments for acute care discharges that were, in certain years, lower than the hospital would have received outside the demonstration. With the swing bed payments, this hospital had several years of Medicare inpatient margins at 15 percent or more, particularly in base years. As with the first hospital (illustrated by the orange line), though, costs rose faster than the target amount, and the hospital was paid based on target amounts (and thus below cost) in FY 2007 and FY 2008.

The third hospital (Hospital C), illustrated by the grey line was an exception to these two preceding patterns. This hospital had swing beds, but its costs were particularly high in its base year leading to high target payments in subsequent years, and as a result, RCHD payments were based on reasonable costs in several of the years after the base year. With the addition of the higher swing bed payments, its inpatient margin did not decline as seen for the other hospitals, remaining between 3 percent and 4 percent in almost every year.

Exhibit 5: Examples of Medicare Inpatient Margins Over Time Under the RCHD for three RCHD Participating Hospitals



Source: HCRIS and Medical final settled cost reports, FY 2005-2013.

[19] FYB 2012 was the base year for 6 hospitals, including 4 of the 16 demonstration hospitals with swing beds.

RCHD payments were associated with improved total margins and Medicare inpatient margins for RCHD Hospitals over time relative to pre-demonstration margins. Comparisons of RCHD Hospitals against similarly sized non-participant rural hospitals also indicate the demonstration improved the financial standing of participants.

Comparison of RCHD Hospital financial performance during the demonstration against pre-demonstration margins showed improvement in both total margins and Medicare inpatient margins over time. Additional inpatient revenues from RCHD payments improved hospital profitability compared to other small rural hospitals and created some modest improvements on other measures of financial viability. On average, the demonstration was associated with a 4 percentage point increase in total margins in hospital base years during FY 2005-2009, and an increase of 3 percentage points during FY 2011-2013 above their pre-demonstration values (see Appendix Exhibits B.3 and B.4). The total margins of RCHD Hospitals were higher, on average, than those for the comparison hospitals. For example, total margins for demonstration hospitals in FY 2013 averaged +1 percent, compared to -1 percent for non-demonstration small rural hospitals (this difference is not statistically significant). In the same year, RCHD Hospitals averaged −2 percent Medicare inpatient margins, compared to −6 percent for non-demonstration small rural hospitals.[20] The increase tended to be greatest in the years used for baselining the payment amounts.

Comparison of financial performance among RCHD Hospitals against similar sized non-demonstration hospitals at a point in time also indicate improved financial standing for participants. Overall, total margins and Medicare inpatient margins for RCHD Hospitals were higher than similar non-demonstration hospitals with variation in differences occurring among the different market types (Exhibit 6). Although sample sizes are too small to test for statistical significance, the RCHD Hospitals in Frontier (non-competitive, growing) markets during FY 2013 had Medicare inpatient margins that were about 9 percentage points higher than similar non-participant hospitals in Frontier markets. In Competitive markets in the same year, the difference was smaller at 3 percentage points. Differences between RCHD and similar sized non-demonstration hospitals were smaller for total margins with Frontier RCHD Hospitals having total margins of +3 percent on average, compared to +2 percent for non-demonstration hospitals in similar markets. Similarly, Competitive market RCHD Hospitals total margins averaged -1% compared to similar sized non-demonstration hospitals which had average total margins of -2%.

Exhibit 6: Medicare Inpatient and Total Margins for RCHD and Similar Non-Demonstration Hospitals by Market Type, FY2013

	RCHD Hospitals N	RCHD Hospitals Medicare Inpatient Margin	RCHD Hospitals Total Margin	Non- Demo Hospitals N	Non- Demo Hospitals Medicare Inpatient Margin	Non- Demo Hospitals Total Margin
All RCHD Eligible Small Rural Hospitals	21	-2%	+1%	361	-6%	-1%

[20] This difference is not statistically significant.

	RCHD Hospitals N	RCHD Hospitals Medicare Inpatient Margin	RCHD Hospitals Total Margin	Non-Demo Hospitals N	Non-Demo Hospitals Medicare Inpatient Margin	Non-Demo Hospitals Total Margin
Frontier	7	-3%	+3%	71	-12%	+2%
Isolated	1	*	*	47	-3%	-1%
Competitive	13	-1%	-1%	243	-4%	-2%

*Sources: HCRIS and Medicare final settled cost reports, FY 2013. One hospital (frontier) is excluded because the 2013 cost report is not yet final. * indicates that data are suppressed due to small cell size.*

Operating margins for RCHD Hospitals were higher than those of similar non-demonstration hospitals over time, indicating that for many RCHD Hospitals, the demonstration provided a revenue cushion that allowed participants to operate with fewer resource related constraints and greater liquidity.

The evaluation examined a number of additional indicators of financial performance to assess the impact of the RCH demonstration. These indicators were chosen to examine the demonstration's impact on hospital operations, its cash flow, and long term debt. The demonstration's payments were associated with added operating margin and cash flow that may have allowed hospitals to operate with fewer constraints and lower debt.

RCHD Hospitals showed significantly higher operating margins over time compared to similar sized non-demonstration hospitals. Operating margins show how much revenue remains after accounting for a hospital's operating expenses such as wages and medical supplies. Unlike total margins which include revenues from investments and expenditures due to fixed costs, operating margins reflect operational efficiency and revenues related to day to day hospital operations such as patient care. Hospitals in the demonstration had significantly higher operating margins than did similar non-demonstration hospitals. In FY 2005-2009, the operating margins of RCHD Hospitals were on average, 12 percentage points higher than those of similarly sized non-demonstration hospitals (5% vs. -7%), while in FY 2011–2013, demonstration hospitals' operating margins were greater by 10 percentage points on average (1.7% vs. -9%). Most recently, operating margins for both demonstration and similar non-demonstration hospitals exhibit a declining trend over time. In FY 2011, RCHD Hospitals had average operating margins of +5 percent compared to −5 percent for similar hospitals outside the demonstration. In FY 2013, operating margins were −1 percent for RCHD Hospitals and −12 percent for similar non-demonstration hospitals.

Other financial metrics examined found RCHD Hospitals benefited from greater liquidity, cash flow, and lower debt over time. For FY 2011-2013, additional RCHD revenues reduced the share of net patient revenue used to fund staff salaries for RCHD Hospitals, while the opposite was true for similar non-demonstration hospitals. In other measures RCHD Hospitals saw greater cash flow as evidenced by days of cash on hand which continued through both demonstration periods. During the 2005-2009 period RCHD Hospitals appear to have reduced long term debt relative to similar sized non-demonstration hospitals. Of course, there were many factors influencing these indicators, including the share of revenue contributed by different payers, and local economic trends. See Appendix Exhibits B.3 and B.4 for these additional financial indicators.

Hospitals reported that RCHD payments support services, help with staff retention, and allow them to continue to furnish services.

Hospitals were not required to account for how payments received under the demonstration were used. As part of the evaluation they were asked to identify activities that might have to be scaled back or would not exist without the RCHD payments. Hospitals reported that RCHD payments played a key role in restoring or maintaining hospital services, such as general medicine or emergency medicine services. Hospitals in stronger financial condition as reflected by total margins reported adding service lines such as podiatry, pain management or occupational therapy. Hospitals commonly reported that the ability to provide services such as care coordination and discharge planning, would suffer without the payments, along with other such services that tend to operate at a loss. Two hospitals noted that their ability to continue to provide mental health services to their communities especially benefited from the RCHD because these services were not profitable. A separate hospital noted that it relied on the demonstration to cross-subsidize its emergency department (ED), which experienced high levels of utilization from uninsured patients. Another hospital indicated that without the RCHD payments, it would consider eliminating its outpatient wound care program, which hospital administrators viewed as an essential service for keeping patients with complex needs out of the ED. Some of the more financially stable hospitals (as measured using total margins) used the funds to add new services or grow existing service lines, such as specialty care, preventive services, and chronic care management.

Hospitals reported that additional payments under the demonstration also helped hospitals retain and recruit staff. Many RCHD participants indicated that demonstration funds were important for attracting and retaining high-quality medical professionals.[21] Hospitals reported that they competed for hires with CAHs, which they felt were are better able to pay higher salaries and wages because of cost-based payment.[22] While some hospitals used the funds to retain current staffing levels or provide small cost of living increases, others invested the funds in more active recruitment efforts.

Seven hospitals in the extension period authorized by the Affordable Care Act reported in interviews for the evaluation that the demonstration's payments allowed them to keep operating. Five of the seven hospitals that stated that the demonstration's payments were critical for maintaining the hospital's viability exhibited negative total margins three or more years prior to and while in the demonstration. One hospital referred to the demonstration as "critical" to helping the hospital to increase total margins and keep services local. Two other hospitals reported that without the demonstration they might have to close or dramatically change operations, for example, by primarily serving to stabilize patients before referring them to a more

[21] RCHD participant responses in Annual Progress Report data collected by the evaluation showed that 19 of 22 active demonstration hospitals indicated demonstration funds were important for recruitment and retention of medical staff.

[22] Based on hospital interviews and Annual Progress Report data collected by the evaluation.

distant tertiary hospital. The hospitals assert that this would affect not only patient access to care, but also the local economies because the hospitals are larger employers in their communities.

No impact on Medicare quality was observed that could be attributed to participation in the demonstration.

Although RCHD payments were associated with improvements in hospital financial status, there was limited evidence that the demonstration was associated with improved hospital performance in quality and patient experience in the inpatient setting. RCHD Hospitals had similar trends as similar-sized small rural hospitals not participating in the demonstration for quality measures such as 30-day readmission and mortality rates for pneumonia and heart failure patients, and patients' overall rating of the hospital[23]. Quality of care provided by RCHD Hospitals during 2006-2014 was neither particularly low nor high, compared to similar sized non-demonstration hospitals around the country. Differences in averages between RCHD and similar sized non-demonstration hospitals were very small. For example, over the 2011-2013 period, differences in average 30-day readmission and mortality rates for pneumonia and heart failure patients were less than 1 percentage point, ranging from -0.7 to 0.8 percentage points. Similarly, differences in patients' ratings between RCHD and similar non-demonstration hospitals were less than 2 percentage points (72 vs. 71 percent) in 2004. It is important to note, however, that the demonstration did not require measurement of quality performance, and quality improvement is not a criterion for participation in the demonstration. (See Appendix Exhibits B.6 for additional information on comparisons of Hospital Compare's quality of care measures.)

II.3 WHAT CHANGES WERE RCHD PARTICIPANT HOSPITALS EXPECTING TO MAKE IN ANTICIPATION OF THE DEMONSTRATION'S END?

This section of the report presents the RCHD Hospitals' anticipated approaches for maintaining viability after the end of demonstration payments. In anticipation of the end of the demonstration, responses from RCHD Hospitals indicated varying levels of dependence on demonstration payments by market type.

Demonstration hospitals reported considering several strategies to remain financially viable in anticipation of the possible end of the demonstration: converting to CAHs; reducing provision of unprofitable hospital services; and joining hospital systems.

At the end of the demonstration period authorized by the Affordable Care Act, the Cures Act had not been passed into law. Consequently, at that time hospitals in the RCHD were anticipating discontinuation of demonstration payments after December 31, 2016. The evaluation relied on its interviews and surveys of hospital administrators to understand hospitals' likely response to the end of the demonstration. In hospital interviews conducted by the evaluation, RCHD Hospitals reported their approach to remaining financially viable after the demonstration's end would

[23] Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) survey measures.

include a combination of 1) using alternative Medicare rural payment support options such as CAH, MDH, SCH or the low-volume adjustment, 2) scaling back on unprofitable services, and 3) joining larger health systems.

Demonstration hospitals reported that they would utilize alternative Medicare rural payment support options to remain viable after the end of the demonstration. Among available payment options, hospitals reported that designation as a CAH was the most preferable because it would provide cost based payments for both inpatient and outpatient care services. However, to qualify as a CAH, hospitals must meet distance and bed size requirements. Most RCHD Hospitals were unable to meet the proximity requirements for CAH designation, and those that did meet the proximity requirement would have to restructure or reduce service to meet bed size requirements. Two hospitals that participated in all 10 years of the demonstration planned to convert to CAHs after exiting.[24] One hospital, reported that it planned to convert its long-term care unit to a licensed nursing home, decreasing the hospital's bed size to allow it to meet CAH bed size requirements. A separate hospital also planned to convert to CAH status because of declines in its local population, with residents commonly traveling to a nearby city to receive hospital care. Administrators at this hospital acknowledged that, with fewer beds as a CAH, they would have to refer to more distant providers during periods of heavy utilization. RCHD hospitals have a number of other options besides converting to CAH status. Hospitals also noted that they have the low-volume adjustment and MDH status to fall back on after the demonstration through September 30, 2017.[25] Hospitals that qualify for the low-volume adjustment noted that the demonstration payments were only a little higher than the amounts they would have received under this alternative. Of the remaining 19 demonstration hospitals, 11 could return to SCH status and 8 to MDH status, leaving only one as IPPS only.

Hospitals also noted that they may cut less profitable services to remain financially viable after the demonstration and planned to carefully review utilization, costs, and revenue by service as part of their post-demonstration sustainability plan.

A final strategy demonstration hospitals reported as a response to the end of the demonstration included affiliating with larger health systems or operating in a more collaborative manner with potential competitors. Some demonstration hospitals reported that they were bolstering post-demonstration viability by joining health care systems because these relationships could produce economies of scale, such as joint purchasing or shared staff systems. Joining health systems would also help hospitals gain expertise on how to render existing services more efficiently. Many of these systems are "hub and spoke" models, where a large regional center coordinates with smaller surrounding hospitals, such as those in the RCHD, to ensure that patients are served in the setting most appropriate to their level of acuity. In the last 2 years of the demonstration, hospitals were more likely to report collaborating with nearby hospitals rather than competing

[25] Since the evaluation's interviews conducted with RCHD hospitals, the Bipartisan Budget Act of 2018 (P.L. 115-123) extended the low volume adjustment through FY 2023 and the MDH program through October 1, 2022.

with them was a better strategy for financial viability. Hospitals recognized that current levels of utilization were not sufficient to maintain full-time specialty clinics. Instead, they shared specialists across hospitals or took on different specialties. Inland Hospital (Maine), for example, noted that they shared a neurologist and obstetrician with a local hospital in the same health care system and hoped to establish a similar relationship with a different hospital in the areas of urology and wound care.

III. CONCLUSION

This report summarizes the findings from the RCHD under the demonstration periods authorized by the MMA and the Affordable Care Act (2005-2016), and includes financial analyses based on cost report information through fiscal year 2013. Hospital cost report data suggest that, prior to joining the demonstration, RCHD participants were, on average in better overall financial condition than similar sized non-demonstration hospitals. The demonstration increased payments on a per hospital per year basis by 41 percent during FY 2005-2009 and 42 percent during FY 2011-2013. In addition, RCHD payments improved total margins for demonstration hospitals compared to similar sized non-demonstration hospitals. Hospitals reported that RCHD payments were used to support services, help with staff retention, and allow them to continue furnishing services. However, it should be noted that the RCHD is one of multiple payment mechanisms or demonstrations available to rural hospitals. Depending on the circumstances of the hospital, demonstration payments can be lower than the payment a hospital would have received under IPPS or compared to alternative payment options such as the MDH program, SCH payments, or the low volume adjustment.

This report does not include legislative recommendations, as those are typically included in the President's Budget. However, this Administration understands that one of the keys to ensuring that those who call rural America home are able to achieve their highest level of health is to advance policies and programs that address their unique healthcare needs. Therefore, CMS recently launched the agency's first Rural Health Strategy to help improve access to high quality, affordable healthcare in rural communities. The Rural Health Strategy is available at: https://www.cms.gov/About-CMS/Agency-Information/OMH/Downloads/Rural-Strategy-2018.pdf. As part of this Strategy, CMS is organizing and focusing its efforts to apply a rural lens to the vision and work of the agency.

.

APPENDIX A: EVALUATION METHODS AND DATA SOURCES

The evaluation results presented in this report are based on the hospitals participating in the RCHD for the demonstration period first authorized by the Medicare Prescription Drug, Improvement, and Modernization Act of 2003 (P.L. 108-173) (MMA) and the extension period authorized by the Patient Protection and Affordable Care Act of 2010 (P.L. 111-148) (Affordable Care Act). The evaluation focused on 22 hospitals that were actively participating in the demonstration when qualitative data collection started in January 2014. Seven of these hospitals ("continuing hospitals") first participated in the RCHD under the period authorized by the MMA. The other 15 hospitals ("new hospitals") were selected following the extension period authorized by the Affordable Care Act and joined the demonstration in the hospital fiscal year starting after April 2011.[26] These 22 hospitals were required to participate in the evaluation during the period in which they were active in the demonstration and are the primary focus of the evaluation.

In addition to analyzing each RCHD Hospital's experiences in depth, the evaluation compared the RCHD Hospitals as a group to a set of similar sized non-demonstration small rural hospitals that were used as comparator hospitals. The similar non-participant hospitals represent acute general hospitals with fewer than 51 beds in a county classified as rural by CMS based on the geographic classification in the Hospital Impact File. Approximately 400 hospitals in any given year met this definition and were used as comparators for financial and quality based outcomes. The group of similar non-participant hospitals changed from year to year as hospitals changed in size and as new hospitals opened and others closed. A hospital was excluded from the group of similar non-participant hospitals in a given year if it did not have a final or amended cost report in the Healthcare Cost Report Information System (HCRIS) for that year. This excluded hospitals without HCRIS data or those that had cost reports in "As Submitted" status. [27]

The evaluation had three analytical components:

- **A qualitative analysis** of hospital operations, environmental contexts, challenges, hospitals' goals for the demonstration, use of demonstration funds, the quality of care, and community benefits. The analysis also focuses on the use of swing beds, capital expenditures, quality initiatives, hospitals' planning for base-year changes, and quality of care measures.

- **A financial analysis** of hospital performance before, during, and after (when applicable) the demonstration. This analysis focuses on changes in hospital costs and margins over time, and the role of base-year payments, swing beds, and capital outlays.

- **A market analysis using Census and ZIP code level discharge data** to empirically assess hospital service areas, market conditions, and characteristics of the demonstration

[26] One new hospital that withdrew soon after the start of the evaluation was excluded from the study cohort.

[27] Hospital cost reports in "As Submitted" status were not excluded for fiscal years (FYs) that began in federal fiscal year 2012 or 2013.

hospitals compared to those of other small rural hospitals. This analysis seeks to categorize hospitals based on the characteristics of their geographic market areas.

The technical approaches and data sources used for each of the key analytical components are summarized below.

QUALITATIVE ANALYSIS

The qualitative analysis was designed to capture hospital perspectives on the demonstration's impact on hospital finances and operations, and on community benefits. The qualitative analysis contributed a rich understanding of the experiences of RCHD Hospitals, their responses to the changing policy environment, and the market and financial characteristics that they perceive to be most relevant to their circumstances. The qualitative analysis involved thorough verification, systematic abstraction, and synthesis of the collected data. The analysis yielded a set of observations on patterns and exceptions in the data and related factors that potentially affected those observations. The qualitative analysis was conducted to complement the financial and market analyses.

The key data sources for the qualitative analysis were interviews with hospital staff and annual progress reports. In addition, the evaluation team used information from Hospital Compare to supplement data collected directly from the participating hospitals.

Interviews with Participating Hospitals

The research included interviews with staff from each of the 22 demonstration hospitals. Key informants for these interviews were high-level management staff, including chief executives and financial officers.

The first round of interviews with hospitals that entered the demonstration after passage of the MMA was in 2008 to 2010. Between January and March 2013 the evaluation conducted interviews with hospitals continuing in the demonstration for the first extension period authorized by the Affordable Care Act that focused on changes the hospital had experienced since the previous interview, such as the decision by the hospital to continue in the demonstration, effects of the 2010 rebasing, and participation in any quality improvement initiatives. Hospitals new to the demonstration under the extension period authorized by the Affordable Care Act were interviewed between November 2014 and February 2015. These interviews focused on collecting baseline information, including the hospitals' reasons for participating in the demonstration, financial and operational status, any challenges faced, and the benefits and impacts expected from the demonstration.

A final round of interviews took place in early 2016. These interviews focused on changes in hospital finances, operations, and the market environment since a hospital's prior interview, and future plans. For hospitals that had left the demonstration before the planned second interview, the team conducted the second interview at an earlier date.

Annual progress reports

The evaluation team collected annual progress reports from RCHD Hospitals as another important data source for the qualitative analysis. Annual progress report data were collected for hospital fiscal years beginning in 2013 and 2014 and were submitted by hospitals on a rolling basis. Data collection was limited to these years to reduce burden on hospital participants and because year to year changes were judged to be unsubstantial. The topics covered in the progress reports included hospital operations, environmental context, hospitals' goals for the demonstration, service utilization, community benefits of the demonstration, payer mix, and the advantages and disadvantages of the demonstration's payment strategy compared to other payment methods. The progress reports also collected financial indicators, such as total, Medicare inpatient, and Medicare outpatient revenue and expenses. In addition, they included information on the amount of RCHD payments and the adjustments made to those payments.

Hospital Compare

Hospital Compare is a CMS website that provides information on a wide range of quality of care measures for hospitals that receive payments through the Medicare program. It is intended to allow Medicare beneficiaries to evaluate their local hospitals. The evaluation team used Hospital Compare measures to analyze the quality of services provided by the demonstration hospitals. However, the reliability of several measures reported for small rural hospitals is limited due to hospital size, so the evaluation team used a select set of measures to supplement the interview and annual progress report data.

For each demonstration hospital, the team extracted current and archived Hospital Compare data on the overall patient rating of hospitals, based on the Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS); 30-day death and readmission rates from pneumonia and heart failure, based on Medicare claims and enrollment data; and emergency department waiting time, based on the Quality Improvement Organization (QIO) Clinical Data Warehouse. The data were pulled for multiple points in time between 2006 and 2014 to describe trends in the measures from the time the demonstration was authorized. The team extracted data from the reporting periods that best matched the selected time points.

FINANCIAL ANALYSIS

The financial analysis of hospital cost data focused on the mechanics of the RCHD payment methodology and the impact of the additional payments on the financial viability of RCHD Hospitals. The financial analysis involved a mix of descriptive statistics of trends in financial performance, and cross-group comparisons of means and trends. In addition to tracking margins and other financial indicators, the analysis examined how base-year cost calculations affect target payments and financial outcomes. In combination with the market analysis, the financial analysis also explored the relationship between market area types and outcomes. This report presents findings on the trends in key financial indicators through FY 2013. The main data sources used for the financial analysis include HCRIS data and the Medicare hospital settled cost reports.

Health Cost Report Information Systems data (HCRIS)

The evaluation team used the following types of data available in the Healthcare Cost Report Information System (HCRIS):

- Facility characteristics
- Utilization data
- Cost and charges in total and for Medicare
- Medicare settlement data
- Financial statement data.

HCRIS files are created from the annual cost reports submitted by hospitals and reviewed by the CMS MACs. HCRIS files typically become publicly available 9 months after the end of the cost reporting year. Because of the audit and settlement process, data included in HCRIS may change over time for previously submitted cost reports. Thus, the data are updated quarterly as hospitals' cost reports are audited and settled. For this reason, only the data through FY 2013 are reported, based on data extracted in August 2016. Data are included for the participating demonstration hospitals as well as for other small rural hospitals.

Settled cost reports

MACs are responsible for calculating reasonable costs and the target amounts for each hospital and reconciling the interim payments based on the lesser of these amounts. Therefore, the final settled cost reports contain the final reconciled Medicare inpatient revenues. The settled cost reports include a special worksheet (worksheet E) for RCHD Hospitals to calculate the target amount and determine whether the hospital will receive the target amount or be paid based on reasonable costs. This worksheet and supporting documentation, also provided by the MACs, are not included in the publicly available HCRIS. The evaluation team therefore used the final settled cost reports to obtain the information required for comparisons between the IPPS and demonstration payments.[28] The release of the final settled cost reports currently lags several years behind the initial submission of cost reports to HCRIS. In this 2017 report, the team used data from the settled cost reports through FY 2012 for the RCHD payment amounts and the calculations for budget neutrality.

MARKET ANALYSIS

A market analysis was conducted to understand how differences in the market areas of participating RCHD hospitals affect the operations and financial condition of these facilities. Hospital interviews conducted between 2004 and 2010 identified salient market factors predicting Medicare and total margins of participant hospitals and were used to group rural hospital markets into three general categories: (1) "frontier" areas with limited competition; (2) areas of population concentration or growth where healthcare markets are competitive, and (3) areas of declining population with diminishing healthcare markets. To operationalize these

[28] For other financial measures (without counterfactuals), the final settled cost report worksheets and the HCRIS data should eventually provide the same information.

concepts, the evaluation constructed measures and statistics to describe hospital market areas. The team classified each of the market measures into one of three domains: provider competition, population demographics, and local economy. Competition measures included the number of nearby competitors, the distance to the nearest competitor, and Medicare inpatient market share. Population demographic measures used ZIP code level data from the 2000 and 2010 Census including the percentage of the population 65 years of age or older, population density, and population change, with the poverty rate as a measure of area economic conditions.

The evaluation's definition of a hospital's geographic market is a 35-mile radius surrounding a hospital. Within this area, it was possible to identify hospital competitors and measure Medicare inpatient market share and utilization using ZIP code-level inpatient discharge data from the Hospital Service Area File available from CMS.[29] The 35-mile radius was chosen to approximate markets for small rural hospitals because the CAH and SCH rural payment methodologies use this radius in their eligibility criteria. Furthermore, compared to using a political or geographic unit such as a county, the 35-mile area does not vary in size nor does it have adjacency issues that can occur if the hospital sits on the boundary of the political or geographic unit.

To develop a market typology, the evaluation team identified measures that both reflected financial outcomes for small rural hospitals and were conceptually aligned with the market factors identified by RCHD Hospitals. Population growth and competition were two key factors that hospitals expressed as having an impact on their financial viability. Because population growth and competition were related to economic indicators, the team limited the typology to these two dimensions. Population growth, the first dimension, was defined using weighted population figures from 2000 and 2010, where a ZIP code area's population was weighted by the share of Medicare discharges in a ZIP code that were served by the hospital. The second dimension defined areas as competitive or not, based on whether or not the hospital had three or more hospitals within 35 miles. With these two dimensions, the team created three classifications of market areas: (1) Frontier, (2) Isolated, and (3) Competitive. A "frontier" area is one with low levels of competition (a maximum of two hospitals within 35 miles) and stable or growing population as measured by the change in population between 2000 and 2010. An "isolated" area is one with low levels competition and population decline. And, finally, a "Competitive" area is one with three or more hospitals within 35 miles. The main data sources used for the market analysis included HCRIS data, also used in the financial analysis; Census 2000 and 2010 data; and the Hospital Service Area File.

HCRIS Data

In addition to financial information, HCRIS provides hospital locations, which were used to assign and define different rural designations and to calculate distances between hospitals. The data include rural payment provision designations, bed counts, and inpatient days, which were used to identify the types of providers and capacity in the surrounding areas. The market analysis in this report is based on the latest available data, from FY 2000 through FY 2013.

[29] A ZIP code is captured within a market area when the population centroid of the ZIP code area is within 35 miles.

U.S. Census Data

The team used 2000 and 2010 Census data for ZIP code-level population characteristics. These characteristics include the percentage of the population 65 years of age and older, the percentage of the population in poverty, and the total population. In addition, the team calculated population density using the population figures divided by the number of square miles for each ZIP code area.

Hospital Service Area File (HSAF)

The Hospital Service Area File (HSAF) is an annual file created by CMS using Medicare inpatient claims data. The file summarizes, by provider and ZIP code level, the number of inpatient discharges, average length of stay, and total charges for providers that served Medicare Part A beneficiaries residing in a particular ZIP code area. For this report, the team used three HSAF datasets covering CY 2007, 2010, and 2013.

APPENDIX B: SUPPLEMENTAL EXHIBITS

Exhibit B.1. Hospitals Participating in the Demonstration that Received Demonstration Payments Lower than IPPS for One Year

Category	Hospital X (FY 2012)	Hospital Y (FY 2009)	Hospital Z (FY 2009)
But for the RCHD, Payment under the IPPS would have been	$10,872,954	$9,609,863	$4,535,336
Payment under the RCHD	$10,193,042	$9,390,773	$4,518,675
Difference	($667,963)	($219,090)	($16,661)

Source: HCRIS data.

Notes: IPPS payments in the table reflect inpatient payments from IPPS plus any applicable payments hospitals received from programs such as MDH, SCH, or the Low Volume Adjustment.

Exhibit B.2: A Summary of RCHD Hospitals Included in this Report

Hospital Name	State	Start Date	End Date	Status Before RCHD	RCHD Status as of 1/2014	RCHD Status as of 12/2016	Market Type	Swing bed status [a]	Ownership Status
Banner Churchill Hospital	NV	1/1/2005	12/31/2014	SCH	Active	CAH	Frontier	N	Multi-hospital non-profit
Garfield Memorial Hospital	UT	1/1/2005	12/31/2014	SCH	Active	CAH	Frontier	Y	Multi-hospital non-profit
Columbus Community Hospital	NE	5/1/2005	4/30/2015	SCH	Active	SCH	Competitive	Y	Independent non-Profit
Bartlett Regional Hospital	AK	7/1/2005	6/30/2015	SCH	Active	SCH	Frontier	N	Public
Central Peninsula General Hospital	AK	7/1/2005	6/30/2015	SCH	Active	SCH	Frontier	Y	Independent non-Profit
Mt. Edgecumbe Hospital	AK	10/1/2008	9/30/2015	IPPS	Active	CAH	Frontier	N	Independent non-Profit
Brookings Health System	SD	1/1/2009	12/31/2015	SCH	Active	SCH	Competitive	Y	Public
Geary Community Hospital	KS	5/1/2011	4/30/2016	IPPS	Active	IPPS	Competitive	Y	Public
Lakes Regional Healthcare	IA	7/1/2011	6/30/2016	MDH	Active	MDH	Competitive	Y	Public
Maine Coast Memorial Hospital	ME	7/1/2011	6/30/2016	MDH	Active	MDH	Competitive	Y	Independent non-profit
Mercy Hospital–Fort Scott	KS	7/1/2011	6/30/2016	MDH	Active	MDH	Competitive	Y	Multi-hospital non-profit
Mercy Hospital–Independence	KS	7/1/2011	6/30/2016	MDH	Active	Closed while in demo	Competitive	Y	Multi-hospital non-profit
Skiff Medical Center	IA	7/1/2011	6/30/2016	MDH	Active	MDH	Competitive	Y	Public
St. Anthony Regional Hospital	IA	7/1/2011	6/30/2016	SCH	Active	SCH	Competitive	Y	Independent non-profit
Alta Vista Regional Hospital	NM	9/1/2011	8/31/2016	SCH	Active	SCH	Isolated	Y[c]	Multi-hospital for-profit
Inland Hospital	ME	9/25/2011	9/24/2016	MDH	Active	MDH	Competitive	N	Multi-hospital non-profit
Marion General Hospital	MS	10/14/2011	10/13/2016	IPPS	Active	IPPS	Competitive	Y	Public
Bob Wilson Memorial Hospital	KS	1/1/2012	12/31/2016	SCH	Active	RCHD	Competitive	Y	Public
Delta County Memorial Hospital	CO	1/1/2012	12/31/2016	MDH	Active	RCHD	Frontier	N	Independent non-profit
Grinnell Regional Medical Center	IA	1/1/2012	12/31/2016	MDH	Active	RCHD	Competitive	Y	Independent non-profit
Sterling Regional Medical Center	CO	1/1/2012	12/31/2016	SCH	Active	RCHD	Frontier	N	Multi-hospital non-profit
Yampa Valley Medical Center	CO	1/1/2012	12/31/2016	SCH	Active	RCHD	Frontier	Y	Independent non-profit
Holy Cross Hospital	NM	6/1/2005	5/31/2011	SCH	Completed the first demo period & exited	SCH	Frontier	N	Non-profit

Hospital Name	State	Start Date	End Date	Status Before RCHD	RCHD Status as of 1/2014	RCHD Status as of 12/2016	Market Type	Swing bed status [a]	Ownership Status
Northern Montana Healthcare	MT	7/1/2005	6/30/2010	SCH	Completed the first demo period & exited	SCH	Isolated	Y	Non-profit
Beatrice Community Hospital	NE	10/1/2004	11/30/2005	SCH	Withdrawn	CAH	Competitive	Y	Non-profit
Phelps Memorial Health Center	NE	1/1/2005	11/30/2005	SCH	Withdrawn	CAH	Competitive	Y	Non-profit
Community Hospital	NE	7/1/2005	11/30/2005	SCH	Withdrawn	CAH	Frontier	Y	Non-profit
Lexington Regional Health Center	NE	7/1/2005	11/30/2005	SCH	Withdrawn	CAH	Frontier	N/A	Public
Holy Rosary Healthcare	MT	6/1/2005	12/31/2008	SCH	Withdrawn	CAH	Frontier	Y	Non-profit
Spearfish Regional Hospital	SD	7/1/2005	6/30/2009	SCH	Withdrawn	SCH	Competitive	Y	Non-profit
St. Joseph's Hospital	ND	7/1/2008	6/30/2009	SCH	Withdrawn	CAH	Frontier	N/A	Non-profit
Holy Infant Hospital	SD	1/1/2009	10/31/2010	SCH	Closed	Closed while in demo	Isolated	Y	Non-profit
Franklin Memorial Hospital	ME	7/1/2011	6/30/2013	SCH	Withdrawn	SCH	Competitive	N	Non-profit

Sources: Grant applications, interview notes, HCRIS, and program records. Hospitals that 'withdrew' from the demonstration are those hospitals that opted to exit the demonstration before completing the five year participation period under either the periods authorized by the MMA or Affordable Care Act. Hospitals that 'completed the first demo period & exited' the demonstration are those hospitals that first entered under the demonstration period authorized by the MMA and who chose not to continue in the demonstration under the Affordable Care Act-authorized extension period.

[a] Swing bed status at the time of participation. [b] Hospital staff reported plans to convert to CAH. [c] Reported swing bed days in some but not all years of HCRIS data. N/A Information not available or could not be confirmed.

Exhibit B.3 Hospital Financial Indicators based on Flex Monitoring Program for CAHs: Means for the 3 Years Prior to Participation and Under the Demonstration, Active RCHD and Similar Sized Non-Demonstration Hospitals, FY 2005-2009

Domain: Measure	3-Year Mean Before Demonstration	FY 2005 Mean	FY 2006 Mean	FY 2007 Mean	FY 2008 Mean	FY 2009 Mean
Medicare Inpatient Margins						
RCHD Hospitals	-24%*	5%	-1%	-6%*	-9%	-5%
Similar non-demonstration hospitals	5%	6%	3%	3%	-1%	-2%
Total Margins						
RCHD Hospitals	4%	8%	7%	6%	5%	6%
Similar non-demonstration hospitals	2%	3%	2%	1%	0%	0%
Operating Margin						
RCHD Hospitals	2%	7%*	6%*	4%*	2%	5%*
Similar non-demonstration hospitals	-7%	-6%	-6%	-7%	-7%	-7%
Days Cash on Hand						
RCHD Hospitals	108	88	101	125	143	158
Similar non-demonstration hospitals	106	80	72	68	67	72
Salaries to Net Patient Revenue						
RCHD Hospitals	45%	43%	43%	44%	44%	43%
Similar non-demonstration hospitals	45%	46%	45%	46%	46%	45%
Medicare Inpatient as Share of Inpatient Days						
RCHD Hospitals	54%	53%	53%	52%	51%	53%
Similar non-demonstration hospitals	62%	62%	61%	58%	57%	56%
Long-Term Debt to Capitalization Ratio						
RCHD Hospitals	26%	32%	29%	26%	25%*	19%
Similar non-demonstration hospitals	70%	95%	53%	44%	45%	26%

Source: HCRIS data, FY 2002-2013;

Notes: This table includes demonstration hospitals that remained active throughout the full five year participation period under the original MMA-authorized demonstration period that includes six hospitals: Banner Churchill, Garfield, Columbus, Bartlett, Central Peninsula, and Brookings. We exclude Mt. Edgecumbe, due to data issues.

For similar non-demonstration hospitals, the 3-year period before the demonstration is FY 2002-2004 for hospitals defined small (<51 beds) and rural in all three years.

One extreme outlier hospital was deleted from the comparison group because of its long-term debt to capitalization ratio.

* Statistically significant difference at the 95% confidence level.

Exhibit B.4 Hospital Financial Indicators based on Flex Monitoring Program for CAHs: Means for the 3 Years Prior to Participation and Under the Demonstration, Active Hospitals and Similar Sized Non-Demonstration Hospitals, FY 2011–2013

Domain: Measure	3-Year Mean Before Demonstration	FY 2011 Mean	FY 2012 Mean	FY 2013 as Mean
Medicare Inpatient Margins				
RCHD Hospitals	-21%*	4%*	-2%	-2%
Similar non-demonstration hospitals	-2%	-1%	-3%	-6%
Total Margins				
RCHD Hospitals	3%	6%	4%	1%
Similar non-demonstration hospitals	0%	2%	2%	-1%
Operating Margin				
RCHD Hospitals	-1%	5%*	1%*	-1%*
Similar non-demonstration hospitals	-6%	-5%	-10%	-12%
Days Cash on Hand				
RCHD Hospitals	109	129	118	124
Similar non-demonstration hospitals	71	79	72	76
Salaries to Net Patient Revenue				
RCHD Hospitals	45%	42%	43%*	43%
Similar non-demonstration hospitals	45%	44%	48%	48%
Medicare Inpatient as Share of Inpatient Days				
RCHD Hospitals	59%	57%	58%	57%
Similar non-demonstration hospitals	56%	55%	55%	56%
Long-Term Debt to Capitalization Ratio				
RCHD Hospitals	22%	16%	32%	19%
Similar non-demonstration hospitals	34%	16%	25%	18%

Source: HCRIS data, FY 2002-2013.

This table includes demonstration hospitals that remained active throughout the full five year extension period authorized under the Affordable Care Act and contains 22 hospitals. For similar non-demonstration hospitals, the 3-year period before the demonstration is FY 2008-2010 for hospitals defined small (<51 beds) and rural in all three years.

One extreme outlier hospital was deleted from the comparison group because of its long-term debt to capitalization ratio.

* Statistically significant difference at the 95% confidence level.

Exhibit B.5: Additional Payments Above IPPS for RCHD Hospitals, FY 2005–2013

Measure	Year One FY 2005	Year Two FY 2006	Year Three FY 2007	Year Four FY 2008	Year Five FY 2009	Year Six FY 2010	Year Seven FY 2011	Year Eight FY 2012	Year Nine FY 2013
All RCHD Hospitals	13	10	9	10	10	9	17	23	22
Total Additional Medicare Inpatient Payments	$19,442,723	$16,910,281	$14,896,624	$19,764,910	$14,332,936	$16,817,922	$31,205,718	$39,291,930	$42,826,651
Average Additional Payment Over IPPS	$1,495,594	$1,691,028	$1,655,180	$1,976,491	$1,433,294	$1,868,658	$1,835,630	$1,708,345	$1,946,666
Average Increase	33%	36%	37%	41%	45%	56%	35%	42%	47%
Average Additional Payment per Discharge [b]	N/A	$2,271	$1,967	$2,938	$2,953	$4,189	$2,930	$3,267	$3,715
Hospitals with Swing Beds	10	7	6	6	6	4	12	16	15
Swing Bed Payments as Share of Hospitals' Additional Payments	20%	25%	27%	25%	31%	31%	29%	43%	31%
RCHD Hospitals Excluding Hospitals that Withdrew or Discontinued	5	5	5	5	7	7	16	22	22
Total Additional Medicare Inpatient Payments	$10,806,677	$12,047,782	$10,593,465	$12,034,129	$14,373,448	$16,080,678	$30,787,380	$39,959,893	$42,826,651
Average Additional Payment over IPPS	$2,161,335	$2,409,556	$2,118,693	$2,406,830	$2,053,350	$2,297,240	$1,924,211	$1,816,359	$1,946,666
Average Increase	40%	45%	37%	42%	38%	44%	37%	45%	47%
Average Additional Payment per Discharge	$2,607	$2,986	$2,540	$2,885	$2,927	$3,869	$3,090	$3,442	$3,715
Hospitals with Swing Beds	3	3	3	3	4	4	12	16	15
Swing Bed Payments as Share of Hospitals' Additional Payments	27%	26%	29%	25%	22%	23%	29%	43%	31%

Source: Medicare final settled cost reports, FY 2005-2012; final or as submitted cost reports FY 2013. Comparisons are to IPPS (plus SNF PPS for swing bed hospitals) Payments, inclusive of any added Payment based on SCH or MDH status and low volume adjustments.

[a] N/A indicates calculation not available for selected hospitals in these years due to missing information on swing bed discharges.

[b] Additional dollars per discharge includes acute and swing bed discharges

Exhibit B.6: Hospital Readmission and Mortality Rates for Heart Failure and Pneumonia: Comparisons of the Change Within Demonstration and Non-Demonstration Hospitals

	Num. of hospitals	Before Demonstration 3-Year Averages around 12/31/2008	After Demonstration 3-Year Average around 12/31/2012	Difference between before and after
30-Day Readmission Rate for Pneumonia Patients				
RCHD Hospitals	14	17.9	16.2	-1.7**
Similar Non-Demonstration hospitals	390	18.3	16.9	-1.4**
Difference between RCHD and comparison hospitals		-0.4	-0.7**	
30-Day Readmission Rate for Heart Failure Patients				
RCHD Hospitals	14	24.8	21.3	-3.5**
Similar Non-Demonstration hospitals	370	25.0	22.0	-3.0**
Difference between RCHD and comparison hospitals		-0.2	-0.6	
30-Day Mortality Rate for Pneumonia Patients				
RCHD Hospitals	14	12.5	12.3	-0.2
Similar Non-Demonstration hospitals	388	11.9	11.7	-0.2
Difference between RCH and comparison hospitals		0.6	0.6	
30-Day Mortality Rate for Heart Failure Patients				
RCHD Hospitals	13	12.3	12.5	0.2
Similar Non-Demonstration hospitals	365	11.5	11.8	0.3**
Difference between RCHD and comparison hospitals		0.8*	0.7	

Source: Hospital compare database, file years covering data collection periods between 2006 and 2014.
Note: The table is based on RCHD Hospitals that joined the demonstration under the extension period authorized by the Affordable Care Act with usable hospital compare data. The table only contains hospitals that were new to the demonstration under the Affordable Care Act-authorized extension because readmission and mortality data from Hospital Compare were not available in pre-demonstration years for hospitals that joined under the MMA-authorized demonstration period.
Readmission and mortality rates reported by Hospital Compare are estimates based on statistical models. The table reports averages and standard deviations adjusting for variances of the estimated rates. Statistical tests were conducted by applying weighted least squares to a model predicting readmission/mortality rate, using the inverse of the variances of readmission/mortality rate estimates as the weight.

* Statistically significant at the 95% confidence level. ** Statistically significant at the 99% confidence level.

Exhibit B.7: Hospital Compare Overall Hospital Ratings: Comparisons of the Change Within Demonstration and Non-Demonstration Hospitals Over Time

	Num. of hospitals	Before Demonstration Average percentage 2008	After Demonstration Average percentage 2014	Difference between before and after
Percent of patients giving score of 9 or 10 for overall hospital rating on a scale from 1 (worst) to 10 (best)				
RCHD Hospitals	15	67.1	72.4	5.3*
Similar Non-Demonstration hospitals	407	65.6	70.8	5.2**
Difference between RCHD and comparison hospitals		1.4	1.6	

Source: Hospital compare database, file years covering data collection periods between 2006 and 2014.
Note: The table is based on RCHD Hospitals that joined the demonstration under the extension period authorized by the Affordable Care Act with usable hospital compare data. The table only contains hospitals that were new to the demonstration under the Affordable Care Act-authorized extension because readmission and mortality data from Hospital Compare were not available in pre-demonstration years for hospitals that joined under the MMA-authorized demonstration period.
The year 2008 correspondents to the data collection period between April 2008 and March 2009; and 2014, to the period between Oct 2013 and Sept 2014. Statistical tests were conducted by applying t-tests for comparing RCHD and comparison hospitals and Wilcoxon rank sum tests for within-group comparisons. Comparisons are based on a balanced sample of hospitals with both 2008 and 2014 data.

* Statistically significant at the 95% confidence level. ** Statistically significant at the 99% confidence level.