



December 2018

MEDICARE

Payments for Certain Long-Term Care Hospitals that Specialize in Spinal Cord Treatment

Why GAO Did This Study

The Centers for Medicare & Medicaid Services pays LTCHs for care provided to Medicare beneficiaries. There were about 400 LTCHs across the nation in 2016.

The 21st Century Cures Act included a provision for GAO to examine certain issues pertaining to LTCHs. This report examines (1) the health care needs of Medicare beneficiaries who receive services from the two qualifying hospitals; (2) how Medicare LTCH payment policies could affect the two qualifying hospitals; and (3) how the two qualifying hospitals compare with other LTCHs and other facilities that may treat Medicare patients with similar conditions.

GAO analyzed the most recently available Medicare claims and other data for the two qualifying hospitals and other facilities that treat patients with spinal cord injuries. GAO also interviewed HHS officials and stakeholders from the qualifying hospitals, other facilities that treat spinal cord patients, specialty associations, and others.

GAO provided a draft of this report to HHS. HHS provided technical comments, which were incorporated as appropriate. We also provided the two qualifying hospitals summaries of information we collected from them, to confirm the accuracy of statements included in our draft report. We incorporated their comments, as appropriate.

MEDICARE

Payments for Certain Long-Term Care Hospitals that Specialize in Spinal Cord Treatment

What GAO Found

Spinal cord injuries may result in secondary complications that often lead to decreased functional independence and quality of life. The 21st Century Cures Act changed how Medicare pays certain long-term care hospitals (LTCH) that provide spinal cord specialty treatment. For these hospitals, the act included a temporary exception from how Medicare pays other LTCHs. Two LTCHs—Craig Hospital in Englewood, Colorado and Shepherd Center in Atlanta, Georgia—have qualified for this exception. GAO found that most Medicare beneficiaries treated at these two hospitals typically receive specialized care for multiple chronic conditions and other long-term complications that develop after initial injuries, such as pressure ulcers that can result in life-threatening infection. The two hospitals also provide specialty care for acquired brain injuries, such as traumatic brain injuries.

GAO's simulations of Medicare payments to these two hospitals using claims data from two baseline years—fiscal years 2013 and 2016—illustrate potential effects of payment policies. LTCHs are paid under a two-tiered system for care provided to beneficiaries: they receive the LTCH standard federal payment rate—or standard rate—for certain patients discharged from the LTCH, and a generally lower rate—known as a “site-neutral” rate—for all other discharges. Under the temporary exception, Craig Hospital and Shepherd Center receive the standard rate for all discharges during fiscal years 2018 and 2019. Assuming their types of discharges remain the same as in fiscal years 2013 and 2016, GAO's simulations of Medicare payments in the baseline years indicate:

- Most of the discharges we examined would not qualify for the standard rate, if the exception did not apply.
- Medicare payments would generally decrease under fiscal year 2020 payment policy, once the exception expires.

However, the actual effects of Medicare's payment policies on these two hospitals could vary based on factors, including the severity of patient conditions (e.g., Medicare payment is typically higher for more severe injuries), and whether hospitals' discharges meet criteria for the standard rate.

Similarities and differences may exist between the two qualifying hospitals and other facilities that treat Medicare patients with spinal cord and brain injuries. Patients with spinal cord and brain injuries may receive care in other LTCHs, but GAO found that most Medicare beneficiaries at these other LTCHs are treated for conditions other than spinal cord and brain injuries. Certain inpatient rehabilitation facilities (IRF) also provide post-acute rehabilitation services to patients with spinal cord and brain injuries. While data limitations make a direct comparison between these facilities and the two qualifying hospitals difficult, GAO identified some similarities and differences. For example, officials from some IRFs we interviewed reported providing several of the same programs and services as the two qualifying hospitals to medically complex patients, but the availability of services and complexity of patients varied. Among other reasons, the different Medicare payment requirements that apply to LTCHs and IRFs affect the types of services they provide and the patients they treat.

Contents

Letter		1
	Background	5
	Most Medicare Beneficiaries Who Receive Services at the Two Qualifying Hospitals Need Specialized Follow-Up Care to Manage Long-Term Effects of Catastrophic Injury	14
	Medicare Policies May Have Modest Effects on Payments to the Two Qualifying Hospitals Depending on the Types of Patients Treated and Other Factors	16
	Similarities and Differences May Exist Between the Two Qualifying Hospitals and Other Facilities that Treat Medicare Patients with Spinal Cord and Brain Injuries	25
	Agency Comments	35
Appendix I	Methodology for Simulating Payments to Qualifying Hospitals	37
Appendix II	Calculating Medicare Payments for Long-Term Care Hospitals and Inpatient Rehabilitation Facilities	41
Appendix III	List of Common Diagnosis Groups for Long-Term Care Hospitals (LTCH)	43
Appendix IV	GAO Contact and Staff Acknowledgments	44
Tables		
	Table 1: Applicable Payment Policies for Medicare Discharges from Long-Term Care Hospitals (LTCH), for Cost Reporting Periods Beginning During Fiscal Year 2016 to 2021	10
	Table 2: Medicare Discharges at Qualifying Hospitals with One of Seven Diagnosis Groups from 21st Century Cures Act, Fiscal Years 2013 to 2016	13
	Table 3: Medicare Discharges and Payments to Qualifying Hospitals in Two Baseline Years, Fiscal Years 2013 and 2016	17

Table 4: Key Components of Formulas GAO Used for Simulations of Payments	38
Table 5: Twenty Medicare Severity Long-Term Care Diagnosis Related Groups (MS-LTC-DRG) Most Common to Long-Term Care Hospitals, Fiscal Year 2016	43

Figures

Figure 1: Simulations of Medicare Payments for Craig Hospital, Under Payment Policy Applicable to Fiscal Years (FY) 2017 to FY 2021	20
Figure 2: Simulations of Medicare Payments for Shepherd Center, Under Payment Policy Applicable to Fiscal Years (FY) 2017 to FY 2021	21
Figure 3: Payment for Cases Paid Under the Long-Term Care Hospital Prospective Payment System	41
Figure 4: Inpatient Rehabilitation Facility Prospective Payment System	42

Abbreviations

CARF	Commission on Accreditation of Rehabilitation Facilities
CMS	Centers for Medicare & Medicaid Services
FY	fiscal year
HHS	Department of Health and Human Services
IPPS	inpatient prospective payment system
IRF	inpatient rehabilitation facility
LTCH	long-term care hospital
MedPAC	Medicare Payment Advisory Commission
MS-LTC-DRG	Medicare severity long-term care diagnosis related group
NIDILRR	National Institute on Disability, Independent Living, and Rehabilitation Research
PPS	prospective payment system

This is a work of the U.S. government and is not subject to copyright protection in the United States. The published product may be reproduced and distributed in its entirety without further permission from GAO. However, because this work may contain copyrighted images or other material, permission from the copyright holder may be necessary if you wish to reproduce this material separately.



December 13, 2018

The Honorable Orrin G. Hatch
Chairman
The Honorable Ron Wyden
Ranking Member
Committee on Finance
United States Senate

The Honorable Kevin Brady
Chairman
The Honorable Richard E. Neal
Ranking Member
Committee on Ways and Means
House of Representatives

Long-term care hospitals (LTCHs) provide care to individuals, including Medicare beneficiaries, who receive hospital services that require inpatient lengths of stay greater than 25 days, on average. The Medicare Payment Advisory Commission (MedPAC) estimates that Medicare spent approximately \$5.1 billion on care provided to beneficiaries at 407 LTCHs nationwide in 2016. Traditionally, LTCHs have been paid by Medicare under the LTCH prospective payment system (PPS) at the LTCH PPS standard federal payment rate (hereafter standard rate). However, the Pathway for SGR Reform Act of 2013 introduced site-neutral payment policy, which changed Medicare’s payment for services that could be provided in other less costly settings, beginning in fiscal year (FY) 2016.¹ As a result, LTCH PPS is now a two-tiered payment system under which certain LTCH discharges continue to be paid at the standard rate, while other discharges are paid at a generally lower site-neutral rate.² Site-neutral payment policy is being phased into the LTCH PPS over five years, with certain exceptions. In addition, statute provides that by fiscal year 2021 LTCHs will no longer receive the standard rate if they fail to meet certain requirements, raising concerns that some LTCHs may no longer provide care to certain patients if they are paid at the site-neutral rate.

¹Pathway for SGR Reform Act of 2013, Pub. L. No. 113-67, § 1206, 127 Stat. 1165, 1200 (2013) (codified as amended at 42 U.S.C. § 1395ww(m)).

²Medicare payment is made following a patient’s discharge from the admitting hospital.

The 21st Century Cures Act provided a temporary exception to this two-tiered approach for certain LTCHs that provide spinal cord specialty treatment for cost reporting periods beginning during fiscal years 2018 and 2019.³ To qualify for this exception, LTCHs must meet three criteria and according to Centers for Medicare & Medicaid Services' (CMS) officials, two LTCHs did so—Craig Hospital in Englewood, Colorado, and Shepherd Center in Atlanta, Georgia.⁴ Under current law, the LTCH PPS two-tiered payment system will apply to these hospitals after the exception expires, in fiscal year 2020 and beyond.

The 21st Century Cures Act also included a provision for us to examine the LTCHs that qualify for this exception. In this report we describe:

1. the health care needs of Medicare beneficiaries who receive services from the two qualifying hospitals;
2. how Medicare LTCH payment policies could affect the two qualifying hospitals; and
3. how the two qualifying hospitals compare with other LTCHs and other facilities that may treat Medicare patients with similar conditions.

To determine the health care needs of Medicare beneficiaries who receive services from the two qualifying hospitals, we reviewed documentation, analyzed Medicare claims data, and conducted interviews. Specifically, we reviewed documentation from the qualifying hospitals that describes the health care needs of their Medicare beneficiaries, including those beneficiaries receiving services for spinal cord injury, and acquired brain injuries, such as traumatic brain injury. We also analyzed Medicare claims data for federal fiscal years 2013 through 2016—the most recent data available at the time of our analysis—to identify commonly charged Medicare severity long term care diagnosis-

³Specific cost reporting periods may vary by hospital. For purposes of this report, we refer generally to a fiscal year when discussing payments for cost reporting periods that begin during that year.

⁴Generally, these three criteria provide that a qualifying LTCH 1) was a not-for-profit hospital, as of a certain date in 2014; 2) primarily provides treatment for certain catastrophic spinal cord injuries, acquired brain injuries, or other paralyzing neuromuscular conditions, based on 2013 discharge data; and 3) had significant out-of-state-admissions during fiscal year 2014. See 21st Century Cures Act, Pub. L. No. 114-255, § 15009(a), 130 Stat. 1033, 1322 (2016) (codified as amended at 42 U.S.C. § 1395ww(m)(6)(F)).

related group (MS-LTC-DRG) codes at both hospitals.⁵ Finally, we interviewed representatives from the two qualifying hospitals; Department of Health and Human Services (HHS) officials, including officials from CMS, the National Institutes of Health, and the Administration for Community Living; as well as other selected stakeholders on the health care needs of these beneficiaries and the services they may receive from the qualifying hospitals.⁶ We selected these other stakeholders based on their relevant experience to cover a range of perspectives on the health care needs of patients with spinal cord injury or traumatic brain injury. We identified these stakeholders by conducting Internet searches on organizations that work with patients or conduct research on spinal cord and traumatic brain injuries, through analysis of Medicare claims data, or through referrals from agency officials and other stakeholders we interviewed. These stakeholders included: (1) health care providers with experience treating spinal cord or acquired brain injury patients, including providers from facilities that are among the National Institute on Disability, Independent, Living, and Rehabilitation Research (NIDILRR) Spinal Cord Injury and Traumatic Brain Injury Model Systems; (2) representatives from specialty associations, such as the National Association of Long-Term Hospitals and the American Academy of Physical Medicine and Rehabilitation; and (3) representatives from patient advocacy organizations, including the Christopher & Dana Reeve Foundation and the Brain Injury Association of America.⁷

To determine how Medicare LTCH payment policies could affect the two qualifying hospitals, we reviewed relevant laws and regulations, analyzed Medicare claims data, and interviewed officials and stakeholders. Specifically, we reviewed Medicare laws and regulations providing for

⁵Under the LTCH PPS, each MS-LTC-DRG has been weighted to reflect the resources required to treat the type of medically complex patients characteristic of LTCHs. For purposes of this report, we generally refer to MS-LTC-DRG codes as “diagnosis groups.”

⁶HHS created the Administration for Community Living in 2012 to help ensure that people with disabilities and older adults who should be able to live at home have the support they need in the community.

⁷The Model Systems program is administered by HHS’s Administration for Community Living. According to HHS officials, the NIDILRR Model Systems grant program is competitive and runs on a 5-year grant cycle. As of October 2018, there are 14 Model System Centers for spinal cord injury, 16 for traumatic brain injury, and 4 for burn injury. Craig Hospital is a NIDILRR Model System Center for spinal cord injury and traumatic brain injury, and Shepherd Center is a NIDILRR Model System for spinal cord injury. We selected providers to interview from NIDILRR centers because of their expertise in treating and conducting research on spinal cord and traumatic brain injuries.

payments to acute care hospitals and LTCHs from fiscal years 2016 through 2018.⁸ We also analyzed Medicare claims data for federal fiscal years 2013 through 2016 to determine the payments made to the two qualifying hospitals prior to the temporary exception. We then conducted simulations of Medicare payments to calculate what the two qualifying hospitals would have been paid for patient discharges that occurred in two baseline years—fiscal years 2013 and 2016—if applicable payment rules from future years were applied to those discharges.⁹ See appendix I for more information on how we conducted these simulations. In addition, we interviewed officials from HHS, including CMS, to gather information on how payment policies are being implemented. Lastly, we interviewed representatives from the two qualifying hospitals and some of the other stakeholder groups, officials from MedPAC, and state officials from Georgia and Colorado to determine how LTCH payment policies have, or are expected to, affect the two qualifying hospitals and other LTCHs.

To describe how the two qualifying hospitals compare with other LTCHs and other facilities that may treat Medicare patients with similar conditions, we analyzed Medicare claims data for federal fiscal years 2013 through 2016, reviewed information provided by the qualifying hospitals and other stakeholders, and conducted interviews. Specifically, we reviewed Medicare claims data for LTCHs—including the two qualifying hospitals—and inpatient rehabilitation facilities (IRF), which provide intensive rehabilitation services to patients after illness, injury, or surgery. We reviewed information provided by selected facilities—to identify similarities and differences in the types of patients treated and services provided, such as information on patient characteristics, clinical services provided, and staffing levels.¹⁰ Selected facilities included those designated as NIDILRR model systems for spinal cord injury and other facilities that treat high volumes of patients with similar conditions, as

⁸For purposes of this report, we refer to hospitals paid under the Inpatient Prospective Payment System (IPPS) as acute care hospitals. See 42 U.S.C. § 1395ww(d).

⁹We selected fiscal year 2016 because it was the year with the most recent data available at the time we began our analysis, and we selected a second baseline year because the case mix for 2016 was different than that of other recent years. For example, the number of Medicare discharges for one qualifying hospital declined by nearly half between fiscal year 2013 and 2016. We chose fiscal year 2013 because data from that year was used to help determine which hospitals are subject to the temporary exception.

¹⁰We requested written information from nine facilities and received information from seven—five of which were also included in our interviews and three of which were identified during interviews with specialty associations.

identified through our data analysis. In addition, we interviewed officials from HHS—including CMS, the Office of the Assistant Secretary for Planning and Evaluation, and the Administration for Community Living—to gather information on what other types of facilities may treat patients with conditions similar to those treated at the qualifying hospitals, current work underway related to post-acute care, and the NIDILRR model systems program, respectively. In addition to the two qualifying hospitals and stakeholders previously noted for other components of our work, we also interviewed officials from certain accrediting organizations—the Joint Commission and the Commission on Accreditation of Rehabilitation Facilities (CARF) International—to discuss their accreditation standards and obtain their perspectives on similarities and differences in the types of patients treated and services provided at the two qualifying hospitals and other facilities.

We assessed the reliability of the Medicare claims data used in this report by reviewing relevant documentation and interviewing officials and representatives knowledgeable about the data. Based on these steps, we found the data were sufficiently reliable for the purpose of our reporting objectives.

We conducted this performance audit from October 2017 through December 2018 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

Background

Spinal Cord Injury

Spinal cord injuries are complex, lifelong injuries that typically result from acute traumatic damage to the spinal cord or nerves within the spinal column. In spinal cord injury patients, certain nervous system functions may be impaired temporarily or permanently lost, depending on the level

and severity of the patient's injury.¹¹ In addition to lower level nervous system functioning, spinal cord injury patients may develop secondary medical complications that can further decrease functional independence and quality of life, including, but not limited to:

- Autonomic dysreflexia: a condition that may result in life threatening hypertension—high blood pressure—due to impaired nervous system response, below the level of spinal cord injury.¹²
- Depression: a medical mood disorder—commonly affecting about one in five spinal cord injury patients—that can cause physical and psychological symptoms (including changes in sleep and appetite, and thoughts of death or suicide).¹³
- Impaired bowel and bladder functioning: potential inability to move waste through the colon and control, stop or release, urine—which can lead to other life-threatening illnesses (such as autonomic dysreflexia) and/or infections.¹⁴
- Pressure ulcers: a common complication affecting up to 80 percent of spinal cord injury patients that results from an area of the skin or underlying tissue that is damaged due to decreased blood flow, which can occur after extended periods of inactive sitting or lying, among other ways. Pressure ulcers—also known as pressure sores or wounds—can occur years after initial injury and may also result in life-threatening infections or amputation.¹⁵

¹¹The neurological level of injury is defined as the lowest point on the body where the spinal cord injury patient has normal motor and sensory movement, after initial injury. Spinal cord injuries are further classified by severity, as either a complete or incomplete injury. The severity of injury designation generally describes the spinal cord injury patient's motor and sensory movement below their level of injury. For more information, see Model Systems Knowledge Translation Center, *Resources Offered by the MSKTC To Support Individuals Living With Spinal Cord Injury*, 4th ed. (Washington, D.C.: July 2017), 108-110.

¹²For more information on autonomic dysreflexia, see Model Systems Knowledge Translation Center, *Spinal Cord Injury*, 66-69.

¹³For more information on depression in spinal cord injury patients, see Model Systems Knowledge Translation Center, *Spinal Cord Injury*, 9-11.

¹⁴For more information on bladder functioning in spinal cord injury patients, see Model Systems Knowledge Translation Center, *Spinal Cord Injury*, 70-76. For more information on bowel functioning in spinal cord injury patients, see Model Systems Knowledge Translation Center, *Spinal Cord Injury*, 77-80.

¹⁵For more information on skin care and pressure ulcers in spinal cord injury patients, see Model Systems Knowledge Translation Center, *Spinal Cord Injury*, 24-25.

-
- **Spasticity:** a common condition that affects 65 to 78 percent of spinal cord injury patients and can result in symptoms ranging from mild muscle stiffness to severe, uncontrollable leg movements.¹⁶
 - **Syringomyelia:** a rare disorder that occurs when cerebrospinal fluid—normally found outside of the spinal cord and brain—enters the interior of the spinal cord to form a cyst known as a syrinx. This cyst expands and elongates over time, destroying the center of the spinal cord. Symptoms can develop slowly and can include numbness, pain, effects on bowel and bladder function, or paralysis. While this condition can occur as a result of a trauma, such as a spinal cord injury, the majority of cases are associated with a complex brain abnormality.

Brain Injury

Acquired brain injuries occur after birth and are not hereditary, congenital, degenerative, or a result of birth trauma. Acquired brain injuries result in changes to the brain's neuronal activity, which can affect the physical integrity, metabolic activity, or functional ability of nerve cells in the brain. Acquired brain injuries can be either non-traumatic or traumatic in nature: non-traumatic brain injuries are caused by an internal force—such as in the case of stroke, tumors, or drowning—and traumatic brain injuries are caused by an external force—such as in the case of car accidents, gunshot wounds, or falls.¹⁷ The severity of brain injury can often result in changes to physical, behavioral, and/or cognitive functioning. For example, according to one source, nearly 50 percent of all people with a traumatic brain injury experience depression within the first year after injury, and nearly two-thirds experience depression within 7 years post-injury. Depression can develop as a result of physical changes in the brain, emotional response to the injury, and other unrelated factors—such

¹⁶For more information on spasticity, see Model Systems Knowledge Translation Center, *Spinal Cord Injury*, 39-41.

¹⁷For more information on acquired brain injuries, see Brain Injury Association of America, *About Brain Injury: Brain Injury Overview*, accessed October 2, 2018, <https://www.biausa.org/brain-injury/about-brain-injury/basics/overview>.

as family history.¹⁸ Due to impaired cognitive functioning, traumatic brain injury patients may also experience difficulty communicating, concentrating, and processing and understanding information.¹⁹

Medicare Payment in LTCHs

Acute care hospitals and LTCHs are paid under different Medicare payment systems by law. Acute care hospitals are paid under the inpatient prospective payment system (IPPS).²⁰ LTCHs are paid under the LTCH PPS.²¹ Under both systems, Medicare classifies patients based on Medicare diagnosis groups, which organize patients based on their conditions and the care they receive. Medicare payments for LTCHs are typically higher than payments for acute care hospitals, to reflect the average resources required to treat Medicare beneficiaries who need long-term care.²²

¹⁸The Model Systems Knowledge Translation Center is operated by American Institutes for Research, funded by the NIDILRR, and conducts projects and issues products related to spinal cord, traumatic brain, and burn injuries. For example, the Model Systems Knowledge Translation Center collaborates with Model System programs to conduct systematic reviews on high priority health topics to inform clinical practice and conducts research and develops information materials to meet the information needs and improve the health and quality of life of individuals with spinal cord, traumatic brain, and burn injuries. For more information, visit the Model Systems Knowledge Translation Center at <https://msktc.org/about>. For more information on depression in individuals with traumatic brain injury, see Model Systems Knowledge Translation Center, Model Systems Knowledge Translation Center, *Resources Offered by the MSKTC To Support Individuals Living With Traumatic Brain Injury*, 5th ed. (Washington, D.C.: December 2017), 25-27.

¹⁹For more information on cognitive functioning in individuals with traumatic brain injury, see Model Systems Knowledge Translation Center, *Traumatic Brain Injury*, 15-18.

²⁰Certain hospitals and units of hospitals, such as psychiatric, rehabilitation, children's, long-term care, and cancer hospitals are excluded from the IPPS by statute and are paid under separate systems. See 42 U.S.C. § 1395ww(d)(1)(B).

²¹See 42 U.S.C. § 1395ww(m) (prospective payment for long-term care hospitals). To qualify for payment under the LTCH PPS, a hospital must meet the requirements at 42 C.F.R. Part 412, Subpart O, such as maintaining a provider agreement with Medicare and meeting the average length of stay requirement. Some hospitals, such as Veterans Administration hospitals and hospitals reimbursed under state cost control systems, that may meet these requirements may nonetheless be paid under special payment provisions. For purposes of this report, we use the term LTCHs to refer exclusively to those hospitals paid under LTCH PPS.

²²For example, in fiscal year 2018, the base rate for LTCH PPS payments is approximately \$41,000 while the base rate for IPPS payments is approximately \$6,000.

Traditionally, all LTCH discharges were paid at the LTCH PPS standard federal payment rate.²³ The Pathway for SGR Reform Act of 2013 modified the LTCH PPS by establishing a two-tiered payment system—such that certain LTCH discharges continue to be paid at the standard rate and others are paid at a generally lower, site-neutral rate.²⁴ In its March 2013 report, MedPAC described concerns regarding growth in the number of LTCHs and the extent to which some of their patients may otherwise be treated appropriately in less costly settings.²⁵ To continue to be eligible for the standard rate, the discharge must generally have a preceding acute care hospital stay with either an intensive care unit stay of at least 3 days or an assigned diagnosis group based on the receipt of at least 96 hours of mechanical ventilation services in the LTCH, unless an exception applies.²⁶ Discharges that do not qualify for the standard rate are to receive a blended site-neutral rate—equal to 50 percent of the site-neutral rate and 50 percent of the standard rate—for discharges in cost reporting periods beginning in fiscal years 2016 through 2019, and the full site-neutral rate for discharges in cost reporting periods beginning in fiscal year 2020.²⁷

Beginning with cost reporting periods in fiscal year 2020, if fewer than half of an LTCH's discharges meet the statutory requirements to be paid at the standard rate, the LTCH will no longer receive any payments at that rate for discharges in future cost reporting periods until eligibility for

²³As previously mentioned, we refer to the LTCH PPS standard federal payment rate as the standard rate.

²⁴Pathway for SGR Reform Act of 2013, Pub. L. No. 113-67, § 1206, 127 Stat. 1165, 1200 (2013) (codified as amended at 42 U.S.C. § 1395ww(m)). This two-tiered payment methodology began being phased in for all LTCHs beginning in fiscal year 2016.

²⁵For example, in its March 2013 report to the Congress, MedPAC reported that many new LTCHs located in markets where LTCHs already existed instead of in markets with few or no direct competitors. The report indicated that oversupply of LTCHs in some markets may result in admissions of less complex cases that could appropriately be treated in less costly settings. Furthermore, it noted that some areas have no LTCHs, which indicates medically complex patients can be appropriately treated in other settings.

²⁶Discharges meeting one of these two criteria are nonetheless paid the site-neutral rate if the principal diagnosis relates to a psychiatric condition or to rehabilitation. Certain Medicare severe wound discharges are also excepted from the two-tiered system for discharges prior to January 1, 2017 and during fiscal year 2018. See 42 U.S.C. § 1395ww(m)(6)(A)(i).

²⁷See 42 U.S.C. § 1395ww(m)(6)(B).

receiving payments under that rate is reinstated.²⁸ Under this scenario, all discharges in succeeding cost reporting periods would be paid at the generally lower rate that an acute care hospital would receive for providing comparable care until eligibility for receiving payments at the standard rate is reinstated. According to officials from HHS, the department intends to establish a process for how hospitals would have their eligibility for receiving payments at the standard rate reinstated as part of the fiscal year 2020 rule-making cycle. Since the two qualifying hospitals are currently only excepted from the statutory two-tiered payment structure for cost reporting periods beginning during fiscal years 2018 and 2019, these two hospitals must also meet the statutory 50 percent threshold in fiscal year 2020 and beyond in order to receive the standard rate for any future discharges until reinstated. See table 1 for more information on Medicare’s LTCH PPS payment policies.

Table 1: Applicable Payment Policies for Medicare Discharges from Long-Term Care Hospitals (LTCH), for Cost Reporting Periods Beginning During Fiscal Year 2016 to 2021

Fiscal Year(s)	Medicare Payment Policies for Certain Spinal Cord Specialty Hospitals Temporarily Excepted	Medicare Payment Policies for Other LTCHs
2016 and 2017	LTCH prospective payment system (PPS) standard Federal payment rate (standard rate) for qualifying discharges, ^a and Blended rate of 50 percent site-neutral rate and 50 percent standard rate for other discharges. ^b	Same as policy for temporarily excepted spinal cord specialty hospitals.
2018 and 2019	Excepted from site-neutral rate; all discharges are paid at the standard rate. ^c	Standard rate for qualifying discharges, ^a and Blended rate of 50 percent site-neutral rate and 50 percent standard rate for other discharges. ^b
2020	Standard rate for qualifying discharges, ^a and Full site-neutral payment rate for other discharges. ^b	Same as policy for temporarily excepted spinal cord specialty hospitals.
2021 and Beyond ^d	If LTCH meets 50 percent threshold: Medicare discharges are to be paid at either the standard rate or site-neutral rate, as applicable. If LTCH does not meet 50 percent threshold: LTCH is paid the amount that it would be paid if the hospital were paid under the inpatient prospective payment (IPPS) for all discharges until reinstated by the Department of Health and Human Services (HHS) Secretary.	Same as policy for temporarily excepted spinal cord specialty hospitals.

Source: GAO analysis of law and regulation. | GAO-19-141

²⁸See 42 U.S.C. § 1395ww(m)(6)(C). We refer to this policy as the 50 percent threshold. According to CMS officials, while the agency has not yet finalized this policy through rule-making as of November 2018, it is unlikely that any payment adjustment under this provision would apply until 2022 because the percentage cannot be determined until after an LTCH’s cost reporting period has ended and data have been submitted.

^aUnder statute, qualifying non-exempted discharges that are to be paid at standard rate include: 1) Medicare discharges meeting “intensive care unit criterion” (i.e., an LTCH stay immediately preceded by discharge from an IPPS hospital that included 3 or more days in an intensive care unit as determined by Secretary) that do not have a principal diagnosis relating to a psychiatric diagnosis or to rehabilitation; 2) Medicare discharges meeting the “ventilator criterion” (i.e., an LTCH stay immediately preceded by discharge from an IPPS hospital and Medicare severity long-term care diagnosis related group (MS-LTC-DRG) assignment based on receipt of 96 hours of ventilator services) that do not have a principal diagnosis relating to a psychiatric diagnosis or to rehabilitation; and 3) certain Medicare severe wound discharges prior to January 1, 2017 and during fiscal year 2018. See 42 U.S.C. § 1395ww(m)(6)(A)(i).

^bThe site-neutral rate is statutorily defined to mean the lower of the IPPS comparable per diem amount determined under 42 C.F.R. § 412.529(d)(4), including any applicable outlier payments under 42 C.F.R. § 412.525 and then reduced by 4.6 percent for each of fiscal years 2018 through 2026, or the estimated cost of care. See 42 U.S.C. § 1395ww(m)(6)(B)(ii) and (iv).

^cTo qualify for this temporary exception, LTCHs must meet the following criteria: not-for-profit, long-term care hospital as of June 1, 2014; of the discharges in calendar year 2013 from the long-term care spinal cord specialty hospitals, at least 50 percent of payments were classified under MS-LTC-DRGs 28, 29, 52, 57, 551, 573, and 963; and discharged patients during fiscal year 2014 were admitted from at least 20 of the 50 states. See 42 U.S.C. § 1395ww(m)(6)(F).

^dAccording to CMS officials, while the agency has not yet finalized this policy through rule-making as of November 2018, it is unlikely that any payment adjustment under this provision would apply until 2022 because the percentage cannot be determined until after an LTCH’s cost reporting period has ended and data have been submitted.

The Two Qualifying Hospitals: Craig Hospital and Shepherd Center

Two LTCHs have qualified for the temporary exception to site-neutral payments, according to CMS officials. Craig Hospital is a private, not-for-profit facility that has specialized in medical treatment, research, and rehabilitation for patients with spinal cord and brain injury since 1956. Craig Hospital is classified as an LTCH for the purposes of Medicare payment, and is licensed as a general hospital by the state of Colorado—which does not have separate designations for LTCHs.²⁹ Craig Hospital has been selected as one of 14 NIDILRR Spinal Cord Injury Model Systems and one of 16 Traumatic Brain Injury Model Systems and is accredited by the Joint Commission.³⁰

²⁹According to officials from the Colorado Department of Health Care Policy & Financing, beginning in July 2019, the state of Colorado will recognize Craig Hospital as a Spinal Cord and Brain Specialty hospital—for the purposes of Medicaid payment—pending federal approval. Craig Hospital is currently the only hospital that will qualify for this specialty designation.

³⁰The Joint Commission is an independent, not-for-profit organization that accredits and certifies health care organizations and programs in the United States. To earn and maintain the Joint Commission’s accreditation, organizations must undergo an on-site survey by a Joint Commission survey team at least once every three years. The Joint Commission’s standards, which are the basis of this evaluative process, are focused on specific patient, individual, or resident care and organization functions essential to providing safe, high-quality care.

Shepherd Center is a private, not-for-profit facility that specializes in medical treatment, research, and rehabilitation for people with traumatic spinal cord injury and brain injury—as well as neuromuscular disorders, including multiple sclerosis. Shepherd Center is classified as an LTCH for the purposes of Medicare payment, and as a specialty hospital—which includes LTCHs—by the state of Georgia.³¹ Shepherd Center is also currently designated as a NIDILRR Spinal Cord Injury Model System and is accredited by the Joint Commission. Shepherd Center also has several CARF International accredited specialty programs.³² Specifically, it has CARF-accredited inpatient rehabilitation specialty programs in spinal cord injury and brain injury—for adults, children, and adolescents; and interdisciplinary outpatient medical rehabilitation specialty programs in spinal cord injury and brain injury—for adults, children, and adolescents, among others.

More than half of the Medicare discharges in fiscal year 2013 at the two qualifying hospitals—43 of 75 at Craig Hospital and 47 of 88 at Shepherd Center—were within the diagnosis groups designated in section 15009(a) of the 21st Century Cures Act. (See table 2 below for more information.) Patients treated for these diagnosis groups may receive treatment for spinal disorders and injuries; medical back problems; degenerative nervous system disorders; skin grafts for skin ulcers; acquired brain injuries, such as traumatic brain injuries; or other significant traumas with major complicating and comorbid (simultaneous) conditions.

³¹According to officials from the Georgia Department of Community Health, specialized hospitals in Georgia include LTCHs, IRFs, pediatric hospitals, and transplant hospitals.

³²CARF International is an independent, not-for-profit accreditor of health and human services in several areas—including, but not limited to, behavioral health and medical rehabilitation. CARF International accredits medical rehabilitation programs in a variety of settings and also offers several specialty program designations—including, but not limited to, spinal cord injury, brain injury, and stroke. According to an official, CARF International's accreditation process is focused on ensuring quality, person-centered care to vulnerable populations. In addition to evidence-based practices in clinical care, CARF International also requires all accredited providers to also meet certain business standards. Providers seeking CARF International accreditation must undergo an initial and subsequent on-site surveys conducted by a team of expert practitioners selected by CARF International, during which the provider must demonstrate continuous conformance to applicable standards.

Table 2: Medicare Discharges at Qualifying Hospitals with One of Seven Diagnosis Groups from 21st Century Cures Act, Fiscal Years 2013 to 2016

Fiscal year	Craig Hospital		Shepherd Center	
	Number of Medicare discharges with one of seven DRGs	Total Medicare discharges	Number of Medicare discharges with one of seven DRGs	Total Medicare discharges
2013	43	75	47	88
2014	42	66	63	122
2015	46	65	43	67
2016	18	40	26	88

Source: GAO analysis of Centers for Medicare & Medicaid Services' claims data. | GAO-19-141

Note: The seven diagnosis groups were specified in the 21st Century Cures Act to help identify spinal cord specialty hospitals temporarily excepted from site-neutral payments. See Pub. L. No. 114-255, § 15009(a)(2), 130 Stat. 1033, 1322 (2016). They include: 28 (spinal procedures w MCC), 29 (spinal procedures w CC or spinal neurostimulators), 52 (spinal disorders & injuries w CC/MCC), 57 (degenerative nervous system disorders w/o MCC), 551 (medical back problems w MCC), 573 (skin graft for skin ulcer or cellulitis w MC), and 963 (other multiple significant trauma w MCC). MCC refers to a major complication or comorbidity and CC refers to a complication or comorbidity.

Both qualifying hospitals have a variety of specialized inpatient and outpatient programs to help treat the complex health care needs of their patients, including those covered by Medicare. For example, both hospitals have wheelchair positioning clinics that can help prevent skin complications, such as pressure ulcers, that can occur in spinal cord patients. Both hospitals also have programs for those patients who need ventilator support such as diaphragmatic pacing—support for patients with respiratory problems whose diaphragm, lungs, and nerves have limited function—and ventilator weaning programs. In addition to clinical programs, both qualifying hospitals also provide transitional support, such as providing counseling and education to families of patients with these injuries.

Most Medicare Beneficiaries Who Receive Services at the Two Qualifying Hospitals Need Specialized Follow-Up Care to Manage Long-Term Effects of Catastrophic Injury

We found that most Medicare beneficiaries at the two qualifying hospitals need specialized services to manage the chronic, long-term effects of a catastrophic spinal cord or brain injury. Most of these patients are younger than 65 and ineligible for Medicare at the time of their initial injury, according to officials from the qualifying hospitals. Instead, according to officials, these patients typically become eligible for Medicare 2 years or more after their initial injury due to disability.³³ Medicare beneficiaries at the two qualifying hospitals typically need care to manage comorbidities or the associated long-term complications of their injury. Officials from Craig Hospital said a significant number of their Medicare beneficiaries have comorbid conditions—such as diabetes or cardiac problems—upon admission, that can be further complicated by their injury. The officials said managing these comorbidities is as much of a medical challenge as managing the spinal or brain injury. Officials from both qualifying hospitals noted their Medicare beneficiaries who have a spinal cord or brain injury also frequently seek care after initial injury to address secondary complications resulting from their injury, including urinary tract infections; respiratory problems; and pressure ulcers.

While the qualifying hospitals primarily treated traumatic spinal cord or brain injuries, we found that their Medicare populations differed from each other during the period from fiscal year 2013 to 2016. Specifically,

- *Craig Hospital.* Our review of Medicare claims data indicates more than 50 percent of the 246 Medicare discharges during this time were associated with Medicare diagnosis groups for spinal cord conditions. Specifically, during this time, Craig Hospital’s Medicare discharges were commonly assigned to three diagnosis groups covering spinal procedures and spinal disorders and injuries.³⁴ For example, officials from Craig Hospital told us that about 60 percent of Medicare beneficiaries in fiscal year 2016 required surgical care for a spinal cord injury. According to officials, most of these patients received surgery for syringomyelia—a complication in spinal cord patients that

³³Individuals who receive disability benefits for two years are generally eligible for, and automatically enrolled in, Medicare Part A (hospital insurance) and Part B (medical insurance) by the Social Security Administration. See 42 U.S.C. §§ 426(b), 1395i-2a(a), 1395o.

³⁴These diagnosis groups were MS-LTC-DRG 28 (spinal procedures with MCC), 29 (spinal procedures with CC or spinal neurostimulators), and 52 (spinal disorders and injuries with CC or MCC). The MS-LTC-DRGs and their descriptions were reprinted from tables in the final rule. MCC refers to a major complication or comorbidity and CC refers to a complication or comorbidity.

generally develops years after their initial injury. These officials told us that Craig Hospital provided the pre- and post-operative care for those patients in fiscal year 2016; however, currently, Craig Hospital is only responsible for pre-operative assessments.³⁵ The remaining 40 percent of their Medicare beneficiaries in fiscal year 2016 received care for new spinal cord injuries.

- *Shepherd Center.* Our review of Medicare claims data indicates the most common diagnosis group of the 365 Medicare discharges during this time—fiscal year 2013 to fiscal year 2016—related to treatment for skin grafts that can be associated with pressure ulcers, among other things.³⁶ Shepherd Center officials confirmed that most of their Medicare beneficiaries received treatment for a pressure ulcer that occurred after initial injury which, as previously noted, can be so severe as to result in life-threatening infections. According to officials, most of their post-injury Medicare beneficiaries receive post-operative care and other wound management services following surgery to treat pressure ulcers, to ensure that the site will not tear again and to avoid reoccurrence. Other diagnosis groups for Medicare patients at Shepherd Center included those for spinal disorders and injuries and extensive operating room procedures unrelated to principal diagnosis.³⁷ According to officials, beneficiaries in these diagnosis groups received treatment for a range of conditions, including traumatic injuries, urinary tract infections, neurogenic bladder and bowel or respiratory complications.³⁸ Officials told us the hospital also served Medicare beneficiaries recovering from other acquired brain injuries, such as stroke, and paralyzing neuromuscular conditions, such as multiple sclerosis.

³⁵Officials told us that an independent neurosurgeon with privileges at Craig Hospital performed the surgery when they were providing pre- and post-operative care. As of September 2018, the same neurosurgeon performs the surgery on those patients who receive pre-operative care at Craig Hospital; however, the provider is not under contract with Craig Hospital. They are not aware of another provider in their region who conducts this surgery on spinal cord injury patients.

³⁶This diagnosis group is MS-LTC-DRG 573 (skin grafts for skin ulcer or cellulitis with MCC). According to Shepherd Center officials, while this is the most commonly assigned diagnosis group for pressure ulcers, they also assign MS-LTC-DRG 517 (other musculoskeletal sys & conn tiss O.R. proc w/o CC/MCC), 570 (skin debridement w MCC), and 592 (skin ulcers w MCC).

³⁷These diagnosis groups were MS-LTC-DRGs 52 (spinal disorders and injuries with CC or MCC) and 981 (extensive OR procedure unrelated to principal diagnosis w MCC).

³⁸A neurogenic bladder or bowel causes the bladder or bowel to become overactive or underactive.

Stakeholders we interviewed—including providers at other facilities— noted that traumatic spinal cord and brain injury patients—including those covered by Medicare—require significant levels of care due to the complexity of their injuries as well as the immediate and long-term complications that can occur from the injuries.³⁹ For example, most stakeholders told us these patients often require lifelong care due to the complexity and reoccurrence of comorbidities or secondary complications. Some of these stakeholders noted, for example, spinal cord and brain injury patients often face mental health or psychosocial conditions, such as depression or anxiety. Some stakeholders also emphasized that many spinal cord injury patients risk secondary complications that may not occur until years after injury, such as pneumonia, pressure ulcers, and other infections. A few stakeholders told us spinal cord and brain injury patients are often among the most complex patients they treat. As such, patients with spinal cord or brain injuries often require interdisciplinary care that covers a wide range of specialties—including physiatry (rehabilitation medicine), neurology, cardiology, and pulmonology—as well as specialized equipment or technology, such as eye glance tools to control call systems or the television.

Medicare Policies May Have Modest Effects on Payments to the Two Qualifying Hospitals Depending on the Types of Patients Treated and Other Factors

³⁹Stakeholders included representatives from patient advocacy associations, such as the Christopher & Dana Reeve Foundation and the Brain Injury Association of America; and health care providers with experience treating patients with similar conditions at other facilities, including an LTCH and inpatient rehabilitation facilities (IRFs).

Simulations of Medicare Payments to Qualifying Hospitals Illustrate Potential Effects of Payment Policies

Simulations of Medicare payments illustrate the potential effects of Medicare’s site-neutral payment policies, which were required by law, on the qualifying hospitals. Specifically, our simulations calculated what the qualifying hospitals would have been paid for Medicare patient discharges that occurred in two baseline years—fiscal year 2013 (baseline year 1) and fiscal year 2016 (baseline year 2)—if applicable payment policies from future years (2017 through 2021) were applied to those discharges.⁴⁰ We selected two baseline years to account for differences in data, such as the number of discharges, between fiscal year 2016—the most recent year of complete data available at the time we began our analysis—and fiscal year 2013. Table 3 below provides a summary of Medicare discharges and payments to the qualifying hospitals during these two baseline years. Variation in utilization and patient mix across the baseline years allows the simulations to cover a range of possible changes in payments for the two hospitals.

Table 3: Medicare Discharges and Payments to Qualifying Hospitals in Two Baseline Years, Fiscal Years 2013 and 2016

Qualifying Hospital	Fiscal year 2013 (baseline year 1)		Fiscal year 2016 (baseline year 2)	
	Number of Medicare discharges	Total Medicare payment (\$ million)	Number of Medicare discharges	Total Medicare payment (\$ million)
Craig Hospital	75	3.69	40	2.70
Shepherd Center	88	4.25	88	4.77

Source: GAO analysis of Medicare claims data. | GAO-19-141

Our simulations indicated how Medicare’s payment policies could have affected these baseline payments to each qualifying hospital:

- Fiscal Year 2017 Blended Site-Neutral Rate Policy:* Discharges that do not meet criteria to receive the standard rate are to receive a blended site-neutral rate—equal to 50 percent of the site-neutral rate and 50 percent of the standard rate. We found that while some of the baseline discharges would qualify for the standard rate, most discharges would have been paid at the blended site-neutral rate. Specifically, 8 to 20 percent of Craig Hospital’s baseline Medicare discharges would have qualified for the standard rate, resulting in simulated payments of about \$3.86 million (baseline year 1) and \$3.22 million (baseline year 2) under blended site-neutral rate policy.

⁴⁰See appendix I for details on the methods used for generating these simulations. These simulations do not project the actual or likely amount that any hospital was paid in fiscal years 2017 and 2018 or would be paid in the future due to important variables that were not known at the time of our analysis.

For Shepherd Center, between 23 percent and 40 percent of baseline Medicare discharges would have qualified for the standard rate, resulting in simulated payments of about \$5.16 million (baseline year 1) and \$5.31 million (baseline year 2). Each of these simulated payments is an increase compared to actual payments made in the baseline years.

- *Fiscal Years 2018 and 2019 Temporary Exception:* The qualifying hospitals are receiving the standard rate for all discharges, due to the temporary exception. As a result, simulated payments under the temporary exception are about \$3.74 million (baseline year 1) and \$3.18 million (baseline year 2) for Craig Hospital and about \$5.64 million (baseline year 1) and \$5.75 million (baseline year 2) for Shepherd Center, which is an increase compared to actual payments made in the baseline years.
- *Fiscal Year 2020 Two-Tiered Payment Rate:* The temporary exception for the qualifying hospitals no longer applies; therefore, the site-neutral rate will apply to discharges not qualifying for the standard rate. We found that both qualifying hospitals would receive some payments at the standard rate, but that most of their discharges would be paid at the lower, site-neutral rate—assuming similar caseloads (e.g., patient mix). As a result, simulated baseline year payments at Craig Hospital are about \$3.47 million (baseline year 1) and \$3.03 million (baseline year 2), and simulated baseline payments to Shepherd are about \$4.42 million (baseline year 1) and \$4.55 million (baseline year 2).⁴¹ The simulated payments therefore decrease compared to those in fiscal year 2019, and also generally decrease compared to actual payments made in the baseline years.
- *Future Years Under 50 Percent Threshold:* Under statute, unless 50 percent or more of the hospital's discharges in cost reporting periods beginning during or after fiscal year 2020 qualify for the standard rate, no subsequent payments will be made to a hospital at that rate in each succeeding cost reporting period.⁴² Most of the baseline year discharges did not qualify for the standard rate, and therefore

⁴¹Our calculation of the site-neutral rate that would apply in fiscal year 2020 did not include the 4.6 percent adjustment that was added by the Bipartisan Budget Act of 2018. See Pub. L. No. 115-123, § 51005(b), 132 Stat. 64, 296 (codified at 42 U.S.C. § 1395ww(m)(6)(B)(iv)).

⁴²As previously noted, while CMS has not yet finalized this policy through rule-making, officials told us it is unlikely that any payment adjustment under this provision would apply until 2022 because the percentage cannot be determined until after an LTCH's cost reporting period has ended and data have been submitted.

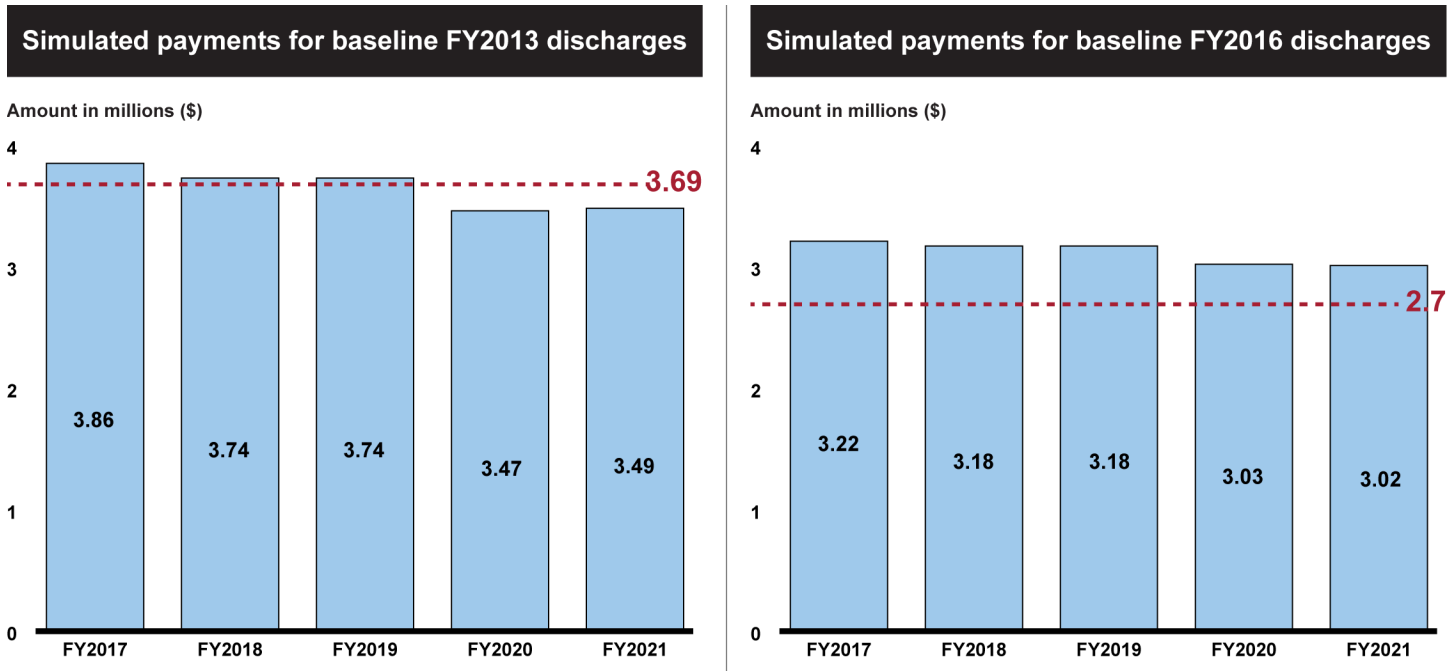
simulated payments are based on the generally lower comparable acute care rate. However, simulated payments stayed about the same between fiscal year 2020 and 2021, in part due to differences in calculations for high-cost outlier payments. A high-cost outlier payment is made to hospitals for those cases that are extraordinarily costly, which can occur because of the severity of the case and/or a particularly long length of stay.⁴³ Specifically, simulated payments were about \$3.49 million (baseline year 1) and \$3.02 million (baseline year 2) for Craig Hospital and about \$4.24 million (baseline year 1) and \$4.16 million (baseline year 2) for Shepherd Center. Without the high-cost outlier payments, the simulated payments would have decreased by at least \$2 million.⁴⁴ If the mix of patients at Craig Hospital and Shepherd Center changes so that they meet the 50 percent threshold in fiscal year 2020, then simulated payments for fiscal year 2021 could be higher. As of September 2018, Craig Hospital officials told us that they expect to meet the 50 percent threshold with their current patient mix. Shepherd Center officials told us they do not expect to meet the 50 percent threshold.

See figures 1 and 2 below for the results of our simulations.

⁴³To qualify for a high-cost outlier payment, a case must have costs above a fixed-loss threshold amount. Hospital-specific cost-to-charge ratios are applied to the covered charges for a discharge to determine whether the costs exceed that threshold.

⁴⁴This decrease would occur in part because the base rates used to calculate Medicare payments differ. For example, the IPPS base payment rate for fiscal year 2018 was about \$6,000 while the base LTCH payment rate was about \$41,000. The base rate is the initial payment level for each discharge, which is then adjusted based on a number of factors, such as geographic location.

Figure 1: Simulations of Medicare Payments for Craig Hospital, Under Payment Policy Applicable to Fiscal Years (FY) 2017 to FY 2021

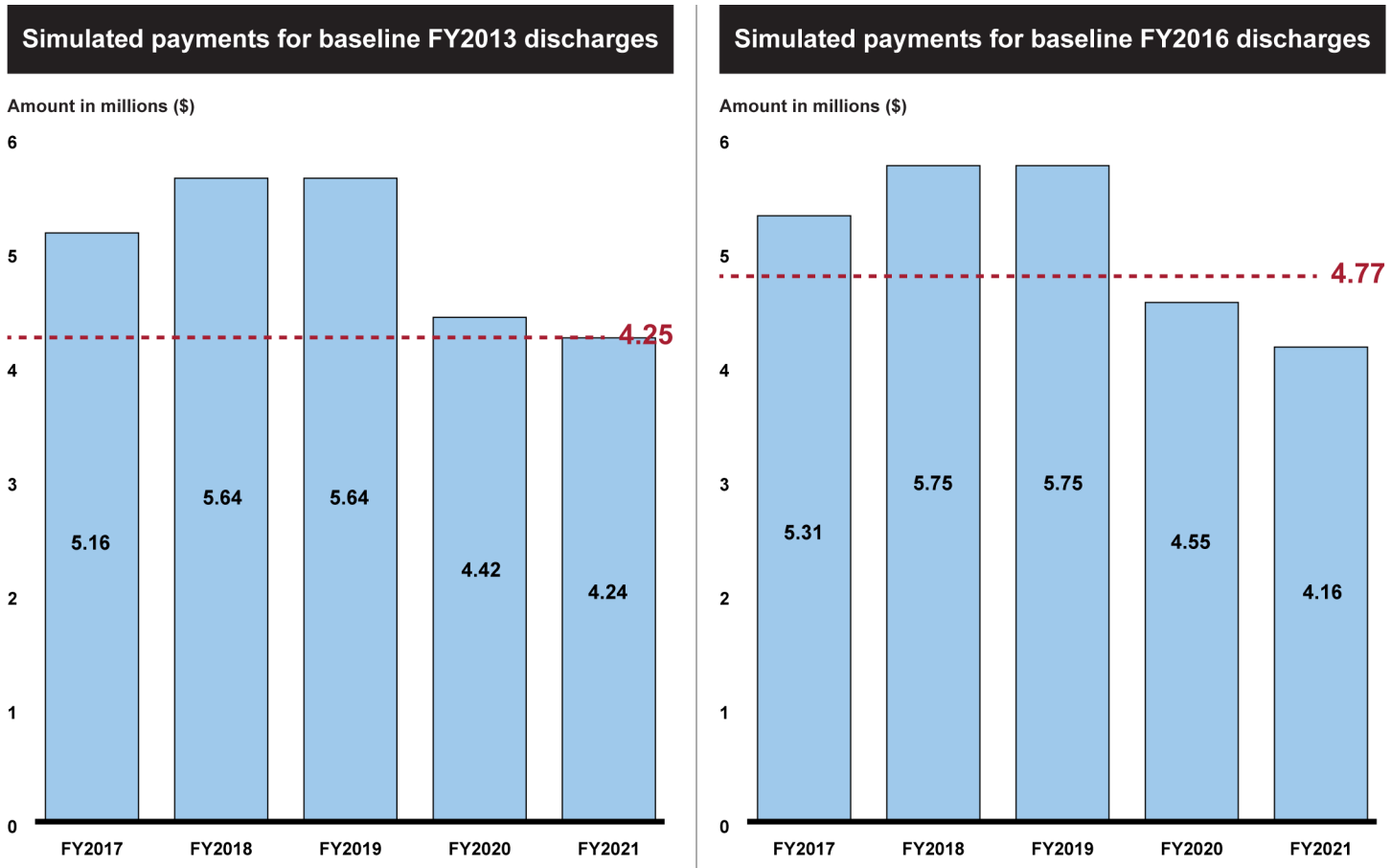


--- Actual payments made in baseline year, in \$ millions
 Amount that would have been paid for discharges in baseline year if payment rule from listed fiscal year applied

Source: GAO analysis of Centers for Medicare & Medicaid Services' Medicare claims data. | GAO-19-141

Note: Our simulations calculate what the qualifying hospitals would have been paid by Medicare in two baseline years—FY 2013 and FY 2016—if applicable payment policies from future years were applied to those discharges. For example, if payment policies from FY 2018 were applied to FY 2013 discharges then Craig Hospital would have been paid \$3.74 million. However, these values may understate or overstate the effect of payment policy to the extent that the number of and types of discharges at these hospitals change in the future.

Figure 2: Simulations of Medicare Payments for Shepherd Center, Under Payment Policy Applicable to Fiscal Years (FY) 2017 to FY 2021



--- Actual payments made in baseline year, in \$ millions
 Amount that would have been paid for discharges in baseline year if payment rule from listed fiscal year applied

Source: GAO analysis of Centers for Medicare & Medicaid Services' Medicare claims data. | GAO-19-141

Note: Our simulations calculate what the qualifying hospitals would have been paid by Medicare in two baseline years—FY 2013 and FY 2016—if applicable payment policies from future years were applied to those discharges. For example, if payment policies from FY 2018 were applied to FY 2013 discharges then Shepherd Center would have been paid \$5.64 million. However, these values may understate or overstate the effect of payment policy to the extent that the number of and types of discharges at these hospitals change in the future.

Our simulations of payments assume the number and type of Medicare discharges at the two qualifying hospitals remain the same as those in fiscal years 2013 and 2016. However, the full effect of payment policy on

future Medicare payments to the qualifying hospitals will depend on three key factors that are subject to change:

1. **Severity of patient conditions:** Medicare payment is typically higher for more severe injuries, such as a traumatic injury with major comorbidities or complications, relative to less severe injuries. In the two baseline years we used for our simulations—fiscal year 2013 and fiscal year 2016—more than half of the Medicare discharges at the qualifying hospitals were associated with conditions with multiple comorbidities and complications, as indicated by the diagnosis groups, and this level of severity is reflected in the simulation results. Future payments to qualifying hospitals will depend on the extent to which the severity of patient conditions changes over time.
2. **Volume of discharges meeting criteria for the standard rate:** As previously noted, for a hospital to receive the standard rate for a discharge, the discharge must meet certain criteria, such as having a preceding acute care hospital stay with either an intensive care unit stay of at least 3 days or an assigned diagnosis group based on the receipt of at least 96 hours of mechanical ventilation services in the LTCH.⁴⁵ Our simulations reflect that in the two baseline years, about 23 percent of the fiscal year 2013 discharges and about 40 percent of the fiscal year 2016 discharges met the criteria to receive the standard rate for Shepherd Center; and about 8 percent of the fiscal year 2013 discharges and about 20 percent of the fiscal year 2016 discharges met the criteria for Craig Hospital. Changes to these amounts could affect future payments to the qualifying hospitals. In particular, if 50 percent or more of either hospital's discharges beginning in fiscal year 2020 meet the standard rate criteria, then the hospitals would be eligible for payments at the standard rate in fiscal year 2021, which may result in higher payments compared to our simulations.
3. **Payment adjustments:** LTCHs may receive a payment adjustment for certain types of discharges, such as short-stay outliers, interrupted stays, or high-cost outliers. In particular, most discharges at Craig Hospital received high-cost outlier payments (additional payments for extraordinarily costly cases) during the two baseline years—76 percent in fiscal year 2013 and 85 percent in fiscal year 2016. At Shepherd Center, at least 40 percent of discharges during the two baseline years received high-cost outlier payments—about 42 percent

⁴⁵42 U.S.C. § 1395ww(m)(6)(A)(i).

in fiscal year 2013 and about 58 percent in fiscal year 2016. The amount of future payments to qualifying hospitals will depend on the extent to which they continue to have a high proportion of discharges with high-cost outlier payments.

Qualifying Hospitals and Some Stakeholders Reported that Payment Policies May Result in Fewer Services Provided and Fewer Patients Served by LTCHs

In addition to the effect on payments, officials from both qualifying hospitals and some stakeholders we interviewed noted that the LTCH site-neutral payment policies may result in fewer services provided and fewer patients served by the qualifying hospitals and other LTCHs. For example, officials from Craig Hospital told us they stopped providing post-operative care to patients requiring spinal surgery, such as patients with syringomyelia, in 2016—instead referring them to other facilities—in part because these discharges do not meet the criteria for the standard rate. As of September 2018, they told us they do not plan to provide this care in the future unless the temporary exception is extended. Officials from Shepherd Center told us while they have not yet made changes to services they offer to Medicare patients, they may limit which Medicare beneficiaries they serve in the future. For example, they told us that most of their Medicare beneficiaries were admitted from home or sought care in their outpatient clinic. When the temporary exception expires after fiscal year 2019, hospital officials expected that these patients will not qualify for the standard rate. Shepherd Center officials said they may not be able to serve similar patients in future years.

MedPAC officials and some stakeholders—a specialty association and health care providers with experience treating patients with similar conditions at other LTCHs—told us that some LTCHs have changed the services they offer and the patients they treat to increase the proportion of discharges that qualify for the standard rate. For example,

- MedPAC officials cited reports that indicate how some LTCHs have adjusted to the site-neutral policies. For example, a 2018 MedPAC report indicated that LTCHs in one large for-profit chain were able to make adjustments so that, as of September 30, 2016, close to 100 percent of their Medicare discharges met the criteria to receive the standard rate.⁴⁶
- A representative from an LTCH association told us that many LTCHs have adjusted their patient mix by increasing the number of

⁴⁶Medicare Payment Advisory Commission, *Report to the Congress: Medicare Payment Policy* (Washington, D.C.: March 15, 2018).

discharges that meet criteria for the standard rate and turning away some Medicare beneficiaries to reduce the number of discharges subject to the site-neutral rate. The representative noted that certain LTCHs have already been able to adjust their patient mix because they have existing programs in place that focus on chronic, critically ill patients who would have a preceding acute care hospital stay. The representative told us that some LTCHs specialize in care for patients who do not meet the criteria to receive the standard rate and would generally be paid at the site-neutral rate; therefore, changing their patient mix is not a viable strategy for these LTCHs. According to the stakeholder, as of February 2018, about two-thirds of all LTCHs are above the 50 percent threshold.

- Providers from another LTCH told us that before the site-neutral payment policy went into effect, only about 40 to 45 percent of its discharges met criteria for the standard rate. However, they worked to ensure most patients referred to the LTCH would qualify for the standard rate. Officials told us patients who do not meet the criteria for that rate typically either stay longer in the acute care hospital or are transferred to a different post-acute care setting, such as a skilled nursing facility. Officials noted that, in both cases, the patient may not receive the specialized services often required for their injuries, including those patients with spinal cord or brain injuries.
- A provider we interviewed from another LTCH said that, historically, the LTCH has accepted patients who acquire pressure ulcers at home following discharge, but they may choose not to continue this practice because the patients' discharges would not meet the criteria to receive the standard rate.

A few of these stakeholders told us some LTCHs are in markets that do not have alternative providers of care, such as skilled nursing facilities, for patients who do not meet the criteria. These LTCHs may have difficulty adjusting their patient mix to avoid site-neutral payments. For example, a provider from one LTCH said his facility continues to take "site-neutral patients" because those patients often do not have another option to receive the specialized services they need. The provider emphasized concerns about the long-term viability of caring for those patients at the facility, because their care is paid at lower rates.

Similarities and Differences May Exist Between the Two Qualifying Hospitals and Other Facilities that Treat Medicare Patients with Spinal Cord and Brain Injuries

The Two Qualifying Hospitals Treat Patients with Conditions Different Than Those at Most Other LTCHs, and Treat Fewer Medicare Patients

Our review of Medicare claims data, other information, and interviews with stakeholders indicated the two qualifying hospitals treated Medicare beneficiaries with different conditions than most of those treated at other LTCHs. Our analysis of Medicare claims data indicates Craig Hospital and Shepherd Center treat very few patients in the Medicare diagnosis groups that are most common to other LTCHs. Specifically, for several years, MedPAC has reported that LTCH patient discharges are concentrated in a relatively small number of diagnosis groups. For example, in March 2018, MedPAC reported that 20 diagnosis groups accounted for over 61 percent of LTCH discharges at both for-profit and not-for-profit facilities, in fiscal year 2016.⁴⁷ However, in fiscal year 2016, these diagnosis groups accounted for approximately 30 percent of Medicare discharges—26 out of 88—at Shepherd Center, and most of these discharges fell within a single diagnosis group which covers a range of conditions.⁴⁸ Craig Hospital did not discharge any Medicare beneficiaries assigned to these 20 diagnosis groups, in fiscal year 2016. The seven diagnosis groups that were used in the statutory criteria to except Craig Hospital and Shepherd Center from site-neutral payments were also not among these 20 diagnosis groups. For more information on the 20 diagnosis groups common to LTCHs in fiscal year 2016, see Appendix III, table 5.

⁴⁷Medicare Payment Advisory Commission, *Report to the Congress: Medicare Payment Policy* (Washington, D.C.: March 15, 2018).

⁴⁸This group is MS-LTC-DRG 981, Extensive OR procedure unrelated to principal diagnosis with MCC.

Our review of Medicare claims data and other information indicates the two qualifying hospitals also treat a relatively small number of Medicare beneficiaries, a key distinguishing factor from most other LTCHs. In March 2018, MedPAC reported that, on average, Medicare beneficiaries account for about two-thirds of LTCH discharges.⁴⁹ However, Medicare claims data and other information provided by the two qualifying hospitals indicate Medicare beneficiaries account for a significantly smaller proportion (about 8 percent) of patients discharged from Craig Hospital and Shepherd Center in 2016. Specifically, 40 of the 486 patients discharged from Craig Hospital in fiscal year 2016 and 75 of the 912 patients discharged from Shepherd Center in calendar year 2016, were Medicare beneficiaries.⁵⁰ Officials from the qualifying hospitals told us they treat few Medicare patients primarily because of the younger average age of persons with spinal cord injuries and acquired brain injuries.⁵¹

While patients with spinal cord and brain injuries may receive care in other LTCHs, most stakeholders we interviewed also suggested the two qualifying hospitals treat patients that are different from those treated at most other LTCHs, and can offer specialized care. Officials from the two qualifying hospitals told us that, relative to most other facilities—including most traditional LTCHs—they offer a more complete continuum of care to meet the needs of patients at different stages of spinal cord and brain injury treatment, without the need to transfer to different facilities. Officials also stated that, unlike most traditional LTCHs, they are able to offer more specialized care for patients with spinal cord and brain injuries, including more comprehensive rehabilitation services. Stakeholders we interviewed generally agreed that the two qualifying hospitals have developed expertise in treating spinal cord and brain injury patients and offer

⁴⁹Medicare Payment Advisory Commission, *Report to the Congress: Medicare Payment Policy* (Washington, D.C.: March 15, 2018).

⁵⁰Shepherd Center provided calendar year data for total number of patients, noting that providing fiscal year data would require an extensive resource investment. Therefore, we report the total number of Medicare discharges for the same period.

⁵¹The average age of injury for persons with spinal cord injury is 43, nationally. See National Spinal Cord Injury Statistical Center, *Spinal Cord Injury Facts and Figures at a Glance* (Birmingham, Alabama: 2018). The average age of injury for persons with traumatic brain injury and who received inpatient rehabilitation is 42, nationally. See National Data and Statistical Center Traumatic Brain Injury Model Systems, *National Database: 2018 Profile of People within the Traumatic Brain Injury Model Systems* (Englewood, Colorado: June: 2018).

intensive rehabilitation services that are not provided in most other LTCHs. In addition, officials from the Colorado Department of Health Care Policy & Financing noted that Craig Hospital treats a patient population that is different from most other LTCHs in the state of Colorado.⁵² Specifically, according to officials, in comparison to other LTCHs in the state, Craig Hospital treats: (1) a higher percentage of patients with more severe conditions, (2) more patients from outside the state of Colorado, (3) fewer patients requiring ventilator weaning or requiring wound care—conditions typically characteristic of LTCH patients—and (4) patients that are, on average, younger than most other LTCHs in the state of Colorado. In addition, a 2014 study of LTCHs conducted for the Georgia Department of Community Health found Shepherd Center was “distinctly different” from other LTCHs in the state of Georgia, and most LTCHs nationwide.⁵³

Patients with Conditions Treated at Qualifying Hospitals Could Also Receive Care in IRFs, But Differences in Payment Systems and Data Limitations Make a Direct Comparison Difficult

Most stakeholders we interviewed suggested some IRFs provide specialty care to patients with catastrophic spinal cord, acquired brain injuries, or other paralyzing neuromuscular conditions. Most of the stakeholders we interviewed noted that—like the two qualifying hospitals—some IRFs have the expertise to treat patients with catastrophic spinal cord, acquired brain injuries, or other paralyzing neuromuscular conditions patients and thus, may also treat patients with similar conditions. According to CMS officials, IRFs are specifically designed to provide post-acute rehabilitation services to patients with spinal cord injuries, brain injuries, and other neuromuscular conditions. CMS officials noted that patients with these conditions typically respond well to intensive rehabilitation therapy provided in a resource intensive inpatient hospital environment and to the specific interdisciplinary approach to care that is provided in the IRF setting. Stakeholders also noted that patients with spinal cord injuries, brain injuries, and other neuromuscular conditions may receive care in other settings. However,

⁵²The Colorado Department of Health Care Policy & Financing is responsible for administering the state’s Medicaid program.

⁵³See Georgia Department of Community Health, *Analysis of Long-Term Acute Care and Rehabilitation Facility Services for Medicaid* (Atlanta, Georgia: Georgia Health Policy Center, July 2014). The Georgia Department of Community Health is responsible for licensing, certifying and overseeing health care facilities in Georgia, and administering the state’s Medicaid program, among other responsibilities. Officials from this department told us that Shepherd Center is different from other LTCHs in the state of Georgia in that it has a unique patient mix.

some stakeholders noted that some of these providers—such as skilled nursing facilities—generally do not offer the specialized care these patients generally require.

Differences in payment systems and data limitations make it difficult to directly compare the attributes of Medicare beneficiaries discharged from the two qualifying hospitals and IRFs, including the costs of care they receive. Medicare uses separate payment systems to pay LTCHs and IRFs, for care provided to beneficiaries. LTCHs are paid pre-determined fixed amounts for care provided to Medicare beneficiaries, under the LTCH PPS. Medicare beneficiaries treated in LTCHs are assigned to diagnosis groups (MS-LTC-DRGs) for each stay—based on the patient’s primary and secondary diagnoses, age, gender, discharge status, and procedures performed. IRFs are also paid pre-determined fixed amounts for care provided to Medicare beneficiaries, but under a separate system—IRF PPS. Medicare beneficiaries treated in IRFs are assigned to case-mix groups—based on age, and level of motor and cognitive function—and then further assigned to one of four tiers (within these groups) based on the presence of specific comorbidities that may increase their cost of care.⁵⁴ According to CMS officials, because the payment groups and assignments to those groups are different, it is difficult to directly compare LTCH patients, classified in diagnosis groups, with IRF patients, classified in case-mix groups. See Appendix II for more information on these payment systems.

MedPAC has previously reported the differences in patient assessment tools used by post-acute care providers undermines Medicare’s ability to compare the patients admitted, costs of care, and outcomes beneficiaries achieve in these settings, on a risk-adjusted basis.⁵⁵ MedPAC has also reported that while similar beneficiaries can receive care in each setting, payments can differ considerably for comparable conditions, due to differences in payment systems. It has made recommendations to

⁵⁴Medicare beneficiaries treated in IRFs are initially assigned to broader patient groups—or rehabilitation impairment categories—prior to being assigned to a case-mix group. The rehabilitation impairment category assignment is based on the patient’s primary reason for admission to the IRF. However, Medicare payment is based on the case-mix groups and corresponding tier assignment. In the absence of patient specific data, our analyses of patients treated in IRFs included a review of rehabilitation impairment category assignments at these facilities, as reported by Medicare.

⁵⁵Medicare’s four post-acute care providers include: skilled nursing facilities, home health agencies, IRFs, and LTCHs. See Medicare Payment Advisory Commission, *Report to the Congress: Medicare Payment Policy* (Washington, D.C.: March 15, 2018).

address these issues.⁵⁶ The Improving Medicare Post-Acute Care Transformation Act of 2014 also requires the Secretary of HHS to collect and analyze common patient assessment information and, in consultation with MedPAC, submit a report to Congress recommending a post-acute care PPS.⁵⁷ Such efforts may make future comparison of beneficiaries, costs of services, and outcomes of care across these settings possible.

Some Information Suggests Similarities and Differences Between Qualifying Hospitals and IRFs that Specialize in Spinal Cord and Brain Injuries

While data limitations make a direct comparison difficult, based on our review of other data and information, and interviews with stakeholders, we identified similarities and differences between the qualifying hospitals and certain IRFs that provide specialty treatment for catastrophic spinal cord injuries, acquired brain injuries, or other paralyzing neuromuscular conditions. Key similarities and differences include the following:

Volume of services. Our review of Medicare claims data, other information, and interviews with stakeholders indicate that—similar to the two qualifying hospitals—some IRFs treat a high volume (at least 100) of patients with complex spinal cord injury, brain injury, and other related conditions. Officials from the two qualifying hospitals, as well as some other stakeholders we interviewed—including officials from the Christopher & Dana Reeve Foundation and the Brain Injury Association of America—emphasized the importance of facilities treating a high volume of patients with these specialized conditions, which can be an indicator of expertise in treating these patients. Our review of Medicare claims data for 1,148 IRFs in fiscal year 2016 identified 21 IRFs that treated at least 100 Medicare beneficiaries with non-traumatic and traumatic spinal cord injuries and 109 IRFs that treated at least 100 Medicare beneficiaries with non-traumatic and traumatic brain injuries.

Our review of Medicare claims data indicated that, similar to the two qualifying hospitals—some IRFs also treat a high volume of patients with “catastrophic” injuries—traumatic brain injury, traumatic spinal cord injury,

⁵⁶Medicare currently uses separate PPSs to pay for care provided by skilled nursing facilities, home health agencies, IRFs, and LTCHs. Skilled nursing facilities provide short-term skilled care (nursing or rehabilitation services) on an inpatient basis; beneficiaries who receive care in skilled nursing facilities are classified into resource utilization groups, on which payment is based. Home health agencies provide skilled nursing care, therapy, medical social work, and other services in beneficiaries’ home; beneficiaries who receive care from home health agencies are classified into home health resource groups.

⁵⁷See IMPACT Act of 2014, Pub. L. No. 113-185, § 2(b)(1), 128 Stat. 1952, 1961.

and major multiple traumas with brain or spinal cord injuries. Specifically, we identified 25 IRFs that treated a high volume (at least 100) of Medicare beneficiaries with catastrophic injuries, in fiscal year 2016. In the absence of patient assessment data from the facilities, we did not independently evaluate the level and severity of these patients' injuries, which can vary due to the presence of other co-morbid conditions. The Medicare case mix indexes we reviewed for these 25 IRFs indicated that, relative to other IRFs, most of these facilities treat patients who are more resource intensive.

Specialty accreditation and designation as model systems. Like Shepherd Center, some IRFs receive CARF-accreditation for specialty programs to treat spinal cord and brain injuries. According to most stakeholders, this accreditation indicates expertise in treating these patients, as CARF International has established standards using evidence-based practices, among other factors. Officials from the two qualifying hospitals also noted CARF International has a specific focus on quality and outcomes. However, officials from Shepherd Center noted similarities in care and services offered at CARF-accredited facilities would depend on the specialties for which they are certified.⁵⁸

Most of the stakeholders we interviewed also noted that designation as a NIDILRR model system is an indicator of similar expertise in treating patients with spinal cord and brain injuries. According to the Model Systems Knowledge Translation Center, spinal cord injury and brain injury model systems are recognized as national leaders in medical research and patient care and provide the highest level of comprehensive specialty services from the point of injury through eventual re-entry into full community life. While stakeholders we interviewed from NIDILRR model systems indicated the model system designation is focused primarily on research, rather than clinical care, most noted that model systems' research often complements the facilities' clinical efforts to address the unique needs of these patients. Officials from HHS's Administration for Community Living also noted that all model system grantees must provide a continuum of care—emergency care, acute medical care, acute medical rehabilitation, and post-acute care—and that can happen in various provider types. According to officials from the

⁵⁸Craig Hospital does not currently have CARF-accredited programs, but is accredited by the Joint Commission. According to officials, Craig Hospital prefers the Joint Commission accreditation, given their state designation as a general hospital. Colorado does not have separate designations for LTCHs.

qualifying hospitals and stakeholders from one other NIDILRR model system we interviewed, Craig Hospital and Shepherd Center are the only two LTCHs currently classified as spinal cord injury model systems; 12 of 14 spinal cord injury model systems are IRFs.⁵⁹

Specialized programs and services. Similar to the two qualifying hospitals, some IRFs may also offer specialized programs and services for patients with brain and spinal cord injuries, but the availability of these programs and services may vary by facility. Officials from some of the IRFs that responded to our information request—which included both NIDILRR facilities and IRFs with CARF-accredited programs—told us they provide specialized programs and services for patients with similar conditions as those treated at two qualifying hospitals, and sometimes compete with the two qualifying hospitals for the same patients. For example, each IRF reported having interdisciplinary treatment teams; the capacity to provide medical management of medically complex and high acuity patients with spinal cord injury, traumatic brain injury, or other major multiple traumas associated with a brain or spinal cord injury; family education and training; and skin and wound programs or services, among other services. However, the availability of certain services—including but not limited to ventilator-dependent weaning programs, diaphragmatic pacing, and outpatient programs for spinal cord and traumatic brain injury patients—varied by facility.

Staff with specialized training and clinical expertise. Similar to the two qualifying hospitals, most facilities that responded to our information request also reported having physicians, nurses, and physical and occupational therapists with specialty training in medical rehabilitation, spinal cord, and/or brain injury. However, the number of staff with these trainings, varied by facility.⁶⁰ In comparison to the other facilities that responded to our information request, the number of nurses and physical and occupational therapists with these specialty trainings were generally higher at Craig Hospital and Shepherd Center. According to an American Spinal Injury Association consumer guideline that the Christopher & Dana

⁵⁹Although there are only 14 facilities currently designated as spinal cord injury model systems, other legacy grantees may conduct follow-up and contribute to the model systems' longitudinal database. According to officials from HHS's Administration for Community Living, NIDILRR does not keep track of the facility's provider type (e.g., LTCH or IRF) because it is not considered when awarding the model system grant.

⁶⁰Information on programming and staffing reported by the facilities that responded to our information request are current, as of summer 2018.

Reeve Foundation typically provides to spinal cord injury patients and families, programs should regularly admit persons with spinal cord injury each year, to develop and maintain the necessary skills to manage a person with spinal cord injury, and a substantial portion of those admitted should have traumatic injuries.⁶¹

Out-of-state Admissions. Officials from the two qualifying hospitals emphasized they admit a significant number of patients from out-of-state, and our review of information provided by the qualifying hospitals and a select group of IRFs indicated the qualifying hospitals admit a higher percentage of patients from out-of-state. Specifically, information provided by these IRFs indicates that less than a quarter of patients admitted to these facilities, in 2016, were from out-of-state. Information provided by Craig Hospital and Shepherd Center indicate that about half of their patients were admitted from out-of-state in 2016.⁶² Officials from the Colorado Department of Health Care Policy & Financing also noted Craig Hospital treats a higher percentage of out-of-state patients, compared to IRFs in the state.

Ability to treat medically complex patients. Officials from the two qualifying hospitals told us they treat more medically complex patients and provide a more complete range of medical services to spinal cord and brain injury patients, not provided by most IRFs. Specifically, officials from the two qualifying hospitals both noted they are able to treat patients much sooner in their recovery process than most IRFs, due to their LTCH status. Officials from the Shepherd Center noted that they have a 10-bed

⁶¹According to this guideline, parents of children with a spinal cord injury should also consider whether rehabilitation programs are age-appropriate. Specifically, this guideline recommends these patients seek care in centers that admit between 5 to 10, new traumatic spinal cord injury patients, each year, and that have rehabilitation programs for children with other traumatic injuries such as brain injury. For more information on this guideline, see American Spinal Injury Association. *Consumer Guidelines for SCI Rehabilitation* accessed August 22, 2018, http://asia-spinalinjury.org/wp-content/uploads/2016/02/Consumer_Guidelines_SCI_Rehab.pdf.

⁶²Information provided by the IRFs that responded to our information request indicates these facilities treated between 640 and 2,789 patients in federal fiscal year 2016, for all payers (i.e. Medicare and other third party payers). Shepherd Center and Craig hospital reported they discharged 912 and 486 patients in calendar year and federal fiscal year 2016, for all payers, respectively.

Information from most IRFs and Craig Hospital on out-of-state admissions was for federal fiscal year 2016. Shepherd Center provided information on out-of-state admissions for calendar year 2016, and one IRF provided information based on a different fiscal year 2016.

intensive care unit which allows them to take patients with certain injuries that some IRFs may not be equipped to admit—such as patients requiring advanced medical management and advanced level procedural services and monitoring. Information provided by Shepherd Center indicated that, in calendar year 2017, approximately 20 percent of all inpatients were admitted to this unit and 13 percent of all inpatients were internally transferred to this unit after developing medical complications. According to officials, Craig Hospital does not have an intensive care unit, but noted their ability to similarly care for medically complex patients—including telemetry (e.g., specialized heart monitoring) and one-to-one nursing care, if necessary. Most stakeholders we interviewed agreed that both qualifying hospitals' LTCH status provides certain advantages over IRFs, such as the ability to admit some medically complex patients earlier in the recovery process and longer lengths of stay. Stakeholders from most of the IRFs we interviewed also reported having the flexibility to admit some medically complex patients requiring more advanced level monitoring and resources earlier in the recovery process—such as patients with disorders of consciousness.

Officials from the two qualifying hospitals also said they offer a continuum of care that can meet patient's changing needs, without the need to transfer them to different facilities. Information provided by Craig Hospital indicated that 83 percent of patients treated at its facility, in 2016, were discharged to home, 13 percent were discharged to another post-acute care facility, and 3 percent were discharged to an acute care hospital. In 2016, approximately 91 percent of patients treated at Shepherd Center were discharged to home, 7 percent were discharged to another post-acute care facility, and 2 percent were discharged to an acute care hospital. Information provided by the IRFs that responded to our written request varied by facility, but—similar to the two qualifying hospitals—each facility discharged more than 65 percent of patients to home.⁶³

IRF payment criteria. CMS and most other stakeholders we interviewed noted that two Medicare payment policies applicable to IRFs, but not

⁶³Specifically, in 2016, between 65 and 94 percent of patients treated at these facilities were discharged to home, between 0 and 22 percent of patients were discharged to another post-acute care facility, and between 9 and 20 percent were discharged to an acute care hospital. Information reported by Shepherd Center represented out-of-state admissions for all payers, during calendar year 2016. Information reported by other hospitals—including Craig Hospital—represented out-of-state admissions for all payers, during federal fiscal year 2016. Information reported by facilities are for all payers (i.e. Medicare and other third party payers).

LTCHs, may contribute to their different patient populations. Specifically, to be classified for payment under Medicare’s IRF PPS, at least 60 percent of the IRF’s total inpatient population must require intensive rehabilitative treatment for one or more of 13 conditions—which includes both spinal cord and brain injury.⁶⁴ To be admitted to an IRF, Medicare beneficiaries must reasonably be expected to actively participate in and benefit from the intensive rehabilitation therapy program, typically provided in IRFs. According to HHS, per industry standard, the intensive rehabilitation therapy program is often demonstrated by providing three hours of rehabilitation services per day for at least five days per week, but this is not the only way such intensity can be demonstrated.⁶⁵ Officials from the two qualifying hospitals told us they generally use Medicare’s intensive rehabilitation requirement as a minimum standard for their rehabilitation patients—even though they are not held to this requirement, for the purposes of Medicare payment—but noted that some of their patients may not meet this requirement, due to their medical complexity.

Length of stay and site-neutral payment requirements, for LTCHs. As previously noted, LTCHs—including the two qualifying hospitals—must have an average length of stay of greater than 25 days; IRFs are not subject to this requirement.⁶⁶ The average length of stay for patients discharged from the Craig Hospital was about 60 days, in fiscal year 2016, and the average length of stay for patients discharged from Shepherd Center was about 53 days, in calendar year 2016.

⁶⁴See 42 C.F.R. § 412.29(b)(2) for a comprehensive list of these conditions.

⁶⁵This intensity can also be demonstrated in several other ways (based on the patient’s tolerance) as long as the reasons for the patient’s periodic need for the IRF program is well-documented in the patient’s medical record, the overall amount of therapy is intensive, and can reasonably be expected to benefit the patient. See Centers for Medicare & Medicaid Services. *Clarifications for the IRF Coverage Requirements* (Baltimore, Maryland).

Medicare beneficiaries must also meet certain other criteria, at admission, to demonstrate IRF level care is reasonable and necessary. For example, Medicare beneficiaries must require active and ongoing therapy in at least two modalities, one of which must be physical or occupational therapy; and must be sufficiently stable at the time of admission to actively participate in the intensive rehabilitation program. See Centers for Medicare & Medicaid Services. *Pub 100-02 Medicare Benefit Policy Manual: Chapter 1- Inpatient Hospital Services Covered Under Part A, Section 110 Inpatient Rehabilitation Facility (IRF) Services* (Baltimore, Maryland: March 2017).

⁶⁶According to CMS officials, the 25-day average length of stay requirement is only based on Medicare fee-for-service patients and does not include site-neutral cases or Medicare Advantage cases.

Stakeholders from the IRFs that responded to our information request reported average lengths of stay ranging from 14 to 31 days, for patients discharged in fiscal year 2016; the ranges of lengths of stay were slightly higher for spinal cord injury and traumatic brain injury inpatients for the IRFs, during the same period. LTCHs are also generally subject to site-neutral payment policy that is not applicable to IRFs and may decrease LTCHs payments for certain discharges, under Medicare.

Other services provided. In addition to these Medicare specific differences, a few stakeholders we interviewed also noted the two qualifying hospitals receive additional funding from their strong philanthropic donor base that may allow them to provide other services and resources, not covered by Medicare or offered at some IRFs. For example, while a few IRFs that responded to our information request reported offering housing for families of injured patients, the two qualifying hospitals offer up to 30 days of free housing to families of newly injured rehabilitation patients, if both the family and patient live more than 60 miles from the hospital. Officials from Shepherd Center told us their revenues are supplemented by investment income and donor funds. Craig Hospital has also established a foundation that supports the hospital in achieving its goals through philanthropy.

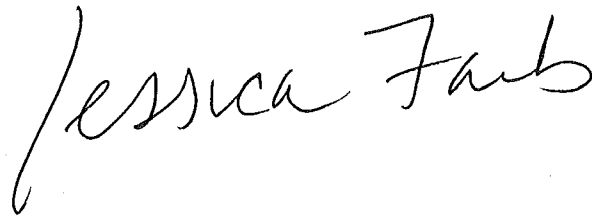
Agency Comments

We provided a draft of this report to HHS. HHS provided technical comments, which we incorporated as appropriate. We also provided the two qualifying hospitals summaries of information we collected from them, to confirm the accuracy of statements included in our draft report. We incorporated their comments, as appropriate.

We are sending copies of this report to the Secretary of Health and Human Services and other interested parties. In addition, the report will be available at no charge on GAO's website at <http://www.gao.gov>.

If you or your staff have any questions about this report, please contact me at (202) 512-7114 or at farbj@gao.gov. Contact points for our Office of Congressional Relations and Office of Public Affairs can be found on

the last page of this report. Other major contributors to this report are listed in appendix IV.

A handwritten signature in black ink that reads "Jessica Farb". The signature is written in a cursive, flowing style.

Jessica Farb
Director, Health Care

Appendix I: Methodology for Simulating Payments to Qualifying Hospitals

This appendix describes our methodology for conducting simulations of payments for the two qualifying hospitals.

Simulations of Payments

We used Medicare claims data to conduct simulations of payments for the two qualifying hospitals. We first identified discharges at each hospital in two baseline years—federal fiscal years 2013 and 2016.¹ We selected fiscal year 2016 because it was the year with the most recent data available at the time of our analysis, and we selected a second baseline year because data for 2016 was different than data for other recent years. For example, the number of discharges for one qualifying hospital declined by nearly half between fiscal years 2013 and 2016. We chose fiscal year 2013 because data from that year was used to help determine which hospitals are subject to the temporary exception.

To identify how to appropriately calculate the long-term care hospital (LTCH) payment for each of these discharges in future payment years, we reviewed applicable federal regulation and documents from the Centers for Medicare & Medicaid Services (CMS) and the Medicare Payment Advisory Commission (MedPAC), and interviewed officials from both organizations.² See table 4 for the relevant components in the formulas, such as Medicare severity long-term care diagnosis related group (MS-LTC-DRG) weights, identified from final rule tables.

¹While Craig Hospital uses the federal fiscal year for cost reporting purposes, Shepherd Center does not. Therefore, the information we report for Shepherd Center in fiscal year 2016 may differ from the data reported during their cost reporting period (April 1, 2015 through March 31, 2016).

²For more information see Medicare Program IPPS FY2017 Rates, 81 Fed. Reg. 56,761 (Aug. 22, 2016) and Medicare Program IPPS FY2018 Rates, 82 Fed. Reg. 37,990 (Aug. 14, 2017), available at <https://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/AcuteInpatientPPS/FY2017-IPPS-Final-Rule-Home-Page.html>, accessed on October 5, 2018, and at <https://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/AcuteInpatientPPS/FY2018-IPPS-Final-Rule-Home-Page.html>, accessed on October 5, 2018. See also Medicare Payment Advisory Commission, *Long-term Care Hospital Payment System: Payment Basics* (Washington, D.C.: October 2017); and Medicare Payment Advisory Commission, *Hospital Acute Inpatient Services Payment System: Payment Basics* (Washington, D.C.: October 2017).

Table 4: Key Components of Formulas GAO Used for Simulations of Payments

Components of Long-Term Care Hospital Prospective Payment System Formula	Components of Inpatient Prospective Payment System Formula
Base rates (labor and non-labor related portion)	Based rates (labor and non-labor related portion)
Wage index	Wage index
MS-LTC-DRG Relative Weight	Geographic adjustment factor
Short-stay outlier threshold	MS-DRG weight
Fixed-loss amount	Fixed-loss amount
Geometric mean length of stay	

Source: GAO review of federal regulation and MedPAC documents. | GAO-19-141

When conducting these simulations, we made the following assumptions:

- For simulated payments for payment policies in effect for fiscal years 2017 and 2018, we used the base rates, relative weights (e.g., the MS-LTC-DRG weights), geometric mean length of stay, wage index, geographic adjustment factor, fixed-loss amounts, and outlier thresholds that were published in the final rule tables for LTCH and inpatient prospective payment system (IPPS) hospitals—also known as acute care hospitals—for each respective year. At the time we began our analysis, this information was not known for fiscal years 2019 through 2021. We chose to use the fiscal year 2018 rates when conducting simulations for payment policies in those years because historical trends showed that annual changes were minimal—about 1 percent. Therefore, to the extent that these values continue to change over time, our findings may understate or overstate the amount that the qualifying hospitals would have been paid in our baseline years based on these future payment policies.
- The site-neutral payment policy did not apply to discharges from the fiscal year 2013 baseline year. Therefore, we examined Medicare claims data to determine whether each discharge would have met the criteria to receive the LTCH standard rate in that year. Specifically, we determined whether each discharge had an acute care hospital stay that immediately preceded their LTCH stay. We then determined whether the time at the acute care hospital included three or more days in the intensive care unit or whether there was a code on the LTCH claim that indicated at least 96 hours of mechanical ventilation services were provided. Per Medicare’s payment policy, we assumed any discharge that met these two criteria would qualify for full LTCH payment rate, unless the case was a psychiatric or rehabilitation stay,

as identified by the following MS-LTC-DRG codes: 876, 880, 881, 882, 883, 884, 885, 886, 887, 894, 895, 896, 897, 945, or 946.

- Under statute, unless 50 percent or more of the hospital's discharges beginning during or after 2020 qualify for the standard rate, no subsequent payments will be made to a hospital at that rate. Therefore, when calculating simulated payments for fiscal year 2021, we applied the 50 percent threshold. At the time of our analysis, CMS had not yet finalized this policy through rule-making. As of November 2018, CMS officials told us that it is unlikely that any payment adjustment under this provision would apply until 2022 because the percentage cannot be determined until after an LTCH's cost reporting period has ended and data have been submitted.
- Shepherd Center's fiscal year is different than the federal fiscal year. Therefore, the variables used to determine whether discharges in federal fiscal year 2016 met criteria to receive the standard rate were not available to use for some of the discharges that year. Of those discharges, we assumed that the same percentage of discharges that met the criteria to receive the standard rate in Shepherd's fiscal year—30 percent—met the criteria in federal fiscal year 2016.
- When calculating site-neutral payments, we assumed that each discharge would be paid at a rate comparable to that for acute care hospitals—the IPPS comparable amount rate. Site-neutral payments may also be based on the estimated cost-of-care, if it is lower than the IPPS comparable amount rate. However, over 90 percent of discharges at the qualifying hospitals were paid at the IPPS comparable amount rate in fiscal year 2016.³
- Per CMS's recommendation, we applied the cost-to-charge ratio that was effective October 1, 2017, for each qualifying hospital, regardless of discharge date.⁴ For Craig Hospital this value was 0.442 and for

³The site-neutral rate is calculated as the lower of either the IPPS comparable amount (including applicable adjustments and outlier payments) or cost of care. See 42 U.S.C. §§ 1395ww(m)(6)(B)(ii) and (iv). The Centers for Medicare & Medicaid Services (CMS) estimates that approximately 90 percent of cases receiving the site-neutral payment were paid the IPPS comparable amount rate, and the remaining 10 percent were paid the estimated cost of care, in fiscal year 2016. Our calculation of the site-neutral rate that would apply in fiscal year 2020 did not include the 4.6 percent adjustment that was added by the Bipartisan Budget Act of 2018. See Pub. L. No. 115-123, § 51005(b), 132 Stat. 64, 296 (codified at 42 U.S.C. § 1395ww(m)(6)(B)(iv)).

⁴Cost-to-charge ratios are hospital-specific and are applied to the covered charges for a discharge to determine whether the hospital is eligible to receive a high-cost outlier payment.

Shepherd Center this value was 0.464. According to CMS officials, in general, these values do not change significantly when they are updated during the fiscal year. Therefore, they believe that using the values effective at the start of the fiscal year is a reasonable assumption.

- We excluded indirect medical education adjustments and disproportionate share hospital payments that are part of the IPPS comparable amount rate because, according to CMS, they were unlikely to have much impact for these hospitals.⁵

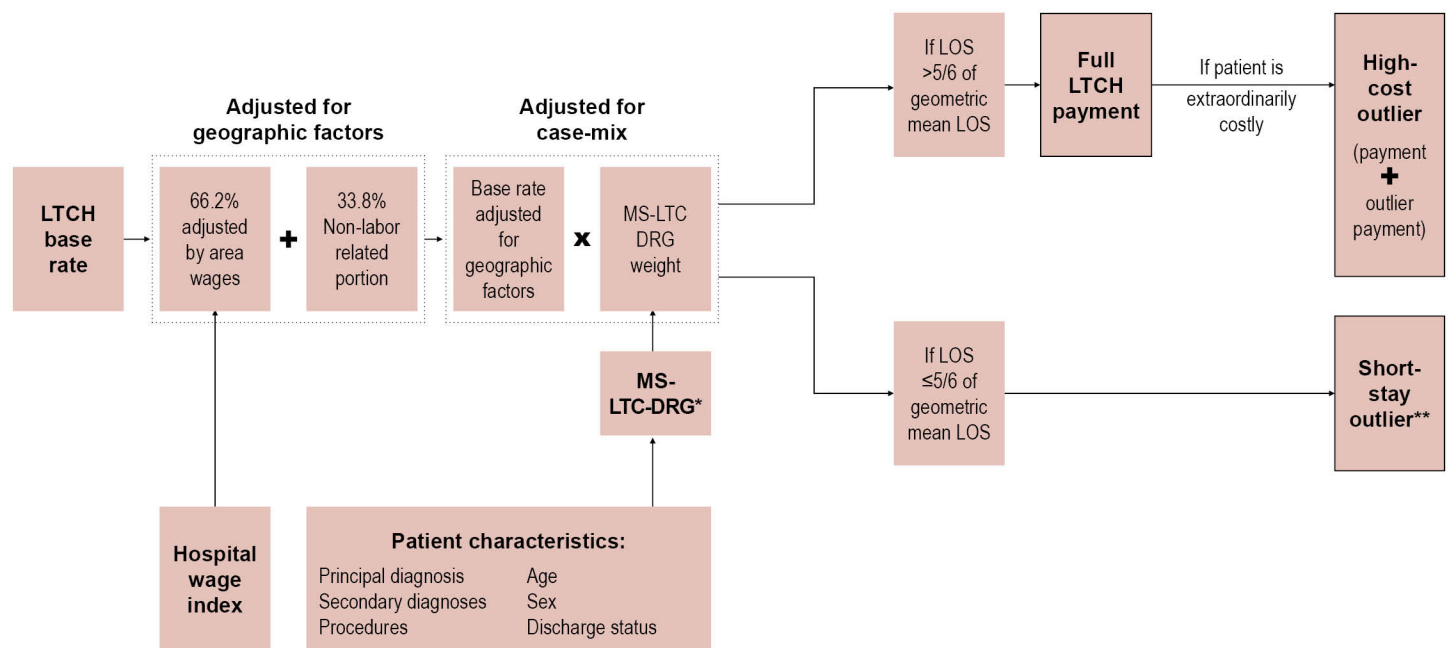
CMS reviewed each of these assumptions and agreed they were reasonable for purposes of our analysis. CMS also verified that we were correctly applying the formulas for calculating these payments and using the appropriate values from the final rules.

⁵Indirect medical education adjustments are IPPS add-on payments made to teaching hospitals to reflect the additional indirect costs of patient care associated with resident training. Medicare disproportionate share hospital payments are made to IPPS hospitals that treat a disproportionate share of certain low-income patients. Those hospitals receive additional IPPS payments intended to offset the financial effects of these patients.

Appendix II: Calculating Medicare Payments for Long-Term Care Hospitals and Inpatient Rehabilitation Facilities

Figures 3 and 4 illustrate the methodology for calculating Medicare payments under the long-term care hospital (LTCH) prospective payment system (PPS) and the inpatient rehabilitation facility (IRF) PPS, respectively, as reported by the Medicare Payment Advisory Commission (MedPAC).¹

Figure 3: Payment for Cases Paid Under the Long-Term Care Hospital Prospective Payment System



Note: LTCH (long-term care hospital), MS-LTC-DRG (Medicare severity long-term care diagnosis related group), LOS (length of stay). Beginning in fiscal year 2016, cases in LTCHs must meet certain criteria to receive payment under the LTCH prospective payment system. This includes cases that are admitted immediately following an acute care hospital stay and (a) that stay included at least three days in an intensive care unit or (b) the LTCH discharge receives a principal diagnosis indicating the receipt of mechanical ventilation services for at least 96 hours. All other cases are paid an amount based on Medicare's acute care hospital payment rates under the inpatient prospective payment system (IPPS) or 100 percent of the cost of the case, whichever is lower.

* MS-LTC-DRGs comprise base DRGs subdivided into one, two, or three severity levels.

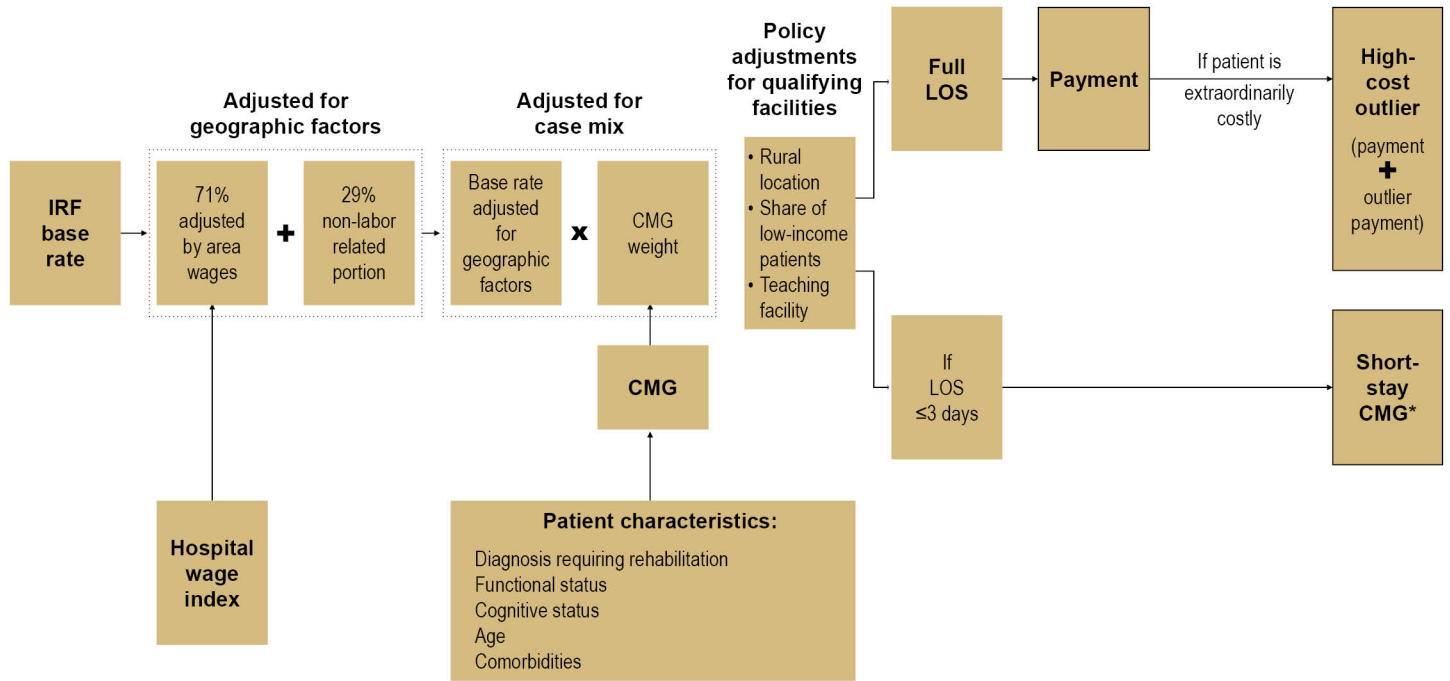
** Payments generally are reduced for short-stay patients.

Source: The Medicare Payment Advisory Commission (MedPAC), *Payment Basics: Long-Term Care Hospitals Payment System*, October 2017 (information); GAO (recreation). | GAO-19-141

¹These figures were taken from MedPAC reports; we did not modify these figures in any way. For Figure 3, see Medicare Payment Advisory Commission, *Long-term Care Hospital Payment System: Payment Basics* (Washington, D.C.: October 2017) and for figure 4 see Medicare Payment Advisory Commission, *Inpatient Rehabilitation Facilities Payment System: Payment Basics* (Washington, D.C.: October 2017).

Appendix II: Calculating Medicare Payments for Long-Term Care Hospitals and Inpatient Rehabilitation Facilities

Figure 4: Inpatient Rehabilitation Facility Prospective Payment System



Note: IRF (inpatient rehabilitation facility), CMG (case-mix group), LOS (length of stay).
 *IRFs with a wage index of 1.0 are paid \$2,478 for short-stay cases in fiscal year 2018.

Source: The Medicare Payment Advisory Commission (MedPAC), *Payment Basics: Inpatient Rehabilitation Facilities Payment System*, October 2017 (information); GAO (recreation). | GAO-19-141

Note: Officials from the Centers for Medicare & Medicaid Services clarified that the following components of the IRF payment system—short-stay transfer payment adjustments and special CMGs for patients who pass away in the IRF—are not included in this figure.

Appendix III: List of Common Diagnosis Groups for Long-Term Care Hospitals (LTCH)

In its March 2018 annual report to the Congress, the Medicare Payment Advisory Commission (MedPAC) reported that 20 diagnosis groups accounted for over 61 percent of LTCH discharges at both for-profit and not-for-profit facilities, in fiscal year 2016.¹ Table 5 provides a list of these 20 diagnosis groups.

Table 5: Twenty Medicare Severity Long-Term Care Diagnosis Related Groups (MS-LTC-DRG) Most Common to Long-Term Care Hospitals, Fiscal Year 2016

MS-LTC-DRG	Description
189	Pulmonary edema and respiratory failure
207	Respiratory system diagnosis with ventilator support 96+ hours
871	Septicemia without ventilator support 96+ hours with MCC
539	Osteomyelitis with MCC
592	Skin ulcers with MCC
177	Respiratory infections and inflammations with MCC
949	Aftercare with CC/MCC
208	Respiratory system diagnosis with ventilator support <96 hours
682	Renal failure with MCC
981	Extensive OR procedure unrelated to principal diagnosis with MCC
166	Other respiratory system OR procedures with MCC
559	Aftercare, musculoskeletal system, and connective tissue with MCC
570	Skin debridement with MCC
853	Infectious and parasitic diseases with OR procedure with MCC
314	Other circulatory system diagnoses with MCC
919	Complications of treatment with MCC
862	Postoperative and post-traumatic infections with MCC
463	Wound debridement and skin graft except hand, for musculoconnective tissue disorders with MCC
291	Heart failure and shock with MCC
4	Tracheostomy with ventilator support 96+ hrs or primary diagnosis except face, mouth and neck without major OR procedure

Source: Medicare Payment Advisory Commission (MedPAC), Report to the Congress: Medicare Payment Policy, March 2018 (information); GAO (recreation). | GAO-19-141

Note: The MS-LTC-DRGs and their descriptions were reprinted from a MedPAC report. We did not edit it in any way, such as to spell out abbreviations. MCC refers to a major complication or comorbidity; CC refers to a complication or comorbidity; and OR refers to the operating room.

¹Medicare Payment Advisory Commission, *Report to the Congress: Medicare Payment Policy* (Washington, D.C.: March 15, 2018).

Appendix IV: GAO Contact and Staff Acknowledgments

GAO Contacts

Jessica Farb, (202) 512-7114 or farbj@gao.gov

Acknowledgments

In addition to the contact named above, Will Simerl, Assistant Director; Kathy King; Amy Leone, Analyst-in-Charge; Todd Anderson; Sam Amrhein; LaKendra Beard; Rich Lipinski; Jennifer Rudisill; and Eric Wedum made key contributions to this report. Also contributing were Leia Dickerson, Diona Martyn, Vikki Porter, and Lisa Rogers.

GAO's Mission

The Government Accountability Office, the audit, evaluation, and investigative arm of Congress, exists to support Congress in meeting its constitutional responsibilities and to help improve the performance and accountability of the federal government for the American people. GAO examines the use of public funds; evaluates federal programs and policies; and provides analyses, recommendations, and other assistance to help Congress make informed oversight, policy, and funding decisions. GAO's commitment to good government is reflected in its core values of accountability, integrity, and reliability.

Obtaining Copies of GAO Reports and Testimony

The fastest and easiest way to obtain copies of GAO documents at no cost is through GAO's website (<https://www.gao.gov>). Each weekday afternoon, GAO posts on its website newly released reports, testimony, and correspondence. To have GAO e-mail you a list of newly posted products, go to <https://www.gao.gov> and select "E-mail Updates."

Order by Phone

The price of each GAO publication reflects GAO's actual cost of production and distribution and depends on the number of pages in the publication and whether the publication is printed in color or black and white. Pricing and ordering information is posted on GAO's website, <https://www.gao.gov/ordering.htm>.

Place orders by calling (202) 512-6000, toll free (866) 801-7077, or TDD (202) 512-2537.

Orders may be paid for using American Express, Discover Card, MasterCard, Visa, check, or money order. Call for additional information.

Connect with GAO

Connect with GAO on [Facebook](#), [Flickr](#), [Twitter](#), and [YouTube](#).
Subscribe to our [RSS Feeds](#) or [E-mail Updates](#). Listen to our [Podcasts](#).
Visit GAO on the web at <https://www.gao.gov>.

To Report Fraud, Waste, and Abuse in Federal Programs

Contact:

Website: <https://www.gao.gov/fraudnet/fraudnet.htm>

Automated answering system: (800) 424-5454 or (202) 512-7700

Congressional Relations

Orice Williams Brown, Managing Director, WilliamsO@gao.gov, (202) 512-4400, U.S. Government Accountability Office, 441 G Street NW, Room 7125, Washington, DC 20548

Public Affairs

Chuck Young, Managing Director, youngc1@gao.gov, (202) 512-4800 U.S. Government Accountability Office, 441 G Street NW, Room 7149 Washington, DC 20548

Strategic Planning and External Liaison

James-Christian Blockwood, Managing Director, spel@gao.gov, (202) 512-4707 U.S. Government Accountability Office, 441 G Street NW, Room 7814, Washington, DC 20548



Please Print on Recycled Paper.