

# The High Performance Rural Health Care System of the Future

---

*Prepared by the  
RUPRI Health Panel*

Keith J. Mueller, PhD, Chair  
Andrew F. Coburn, PhD  
Jennifer P. Lundblad, MA, PhD  
A. Clinton MacKinney, MD, MS  
Timothy D. McBride, PhD  
Sidney D. Watson, JD

---

**September 2, 2011**

  
Robert Wood Johnson Foundation

  
rupri  
rural policy research institute

This project has been supported by the Office of Rural Health Policy, Health Resources and Services Administration (Grant Number U18RH03719) and the Robert Wood Johnson Foundation. The RUPRI Panel is solely responsible for the content of this paper.

## Introduction

---

Public policies during the past 30 years have helped build and stabilize the rural health care delivery system. Positive policies include bonus payments for services delivered in provider shortage areas, the Medicare Rural Hospital Flexibility Program (including the grant program), the rural health clinic program, tele-health support, and pipeline programs in health professions education. Yet policy successes have required political capital and developmental resources to support a health care system that delivers discrete services by specific professionals and institutions, each paid on a per-service basis. Partly as a result of these system characteristics, health care services are often fragmented, uncoordinated, and excessively costly. Health care system challenges are compounded in rural America by disproportionately ill and disabled rural citizens, under-financed primary care, and geographically isolated rural providers. To answer these challenges, pioneering work by the Institute of Medicine (especially the Rural Health Committee document *Quality Through Collaboration: The Future of Rural Health*), the Commonwealth Commission on a High Performance Healthcare System, and other organizations document effective strategies exist to improve and sustain the health of rural populations. Opportunities are emerging in public policy and the private sector to change the organization, financing, and delivery of rural health care services. What might appear to be threats to rural health care, such as challenges to current special payments or new administrative requirements, may instead be opportunities to update and improve outdated and unsustainable service configurations. But as Yogi Berra famously said, "You've got to be very careful if you don't know where you're going, because you might not get there." So in the spirit of getting us "there," the RUPRI Health Panel offers an aspirational vision, for a high performance rural health care system.

*The RUPRI Health Panel envisions rural health care that is affordable and accessible for rural residents through a sustainable health system that delivers high quality, high value services. A high performance rural health care system informed by the needs of each unique rural community will lead to greater community health and well-being.*

## Foundations of a High Performance Rural Health Care System

---

The RUPRI Health Panel envisions a high performance rural health care system built on foundations of affordability, accessibility, community focus, high quality, and patient centeredness. We describe these foundations below. But even foundations need support. A robust primary care system is fundamental and essential to the health of rural individuals and communities. Yet the current payment system differentially rewards subspecialty services and sophisticated technologies. Therefore, rural primary care and other fundamental rural health care services often struggle to remain financially viable. Thus, we further envision a system that develops and sustains primary care and is based on a payment blend that rewards clinical quality, population-based care, and efficient resource utilization.

### **Affordability**

A high performance rural health care system is affordable for its citizens. An individual's (or family's) health care costs as a percentage of their income are reasonable and do not impoverish those in need of health care. In addition, health care costs are equitably shared across individuals in rural communities so disproportionate costs or disparities in affordability do not arise. Lastly, health care affordability is enhanced because health care is both effective (e.g., medically necessary, evidence-based, and prevention focused) and efficient (e.g., administrative costs minimized and future costs reduced through prevention and screening).

### **Accessibility**

Accessibility is the companion to affordability as a foundation for a high performance rural health care system. Although rural communities will differ in the level and range of services that they can support and sustain, core rural community health care services include primary care, emergency medical services (EMS), and public health. Primary care is accessible when needed by patients. When face-to-face visits with providers are not needed, or not possible, 24/7 access to health information is available. EMS and disaster response are regionally organized and always ready to respond. During standby times, the role of EMS includes preventive and community health improvement activity. Public health services proactively assess community health and coordinate preventive care locally with regional/state/federal partners. Yet not all care can be provided locally. For those services not locally available, rural communities develop and support a regional health care infrastructure that includes transportation, technology, and provider relationships that make accessible the full continuum of health care services.

A high performance rural health care system includes care integration and coordination based in primary care, the cornerstone of rural health care delivery. Rural health care teams, consisting of well-trained professionals practicing at the optimum of their license and

experience, provide the tenets of the patient-centered medical home (PCMH) to individuals and communities. The team is not only accessible for timely acute care, but anticipates and provides needed preventive care. The team coordinates care for their patients, ensuring that specialty care needs are met through referral or consultation. Care integration and coordination in rural communities also assures that patients have access to the full continuum of care, such as skilled nursing, home health, hospice, palliative, dental health, and behavioral health. Rural health care services are available as proximate to the patient as possible to reduce travel costs, time, and burden. When needed services are not available locally, strong consultation and referral relationships and systems exist such that the right information is available to the right care team at the right time.

### **Community Health**

As the U.S. health care system takes steps toward re-designing health care delivery and payment, the value of a population health perspective is becoming more apparent. The inclusion of population health as part of the Triple Aim espoused by the Centers for Medicare and Medicaid Services (CMS) and the National Quality Strategy – better care for individuals, better health for populations, and lower costs – is a testament to a critical shift in thinking and action that includes prevention and wellness of people and communities as a top priority. In rural communities, need and opportunity converge in population and community health. A disproportionate percentage of rural residents have chronic health conditions, are elderly, and/or lack health insurance coverage. With passage of the Patient Protection and Affordable Care Act (ACA), more rural individuals will have access to health insurance coverage, and thus access to prevention and screening services that potentially avoid or delay the onset of chronic disease. Furthermore, new health care payment and delivery models increasingly emphasize prevention as a mandatory service.

Wellness, personal responsibility, and public health are fundamental to a high performance rural health care system. In rural communities, a population and community health focus begins with an in-depth understanding of rural community needs, challenges, and opportunities. The strategy of community capacity building first identifies rural community health gaps and disparities, and then locates resources to improve community health status and individual well-being. The community capacity building approach is particularly appropriate in a rural health context in which the boundary of "community" can be well defined, either locally or regionally. In addition, community capacity building is not limited to the health care system, and thus can link to, and align with, local and regional social and economic development.

## **High Quality Care**

High quality care is an integral component of health care value. Efficiency without quality is unthinkable. The high performance rural health system makes quality improvement a central focus with education and technical assistance, quality information transparency and public reporting, and payment systems that reward the delivery of quality care. Rural providers deliver quality and service levels on par with urban counterparts for those services delivered in rural areas. Provider payment policies reward, and thus sustain, providers that deliver value: high-quality and patient-centered care that is as efficient as expected service volumes allow. At the same time, rural sustainability is not jeopardized by payment policies that exclusively reward volume-dependent efficiency.

## **Patient-Centeredness**

A high performance rural health care system is responsive to the unique needs of each rural community and each resident of that community. At the individual level, health care is a partnership between the patient and his or her health care team, each taking responsibility for health decisions and behaviors. The primary care team serves as the hub of patient information flow and interactions. Shared decision making and similar tools are used to evaluate treatment options in ways that respectfully consider both patient preferences/values, and clinical/scientific evidence. Providers are also culturally competent, delivering care and information that is sensitive to an individual's or family's unique needs.

## Achieving a High Performance Rural Health Care System

---

A high performance rural health care system will be founded upon existing rural primary care services. Current public policies designed to strengthen that foundation (e.g., rural health clinic payments, health professional shortage area bonuses, and training programs designed to encourage rural practice) should be continued. New public policies initiated by the ACA would be used to support the evolution of a high performance rural health care system. Those policies include:

- Medicare Shared Savings Program (better known as accountable care organization program, or ACO program)
- Support for PCMHs
- Title IV support for public health initiatives and community transformation grants
- Value-based purchasing for all providers, including physicians and critical access hospitals

Developments are also underway in the private sector to create opportunities for rural health care evolution. Examples of commercial insurers or health care provider activity fostering change include:

- Increasing collaboration (through contractual agreements, affiliations, or ownership) between independent physician practices, small hospitals, and larger health care systems
- Use of health coaches or other innovative care models designed to improve management of chronic health conditions
- Investment in health information technology (HIT), including co-investments by health insurance plans and health providers
- Payments based on health care value and shared savings between providers and payers, such as private sector ACOs

The variety of new public and private initiatives, and the diversity of rural patients and communities, requires flexibility in the design and implementation of rural health care services. There is no single model of rural health care that will fit all communities and regions. The configuration of services available locally and/or regionally will continue to vary based on local and regional circumstances and resources. However, as Mueller and MacKinney have argued (2006), rural communities should have local access to public health, emergency medical, and primary care services. Rural patients and providers also should have access to regional providers and systems to obtain hospital and/or specialty services that are not sustainable locally. Despite the need for flexibility, certain rural health care system characteristics should be universal and are detailed below.

## **Using Health Information to Manage Care**

The high performance rural health care system requires concerted efforts to engage patients in their own care plans (patient responsibility promoted by the system) and meet all patient needs (better care). As active participants in a responsive and patient-centered rural health care system, patients will appreciate seamless transfer of clinical and administrative information among providers, transparency of health care cost and quality information, access to proactive disease management and prevention assistance, and sensitivity to unique personal or cultural circumstances. Health information should be readily available through communication systems and media that are accessible in rural places and understandable to individual patients. Accurate and easily accessible health information may obviate the need for higher cost face-to-face visits. Consideration should be given to health care affordability, which requires an understanding of patient circumstances and knowledge of community-based resources designed to make treatment affordable. Local practices should also help make care affordable by operating as efficiently as possible.

## **Paying for Value**

Decisions about where services are available and how patients will access them should be based on patient experience, care quality, and delivery efficiency. Understandably, reimbursement incentives and other financial considerations have played a major role in shaping rural health care service availability and delivery. Too often, provider payment incentives have not adequately promoted or supported the development of a sustainable, primary care-based system. However, under new financing and delivery system models such as the PCMHs and ACOs, the incentives are changing. Health care value, not simply service volume, will drive payment. Primary care is well-positioned to lead the value-based movement. Thus, in the high performance rural health care system, care delivery should be organized around a robust primary care base. But to achieve higher performance, rural primary care needs greater capacity and capabilities. Rural primary care requires sophisticated health information technology capacity, including full electronic health record implementation and use. Rural primary care requires focused attention on quality improvement through provider education and technical assistance. To assist with these transitions, primary care collaboratives and networks will assist and enable practices to transform quality of the care. Hospitals have served as the health care hub in many rural communities. They will remain a source of rural health care leadership, but not the primary focal point for patient care. In the new high performance rural health care system, the focus will be on care in the community, supported by the hospital, but anchored in primary care that integrates medical care, human services, and other services necessary for rural quality of life.



## **Collaborating to Integrate Services**

Provider collaborations delivering the continuum of care seamlessly to patients will be a hallmark of the high performance rural health care system. Rural providers should collaborate locally (e.g. primary care, behavioral health, and public health) to achieve improved health outcomes and better financial performance. Rural providers should collaborate horizontally within and across rural service systems to ensure rural priority when negotiating with distant and/or urban systems. And rural providers should collaborate vertically to ensure timely access to high-quality services not available locally. Urban systems will wish to collaborate with high performing rural health systems to manage care transitions and meet performance and financial goals (e.g. avoid readmissions, reduce preventable admissions, improve patient experience, and improve outcomes). To facilitate both provider collaborations and seamless information transfer, rural providers should participate in developing health information exchanges. Clinical and administrative information, shared with robust privacy safeguards, will smooth care transitions, reduce duplicative and unnecessary services, and improve outcomes.

## **Healthy People in Healthy Communities**

To achieve improved health outcomes for both individual patients and populations, the future rural health system will require that primary care providers and their patients connect to community health resources, services, and initiatives that can improve individual health (especially for those with chronic conditions) and “go upstream” to address environmental, policy, and other factors that influence community and population health. Improved rural patient health, improved rural community health, and improved rural quality of life are the prizes of the rural health care system’s transformational journey. In concert with clinical quality and efficiency metrics, rural communities should employ metrics that assess these more global outcomes. Both rural providers, and the community writ large, should be active participants in actualizing the RUPRI Health Panel’s vision for a high performance rural health care system.

## About the Authors

---

*The RUPRI Health Panel is led by Keith J. Mueller, PhD. He can be contacted at (319) 384-5121, [keith-mueller@uiowa.edu](mailto:keith-mueller@uiowa.edu).* Authors of this report are:

**Andrew F. Coburn, PhD**, is a professor of Health Policy and Management, directs the Institute for Health Policy in the Muskie School of Public Service at the University of Southern Maine, and is a senior investigator in the Maine Rural Health Research Center.

**Jennifer P. Lundblad, PhD, MBA**, is president and CEO of Stratis Health, an independent non-profit quality improvement organization based in Bloomington, Minnesota, that leads collaboration and innovation in health care quality and patient safety. Dr. Lundblad has an extensive background in leadership, organization development, and program management in both non-profit and education settings.

**A. Clinton MacKinney, MD, MS**, is a board-certified family physician delivering emergency medicine services in rural Minnesota; a senior consultant for Stroudwater Associates, a rural hospital consulting firm; and a contract researcher for the RUPRI Center for Rural Health Policy Analysis at the University of Iowa.

**Timothy D. McBride, PhD**, is a professor and associate dean for public health in the George Warren Brown School of Social Work, and a faculty scholar in the Institute for Public Health at Washington University in St. Louis.

**Keith J. Mueller, PhD**, is the Rural Health Panel chair. Dr. Mueller is the head of the Department of Health Management and Policy in the University of Iowa College of Public Health, where he is also the Gerhard Hartman Professor and the director of the RUPRI Center for Rural Health Policy Analysis.

**Sidney D. Watson, JD**, is a professor of Law in the Center for Health Law Studies at Saint Louis University School of Law. Her research focuses on access to health care for the poor and other disadvantaged people.

## About the Rural Policy Research Institute

---

The Rural Policy Research Institute (RUPRI) provides unbiased analysis and information on the challenges, needs, and opportunities facing rural America. RUPRI's aim is to spur public dialogue and help policymakers understand the rural impacts of public policies and programs. RUPRI is housed within the Harry S. Truman School of Public Affairs at the University of Missouri-Columbia. RUPRI's reach is national and international and it is one of the world's preeminent sources of expertise and perspective on policies impacting rural places and people. Read more at [www.rupri.org](http://www.rupri.org).

## About the Robert Wood Johnson Foundation

---

The Robert Wood Johnson Foundation focuses on the pressing health and healthcare issues facing our country. As the nation's largest philanthropy devoted exclusively to improving the health and health care of all Americans, the Foundation works with a diverse group of organizations and individuals to identify solutions and achieve comprehensive, meaningful, and timely change. For more than 35 years the Foundation has brought experience, commitment, and a rigorous, balanced approach to the problems that affect the health and health care of those it serves. When it comes to helping Americans lead healthier lives and get the care they need, the Foundation expects to make a difference in your lifetime. For more information, visit [www.rwjf.org](http://www.rwjf.org).



# **RURAL RELEVANCE UNDER HEALTHCARE REFORM**

A Performance Based Assessment  
of  
Rural Healthcare in America

January 23, 2012

## RURAL RELEVANCE UNDER HEALTHCARE REFORM

A consideration in the design of the Affordable Care Act (ACA) is the role played by rural patients and their providers. This geographically diverse and misunderstood segment of the healthcare delivery system could provide meaningful insight for developing Accountable Care Organization (ACO) models. An evaluation of how to effectively align and integrate rural hospitals into ACOs starts with a quantitative understanding of existing payment and utilization patterns, and the historical delivery performance by rural providers from financial, clinical, operational and patient experience perspectives.

Below are summary findings from research conducted by iVantage Health Analytics that sheds new, multi-dimensional light on the rural healthcare delivery system using: the latest Medicare Shared Savings data files; the first nationwide hospital rating system to evaluate community and rural hospitals including all 1,326 Critical Access Hospitals; and the industry's largest proprietary rural Emergency Department database.

### Summary of Medicare Beneficiary Payment Findings

- Approximately **\$7.2 billion** in annual savings to Medicare alone if the average cost per urban beneficiary were equal to the average cost per rural beneficiary,
- Approximately **\$2.2 billion** in annual cost differential (savings) occurred in 2010 because the average cost per rural beneficiary was **3.7% lower** than the average cost per urban beneficiary,
- Approximately **\$9.4 billion** per year is the existing and potential differential between Medicare beneficiary payments for rural vs. urban including the opportunity for savings if all urban populations could be treated at the rural equivalent,
- Per-capita **Inpatient Hospital Service** payments for rural beneficiaries are **2% less** costly than payments for urban beneficiaries,
- Per-capita **Physician Service** payments for rural beneficiaries are **18% less** costly than payments for urban beneficiaries,
- Per-capita **Outpatient Service** payments for rural beneficiaries are **14% more** costly than payments for urban beneficiaries.

### Summary of Hospital Performance Findings

- Rural hospital performance on CMS Process of Care measures is **on par** with urban hospitals,
- Rural hospital performance on CMS Outcomes measures is **better** than urban hospitals,
- Rural hospital performance on HCAHPS inpatient patient experience survey measures is **better** than urban hospitals,
- Rural hospital performance on price and cost efficiency measures is **better** than urban hospitals.

## Summary of Emergency Department Performance Findings

- The mean **Total Wait Time** in a rural Emergency Department is approximately **half as long** as the wait in an urban Emergency Department (29 vs. 56 minutes),
- The mean **Wait Time to see a Physician** in a rural Emergency Department is **nearly 2.5 times less** than the wait in an urban Emergency Department (98 vs. 247 minutes),
- **More than 50%** of all Emergency Department visits to Critical Access Hospitals were categorized as low acuity cases.

Based upon this timely analysis of the most current public and proprietary data, rural hospitals have achieved a noteworthy level of comparative performance including; demonstrated quality, patient satisfaction and operational efficiency for the type of care most relevant to rural communities. While not all care is equal, and it is indefensible that much complex care is appropriately referred to tertiary care centers, the findings suggest and the new law demands that ACOs must manage populations in a variety of settings. Value in healthcare is created by doing a few things well and not by trying to do everything. The rural findings may just suggest that by natural selection, rural has figured out what it does well and has optimized those services for the patient's benefit. The misunderstanding that rural hospitals are more costly, inefficient and have lower quality and satisfaction is empirically challenged. More importantly as providers and developers seek to address the New Healthcare using innovative delivery models, the rural setting must be better understood and included in any strategy for patient-centered care.

Continued research to identify what best practices result in these findings is essential to forward progress, improve outcomes and reduce costs.

### About iVantage Health Analytics

iVantage Health Analytics, Inc.™ is a privately held healthcare business intelligence and technology company. The company was formed to be the parent company for Performance Management Institute LLC, The Healthcare Management Council, Inc., Health InfoTechnics, LLC, and The Ratings Guy, LLC. The businesses ultimately will consolidate assets and operations into one entity. The company is a leading provider of information products serving an expansive healthcare industry. iVantage Health Analytics™ integrates diverse information with innovative delivery platforms to ensure customers' timely, concise, and relevant strategic action.

**The most current version of this report and other research findings can be viewed or downloaded for free at [www.iVantageHealth.com](http://www.iVantageHealth.com)**

Link for online whitepaper:

<http://www.ivantagehealth.com/rural-relevance-under-healthcare-reform>

Link for PDF download:

[http://www.ivantagehealth.com/wp-content/uploads/2012/01/Rural-Relevance-Under-Healthcare-Reform .pdf](http://www.ivantagehealth.com/wp-content/uploads/2012/01/Rural-Relevance-Under-Healthcare-Reform.pdf)

## RURAL RELEVANCE UNDER HEALTHCARE REFORM

### Introduction

The term *value*, as expressed through the cost:quality equation, is firmly entrenched in the healthcare industry lexicon; it serves as the nucleus for policy, payment and delivery model reforms. This consensus has created among healthcare providers a *value arms race* that funnels resources into understanding and communicating the importance of patient safety, evidence-based practices and outcomes while at the same time relentlessly attempting to wring unnecessary expenses from operations. This is especially true in an era of health reform that links clinical performance to reimbursement, creates payment models that expose providers to financial risk and compels increased collaboration among various provider types.

The Shared Savings Program, part of the Patient Protection and Affordable Care Act (PPACA), is designed to facilitate and promote coordination and cooperation among providers (health systems, hospitals, physician practices, etc.) to improve the quality of patient care/outcomes and reduce costs. The Program seeks to create value by promoting accountability, streamlining coordination of care, redesigning care processes and encouraging the implementation of information technology.

Given this reform-driven transformation and resulting market consolidation, this study provides new insights into the nature of cost and quality variation between rural and urban providers, and the future, strategic value rural providers can provide in sustaining the rural healthcare safety net while being a credible partner in any ACO configuration.

Rural hospitals have an opportunity to play an important and unique role in Accountable Care Organization (ACO) development because they have demonstrated cost-effectiveness, high-quality care and better than average patient satisfaction. In addition to these positive performance traits, rural hospitals have the potential to augment regional integrated delivery systems to ensure rural residents receive the right care in the right place at the right price. At this critical, post-healthcare reform implementation stage, it is essential to understand how rural hospitals perform against their urban counterparts on industry standards of measurement, and how payments to rural residents compare to payments made to urban residents if they are to play a meaningful role in ACO development.

Rural residents tend to receive routine inpatient, outpatient and physician care at a local rural facility while seeking care for more complex treatments at urban facilities. However, urban residents rarely out-migrate to rural settings for either routine or advanced treatments or care yet many rural patients are referred to or voluntarily travel to urban providers based on the myth of better care. Perhaps more important, research demonstrates that rural residents have less access to primary care and fare worse than their urban counterparts on health status measures. The combination of less availability of preventative/routine care and the existence of higher morbidity and pathology in rural areas presents a policy challenge that is borne out in this study.

The tectonic shift triggered by the PPACA will have major rural implications. To prepare for increased provider-to-provider integration and coordination based on quality and cost, rural hospitals need to

be able to demonstrate value. At the same time, larger urban hospitals and health systems that embark on ACO development should use the planning phase to better understand and leverage the proven performance of rural hospitals as a means of ensuring optimal delivery model design, implementation and execution.

## Study Overview

The analysis of rural healthcare in the context of the Affordable Care Act and ACO development provides new insight into the relationship between the scale and nature of Medicare expenditures for rural residents and the quality and cost profile of rural healthcare providers. Specifically, the investigation provides insight into the following:

- Variances in Medicare payments for service types by rural vs. urban beneficiary
- Examination of total and per-beneficiary Medicare payments by state and region
- Gap analysis of Medicare per-beneficiary high-payment and low-payment states
- Summary of rural vs. urban hospital performance using the Hospital Strength Index™
- Relationship between Medicare payments and hospital performance for rural and urban cohorts

## Review of Data Sources

This study employs three primary data sources: **Study Area A (“Shared Savings”)** utilizes the recent CMS Shared Savings data files to draw Medicare beneficiary payment insights based at the beneficiary and zip-code level; **Study Area B (“Hospital Performance”)** utilizes both the iVantage Hospital Strength™ Index to identify and compare rural vs. urban provider performance across several domains (e.g. finance, market, safety, efficiency); and **Study Area C (“Emergency Department Performance”)**, a proprietary Emergency Department visit-level data store warehoused by the iVantage EDManage Web-based application.

**Study Area A – Shared Savings.** In 2011 CMS made public its initial set of Shared Savings Program data files; these previously unavailable data files contain payment amounts for all Medicare beneficiaries at the zip code level for a 12-month period. Each file contains an aggregate dollar amount, reflecting total Medicare payments or allowed charges including deductibles and co-insurance, for each zip code and each service category. Data include payments for inpatient, outpatient and physician services as specified below:

- The **Inpatient** facility data set includes all Inpatient fee for service claims for Federal FY 2010 (10/1/2009-9/30/2010). Case types are defined as major diagnostic categories ("MDC").
- The **Outpatient** facility data set includes all outpatient fee-for-service claims for calendar year 2010 (1/1/2010-12/31/2010). Services are defined as outpatient categories.
- The **Physician** data set includes all physician fee-for-service claims for calendar year 2010 (1/1/2010-12/31/2010). Service area is defined as the physician’s primary specialty as designated in the physician’s Medicare Enrollment Application.

iVantage utilizes the CMS Denominator file to calculate the number of 12-month person years for Medicare beneficiaries at the individual zip code level, and by rural and urban resident cohorts. The table below summarizes the count of Medicare beneficiaries used in this study:

**Table A. Count of Medicare Beneficiaries in CMS 2010 Denominator File (Adjusted to Person Years)**

Type	Rural	Urban	Total	Rural % of Total
Part A (Hospital Insurance)	8,063,452	26,842,037	34,905,489	23.1%
Part B (Supplemental Medical)	7,596,727	24,363,337	31,960,064	23.7%

**Study Area B – Hospital Performance.** In the Fall of 2011, iVantage Health Analytics released the Hospital Strength Index™, a comprehensive rating system that compares U.S. general acute-care hospitals across a continuum of financial, value-based and market driven performance indicators. Ratings are based on publicly available data sources, including Medicare Cost Reports, Medicare claims data, Hospital Compare reporting and related sources.

The Hospital Strength Index is designed to provide a comprehensive yet straightforward method for comparing hospital performance. The scoring model aggregates hospital-specific data for over 50 individual metrics and calculates percentile rankings based on performance in comparison to all hospitals in the study group. Eight primary index scores are derived based on the composite scores of their respective components. Aggregate scores across the eight indices serve as the basis for a single overall rating – the Hospital Strength Index.

For the purpose of the Study, all US general acute care hospitals are divided into two geographic-based cohorts (urban vs. rural) using the industry standard Office of Management and Budget (OMB) geographic designation. Note that for the Study, the rural hospital cohort includes Critical Access Hospitals for which data are available in all of the eight (8) iVantage Hospital Strength Index™ pillars (n=472). Hospitals that do not have data for each pillar are excluded from this Study. For a detailed treatment of the iVantage Hospital Strength Index™, please visit [www.HospitalStrengthIndex.com](http://www.HospitalStrengthIndex.com) and refer to the iVantage Methodology.

**Study Area C – Emergency Department Performance.** iVantage Health Analytics is a leading provider of Emergency Department data collection, reporting and benchmarking services. Its EDManage Web-based application is in use at over 120 Community and rural hospitals across the country representing over 2.2 million visits since 2009. Patient-level visit data collected through EDManage represents the industry’s largest proprietary rural Emergency Department data source, and is used as the foundation for iVantage’s findings.



## Study Area A: Shared Savings

Based on the most recent Shared Savings data files, Medicare payments to all beneficiaries for all services (inpatient, outpatient and physician) totaled \$264 billion with inpatient and outpatient payments representing 66.6% of total expenditures. Medicare payments to rural residents totaled \$59.4 billion, or 22.5% of total expenditures.

As illustrated in **Tables B and C**, per-beneficiary Medicare payments to rural residents are less for inpatient and physician services, but are higher for outpatient services, compared to their urban counterparts. Of note, the per-capita payments for Physician Services to rural beneficiaries are 18.4% **less** than their urban counterparts. This percentage difference translates into a payment differential of \$531 per Medicare beneficiary. Conversely, the per-capita payments for Outpatient Services to rural beneficiaries are 14.1% **more** than their urban counterparts. This percentage difference translates into a payment differential of \$174 per Medicare beneficiary.

**Table B. Distribution of Medicare Payments, by Total Dollars, by Service Type (Urban vs. Rural)**

Svc Type	Urban		Rural		Total	
	\$	%	\$	%	\$	%
Inpatient	104,535,922,824	77.2%	30,811,212,167	22.8%	135,347,134,991	51.2%
Outpatient	30,133,028,794	73.8%	10,715,233,356	26.2%	40,848,262,151	15.4%
Physician	70,337,998,354	79.7%	17,896,991,746	20.3%	88,234,990,100	33.4%
<b>Total</b>	<b>205,006,949,972</b>	<b>77.5%</b>	<b>59,423,437,270</b>	<b>22.5%</b>	<b>264,430,387,242</b>	<b>100.0%</b>

**Table C. Distribution of Medicare Payments, by Per-Capita Dollars, by Service Type (Urban vs. Rural)**

Svc Type	Urban	Rural	Total		Rural Difference	
	\$	\$	\$	%	\$	%
Inpatient	3,894	3,821	3,878	51.19%	(73.00)	-1.87%
Outpatient	1,237	1,411	1,278	16.87%	174.00	14.07%
Physician	2,887	2,356	2,761	36.44%	(531.00)	-18.39%
<b>Total</b>	<b>7,638</b>	<b>7,369</b>	<b>7,576</b>	<b>100.0%</b>	<b>(269.00)</b>	<b>-3.52%</b>

**Table D. Top 10 - Medicare Payments, by State**

State	Total Payments (\$)	Urban Payments (\$)	Rural Payments (\$)	Rural Variance to Urban per Beneficiary (\$)
CA	20,957,042,796	20,038,279,060	918,763,736	(1,082)
FL	20,601,605,275	18,797,473,743	1,804,131,532	870
TX	20,031,899,527	15,826,840,482	4,205,059,045	290
NY	16,620,836,816	15,092,738,032	1,528,098,784	(1,265)
IL	12,901,883,607	10,700,614,190	2,201,269,417	(621)
MI	11,606,916,954	9,161,854,014	2,445,062,940	(1,528)
PA	10,829,516,312	8,739,435,934	2,090,080,378	(299)
OH	10,116,096,209	7,827,220,384	2,288,875,825	(423)
NJ	9,387,106,032	9,387,106,032	0	n/a
NC	9,053,526,716	5,373,554,135	3,679,972,581	913

## Inpatient Medicare Beneficiary Analysis

Among the three service areas, Medicare payments for inpatient services consume the most money (51.18% of total expenditures). The Top 10 most utilized Medical Diagnostic Categories (MDC) represents 86.53% of total inpatient Medicare payments.

**Table E. Top 10 Inpatient Medicare Payments, Total Dollars, by State**

State	Total (\$)	Urban (\$)	Rural (\$)	Rural Percent of State Total
CA	<b>10,881,804,008</b>	10,389,256,737	492,547,271	4.53%
TX	<b>10,342,906,050</b>	8,182,815,274	2,160,090,776	20.88%
FL	<b>9,005,608,252</b>	8,194,638,306	810,969,946	9.01%
NY	<b>8,916,046,504</b>	8,124,460,887	791,585,617	8.88%
IL	<b>6,657,968,208</b>	5,526,932,381	1,131,035,827	16.99%
MI	<b>5,840,406,296</b>	4,647,836,315	1,192,569,982	20.42%
PA	<b>5,678,149,300</b>	4,604,560,921	1,073,588,379	18.91%
OH	<b>5,315,990,485</b>	4,148,855,862	1,167,134,624	21.96%
NJ	<b>4,598,078,243</b>	4,598,078,243	0	0.00%
NC	<b>4,509,362,330</b>	2,635,706,231	1,873,656,099	41.55%

**Table F. Bottom 10 Inpatient Medicare Payments, Total Dollars, by State**

State	Total (\$)	Urban (\$)	Rural (\$)	Rural Percent of State Total
AK	<b>216,609,746</b>	131,524,843	85,084,904	39.28%
WY	<b>262,063,528</b>	95,355,807	166,707,721	63.61%
ND	<b>286,134,171</b>	111,816,849	174,317,321	60.92%
HI	<b>314,098,409</b>	214,091,075	100,007,334	31.84%
VT	<b>321,645,802</b>	85,695,908	235,949,894	73.36%
DC	<b>346,697,928</b>	346,697,928	0	0.00%
MT	<b>367,069,605</b>	123,391,213	243,678,392	66.38%
SD	<b>370,766,741</b>	147,996,832	222,769,909	60.08%
RI	<b>417,422,866</b>	417,422,866	0	0.00%
ID	<b>470,118,937</b>	268,520,580	201,598,357	42.88%

**Table G. Comparison of Inpatient Medicare Payments, Total Dollars, by Service Type**

Inpatient (Top 10 - MDC Total Dollars)	Total Dollars (\$)	Percent of IP Total	Per Beneficiary (\$)
IP_MDC_05_CIRCULATORY	29,822,255,767	<b>22.03%</b>	854
IP_MDC_08_ORTHOPEDIC	17,932,417,452	<b>13.25%</b>	514
IP_MDC_04_RESPIRATORY	17,115,248,789	<b>12.65%</b>	490
IP_MDC_06_DIGESTIVE	11,859,626,060	<b>8.76%</b>	340
IP_MDC_18_INFECT_PARASITIC	8,969,016,135	<b>6.63%</b>	257
IP_MDC_01_NERVOUS	8,543,490,087	<b>6.31%</b>	245
IP_MDC_23_HEALTH_STATUS	6,539,771,168	<b>4.83%</b>	187
IP_MDC_11_KIDNEY	6,522,121,628	<b>4.82%</b>	187
IP_MDC_TRANSPLANT	5,288,968,503	<b>3.91%</b>	152
IP_MDC_19_MENTAL	4,526,402,385	<b>3.34%</b>	130

From a per-beneficiary standpoint, the ten highest payment states represent 32.07% of total Medicare inpatient payments. For these states, payments to rural residents are 71.25% less than payments made to urban residents.

**Table H. Top 10 States by Total Inpatient Medicare payments per-Beneficiary by Rural variance to Urban**

State	Total	Urban	Rural	Urban Variance to Rural
MI	4,225	4,449	3,532	<b>20.61%</b>
WY	3,520	4,079	3,264	<b>19.98%</b>
NY	4,338	4,426	3,603	<b>18.59%</b>
CT	3,709	3,757	3,275	<b>12.83%</b>
MA	3,765	3,767	3,308	<b>12.18%</b>
CA	3,705	3,728	3,275	<b>12.15%</b>
VT	3,039	3,275	2,961	<b>9.59%</b>
OH	4,231	4,321	3,941	<b>8.79%</b>
IL	4,074	4,136	3,795	<b>8.24%</b>
MN	4,220	4,345	3,996	<b>8.03%</b>

**Table I. Bottom 10 States by Total Inpatient Medicare payments per-Beneficiary by Rural variance to Urban**

State	Total	Urban	Rural	Urban Variance to Rural
AK	4,048	3,205	6,820	<b>-112.79%</b>
AZ	3,539	3,464	4,148	<b>-19.75%</b>
SC	3,745	3,563	4,222	<b>-18.50%</b>
NC	3,684	3,458	4,055	<b>-17.26%</b>
NM	2,988	2,783	3,250	<b>-16.78%</b>
GA	3,848	3,715	4,216	<b>-13.49%</b>
FL	3,829	3,788	4,297	<b>-13.44%</b>
OR	2,607	2,489	2,798	<b>-12.41%</b>
VA	3,353	3,267	3,665	<b>-12.18%</b>
ME	3,159	3,030	3,309	<b>-9.21%</b>

## Outpatient Medicare Beneficiary Findings

Among the three service areas, Medicare payments for outpatient services consume the least money (15.45% of total expenditures). The Top 10 most utilized outpatient service lines represents 79.49% of total outpatient Medicare payments.

**Table J. Top 10 Outpatient Medicare Payments, Total Dollars, by State**

State	Total (\$)	Urban (\$)	Rural (\$)	Rural Percent of Total
TX	<b>3,024,272,377</b>	2,312,713,512	711,558,865	23.53%
CA	<b>2,877,187,685</b>	2,708,487,423	168,700,263	5.86%
FL	<b>2,719,406,110</b>	2,471,565,658	247,840,452	9.11%
IL	<b>2,002,682,913</b>	1,600,033,846	402,649,067	20.11%
NY	<b>1,886,358,221</b>	1,601,724,068	284,634,153	15.09%
MI	<b>1,879,050,883</b>	1,390,350,929	488,699,954	26.01%
OH	<b>1,693,631,598</b>	1,278,228,372	415,403,226	24.53%
PA	<b>1,614,972,153</b>	1,236,360,579	378,611,573	23.44%
NC	<b>1,523,681,889</b>	907,817,188	615,864,702	40.42%
GA	<b>1,173,227,950</b>	822,476,568	350,751,383	29.90%

**Table K. Bottom 10 Outpatient Medicare Payments, Total Dollars, by State**

State	Total (\$)	Urban (\$)	Rural (\$)	Rural Percent of Total
DC	<b>65,789,364</b>	65,789,364	0	0.00%
AK	<b>75,830,379</b>	40,251,834	35,578,545	46.92%
WY	<b>84,984,788</b>	25,358,112	59,626,676	70.16%
HI	<b>103,544,235</b>	71,955,667	31,588,568	30.51%
RI	<b>128,151,196</b>	128,151,196	0	0.00%
ND	<b>142,362,847</b>	59,436,720	82,926,127	58.25%
VT	<b>144,058,133</b>	45,719,882	98,338,251	68.26%
SD	<b>156,871,895</b>	61,167,652	95,704,243	61.01%
DE	<b>161,922,373</b>	106,792,363	55,130,010	34.05%
MT	<b>169,820,084</b>	58,415,180	111,404,903	65.60%

**Table L. Comparison of Outpatient Medicare Payments, Total Dollars, by Service Type**

Outpatient - (Top 10 Service Lines by Total Dollars)	Total Dollars for Service Line (\$)	Percent of OP Total	Average Cost Per Beneficiary (\$)
OP_CARDIOVASCULAR	6,473,386,711	15.85%	203
OP_IMAGING	6,387,720,318	15.64%	200
OP_E_M	4,364,572,319	10.68%	137
OP_DRUGS_VACCINES	4,098,601,880	10.03%	128
OP_EYE	2,664,646,095	6.52%	83
OP_GI	2,154,238,741	5.27%	67
OP_NERVE_NEURO	1,875,060,905	4.59%	59
OP_MUSCULOSKELETAL	1,874,000,470	4.59%	59
OP_RADIATION	1,415,830,453	3.47%	44
OP_DRUG_ADMINISTRATION	1,160,931,261	2.84%	36

From a per-beneficiary standpoint, the ten highest payment states represent 13.35% of total (all service areas) Medicare outpatient payments. For these states, payments to rural residents are 48.53% less than payments made to urban residents.

**Table M. Top 10 States by Total Outpatient Medicare payments per-Beneficiary by Rural variance to Urban**

State	Total	Urban	Rural	Urban Variance to Rural
MA	1,375	1,377	955	30.65%
VT	1,467	1,873	1,333	28.83%
ND	1,535	1,679	1,446	13.88%
NH	1,431	1,520	1,324	12.89%
MT	1,319	1,428	1,269	11.13%
WI	1,396	1,446	1,291	10.72%
OR	1,169	1,200	1,121	6.58%
IA	1,271	1,313	1,237	5.79%
LA	1,680	1,707	1,626	4.75%
MN	1,685	1,715	1,634	4.72%

**Table N. Bottom 10 States by Total Outpatient Medicare payments per-Beneficiary by Rural variance to Urban**

State	Total	Urban	Rural	Urban Variance to Rural
AK	1,583	1,095	3,190	-191.32%
NY	1,039	992	1,421	-43.25%
NV	996	961	1,171	-21.85%
MD	295	291	341	-17.18%
PA	1,301	1,257	1,470	-16.95%
SC	1,280	1,223	1,427	-16.68%
AL	1,345	1,271	1,476	-16.13%
VA	1,226	1,186	1,367	-15.26%
TX	1,372	1,331	1,524	-14.50%
GA	1,307	1,259	1,437	-14.14%

## Physician Medicare Beneficiary Findings

Among the three service areas, Medicare payments for physician services consume 33.37% of total expenditures. The Top 10 most utilized physician specialty services represents 66.36% of total physician Medicare payments.

**Table O. Top 10 Physician Medicare Payments, Total Dollars, by State**

State	Total (\$)	Urban (\$)	Rural (\$)	Rural Percent of Total
FL	<b>8,876,590,913</b>	8,131,269,779	745,321,134	8.40%
CA	<b>7,198,051,103</b>	6,940,534,900	257,516,203	3.58%
TX	<b>6,664,721,100</b>	5,331,311,696	1,333,409,404	20.01%
NY	<b>5,818,432,091</b>	5,366,553,077	451,879,014	7.77%
IL	<b>4,241,232,487</b>	3,573,647,963	667,584,524	15.74%
MI	<b>3,887,459,774</b>	3,123,666,770	763,793,004	19.65%
NJ	<b>3,645,280,432</b>	3,645,280,432	0	0.00%
PA	<b>3,536,394,859</b>	2,898,514,434	637,880,426	18.04%
OH	<b>3,106,474,126</b>	2,400,136,151	706,337,975	22.74%
NC	<b>3,020,482,497</b>	1,830,030,716	1,190,451,781	39.41%

**Table P. Bottom 10 Physician Medicare Payments, Total Dollars, by State**

State	Total (\$)	Urban (\$)	Rural (\$)	Rural Percent of Total
AK	<b>97,957,243</b>	69,641,218	28,316,025	28.91%
WY	<b>127,542,278</b>	49,519,157	78,023,122	61.17%
VT	<b>141,974,073</b>	42,399,597	99,574,476	70.14%
ND	<b>154,507,090</b>	67,399,939	87,107,151	56.38%
DC	<b>161,737,445</b>	161,737,445	0	0.00%
HI	<b>189,670,890</b>	134,335,259	55,335,632	29.17%
SD	<b>212,311,607</b>	87,853,793	124,457,815	58.62%
MT	<b>213,984,617</b>	80,197,145	133,787,472	62.52%
RI	<b>248,079,576</b>	248,079,576	0	0.00%
ID	<b>254,876,947</b>	154,588,924	100,288,023	39.35%

**Table Q. Comparison of Physician Medicare Payments, Total Dollars, by Service Type**

Physician - (Top 10 Specialties by Total Dollars)	Total Dollars for Specialty (\$)	Percent of Phys Total	Average Cost Per Beneficiary (\$)
PHYS_PRIMARY_CARE	<b>18,935,286,872</b>	21.46%	592
PHYS_CARDIOLOGY	<b>7,634,175,522</b>	8.65%	239
PHYS_OPHTHALMOLOGY	<b>6,797,505,738</b>	7.70%	213
PHYS_HEMATOLOGY_ONCOLOGY	<b>5,847,977,412</b>	6.63%	183
PHYS_DIAGNOSTIC_RADIOLOGY	<b>5,351,420,295</b>	6.06%	167
PHYS_ORTHOPEDIC_SURGERY	<b>3,719,234,524</b>	4.22%	116
PHYS_DERMATOLOGY	<b>2,837,615,865</b>	3.22%	89
PHYS_EMERGENCY_MEDICINE	<b>2,826,995,352</b>	3.20%	88
PHYS_UROLOGY	<b>2,363,464,054</b>	2.68%	74
PHYS_GENERAL_SURGERY	<b>2,242,650,878</b>	2.54%	70

From a per-beneficiary standpoint, the ten highest payment states represent 56.66% of total Medicare physician payments. For these states, payments to rural residents are 84.38% less than payments made to urban residents.

**Table R. Top 10 States by Total Physician Medicare payments per-Beneficiary by Rural Variance to Urban**

State	Total	Urban	Rural	Urban Variance to Rural
CA	2,664	2,712	1,810	<b>33.26%</b>
NY	3,205	3,322	2,256	<b>32.09%</b>
CO	2,247	2,409	1,669	<b>30.72%</b>
NH	1,712	1,962	1,409	<b>28.19%</b>
WY	1,837	2,271	1,638	<b>27.87%</b>
MI	2,988	3,194	2,365	<b>25.95%</b>
AZ	2,946	3,023	2,346	<b>22.39%</b>
MT	1,662	1,961	1,523	<b>22.34%</b>
VT	1,446	1,737	1,350	<b>22.28%</b>
NV	2,943	3,050	2,409	<b>21.02%</b>

**Table S. Bottom 10 States by Total Physician Medicare payments per-Beneficiary by Rural Variance to Urban**

<b>State</b>	<b>Total</b>	<b>Urban</b>	<b>Rural</b>	<b>Urban Variance to Rural</b>
AK	2,044	1,894	2,539	<b>-34.05%</b>
SC	2,743	2,703	2,845	<b>-5.25%</b>
NC	2,616	2,568	2,695	<b>-4.95%</b>
FL	4,080	4,071	4,170	<b>-2.43%</b>
NM	1,943	1,935	1,953	<b>-0.93%</b>
GA	2,863	2,869	2,847	<b>0.77%</b>
DE	2,728	2,749	2,683	<b>2.40%</b>
WV	2,296	2,345	2,246	<b>4.22%</b>
AL	2,945	2,991	2,864	<b>4.25%</b>
TN	2,672	2,717	2,597	<b>4.42%</b>



## Medicare Beneficiary Payments for Rural Populations

### Top 10 and Bottom 10 States in Terms of Rural Percentage of Medicare Payments

Variation exists among states in the percentage of rural payments made to Medicare beneficiaries. Tables T and U identify the Top 10 and Bottom 10 states in terms of the richness of total Medicare payments.

**Table T. "Rural States" -- Top 10 States (Rural Medicare Payments as a Percentage of Total Medicare Payments)**

State	Total Payments (\$)	Total Rural Payments (\$)	Difference (\$)	Rural Percent of Total
VT	607,678,007	433,862,621	173,815,386	<b>71.40%</b>
MT	750,874,306	488,870,767	262,003,539	<b>65.11%</b>
WY	474,590,595	304,357,519	170,233,076	<b>64.13%</b>
MS	3,643,763,565	2,248,376,502	1,395,387,063	<b>61.70%</b>
SD	739,950,244	442,931,967	297,018,277	<b>59.86%</b>
ND	583,004,108	344,350,599	238,653,509	<b>59.06%</b>
NE	1,646,666,099	869,491,054	777,175,045	<b>52.80%</b>
IA	2,850,887,918	1,505,054,721	1,345,833,197	<b>52.79%</b>
KY	4,937,040,900	2,514,262,550	2,422,778,350	<b>50.93%</b>
WV	2,255,824,124	1,135,182,752	1,120,641,372	<b>50.32%</b>

**Table U. "Urban States" -- Bottom 10 States (Rural Medicare Payments as a Percentage of Total Medicare Payments)**

State	Total Payments (\$)	Total Rural Payments (\$)	Difference (\$)	Rural Percent of Total
DC	574,224,738	0	574,224,738	<b>0.00%</b>
NJ	9,387,106,032	0	9,387,106,032	<b>0.00%</b>
RI	793,653,638	0	793,653,638	<b>0.00%</b>
MA	5,797,890,790	25,427,114	5,772,463,676	<b>0.44%</b>
CA	20,957,042,796	918,763,736	20,038,279,060	<b>4.38%</b>
MD	5,680,450,135	412,925,188	5,267,524,947	<b>7.27%</b>
FL	20,601,605,275	1,804,131,532	18,797,473,743	<b>8.76%</b>
NY	16,620,836,816	1,528,098,784	15,092,738,032	<b>9.19%</b>
CT	3,292,307,745	303,815,521	2,988,492,224	<b>9.23%</b>
AZ	4,229,654,773	475,670,952	3,753,983,821	<b>11.25%</b>

**Table V. Top 5 and Bottom 5 states with largest Per-capita variance of Rural vs. Urban (cost per beneficiary)**

	State	Total Payments (\$)	Variance (%)
Top 5	AK	390,397,368	-103.03%
	WY	474,590,595	18.17
	VT	607,678,007	18.01
	MI	11,606,916,954	17.43
	NY	16,620,836,816	15.39
Bottom 5	ME	1,418,190,890	-0.37%
	KY	4,937,040,900	-0.73%
	OK	3,927,239,428	-0.85%
	UT	1,135,132,587	-1.41%
	ID	957,222,233	-1.61%

**Table W. Top 5 and Bottom 5 states for total (IP, OP, Physician) average cost per beneficiary**

	State	Cost per Beneficiary (\$)	Total Payments (\$)
Top 5	LA	8,940	4,668,054,687
	FL	8,759	20,601,605,275
	DC	8,419	574,224,738
	MI	8,396	11,606,916,954
	TX	8,342	20,031,899,527
Bottom 5	HI	5,050	607,313,535
	OR	5,254	1,881,717,437
	MT	5,422	750,874,306
	NH	5,667	1,142,910,874
	VT	5,741	607,678,007

**Table X. Top 5 and Bottom 5 states for total (IP, OP, physician) variance (rural vs. urban) in average cost per beneficiary**

	State	Rural Cost Variance (%)	Total Rate (\$)
Top 5	WY	18.17	6,375
	VT	18.01	5,741
	MI	17.43	8,396
	NY	15.39	8,086
	CA	15.05	7,135
Bottom 5	AK	(103.03)	7,295
	SC	(14.65)	5,863
	NM	(14.65)	7,554
	NC	(12.95)	7,396
	GA	(10.27)	7,744

## Study Area B: Hospital Performance

### HOSPITALS

The Hospital Strength Index™ utilizes publicly available data sets to quantify overall hospital performance in eight domains, or pillars. Of particular importance to ACO development are clinical quality as indicated by CMS process of care and Outcome measures, patient satisfaction as demonstrated through HCAHPS scores and cost efficiency as revealed through Medicare Cost Reports. The sections below summarize the performance variation between rural and urban hospitals according to these relevant measure sets.

- **Hospital Compare Process of Care Measures** – Averages of raw indicator measures (percentages) are calculated to produce domain composite scores. All available data are used in the calculation of mean averages. Missing data within measure sets are ignored.
  - **Heart Attack (AMI):** In summary, rural and urban hospitals have similar levels of performance on AMI measures: At the 75<sup>th</sup> percentile, rural hospitals outperform urban hospitals by 1% and at the 50<sup>th</sup> percentile, rural hospitals perform statistically similar as urban hospitals.
  - **Heart Failure (HF):** Urban hospitals perform slightly better than their rural counterparts on HF measures: At the 75<sup>th</sup> percentile, rural hospitals underperform urban hospitals by 3% and at the 50<sup>th</sup> percentile, rural hospitals underperform urban hospitals by 7%.
  - **Pneumonia (PN):** In summary, at the 75<sup>th</sup> and 50<sup>th</sup> percentiles, rural and urban hospitals have similar levels of performance on PN measures: At the 75<sup>th</sup> percentile, rural hospitals underperform urban hospitals by 1% and at the 50<sup>th</sup> percentile, rural hospitals underperform urban hospitals by 3%.
  - **Surgical Care Improvement Program (SCIP):** In summary, rural and urban hospitals have similar levels of performance on SCIP measures: At the 75<sup>th</sup> percentile, rural hospitals underperform urban hospitals by 1% and at the 50<sup>th</sup> percentile, rural hospitals underperform urban hospitals by 3%.

**FINDING:** Rural hospital performance on relevant CMS Process of Care measures is on par with urban hospitals.

- **Hospital Compare Outcomes of Care Measures** – Mean averages of raw indicator measures (percentages) are calculated to produce domain composite scores. All available data are used in the calculation of mean averages. Missing data within measure sets are ignored.
  - **30-Day Readmission Rates for AMI, HF and PN:** In summary, there is no statistical variation in the performance of rural vs. urban hospitals: At the 75<sup>th</sup> percentile, rural

and urban hospitals have similar performance (1% variation) and at the 50<sup>th</sup> percentile, rural and urban hospitals have similar performance (1% variation).

- **30-Day All-Cause Mortality Rates for AMI, HF and PN:** In summary, rural hospitals perform slightly better than their urban counterparts based on the Hospital Compare-published assessment of 30-Day mortality rates. Specifically, at the 75<sup>th</sup> percentile, rural hospitals outperform urban hospitals by 4%, at the 50<sup>th</sup> percentile, rural hospitals outperform urban hospitals by 2% and at the 25<sup>th</sup> percentile, rural hospitals outperform urban hospitals by 2%.

**FINDING:** Rural hospital performance CMS Outcomes measures is better than urban hospitals.

- **Hospital Compare Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) Measures (“Definitely Recommend”)** – Mean averages of raw indicator measures are calculated to produce a composite score. All available data are used in the calculation of mean averages. Missing data within measure sets are ignored. Specifically, at the 75<sup>th</sup> percentile, rural hospitals underperform urban hospitals by 1%, at the 50<sup>th</sup> percentile, rural hospitals underperform urban hospitals by 1% and at the 25<sup>th</sup> percentile, rural hospitals underperform urban hospitals by 2%.

- **Hospital Compare Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) Measures (“Overall Rating 9-10”)** – Mean averages of raw indicator measures are calculated to produce a composite score. All available data are used in the calculation of mean averages. Missing data within measure sets are ignored. Specifically, at the 75<sup>th</sup> percentile, rural hospitals outperform urban hospitals by 3%, at the 50<sup>th</sup> percentile, rural hospitals outperform urban hospitals by 3%, and at the 25<sup>th</sup> percentile, rural hospitals outperform urban hospitals by 3%.

**FINDING:** Rural hospital performance on HCAHPS inpatient satisfaction survey measures is better than urban hospitals.

- **Medicare Case-Mix Adjusted Average Inpatient Costs and Charges** – An overall average cost-to-charge ratio is computed for each hospital based on total charges and costs as reported in the Medicare Hospital Cost Report Information System. To calculate Inpatient average costs and charges, a hospital’s cost-to-charge ratio is applied to MedPAR Inpatient charge data at the claim/patient level and adjusted based on the CMS-assigned case weight for that claim’s MS-DRG code. A hospital’s adjusted costs and charges are aggregated for all Inpatients to derive overall averages.

- **Medicare Inpatient Costs.** In summary, on a case-mix adjusted basis, average Medicare inpatient costs are significantly lower for rural hospitals than urban hospitals. This is consistent across all quartiles. Specifically, at the 75th percentile, rural hospitals have 18% lower costs than urban hospitals, at the 50th percentile, rural

hospitals have 20% lower costs than urban hospitals and at the 25th percentile, rural hospitals have 20% lower costs than urban hospitals.

- **Medicare Inpatient Charges.** In summary, on a case-mix adjusted basis, average Medicare inpatient charges are significantly lower for rural hospitals than urban hospitals. This is consistent across all quartiles. Specifically, at the 75th percentile, rural hospitals have 42% lower charges than urban hospitals, at the 50th percentile, rural hospitals have 46% lower charges than urban hospitals, and at the 25th percentile, rural hospitals have 50% lower charges than urban hospitals.
- **Medicare Case-Mix Adjusted Average Outpatient Costs and Charges –** To calculate Outpatient average costs and charges, a hospital's cost-to-charge ratio is applied to Medicare Outpatient Standard Analytical File charge data at the claim/HCPCS level (no data sampling) and adjusted based on the CMS-assigned case weight for that claim's APC (Ambulatory Payment Classification) code. A hospital's adjusted costs and charges are aggregated for all Outpatients to derive overall averages.
  - **Medicare Outpatient Costs.** Average case-mix adjusted Medicare outpatient costs are lower for urban hospitals compared to rural hospitals at the 50<sup>th</sup> and 25<sup>th</sup> quartiles. Specifically, at the 75<sup>th</sup> percentile, performance between the two cohorts is zero; however, at the 50th percentile, urban hospitals have 4% lower costs than rural hospitals.
  - **Medicare Outpatient Charges.** In summary, on a case-mix adjusted basis, average Medicare outpatient charges are significantly lower for rural hospitals than urban hospitals. This is consistent across all quartiles. Specifically, at the 75th percentile, rural hospitals have 25% lower charges than urban hospitals, at the 50th percentile, rural hospitals have 29% lower charges than urban hospitals, and at the 25th percentile, rural hospitals have 33% lower charges than urban hospitals.

**FINDING:** Rural hospital performance on price and cost efficiency measures based on Medicare Cost Reports is better than urban hospitals.

## Study Area C: Emergency Department Performance

iVantage Health Analytics' client base represents over 10% of all U.S. hospitals, including more than 10% of all Critical Access Hospitals (CAH) in the country. One of its core products is EDManage, a Web-based application that collects, reports and benchmark data for individual Emergency Department visits. Over the course of the past four years, patient-level operational data for over 2.2 million Emergency Department visits have been warehoused, aggregated and indexed. For this portion of the study, iVantage analyzed its proprietary EDManage database for visits during the 2010 calendar year (January 1, 2010 through December 31, 2010).

### ED Wait Times

- Critical Access Hospitals have a total throughput time that is, on average, 24% faster than mean times reported by the Centers for Disease Control (CDC) (119 vs. 156 min)<sup>1</sup> and more than twice as fast as median times reported in a 2010 Press Ganey Emergency Department study (98 vs. 247 minutes)<sup>2</sup>.
- Total time in the Emergency Department for EDManage visits increased 8% from 2007-2009, owing to a 37% spike in utilization.
- It takes about half as long, on average, to see a physician in a rural location than in a larger urban hospital (29 vs. 56 minutes)<sup>1</sup>.

### ED Admissions: Inpatient, Observations and Transfers

- In 2010, rural Emergency Departments admitted, on average, approximately 5% of their visits to their hospital's general acute/inpatient unit. The CDC cites an average of 12.5% of all Emergency Department visits at urban facilities are admitted to their inpatient units<sup>3</sup>.
- Rural Emergency Departments have seen a 13% decrease in the average number of inpatient admissions from 2007-2010. In contrast, Emergency Department admissions to observation units have increased 21%. When inpatient and observation admissions are combined there is a fairly constant 8.7% of all ED visits annually being admitted to the hospital compared to the CDC-reported 12.5% national Emergency Department inpatient admission rate.
- The average transfer rate of 4% for Critical Access Hospital Emergency Departments is significantly higher than the 1.8% transfer rate reported in the CDC study<sup>3</sup>.

### Patient Acuity

- In 2010 iVantage found that 21% of CAH Emergency Department utilization was for non-urgent visits as codified by the Agency for Healthcare Research (AHRQ) Patient Severity Index. An additional 32% of visits were for semi-urgent visits. In total, more than 50% of all Emergency Department visits to CAHs were categorized as low acuity cases. This highlights the importance of the rural Emergency Department as a primary care "safety net" location.

## DISCUSSION

The three categories of findings contained in this study depict a rural healthcare delivery system profile at odds with conventional wisdom. Quantitative analysis of public and proprietary data reveal that rural beneficiaries consume, on a per capita basis, fewer Medicare resources than their urban counterparts. In addition, rural hospitals, on average, tend to have just as high quality and safety, slightly higher patient satisfaction, and lower costs and prices than urban hospital providers. Last, small and rural community hospital Emergency Departments tend to treat patients with lower acuity at a higher rate of efficiency than urban Emergency Departments. These findings provide important insights for healthcare executives focused on the design, development and management of ACOs, most of which will circumscribe a catchment area including rural areas. As a result, we offer the following questions for consideration:

### Medicare ACO Data File Considerations

- What factors best explain the variance in per capital rural vs. urban Medicare beneficiary payments?
- Why do rural beneficiaries consume fewer Physician services than Outpatient services, relative to their urban beneficiary counterparts?
- What are the underlying reasons for the low utilization of Physician services among rural beneficiaries, and is this lack of Medicare payment optimal from a public policy standpoint?
- Is there a causal relationship between rural beneficiaries consuming fewer Physician resources yet higher Outpatient services?
- If lower Medicare payments to rural beneficiaries for Physician services are driven by lack of provider availability, then what strategies can/will ACOs employ to fill this gap from a prevention and wellness perspective?
- To what degree does cost-based reimbursement for Critical Access Hospitals impact the total Medicare payments (especially Inpatient and Outpatient) for rural beneficiaries?
- To what degree is rural beneficiary use of Emergency Department services for routine primary care a contributing factor to higher average rural beneficiary Outpatient Medicare payments?
- Are there strategic opportunities to rebalance the location of services to urban settings, with a particular focus on routine and primary care (yield management)?

### Hospital Strength Index™ Considerations

- Given performance parity between urban and rural providers, are ACO developers prepared to view rural hospitals as legitimate, credible patient care partners?
- For the most common, standard, evidence-based process of care measures, rural hospitals perform on par with urban providers. How can ACO developers better understand rural hospital performance on more acute, intense inpatient care?
- Rural hospitals fare well with patient satisfaction scores; how can this attitude among rural residents toward their local hospital be leveraged by ACOs to encourage patients to stay at lower-cost providers for clinically indicated inpatient care?

- What economic advantage do rural hospitals provide an ACO given that on average rural hospitals have lower costs and lower prices?

### **Rural Emergency Department Considerations**

- With growing utilization, lower patient acuity and stable admission levels, rural Emergency Departments will become an important patient management hub as ACOs become accountable for, and adopt risk for, defined populations outside metropolitan areas.
- How can the significant operational performance advantage evinced by rural Emergency Departments be leveraged by urban-based ACOs?
- Are there strategic opportunities to divert suburban Emergency Department visits to rural providers to decrease costs and wait times?
- If rural Emergency Departments appear to function increasingly as quasi-primary care practices, what role will they play in ACO development?
- In an ACO that includes small rural and community hospitals, there is significant opportunity (and risk) in the effective management of patient coordination, specifically with effective Emergency Department transfers and admissions. To what extent should questions center on the quality of care at rural Emergency Departments, the proper location of services for rural residents, and whether care coordination can lower costs and improve care?



## Appendix A

### Summary of ACO Data File Management

iVantage maintains an extensive data warehouse infrastructure, managing public and proprietary databases for hospitals and health systems across the country. There were four sources of data for this analysis:

- The current public CMS Shared Savings Data Files
- The CMS 2010 Denominator file
- Wage indices by Core-Based Statistical Area (CBSA) from the Federal Register files accompanying the Fiscal Year 2012 Inpatient Prospective Payment Rules, (FY 2012 Final Rule Wage Index Tables dated July 29, 2011)
- ZIP Code to county cross reference file from ESRI, Inc., a national provider of demographic and geographic information system (GIS) products widely used by the federal government.

In support of the ACO Data File portion of this study, iVantage performed the following data management processes:

1. Downloaded the most recent public **CMS Shared Savings Data Files**, dated May 25, 2011 from [http://www.cms.gov/sharedsavingsprogram/Downloads/Medicare\\_Data\\_to\\_Calculate\\_Your\\_Primary\\_Service\\_Areas.zip](http://www.cms.gov/sharedsavingsprogram/Downloads/Medicare_Data_to_Calculate_Your_Primary_Service_Areas.zip) . These data are organized into the following files:

**Physician file:** This data set includes all physician fee-for-service claims for calendar year 2010 (1/1/2010-12/31/2010). Claims selected for the data set contain at least one of the specialty codes on the Physician Specialty file available on this web page. Claims are final action and the line allowed charges are aggregated by the beneficiary zip code on the claim and summarized by specialty category.

**Inpatient facility file:** This data set includes all Inpatient fee for service claims for Federal FY 2010 (10/1/2009-9/30/2010) and covers facilities paid under the Inpatient Prospective Payment System (IPPS), Critical Access Hospitals (CAHs), the Inpatient Rehabilitation Facility Prospective Payment System (IRF), Inpatient Psychiatric Prospective Payment System (IPS), Long Term Care Hospital Prospective Payment system (LTCH), Indian Health Service Hospitals (IHS), Children's Hospitals (to extent for which the CMS has data available), Cancer Hospitals and TEFRA Hospitals. Claims are final action and total payments include the Medicare Claim payment amount, the Beneficiary Inpatient Deductible Amount, the Beneficiary Part A Coinsurance Liability Amount and the Beneficiary Blood Deductible Liability Amount. Payments are aggregated by the beneficiary zip code on the claim.

**Outpatient facility file:** This data set includes all outpatient fee for service claims for calendar year 2010 (1/1/2010-12/31/2010) for facilities that include Ambulatory Surgical Centers (ASCs), Outpatient Prospective Payment Systems (OPPS) facilities, Critical Access Hospitals (CAHs), Comprehensive Outpatient Rehabilitation Facilities (CORFs), Community Mental Health Centers (CMHCs), End-Stage Renal Disease facilities (ESRD), Federally Qualified Health Centers (FQHCs), Outpatient Rehabilitation Facilities (ORFs) and Rural Health Clinics. Claims are final action and include any co-payments and/or

deductibles that apply. Medicare Payments (and line allowed charge amounts in the case of ASCs) are aggregated by the beneficiary zip code on the claim.

Each file contains an aggregate dollar amount, reflecting total Medicare payments or allowed charges including deductibles and co-insurance, for each zip code.

- a. Aggregated and organized individual zip codes into long write up for CBSA (CBSA) designations
- b. Assigned Rural or Urban designations to zip code groups based on CBSA designation, with Rural defined as all Rural CBSA areas and all Micropolitan CBSA areas that are not part of an Urban CBSA
- c. Summed Total Medicare Payments at the CBSA level and applied a Wage Index Adjustment to calculate adjusted Medicare payments

**2. 2010 CMS Denominator file** purchased from CMS under a CMS Data Use Agreement. This file contains one record for every person covered by Medicare at any time during calendar year 2010. This file shows, for every person, the number of months of eligibility for Part A (HI, Hospital Insurance), Part B (SMI, Supplemental Medical Insurance), and Part C (HMO participation).

- a. Summarized the number of months covered in Part A, Part B, and Part C for each person, dividing by 12 to get Person Years in Parts A, B, and C.
- b. Assigned the ZIP code to the county, then the county to the CBSA assigned by ESRI. If the CBSA was designated as a Metropolitan CBSA, it was considered Urban. If the CBSA was designated as a Micropolitan CBSA or Rural, it was considered Rural for the purposes of this analysis.
- c. Summarized the number of Person Years in Parts A, B, and C by county, CBSA, Rural/Urban, and State, excluding the HMO Person Years from Parts A and B Person Years as their payments were excluded from the Shared Savings data.

## Appendix B

### Total Spending per Medicare Beneficiary, by State

State	Total Rate (\$)	r#	Rural Rate (\$)	Urban Rate (\$)
AK	7,295	26	11,942	5,882
AL	7,839	39	8,131	7,678
AR	7,464	29	7,613	7,330
AZ	7,218	24	7,401	7,195
CA	7,135	21	6,109	7,191
CO	6,393	15	5,814	6,548
CT	7,147	22	6,622	7,205
DC	8,419	49	0	8,419
DE	7,345	27	7,436	7,303
FL	8,759	50	9,559	8,689
GA	7,744	38	8,313	7,539
HI	5,050	1	5,136	5,013
IA	6,362	13	6,240	6,503
ID	5,887	8	5,942	5,848
IL	7,894	41	7,386	8,007
IN	7,582	33	7,102	7,741
KS	7,273	25	7,389	7,191
KY	7,851	40	7,879	7,822
LA	8,940	51	9,156	8,834
MA	6,820	20	5,810	6,826
MD	7,913	42	7,521	7,945
ME	6,157	12	6,169	6,146
MI	8,396	48	7,241	8,769
MN	7,473	30	7,120	7,669
MO	7,586	34	7,473	7,646
MS	8,116	45	8,064	8,202
MT	5,422	3	5,176	5,950
NC	7,396	28	7,964	7,051
ND	5,860	6	5,661	6,172
NE	6,718	17	6,645	6,802
NH	5,667	4	5,267	5,991
NJ	8,214	46	0	8,214
NM	5,863	7	6,315	5,508
NV	7,162	23	6,895	7,213
NY	8,086	44	6,956	8,221
OH	8,052	43	7,729	8,152
OK	7,678	37	7,713	7,648
OR	5,254	2	5,313	5,218
PA	7,670	36	7,431	7,730
RI	6,767	18	0	6,767
SC	7,554	32	8,325	7,261
SD	5,917	10	5,855	6,012
TN	7,540	31	7,739	7,426
TX	8,342	47	8,573	8,283
UT	6,130	11	6,202	6,116
VA	6,799	19	7,023	6,738
VT	5,741	5	5,446	6,642
WA	5,901	9	5,752	5,936
WI	6,594	16	6,322	6,724
WV	7,630	35	7,781	7,483
WY	6,375	14	5,959	7,282
<b>Total</b>	<b>7,576</b>		<b>7,369</b>	<b>7,638</b>

**Appendix C**  
**Total Spending by Setting of Care, by State**

State	Total Dollars (\$)	d#	IP Total Dollars (\$)	OP Total Dollars (\$)	Physician Total Dollars (\$)
AK	390,397,368	51	216,609,746	75,830,379	97,957,243
AL	5,169,336,998	18	2,533,575,876	826,567,742	1,809,193,380
AR	3,397,045,997	28	1,779,551,838	557,377,889	1,060,116,271
AZ	4,229,654,773	24	2,073,674,028	602,631,339	1,553,349,406
CA	20,957,042,796	1	10,881,804,008	2,877,187,685	7,198,051,103
CO	2,591,064,276	32	1,271,275,937	495,862,783	823,925,556
CT	3,292,307,745	29	1,708,501,619	471,664,344	1,112,141,782
DC	574,224,738	49	346,697,928	65,789,364	161,737,445
DE	1,049,757,899	41	523,864,154	161,922,373	363,971,373
FL	20,601,605,275	2	9,005,608,252	2,719,406,110	8,876,590,913
GA	7,437,851,465	11	3,695,650,746	1,173,227,950	2,568,972,768
HI	607,313,535	47	314,098,409	103,544,235	189,670,890
IA	2,850,887,918	30	1,407,147,246	534,801,204	908,939,467
ID	957,222,233	42	470,118,937	232,226,349	254,876,947
IL	12,901,883,607	5	6,657,968,208	2,002,682,913	4,241,232,487
IN	6,385,881,459	13	3,283,238,249	1,107,616,147	1,995,027,063
KS	2,793,198,633	31	1,383,806,715	501,961,881	907,430,038
KY	4,937,040,900	19	2,655,399,987	850,629,531	1,431,011,383
LA	4,668,054,687	21	2,541,898,267	805,646,915	1,320,509,505
MA	5,797,890,790	16	3,200,287,137	1,028,671,786	1,568,931,867
MD	5,680,450,135	17	3,560,736,606	186,751,997	1,932,961,532
ME	1,418,190,890	37	727,630,312	314,762,192	375,798,386
MI	11,606,916,954	6	5,840,406,296	1,879,050,883	3,887,459,774
MN	3,422,241,448	27	1,932,558,403	686,416,952	803,266,093
MO	6,003,620,335	15	3,134,695,749	1,100,667,150	1,768,257,437
MS	3,643,763,565	26	1,959,269,842	616,227,849	1,068,265,874
MT	750,874,306	44	367,069,605	169,820,084	213,984,617
NC	9,053,526,716	10	4,509,362,330	1,523,681,889	3,020,482,497
ND	583,004,108	48	286,134,171	142,362,847	154,507,090
NE	1,646,666,099	36	835,689,848	299,441,564	511,534,687
NH	1,142,910,874	39	576,549,281	257,856,319	308,505,275
NJ	9,387,106,032	9	4,598,078,243	1,143,747,357	3,645,280,432
NM	1,348,467,563	38	687,275,827	254,501,990	406,689,746
NV	1,771,112,765	35	929,701,463	212,810,533	628,600,769
NY	16,620,836,816	4	8,916,046,504	1,886,358,221	5,818,432,091
OH	10,116,096,209	8	5,315,990,485	1,693,631,598	3,106,474,126
OK	3,927,239,428	25	2,106,370,981	656,988,543	1,163,879,904
OR	1,881,717,437	34	933,856,516	371,058,404	576,802,517
PA	10,829,516,312	7	5,678,149,300	1,614,972,153	3,536,394,859
RI	793,653,638	43	417,422,866	128,151,196	248,079,576
SC	4,877,675,793	20	2,418,010,090	782,632,485	1,677,033,218
SD	739,950,244	45	370,766,741	156,871,895	212,311,607
TN	6,005,879,671	14	3,095,053,137	938,272,090	1,972,554,443
TX	20,031,899,527	3	10,342,906,050	3,024,272,377	6,664,721,100
UT	1,135,132,587	40	497,269,987	257,507,388	380,355,212
VA	6,558,122,029	12	3,233,764,400	1,076,643,472	2,247,714,157
VT	607,678,007	46	321,645,802	144,058,133	141,974,073
WA	4,280,219,942	22	2,126,525,929	832,353,712	1,321,340,300
WI	4,245,840,006	23	2,182,848,305	823,782,608	1,239,209,093
WV	2,255,824,124	33	1,232,509,107	392,374,565	630,940,453
WY	474,590,595	50	262,063,528	84,984,788	127,542,278
<b>Total</b>	<b>264,430,387,242</b>		<b>135,347,134,991</b>	<b>40,848,262,151</b>	<b>88,234,990,100</b>

**Appendix D**  
**Total Spending – Urban/Rural Comparison, by State**

State	Total Dollars (\$)	d#	Urban Dollars (\$)	Rural Dollars (\$)	Rural Percent of Total	p#
AK	390,397,368	51	241,417,894	148,979,474	38.16%	20
AL	5,169,336,998	18	3,262,893,422	1,906,443,576	36.88%	22
AR	3,397,045,997	28	1,747,738,248	1,649,307,749	48.55%	11
AZ	4,229,654,773	24	3,753,983,821	475,670,952	11.25%	42
CA	20,957,042,796	1	20,038,279,060	918,763,736	4.38%	47
CO	2,591,064,276	32	2,093,505,854	497,558,422	19.20%	37
CT	3,292,307,745	29	2,988,492,223	303,815,521	9.23%	43
DC	574,224,738	49	574,224,738	0	0.00%	--
DE	1,049,757,899	41	714,697,861	335,060,038	31.92%	26
FL	20,601,605,275	2	18,797,473,743	1,804,131,532	8.76%	45
GA	7,437,851,465	11	5,316,271,555	2,121,579,910	28.52%	30
HI	607,313,535	47	420,382,001	186,931,534	30.78%	28
IA	2,850,887,918	30	1,345,833,196	1,505,054,721	52.79%	8
ID	957,222,233	42	559,806,434	397,415,799	41.52%	17
IL	12,901,883,607	5	10,700,614,190	2,201,269,417	17.06%	39
IN	6,385,881,459	13	4,903,519,959	1,482,361,499	23.21%	31
KS	2,793,198,633	31	1,608,738,621	1,184,460,012	42.41%	15
KY	4,937,040,900	19	2,422,778,350	2,514,262,550	50.93%	9
LA	4,668,054,687	21	3,094,157,906	1,573,896,781	33.72%	25
MA	5,797,890,790	16	5,772,463,676	25,427,114	0.44%	48
MD	5,680,450,135	17	5,267,524,946	412,925,188	7.27%	46
ME	1,418,190,890	37	762,862,472	655,328,417	46.21%	14
MI	11,606,916,954	6	9,161,854,014	2,445,062,940	21.07%	34
MN	3,422,241,448	27	2,259,575,865	1,162,665,583	33.97%	23
MO	6,003,620,335	15	3,968,088,896	2,035,531,439	33.91%	24
MS	3,643,763,565	26	1,395,387,063	2,248,376,502	61.70%	4
MT	750,874,306	44	262,003,538	488,870,767	65.11%	2
NC	9,053,526,716	10	5,373,554,135	3,679,972,581	40.65%	18
ND	583,004,108	48	238,653,508	344,350,599	59.06%	6
NE	1,646,666,099	36	777,175,045	869,491,054	52.80%	7
NH	1,142,910,874	39	668,302,748	474,608,126	41.53%	16
NJ	9,387,106,032	9	9,387,106,032	0	0.00%	--
NM	1,348,467,563	38	709,208,452	639,259,111	47.41%	12
NV	1,771,112,765	35	1,498,745,192	272,367,573	15.38%	41
NY	16,620,836,816	4	15,092,738,032	1,528,098,784	9.19%	44
OH	10,116,096,209	8	7,827,220,384	2,288,875,825	22.63%	32
OK	3,927,239,428	25	2,111,011,224	1,816,228,204	46.25%	13
OR	1,881,717,437	34	1,154,435,116	727,282,320	38.65%	19
PA	10,829,516,312	7	8,739,435,934	2,090,080,378	19.30%	36
RI	793,653,638	43	793,653,638	0	0.00%	--
SC	4,877,675,793	20	3,395,660,822	1,482,014,970	30.38%	29
SD	739,950,244	45	297,018,277	442,931,967	59.86%	5
TN	6,005,879,671	14	3,756,066,835	2,249,812,836	37.46%	21
TX	20,031,899,527	3	15,826,840,482	4,205,059,045	20.99%	35
UT	1,135,132,587	40	944,088,802	191,043,785	16.83%	40
VA	6,558,122,029	12	5,101,797,382	1,456,324,646	22.21%	33
VT	607,678,007	46	173,815,387	433,862,621	71.40%	1
WA	4,280,219,942	22	3,486,831,646	793,388,295	18.54%	38
WI	4,245,840,006	23	2,928,146,905	1,317,693,101	31.03%	27
WV	2,255,824,124	33	1,120,641,373	1,135,182,752	50.32%	10
WY	474,590,595	50	170,233,076	304,357,519	64.13%	3
<b>Total</b>	<b>264,430,387,242</b>		<b>205,006,949,972</b>	<b>59,423,437,270</b>	<b>22.47%</b>	

## Appendix E

### References and Source Materials

<sup>1</sup> Pitts, Steven R, Richard W. Niska, Jianmin Xu, Catherine W. Burt. "National Hospital Ambulatory Medical Care Survey: 2006 Emergency Department Summary. National Health Statistics Report 2010." <http://www.cdc.gov/nchs/data/nhsr/nhsr026.pdf>

2 "Pulse Report 2010 Emergency Department: Patient Perspective on American Healthcare". Press Ganey. 2010. May 2010. [http://www.PressGaney.com/galleries.default-file/2010\\_ED\\_Pulse\\_Report.pdf](http://www.PressGaney.com/galleries.default-file/2010_ED_Pulse_Report.pdf)

3 Niska, Richard, Farida Bhuiya, Jianmin Xu. "National Hospital Ambulatory Medical Care Survey: 2007 Emergency Department Summary. National Health Statistics Report 2010." <http://www.cdc.gov/nchs/data/nhsr/nhsr026.pdf>

---

### About iVantage Health Analytics

iVantage Health Analytics, Inc.™ is a privately held healthcare business intelligence and technology company. The company was formed to be the parent company for Performance Management Institute LLC, The Healthcare Management Council, Inc., Health InfoTechnics, LLC, and The Ratings Guy, LLC. The businesses ultimately will consolidate assets and operations into one entity. The company is a leading provider of information products serving an expansive healthcare industry. iVantage Health Analytics™ integrates diverse information with innovative delivery platforms to ensure customers' timely, concise, and relevant strategic action.

**The most current version of this report and other research findings can be viewed or downloaded for free at [www.iVantageHealth.com](http://www.iVantageHealth.com)**

Link for online whitepaper:

<http://www.ivantagehealth.com/rural-relevance-under-healthcare-reform>

Link for PDF download:

[http://www.ivantagehealth.com/wp-content/uploads/2012/01/Rural-Relevance-Under-Healthcare-Reform .pdf](http://www.ivantagehealth.com/wp-content/uploads/2012/01/Rural-Relevance-Under-Healthcare-Reform.pdf)

DEPARTMENT OF HEALTH AND HUMAN SERVICES  
Centers for Medicare & Medicaid Services



## Critical Access Hospital



### RURAL HEALTH FACT SHEET SERIES

This publication provides the following information about Critical Access Hospitals (CAH):

- ❖ Background;
- ❖ CAH designation;
- ❖ CAH payments;
- ❖ Reasonable cost payment principles that do **not** apply to CAHs;
- ❖ Election of Standard Payment Method or Optional (Elective) Payment Method;
- ❖ Medicare Rural Pass-Through funding for certain anesthesia services;
- ❖ Incentive payments;
- ❖ Grants to States under the Medicare Rural Hospital Flexibility Program; and
- ❖ Resources.

### Background

Legislation enacted as part of the Balanced Budget Act (BBA) of 1997 authorized States to establish a State Medicare Rural Hospital Flexibility Program

---

CPT only copyright 2011 American Medical Association. All rights reserved. CPT is a registered trademark of the American Medical Association. Applicable FARS/DFARS Restrictions Apply to Government Use. Fee schedules, relative value units, conversion factors and/or related components are not assigned by the AMA, are not part of CPT, and the AMA is not recommending their use. The AMA does not directly or indirectly practice medicine or dispense medical services. The AMA assumes no liability for data contained or not contained herein.

(Flex Program) under which certain facilities participating in Medicare can become CAHs. The following providers may be eligible to become CAHs:

- ❖ Currently participating Medicare hospitals;
- ❖ Hospitals that ceased operation after November 29, 1989; or
- ❖ Health clinics or centers (as defined by the State) that previously operated as a hospital before being downsized to a health clinic or center.

Unlike facilities such as Medicare Dependent Hospitals or Sole Community Hospitals, CAHs represent a separate provider type with their own Medicare Conditions of Participation (CoP) as well as a separate payment method. The CoPs for CAHs are listed in the "Code of Federal Regulations" (CFR) at 42 CFR 485.601–647.





## Critical Access Hospital Designation

A Medicare participating hospital must meet the following criteria to be designated as a CAH:

- ❖ Be located in a State that has established a State rural health plan for the State Flex Program (as of September 2011, only Connecticut, Delaware, Maryland, New Jersey, and Rhode Island did not have a State Flex Program);
- ❖ Be located in a rural area or be treated as rural under a special provision that allows qualified hospital providers in urban areas to be treated as rural for purposes of becoming a CAH;
- ❖ Demonstrate compliance with the CoPs found at 42 CFR Part 485 subpart F at the time of application for CAH status;
- ❖ Furnish 24-hour emergency care services 7 days a week, using either on-site or on-call staff;
- ❖ Provide no more than 25 inpatient beds that can be used for either inpatient or swing bed services; however, it may also operate a distinct part rehabilitation or psychiatric unit, each with up to 10 beds;
- ❖ Have an average annual length of stay of 96 hours or less per patient for acute care (excluding swing bed services and beds that are within distinct part units); and
- ❖ Be located either more than a 35-mile drive from the nearest hospital or CAH or more than a 15-mile drive in areas with mountainous terrain or only secondary roads OR certified as a CAH prior to January 1, 2006, based on State designation as a “necessary provider” of health care services to residents in the area.

## Critical Access Hospital Payments

Medicare pays CAHs for most inpatient and outpatient services to Medicare beneficiaries at 101 percent of

reasonable costs. Under the Medicare ambulance benefit, if a CAH or an entity that is owned and operated by the CAH is the only provider or supplier of ambulance service located within a 35-mile drive of that CAH, the CAH or the CAH-owned and operated entity is paid 101 percent of the reasonable costs of the CAH or entity in furnishing ambulance services. Additionally, if there is no other provider or supplier of ambulance services within a 35-mile drive of the CAH but there is a CAH-owned and operated entity furnishing ambulance services that is more than a 35-mile drive from the CAH, that CAH-owned and operated entity can be paid 101 percent of reasonable costs for its ambulance services as long as it is the closest provider or supplier of ambulance services to the CAH. CAHs are not subject to the Inpatient Prospective Payment System (IPPS) and the Hospital Outpatient Prospective Payment System (OPPS).

The Medicare Part A and Part B deductible and coinsurance rules applicable to hospital services also apply to CAHs. All outpatient CAH services are subject to Part B deductible and coinsurance, with the exception of certain preventive services. To find additional information about Medicare preventive services, visit <http://www.cms.gov/PrevntionGenInfo> on the Centers for Medicare & Medicaid Services (CMS) website.

## Reasonable Cost Payment Principles That Do NOT Apply to Critical Access Hospitals

Payment for inpatient or outpatient CAH services is **not** subject to the following reasonable cost principles:

- ❖ Lesser of cost or charges; and
- ❖ Reasonable compensation equivalent limits.

In addition, payment to a CAH for inpatient CAH services is not subject to ceilings on hospital inpatient operating costs or the 1-day or 3-day preadmission payment window provisions applicable to hospitals paid under the IPPS and OPPS.

## Election of Standard Payment Method or Optional (Elective) Payment Method

*Standard Payment Method – Reasonable Cost-Based Facility Services, With Billing of Medicare Carrier or A/B Medicare Administrative Contractor for Professional Services*

Under Section 1834(g)(1) of the Social Security Act (the Act), a CAH is paid under the Standard Payment Method unless it elects to be paid under the Optional Payment Method. For cost reporting periods beginning



on or after January 1, 2004, outpatient CAH services payments have been increased to the lesser of:

- ❖ 80 percent of the 101 percent of reasonable costs for outpatient CAH services; or
- ❖ 101 percent of the reasonable costs of the CAH in furnishing outpatient CAH services less the applicable Part B deductible and coinsurance amounts.

Payment for professional medical services furnished in a CAH to registered CAH outpatients is made by the Medicare Carrier or A/B Medicare Administrative Contractor (MAC) under the Medicare Physician Fee Schedule (PFS), as is the case when such professional services are furnished in a hospital outpatient department. For purposes of CAH payment, professional medical services are defined as services furnished by a physician or other qualified practitioner.

#### *Optional Payment Method – Reasonable Cost-Based Facility Services Plus 115 Percent Fee Schedule Payment for Professional Services (Method 2)*

Under Section 1834(g)(2) of the Act, a CAH may elect the Optional Payment Method, under which it bills the Medicare Fiscal Intermediary (FI) or A/B MAC for both facility services and professional services to its outpatients. However, even if a CAH makes this election, each practitioner who furnishes professional services to CAH outpatients can choose whether to:

- ❖ Reassign his or her billing rights to the CAH, agree to be included under the Optional Payment Method, attest in writing that he or she will not bill the Medicare Carrier or A/B MAC for professional services furnished in the CAH outpatient department, and look to the CAH for payment for the professional services; or
- ❖ File claims for his or her professional services with the Medicare Carrier or A/B MAC for standard payment under the Medicare PFS (i.e., either by billing directly to the Medicare Carrier or A/B MAC or by authorizing the CAH to bill on his or her behalf via a valid reassignment of benefits).

If you, the practitioner who furnishes professional services to CAH outpatients, reassign your Part B billing rights and agree to be included under a CAH's Optional Payment Method, you must not bill the Medicare Carrier or A/B MAC for any outpatient professional services furnished at the CAH once the reassignment becomes effective. You must sign an attestation which clearly states that you will not bill the Medicare Carrier or A/B MAC for any services furnished in the CAH outpatient department once the reassignment has been given to the CAH. For each physician or practitioner who agrees to be included



under the Optional Payment Method and reassigns benefits accordingly, the CAH must forward a copy of the completed assignment form (Form CMS 855R) to the FI and Medicare Carrier or A/B MAC and keep the original on file. This attestation will remain at the CAH.

Once the Optional Payment Method is elected, it will remain in effect until the CAH submits a termination request to its FI or A/B MAC. A CAH is no longer required to make an annual election in order to be paid under the Optional Payment Method in a subsequent year. If a CAH elects to terminate its Optional Payment Method, the termination request must be submitted in writing to the FI or A/B MAC at least 30 days prior to the start of the next cost reporting period. The optional method election applies to all CAH professional services furnished in the CAH outpatient department by physicians and practitioners who have agreed to be included under the Optional Payment Method, completed a Form CMS 855R, and attested in writing that they will not bill the Medicare Carrier or A/B MAC for their outpatient professional services. To find Form CMS 855R, visit <http://www.cms.gov/CMSForms/CMSForms/list.asp> on the CMS website.

As of January 1, 2004, payment for outpatient CAH services under the Optional Payment Method is based on the sum of:

- ❖ For facility services – 101 percent of reasonable costs, after applicable deductions, regardless of whether the physician or practitioner has reassigned his or her billing rights to the CAH; and
- ❖ For physician professional services – 115 percent of the allowable amount, after applicable deductions, under the Medicare PFS. Payment for non-physician practitioner (NPP) professional services is 115 percent of the amount that otherwise would be paid for the practitioner's professional services under the Medicare PFS.

Effective January 1, 2007, the payment amount is 80 percent of the Medicare PFS for telehealth services when the distant site physician or other practitioner is located in a CAH that has elected the Optional Payment Method and the physician or practitioner has reassigned his or her benefits to the CAH.

### Medicare Rural Pass-Through Funding for Certain Anesthesia Services

CAHs may receive reasonable cost-based funding for certain anesthesia services as an incentive to continue to serve the Medicare population in rural areas. The “CFR” at 42 CFR 412.113(c) lists the specific requirements hospitals or CAHs must fulfill to receive rural pass-through funding from Medicare for anesthesia services furnished by certified registered nurse anesthetists (CRNA) that they employ or contract with to furnish such services to CAH patients. CAHs that qualify for CRNA pass-through payments receive reasonable cost-based payments for CRNA professional services regardless of whether they choose the Standard Payment Method or the Optional Payment Method for outpatient services, unless they opt to include CRNA outpatient professional services under their optional method election. For CAHs that opt to receive payment for outpatient anesthesia as a professional service, the anesthesia is paid on the anesthesia fee schedule and the CAH gives up the CRNA pass-through exemption for both outpatient and inpatient services.



## Incentive Payments

### Health Professional Shortage Area Incentive Bonus Payment

Physicians (including psychiatrists) who furnish care in a CAH that is located within a geographic-based, primary care Health Professional Shortage Area (HPSA) and psychiatrists who furnish care in a CAH that is located in a geographic-based mental health HPSA are eligible for a 10 percent HPSA bonus payment for outpatient professional services furnished to a Medicare beneficiary. If you, the physician, have reassigned your billing rights and the CAH has elected the Optional Payment Method, the CAH will receive 115 percent of the otherwise applicable Medicare PFS amount multiplied by 110 percent, based on all claims processed during the quarter.

On an annual basis CMS publishes an updated list of ZIP codes that are eligible for automatic payment of the HPSA bonus. The list is effective for services furnished on or after January 1 of each calendar year. If you furnished services in an area that is on the CMS list of ZIP codes, the HPSA bonus will be paid automatically on a quarterly basis. An area may be eligible for the HPSA bonus payment but the ZIP code may not be on the list because:

1. It does not fall entirely within a designated full county HPSA bonus area;
2. It is not considered to fall within the county based on a determination of dominance made by the U.S. Postal Service;
3. It is partially within a non-full county HPSA; or
4. Services are provided in a ZIP code area that was not included in the automated file of HPSA areas based on the date of the data used to create the file.

In these situations, you must utilize the AQ modifier – Physician providing a service in an unlisted Health Professional Shortage Area (HPSA) – to receive payment. You must verify that you are eligible for the bonus and that the modifier was used only if you are eligible during the current year. Only services furnished in an area that was designated as of December 31 of the prior year are eligible for the HPSA bonus during the current year.

Under the Affordable Care Act, effective for services furnished on and after January 1, 2011, general surgeons who furnish a 10- or 90-day global surgical procedure in ZIP codes that are located in a HPSA are eligible for a 10 percent HPSA bonus payment and a 10 percent HPSA Surgical Incentive Payment.

CPT only copyright 2011 American Medical Association. All rights reserved.

## Primary Care Incentive Payment

Under the Affordable Care Act, effective for services furnished on and after January 1, 2011, the following physician and NPP specialties are potentially eligible for a Primary Care Incentive Payment of 10 percent of allowed charges for Part B primary care services furnished to beneficiaries:

- ❖ Family, internal, geriatric, and pediatric medicine physicians;
- ❖ Clinical nurse specialists;
- ❖ Nurse practitioners; and
- ❖ Physician assistants.

Only those practitioners enrolled in Medicare with one of the specialties listed above **and** whose primary care services accounted for at least 60 percent of his or her allowed charges under the Medicare PFS (excluding hospital inpatient care and emergency department visits) during the designated period are eligible. Eligibility for the incentive payment is determined annually.

The chart below lists the primary care services that are eligible for the incentive payment.

Service	Current Procedural Terminology (CPT) Code
New and Established Patient Office or Other Outpatient Visits	CPT codes 99201 – 99215
Nursing Facility Care Visits and Domiciliary, Rest Home, or Home Care Plan Oversight Services	CPT codes 99304 – 99340
Patient Home Visits	CPT codes 99341 – 99350

The incentive payment is paid on a quarterly basis and is in addition to other applicable physician incentive payments.

## Grants to States Under the Medicare Rural Hospital Flexibility Program

The Flex Program, which was authorized by Section 4201 of the BBA (Public Law 105-33), consists of two separate but complementary components:

- ❖ A Medicare reimbursement program that provides reasonable cost-based reimbursement for Medicare-certified CAHs, which is administered by CMS; and

- ❖ A State grant program that supports the development of community-based rural organized systems of care in participating States, which is administered by the Health Resources and Services Administration through the Federal Office of Rural Health Policy.

To receive funds under the grant program, States must apply for the funds and engage in rural health planning through the development and maintenance of a State Rural Health Plan that:

- ❖ Designates and supports the conversions to CAHs;
- ❖ Promotes emergency medical services (EMS) integration initiatives by linking local EMS with CAHs and their network partners;
- ❖ Develops rural health networks to assist and support CAHs;
- ❖ Develops and supports quality improvement initiatives; and
- ❖ Evaluates State programs within the framework of national program goals.

## Resources

For more information about CAHs, refer to the following:

- ❖ The “Medicare Claims Processing Manual” (Publication 100-04) located at <http://www.cms.gov/Manuals/IOM/list.asp> on the CMS website;
- ❖ The “Critical Access Hospital” section of the Medicare Learning Network® publication titled “MLN Guided Pathways to Medicare Resources Provider Specific” booklet at [http://www.cms.gov/MLNEdWebGuide/Downloads/Guided\\_Pathways\\_Provider\\_Specific\\_Booklet.pdf](http://www.cms.gov/MLNEdWebGuide/Downloads/Guided_Pathways_Provider_Specific_Booklet.pdf) on the CMS website; and
- ❖ The “CFR” located at <http://www.gpo.gov/fdsys/search/home.action> on the U.S. Government Printing Office website.

For more information about HPSAs, including eligible ZIP codes, visit [http://www.cms.gov/hpsapsaphysicianbonuses/01\\_overview.asp](http://www.cms.gov/hpsapsaphysicianbonuses/01_overview.asp) on the CMS website. To find the compilation of Social Security laws, visit [http://www.ssa.gov/OP\\_Home/ssact/title18/1800.htm](http://www.ssa.gov/OP_Home/ssact/title18/1800.htm) on the U.S. Social Security Administration website. To find Medicare information for beneficiaries (e.g., Medicare basics, managing health, and resources), visit <http://www.medicare.gov> on the CMS website.

## Helpful Websites

### American Hospital Association Rural Health Care

<http://www.aha.org/advocacy-issues/rural>

### Critical Access Hospitals Center

<http://www.cms.gov/center/cah.asp>

### Disproportionate Share Hospital

[http://www.cms.gov/AcuteInpatientPPS/05\\_dsh.asp](http://www.cms.gov/AcuteInpatientPPS/05_dsh.asp)

### Federally Qualified Health Centers Center

<http://www.cms.gov/center/fqhc.asp>

### Health Resources and Services Administration

<http://www.hrsa.gov>

### Hospital Center

<http://www.cms.gov/center/hospital.asp>

### HPSA/PSA (Physician Bonuses)

<http://www.cms.gov/hpsapsaphysicianbonuses>

### Medicare Learning Network

<http://www.cms.gov/MLNGenInfo>

### National Association of Community Health Centers

<http://www.nachc.org>

### National Association of Rural Health Clinics

<http://www.narhc.org>

### National Rural Health Association

<http://www.ruralhealthweb.org>

### Rural Health Clinics Center

<http://www.cms.gov/center/rural.asp>

### Rural Assistance Center

<http://www.raconline.org>

### Swing Bed Providers

[http://www.cms.gov/SNFPPS/03\\_SwingBed.asp](http://www.cms.gov/SNFPPS/03_SwingBed.asp)

### Telehealth

<http://www.cms.gov/Telehealth>

### U.S. Census Bureau

<http://www.census.gov>

## Regional Office Rural Health Coordinators

Below is a list of contact information for CMS Regional Office Rural Health Coordinators who provide technical, policy, and operational assistance on rural health issues.

### Region I – Boston

#### Rick Hoover

E-mail: [rick.hoover@cms.hhs.gov](mailto:rick.hoover@cms.hhs.gov)

Telephone: (617) 565-1258

States: Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, and Vermont

### Region II – New York

#### Miechal Lefkowitz

E-mail:

[miechal.lefkowitz@cms.hhs.gov](mailto:miechal.lefkowitz@cms.hhs.gov)

Telephone: (212) 616-2517

States: New Jersey, New York, Puerto Rico, and Virgin Islands

### Region III – Philadelphia

#### Patrick Hamilton

E-mail:

[patrick.hamilton@cms.hhs.gov](mailto:patrick.hamilton@cms.hhs.gov)

Telephone: (215) 861-4097

States: Delaware, Maryland, Pennsylvania, Virginia, West Virginia, and the District of Columbia

### Region IV – Atlanta

#### Lana Dennis

E-mail: [lane.dennis@cms.hhs.gov](mailto:lane.dennis@cms.hhs.gov)

Telephone: (404) 562-7379

States: Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, and Tennessee

### Region V – Chicago

#### Christine Davidson

E-mail:

[christine.davidson@cms.hhs.gov](mailto:christine.davidson@cms.hhs.gov)

Telephone: (312) 886-3642

States: Illinois, Indiana, Michigan, Minnesota, Ohio, and Wisconsin

### Region VI – Dallas

#### Becky Peal-Sconce

E-mail:

[becky.peal-sconce@cms.hhs.gov](mailto:becky.peal-sconce@cms.hhs.gov)

Telephone: (214) 767-6444

States: Arkansas, Louisiana, New Mexico, Oklahoma, and Texas

### Region VII – Kansas City

#### Claudia Odgers

E-mail:

[claudia.odgers@cms.hhs.gov](mailto:claudia.odgers@cms.hhs.gov)

Telephone: (816) 426-6524

States: Iowa, Kansas, Missouri, and Nebraska

### Region VIII – Denver

#### Lyla Nichols

E-mail: [lyla.nichols@cms.hhs.gov](mailto:lyla.nichols@cms.hhs.gov)

Telephone: (303) 844-6218

States: Colorado, Montana, North Dakota, South Dakota, Utah, and Wyoming

### Region IX – San Francisco

#### Neal Logue

E-mail: [neal.logue@cms.hhs.gov](mailto:neal.logue@cms.hhs.gov)

Telephone: (415) 744-3551

States: Arizona, California, Hawaii, Nevada, Guam, Commonwealth of the Northern Mariana Islands, American Samoa, Marshall Islands, Republic of Palau, and Federated States of Micronesia

### Region X – Seattle

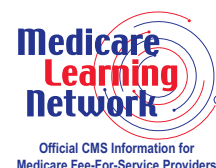
#### Teresa Cumpston

E-mail:

[teresa.cumpton@cms.hhs.gov](mailto:teresa.cumpton@cms.hhs.gov)

Telephone: (206) 615-2391

States: Alaska, Idaho, Oregon, and Washington



This fact sheet was current at the time it was published or uploaded onto the web. Medicare policy changes frequently so links to the source documents have been provided within the document for your reference.

This fact sheet was prepared as a service to the public and is not intended to grant rights or impose obligations. This fact sheet may contain references or links to statutes, regulations, or other policy materials. The information provided is only intended to be a general summary. It is not intended to take the place of either the written law or regulations. We encourage readers to review the specific statutes, regulations, and other interpretive materials for a full and accurate statement of their contents.

Your feedback is important to us and we use your suggestions to help us improve our educational products, services and activities and to develop products, services and activities that better meet your educational needs. To evaluate Medicare Learning Network® (MLN) products, services and activities you have participated in, received, or downloaded, please go to <http://www.cms.gov/MLNProducts> and click on the link called 'MLN Opinion Page' in the left-hand menu and follow the instructions.

Please send your suggestions related to MLN product topics or formats to [MLN@cms.hhs.gov](mailto:MLN@cms.hhs.gov).

The Medicare Learning Network® (MLN), a registered trademark of CMS, is the brand name for official CMS educational products and information for Medicare Fee-For-Service Providers. For additional information, visit the MLN's web page at <http://www.cms.gov/MLNGenInfo> on the CMS website.