

Adopting Technological Innovation in Hospitals: Who Pays and Who Benefits?

To meet their mission of high-quality health care, America's hospitals must continually adopt innovative clinical and information technology. Adding new technology can reduce health care costs by minimizing complications, reducing duplicative tests and improving outcomes. Enhancing the health information technology (IT) infrastructure further benefits the health of the community at large through disease surveillance and health information exchange.

Implementing new technology is costly to hospitals while the benefits – both financial and non-financial – accrue somewhat to hospitals but primarily to

payers and patients. Contrast this to other industries where most technology directly improves productivity, generates savings and thus builds profitability for the entity that invested in the new technology.

Medicare payment policies that support hospitals' investment in clinically-proven technologies will ensure that Medicare beneficiaries have access to high-quality care. Support for hospitals' adoption of technological innovations ultimately benefits both Medicare beneficiaries and the Medicare program as a whole.

Unfortunately, new technology add-on and pass-through payments do not support

the level of investment required. Medicare's strict criteria limit the qualifying technologies to a select few and fail to recognize health information technology costs.

How Medicare payments to hospitals are updated does not account for the rapid pace of technological innovation – the updates rely on historical data that do not predict the speed and magnitude of technological evolution. Also, the mix of products and services in the market basket does not explicitly capture the appropriate technologies, and finally, below-cost reimbursement by Medicare makes it increasingly difficult for hospitals to invest in information technology.

Innovative, Clinically-proven Technologies Offer Better Patient Outcomes

The pace of advancement in clinical technology – defined as devices, drugs, and surgical, diagnostic and therapeutic techniques and equipment – makes modern American medicine a dynamic field in which standard practices progress quickly. Patients and physicians alike want the most cutting-edge, clinically-proven technologies that medical science can offer. Patients prefer treatments that minimize discomfort, speed recovery and restore health. Physicians are committed to staying at the forefront of medicine, using the latest technology to deliver the best possible care. Hospitals also strive to offer the most advanced, clinically-proven methods for diagnosis and treatment. Recent clinical innovations in care for heart attacks, cancer and other conditions have resulted in substantial benefits for patients including longer life expectancy and improved quality of life – benefits that exceed the

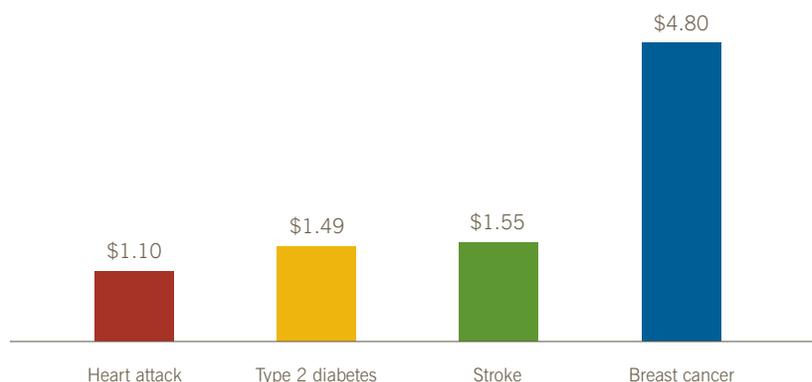
incremental dollars spent on care.¹

Employing cutting edge clinical technology is costly, however. Hospitals often have to make a significant

up-front capital investment in equipment, facilities and staff training. For example, Presbyterian Hospital of Dallas is spending \$8 million to outfit

Advances in medicine, while costly, have substantially improved health outcomes and quality of care...

Chart 1: Return per Incremental Dollar Spent on Health Care



Source: Luce, B.R., et al. (2006). The Return on Investment in Health Care: From 1980 to 2000. *Value in Health*, 9(3), 146-156.

a new operating room with a built-in, intraoperative MRI for minimally invasive neurosurgery.² Hospitals also must meet additional per-case costs for disposable surgical instruments and other components, and ongoing maintenance costs.

Clinical innovations can be thought about in three broad categories:

- (1) devices or drugs that result in a new service, such as PET scanners, or
- (2) devices and drugs that comprise new inputs to a discrete set of procedures, such as drug-eluting stents, which replaced bare stents in cardiac procedures, or
- (3) innovations that affect the standard of care for multiple procedures,

such as the widespread substitution of leukocyte-reduced blood for red blood cells.

All of these clinical technologies are valuable, yet the payment system does not always recognize the investments needed to bring each one to the patient care setting.

...though many new technologies are costly for hospitals.

Chart 2: Sample Costs of Adopting Innovative Technology

Item	Base Equipment Cost	Extras
Implantable cardioverter defibrillator (ICD)	\$20,000 to \$35,000	Variable
Basic minimally-invasive surgery suite	\$100,000 to \$500,000	Variable cost per case for disposables (e.g., surgical instruments) depending on type of procedure
Image-guided surgery system for ENT procedures	\$100,000 to \$175,000	\$50 to \$400 per case for disposables
Intraoperative MRI for neurosurgery	\$1.5 million to \$5.3 million	Variable, but substantial, for constructing MRI-safe operating room space

Sources: Sg2 cited in: Gardner, E. (2006). Making the Cut. *Modern Healthcare*, 36(7), 50-56. Meier, B. (2005, August 2). As Their Use Soars, Heart Implants Raise Questions. *New York Times*, www.nytimes.com.

Add-on Payments Do Not Account for Most of Hospitals’ Costs of Adopting New Inpatient Technologies

Within the inpatient setting, the Centers for Medicare & Medicaid Services (CMS) uses add-on payments to reimburse hospitals for using innovative clinical technologies. To qualify for an add-on payment, a new device or drug must meet all of the following three criteria: (1) newness – the costs of similar products must not yet be reflected in the diagnosis-related group (DRG) payment amounts; (2) substantial clinical improvement – use of the technology must significantly improve clinical outcomes as compared to currently available treatments; and (3) inadequate payment – costs must exceed DRG payment for the patient stay by a specified threshold.

CMS provides add-on payments for new clinical technologies that meet

these strict criteria, applying judgment on a case-by-case basis. These payments are additional funding and are not subject to budget neutrality. Qualifying technologies are eligible for add-on payments for at least two years, but no more than three years. In addition to the appropriate DRG payment, CMS only pays up to 50 percent of a hospital’s estimated cost of using the new technology for each eligible Medicare case.³ This means that hospitals receive only partial payment for a limited time for new technologies and then receive no additional funds after that because costs then are assumed to be captured in the relevant DRG.

For example, Xigris, a biological found to reduce mortality in patients

with severe sepsis, was one of the first technologies to qualify for inpatient add-on payment in fiscal year (FY) 2003. Though Xigris costs hospitals \$7,000, Medicare add-on payments only reimburse up to \$3,500 per use. Xigris received an add-on payment for two years. By FY 2005, CMS determined that it was no longer sufficiently new. Consequently, even though they still bear the cost, hospitals must rely solely upon the base DRG payments.⁴ Xigris is used for cases that map to multiple DRGs. These DRGs also include cases that do not receive Xigris; their payment reflects this mix of cases, thus the full costs of Xigris are not covered.

Xigris is one of only seven new technologies that have qualified to date for

Medicare has dedicated payment mechanisms for new technology...

Chart 3: Hospital Inpatient and Outpatient New Clinical Technology Payment Mechanisms

	Inpatient Add-on Payments	Outpatient Pass-through Payments		Outpatient New Technology APCs
		Medical Devices	Drugs and Biologicals	
Eligible new technologies	Represent a new procedure or are an input to an existing DRG	Are an input to an existing service	Are an input to an existing service	Represent a new service
Criteria for payment	Clinical benefit, newness and cost	Clinical benefit, newness and cost	Newness and cost	Newness
Basis for payment	Additional costs of treating a case using the new technology	Cost of the new technology	Cost of the new technology	Cost of providing the service
Payment	50% of the additional costs, capped at 50% of the estimated cost of the new technology	100% of reported costs minus device costs already built into the base payment rate	106% of average sales price (ASP)	Midpoint of the payment range for the new technology APC group
Payment financing	New expenditures	Budget neutral	Budget neutral	New expenditures

Source: MedPAC. (March 2003). Payment for New Technologies in Medicare's Prospective Payment Systems. Report to the Congress: Medicare Payment Policy. Washington, D.C.

add-on payments.⁵ In recognition that few technologies have qualified, Congress enacted several provisions related to new technology add-on payments, including relaxing the cost threshold under the Medicare Prescription Drug, Improvement and Modernization Act of 2003 (P.L.108-173). However, CMS' regulatory interpretation of this new law continues to limit what qualifies for add-on payments.

For example, in 2004, CMS denied add-on payment for Natrecor, a drug for treatment of acute congestive heart failure. Though costly, compared to alternative therapies, Natrecor provides novel clinical benefits and fewer complications. However, because Natrecor was approved for marketing in August 2001, it did not meet CMS' newness criterion. CMS argued that its costs already were reflected in the DRG, though useful cost data had been collected only since 2003.⁶ Thus, if hospitals chose to use Natrecor, they would have to absorb any costs above the nominal DRG payment.

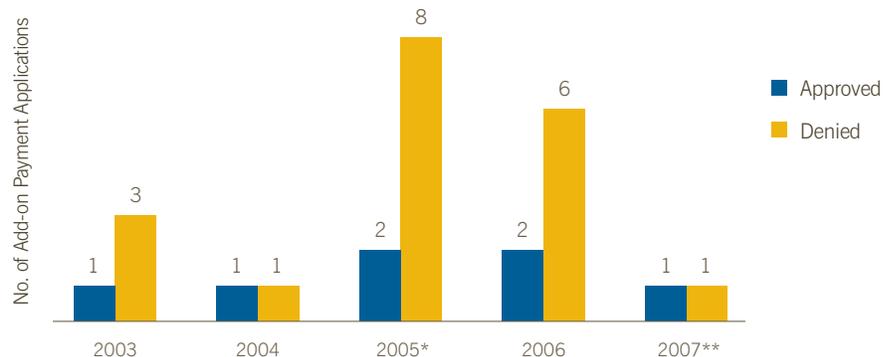
In addition, many other costly technologies, such as implantable cardioverter

defibrillators (ICDs) which may cost as much as \$35,000 each,⁷ were never considered for add-on payment. In cases like this, hospitals again must absorb the costs of these technologies while waiting for adequate cost data to accumulate and be reflected in relevant DRG weights.

Finally, because add-on payments are used on a case-by-case basis and are technology-specific, the costs for clinical technologies used across many services in a hospital are not accounted for. As a result, add-on payments do not reflect the majority of hospitals' costs when adopting new inpatient technologies.

...though few new clinical technologies actually have been approved for inpatient add-on payments.

Chart 4: New Clinical Technology Add-on Payment Decisions, 2003 to Present



* Excludes revision of one 2004 approval.

** Excludes one application which was withdrawn prior to CMS decision.

Source: Avalere Health analysis of Hospital Inpatient Prospective Payment System Final Rules.

In the Outpatient Setting, Two Payment Mechanisms Offer Limited Support for New Clinical Technologies

In the outpatient setting, CMS uses two payment mechanisms to provide additional payment for new and high-cost clinical technologies: transitional pass-through payments and new technology Ambulatory Payment Classifications (APCs).

Existing APCs under which a new device or drug will be used do not always reflect the costs of that new technology. As a result, CMS employs an additional mechanism for these high-cost technologies, known as pass-through payments. These payments are limited to certain categories of medical devices, drugs and biologics. Pass-through payments are tied directly to the use of qualifying new technologies. Hospitals are paid 100 percent of device costs minus any costs already built into the base APC and 106 percent of a drug's average sales price. Like add-on payments, pass-through payments are limited to a period of two to three years.⁸ After this period, Medicare continues

to pay separately for drugs whose costs exceed \$50; payments for drugs below this threshold are bundled with the payments for their administration. Only one pass-through device category code (Generator, neurostimulator [implantable], with rechargeable battery and charging system) is valid in calendar year 2007; its pass-through status is set to expire at the end of 2007. Several drugs are currently eligible, however.

New services or procedures that CMS deems significant in terms of cost and clinical benefit that do not qualify for pass-through payment may be eligible for new technology APCs. Technologies that qualify typically represent new services for which CMS lacks sufficient data to assign them to an appropriate clinical APC group. Based on CMS' review of submitted cost information on the technology and associated procedure, if applicable, the qualifying technology is assigned to an appropriate new technology APC,

which reflects a cost band (e.g., \$1,000 to \$2,000). Payment is set at the mid-point of the estimated cost (in the previous example, the reimbursement would be \$1,500). Once sufficient claims data are collected, the technologies are transferred into clinically appropriate APCs.⁹

If a new technology does not qualify for add-on payments in the inpatient setting or is not appropriate for a new technology APC in the outpatient setting, **Medicare adds no new money to the system to reflect the costs of its use. By the same token, pass-through payments also do not add any new money to the system; instead a set percentage of outpatient payments is reserved for them.**¹⁰ In most instances, hospitals must absorb the costs until the DRG or APC "catches up" and reflects the higher cost of providing the service – which may take several years. Even then, however, cost recognition is accomplished by redistributing existing money in a budget neutral manner.

Health IT Can Produce Significant Savings for the System, Though Its Costs Are Borne Primarily by Providers

For the purposes of this paper, health information technology (IT) refers to data systems that support clinical processes of care. Examples include computerized physician order entry (CPOE), electronic health records (EHRs), radiology picture archiving and communication systems (PACS), decision support applications, electronic prescribing, bar coding and radio frequency identification (RFID), ordering and reporting of laboratory tests and patient portals. The lines between clinical technology and health IT are blurring, as many innovations include IT components. Health IT, unlike most

clinical technologies, is used in most, if not all, of a hospital's services.

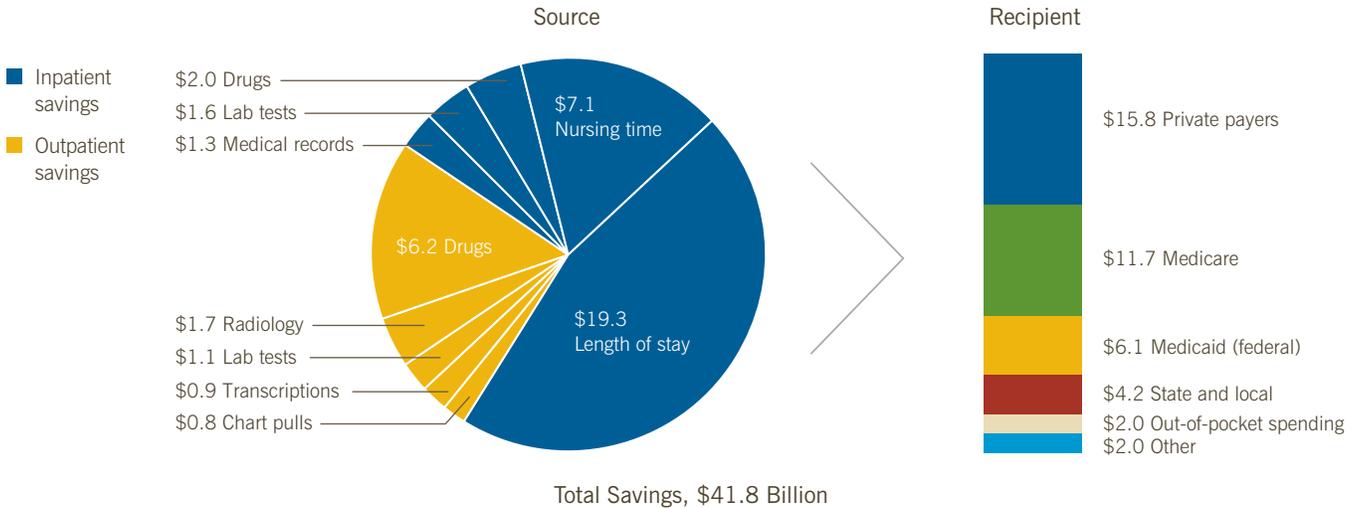
Hospitals are increasingly adopting health IT because it improves the safety and quality of care for patients. In addition, the benefits filter through the entire health care system. A recent study of the Veterans Affairs (VA) Health System, which uses EHRs, found that VA patients were more likely to receive recommended care than a national sample.¹¹ In addition, a study by RAND Corporation found that if CPOE were implemented in all hospitals, it would eliminate 200,000 adverse drug events annually, two-thirds of

which would benefit the 65-and-older population.¹² The use of bar codes and RFID also reduces medication errors by permitting medications to be tracked and dosages monitored. In addition, health IT adoption reduces duplicative services and inappropriate care. These benefits of health IT lower the risk of harm to patients and lessen the overall cost of care for patients and payers.

Widespread implementation of health IT can mean significant savings for the health care system at large. Harvard researchers have estimated that a fully-wired National Health Information Network would cost

Widespread use of EHR systems can realize significant savings for the system as a whole...

Chart 5: Estimated Average Annual Savings from Widespread Use of EMR-S* by Source and Recipient of Savings, in Billions



* The authors' analysis focuses on electronic medical record systems (EMR-S), defined to include EMR, clinical decision support, a central data repository, and computerized physician order entry (CPOE). Source: Girosi, F, Meili, R., and Scoville, R. (2005). *Extrapolating Evidence of Health Information Technology Savings and Costs*. Santa Monica, CA: RAND Corporation.

\$156 billion,¹³ but health IT could save \$81-\$162 billion annually while reducing morbidity and mortality.¹⁴ In addition, a 90 percent adoption rate of electronic medical record systems by hospitals and other providers could save as much as \$81 billion annually, with Medicare reaping \$23 billion of the potential savings.¹⁵ While some efficiency gains inure to the hospital, such as decreased need for repeated tests or reduced transcription costs for example, most of these savings flow to payers.

Hospitals also feel pressure from Congress and the Administration to adopt health IT. As Congress continues to push pay-for-performance measures for Medicare, hospitals must invest in health IT to meet data collection and reporting requirements. President Bush has signaled his commitment to health IT via the creation of the Office of the National Coordinator for Health Information Technology (2004) and the Executive Order on quality and transparency (2006).

States and communities also are identifying hospitals as pivotal

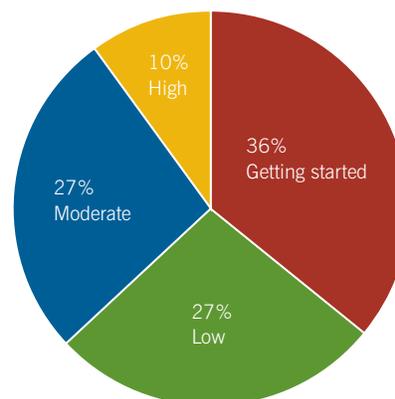
participants in health information exchange. Hospitals are looked to for leadership in forming Regional Health Information Organizations (RHIOs) and are increasingly stepping up and assuming this responsibility. Other influential groups such as the

Institute of Medicine and the National Committee on Vital and Health Statistics have been calling for wider use of IT since the 1990s; this call has continued to gain momentum.¹⁶

Hospitals face additional demands that require health IT adoption. They

...though many hospitals will need help getting to full health IT implementation.

Chart 6: Distribution of Hospitals by Level of Health IT Use



Note: Based on 903 community hospitals with complete information. Source: American Hospital Association. (2005). *Forward Momentum: Hospital Use of Information Technology*. Washington, D.C.

are increasingly sharing information to meet public health needs, such as disease surveillance related to pandemics and bioterrorism, responding to physicians, and supporting consumerism by making cost and quality data available.

Yet, there is a disconnect between who pays for health IT – hospitals and other providers – and who benefits financially – largely payers and patients. Adoption of health IT is costly and includes the initial investment, operating expenses and costs of upgrades. Hospitals also face indirect costs such as staff time spent learning the systems and costs for business process changes to fully incorporate and leverage health IT.

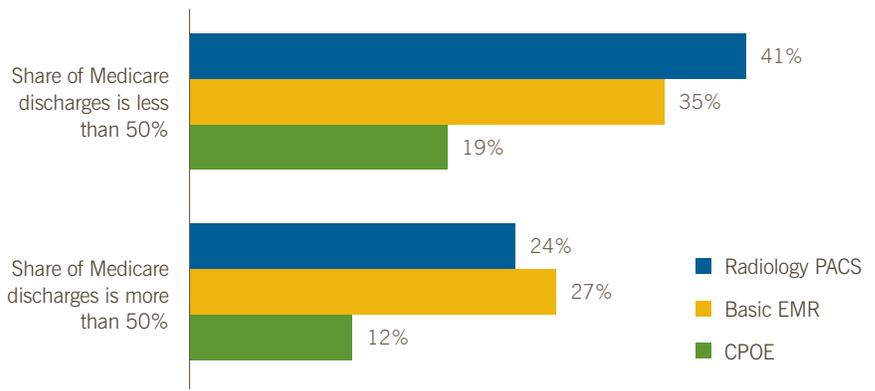
AHA's 2005 health IT survey of hospitals found the median annual capital investment on health IT was \$700,000, while annual IT operating expenses were much higher at \$1.7 million.¹⁷ First Consulting Group estimates that the initial investment and annual maintenance costs for a 500-bed hospital CPOE system are \$8 million and \$1.5 million, respectively.¹⁸

Hospitals generally must finance health IT costs from operating margins. Hospitals that have achieved high levels of health IT deployment have higher revenues and higher margins (average 4.6 percent) than those that are still in the early stages of health IT planning (average margin 2.4 percent).¹⁹ Not surprisingly, a recent Healthcare Information and Management Systems Society survey of health care chief information officers found that the most significant barrier to health IT implementation was a lack of financial support.²⁰

Despite these barriers, hospitals are adopting health IT and are implementing new systems – 20 to 25 percent of hospitals, for example, have implemented electronic health records.²¹ The substantial upfront investment for health IT, however, has kept the pace of adoption slow and poses a barrier to

Hospitals with high Medicare case loads are less likely to adopt health IT...

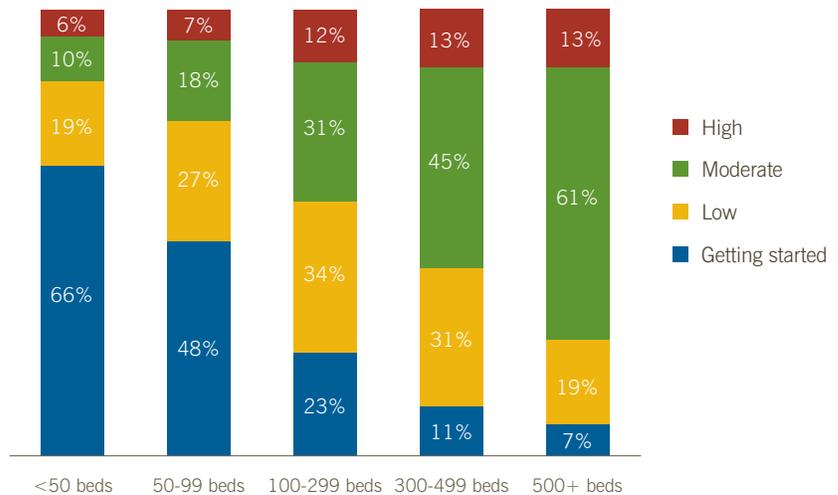
Chart 7: Health IT Adoption in Hospitals by Share of Medicare Patients



Source: Fonkych, K., and Taylor, R. (2005). *The State and Pattern of Health Information Technology Adoption*. Santa Monica: RAND Corporation.

...as are smaller hospitals.

Chart 8: Level of IT Use by Hospital Size



Source: American Hospital Association. (2005). *Forward Momentum: Hospital Use of Information Technology*. Washington, D.C.

progress for many hospitals, particularly small or safety net hospitals.

The lack of an explicit payment mechanism, or even the recognition by payers – including Medicare – of health IT implementation costs, has

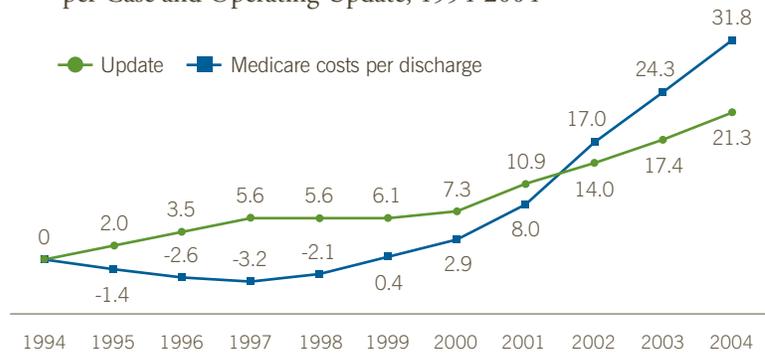
exacerbated this situation for hospitals. Hospitals must finance the costs of health IT adoption from their operating margins, but hospitals' Medicare margins are negative and continue to fall, compromising hospitals' ability

to invest.²² A financing structure that supports health IT goals and the role of hospitals in achieving them is imperative.

Medicare support for health IT also would help the program meet its strategic aims for incorporating health IT as an essential component of the infrastructure for assessing quality and promoting cost and quality transparency. In addition, a health IT infrastructure is necessary for CMS to meet its goals to better coordinate primary, hospital and post-acute care. CMS' position on health IT promotion has been to create budget-neutral incentives for outcomes, of which health IT is a critical input. This misaligned reimbursement structure pays for outcomes without supporting the infrastructure necessary to achieve those outcomes. It also fails to recognize the systematic increase in hospitals' costs for health IT.

Growth in hospitals' Medicare costs has exceeded Medicare's update in recent years...

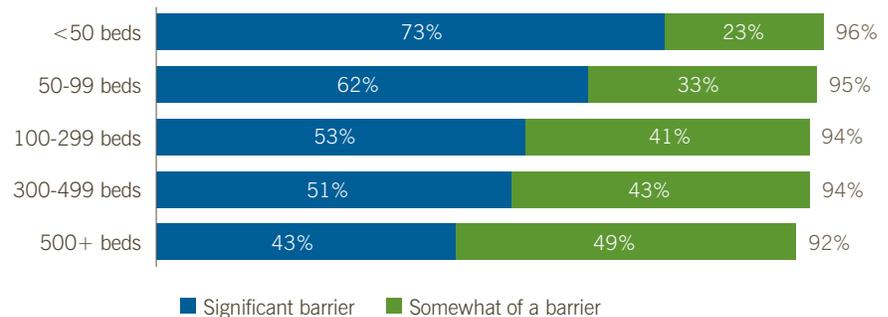
Chart 9: Cumulative Percent Change in Medicare Acute Inpatient PPS Costs per Case and Operating Update, 1994-2004



Source: MedPAC. (June 2006). Acute Inpatient Services. *A Data Book: Healthcare Spending and the Medicare Program*. Washington, D.C.

...intensifying financial barriers to hospital adoption of health IT.

Chart 10: Percent of Hospitals Indicating Initial Costs of Health IT Are a Barrier



Source: American Hospital Association. (2005). *Forward Momentum: Hospital Use of Information Technology*. Washington, D.C.

Medicare's Payment Updates Do Not Fully Reflect New and Emerging Technologies or Their Costs

The hospital input price index, commonly referred to as the "market basket," is the basis for Medicare's yearly updates to the hospital prospective payment system. Because of the way the market basket is structured and modified over time, it does not adequately capture the introduction of new technology, nor does it capture the substitution of new or different inputs for existing ones. Moreover, the market basket composition and calculation do not keep up with the change in resource

mix and pricing associated with the use of new technology.

CMS uses the market basket to measure how much more, or less, it would cost at a later time to purchase the same mix of goods and services as purchased during a base period.²³ According to CMS, "the percentage change in the market basket reflects the average change in the price of goods and services hospitals purchase in order to furnish inpatient care."²⁴ The market basket

is "rebased" every four years. Rebased captures changes in the mix, quantity and intensity of goods and services used. The market basket was most recently rebased for FY 2006, using the 2002 Medicare cost reports.²⁵

The market basket is constructed from mutually exclusive spending categories, which are weighted using data collected via hospitals' Medicare cost reports and corresponding price indices. The sum of the products of each category weight

Clinical and information technology do not have a dedicated category in the hospital market basket.

Chart 11: Cost Categories, Weights and Price Proxies for the Hospital Market Basket

Expense Category		Weight	Price/Wage Variable
Compensation	Wages	48.171	ECI- Hospital Workers (Civilian)
	Benefits	11.822	ECI- Hospital Workers (Civilian)
Professional Fees	Professional Fees	5.510	ECI- Compensation Prof. & Tech. (Private)
Utilities	Electricity	0.669	PPI - Commercial Electric Power
	Fuel, Oil, Coal, etc	0.206	PPI - Commercial Natural Gas
	Water & Sewerage	0.376	CPI - Water & Sewage
Prof. Liability Insurance	Malpractice	1.589	CMS - Prof. Liability Premiums
All Other Products	Drugs	5.855	PPI - Prescription Drugs
	Food-Direct Purchase	1.664	PPI - Processed Foods
	Food-Away From Home	1.180	CPI - Food Away From Home
	Chemicals	2.096	PPI - Industrial Chemicals
	Medical Instruments	1.932	PPI - Medical Instruments & Equipment
	Photo Supplies	0.183	PPI - Photo Supplies
	Rubber & Plastics	2.004	PPI - Rubber & Plastic Prod.
	Paper Products	1.905	PPI - Convert. Paper & Paperboard
	Apparel	0.394	PPI - Apparel
	Machinery & Equipment	0.565	PPI - Machinery & Equipment
	Miscellaneous Products	2.558	PPI - Finished Goods Less Food & Energy
	All Other Services	Telephone	0.458
Postage		1.300	CPI - Postage
All Other: Labor Intensive		4.228	ECI - Service Occupations (Private)
All Other: Non-labor Intensive		5.335	CPI - All Items (Urban)

Source: CMS. Quarterly Index Levels in the CMS Prospective Payment System (IPPS) Hospital 2002 Input Price Index using Global Insight Inc. Forecast Assumptions by Expense Category: 1990-2016. <http://www.cms.hhs.gov>.

and corresponding price index gives the overall hospital price index.

The price indices, or price proxies, used in calculating the market basket include Bureau of Labor Statistics (BLS) data, most commonly the Producer Price Indices (PPI). The PPI is a group of indices that measure price changes for goods sold other than at retail. PPI indices are constructed for similar types of goods or for goods produced by similar types of producers. An appropriate PPI is used as the price proxy for those cost categories in the market basket that represent goods typically purchased by hospitals from wholesale markets.

To construct the PPI, BLS surveys a sample of producers to get price data (revenue received by the producers) for a sample of their products. The specific products are selected based upon their proportionate value to the manufacturer's overall revenue. For example, for the PPI for prescription drugs, BLS asks a sample of pharmaceutical manufacturers to report

price data for a defined selection of their products of specific quantities and dosages. The actual products included in the index, as well as their prices, are kept confidential to ensure maximum participation by manufacturers.²⁶ BLS resamples – or, updates the sample of each industry's producers and products – every few years to account for changing market conditions.

The market basket methodology, while generally rigorous, fails to adequately capture the continually rising costs hospitals incur to implement new technologies and keep pace with advances in existing technology. The market basket, and its underlying price proxies and cost category weights, are not updated frequently enough to capture new inputs to care and resultant resource shifts and price changes.

First, the category weights derived from the Medicare cost reports are always outdated. Even when updated, the market basket is strictly retrospective, since it is based on historic cost reports (e.g., the

market basket for FY 2006 through FY 2009 is based upon FY 2002 cost reports). Thus, it is always four to seven years behind – a critical lag for a rapidly evolving field such as health technology where different growth rates across categories and new product additions or substitutions will lead to inaccurate weights over time. For example, several years ago blood banks and hospitals widely adopted leukocyte-reduced blood, which can add \$25 to \$35 to the cost of each unit of blood.²⁷ However, the increased contribution of blood products to hospitals' costs was not recognized in the market basket because the weights were based on an earlier year's cost report in which whole blood products typically were used.

Second, the price proxies themselves have limitations for inclusion in a hospital market basket. They do not necessarily include the types and mix of services/products that hospitals buy, they may include many more that hospitals do not buy, and they will be out of date with respect to new

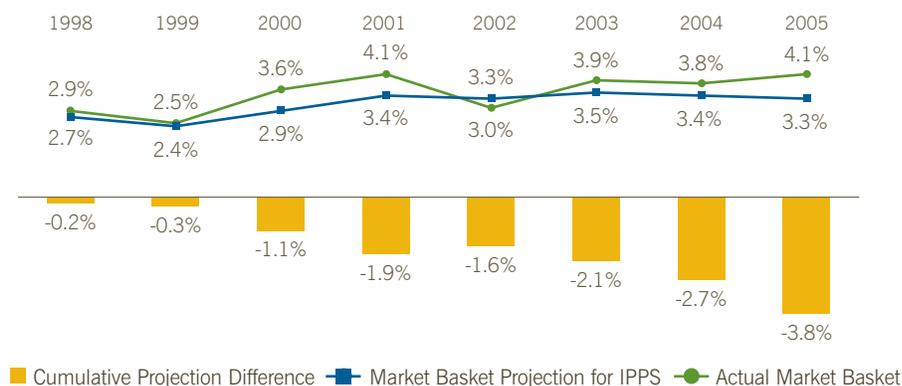
technology. For example, when it rebased the market basket for FY 2006, CMS determined that the PPI for blood and derivatives, which had been used as the price proxy, was not capturing the costs of the new standards and technologies associated with ensuring blood safety (e.g., screening for disease, leukocyte reduction). In its place, trends in blood prices are represented by the PPI for finished goods (less food and energy), which includes products beyond blood.²⁸ While the BLS is in the process of creating a new, perhaps more appropriate, PPI for blood and organ banks, once finished, it can not be used as the price proxy until the market basket is next rebased in 2010. In addition, when the PPI or other proxies are resampled, existing items in the market basket may be too small a part of the manufacturer's overall mix of goods to be sampled. This may be particularly true for items used only in hospitals or new items with still limited adoption.

Third, because CMS sets payment rates prospectively for the following fiscal year, it must project the market basket to determine the payment update. Thus, compounding the error inherent in calculating the market basket itself is an error in projecting the market basket for the upcoming year.

A comparison of the projected to the actual market basket from 1998 to 2005 (calculated at the end of each year) shows that with the exception of only one year,

Market basket projection error has led to payment updates that fall short of actual market basket increases.

Chart 12: Medicare Market Basket Projected vs. Actual, 1998-2005



Source: AHA analysis of *Federal Registers* volumes 67-69, CMS market basket data and Global Insights, Inc., projections.

CMS' projected market basket fell short of the actual by as many as 0.8 percentage points, a significant deficiency.²⁹

To account for these shortcomings in the market basket, MedPAC in past years recommended a technology adjustment be added to the market basket update. After Medicare introduced the inpatient add-on payments, however, MedPAC reasoned that the technology adjustment to the update was unnecessary. Yet, as illustrated, the add-on payment is seldom granted and is limited to the use of specific, new technologies. In addition, it does not take into account costly yet clinically effective new technologies that do not qualify for these payments, nor does it account for health IT

that is applied broadly across the hospital.

The additional funding to hospitals via this payment mechanism falls far below that which is needed to support clinical technology. For example, for FY 2007, CMS estimates that add-on payments for the three eligible technologies – X STOP Interspinous Process Decompression System, Restore Rechargeable Implantable Neurostimulator and GORE TAG – will total \$32 million.³⁰ This is a small amount of new money to support all hospitals' technology use; hospitals' annual operating costs for achieving a national health information network alone could total \$14 billion.³¹

Health Technology Payment Deficiencies Pose Important Questions for Policymakers

Medicare's payment policies do not support hospitals in the adoption of new technologies – even those that will improve patient outcomes and have the potential to lower health system costs. The funding of technology in the context of Medicare program goals to improve quality, care coordination and efficiency raises important questions for policymakers.

- How should payment mechanisms be structured to capture Medicare's share of the new technology costs?
- How should payment mechanisms be structured to encourage health IT investment?
- How might the underlying hospital market basket be reconstructed to better account for the ongoing costs to hospitals for supporting both clinical and information technology?
- How can Medicare better account for the costs of health IT – technology that is used across the breadth of services provided by a hospital?

ENDNOTES

- 1 Luce, B.R., et al. (2006). The Return on Investment in Health Care: From 1980 to 2000. *Value in Health*, 9(3), 146-156.
- 2 Gardner, E. (2006). Making the Cut. *Modern Healthcare*, 36(7), 50-56.
- 3 MedPAC. (March 2003). Payment for New Technologies in Medicare's Prospective Payment Systems. *Report to the Congress: Medicare Payment Policy*. Washington, D.C.
- 4 Medicare Program; Changes to the Hospital Inpatient Prospective Payment Systems and Fiscal Year 2005 Rates; Final Rule. (2004). 69 *Federal Register* 48916.
- 5 Avalere Health analysis of Hospital Inpatient Prospective Payment System Final Rules FYs 2003-2007.
- 6 Medicare Program; Changes to the Hospital Inpatient Prospective Payment Systems and Fiscal Year 2005 Rates; Final Rule. (2004). 69 *Federal Register* 48916.
- 7 Meier, B. (2005, August 2). As Their Use Soars, Heart Implants Raise Questions. *New York Times*, www.nytimes.com.
- 8 MedPAC. (March 2003). Payment for New Technologies in Medicare's Prospective Payment Systems. *Report to the Congress: Medicare Payment Policy*. Washington, D.C.
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- 12 Hillestad, R., et al. (2005). Can Electronic Medical Record Systems Transform Health Care? Potential Health Benefits, Savings, and Costs. *Health Affairs*, 24(5), 1103-1117.
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