

Policy Brief #2: Getting Readmissions Penalties Right: Comparing Medicare and Medicaid Hospital Readmission Reduction Programs

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Introduction

As the Illinois budget impasse continues into its second year, reimbursement and long-term structural reforms in health care both hang precariously in the balance. Advocates continue to call for revenue solutions and adequate funding for Medicaid and human services programs, but have not lost sight of the need to reform the Medicaid financing and delivery systems to better serve those who depend on them for services. The stakes are high:

- Medicaid accounts for about 30% of the Illinois operating budget and poor spending decisions waste taxpayer dollars, erode the credibility of the Medicaid program, and leave crucial services under-funded, leading to worse outcomes and higher costs in the future.
- Medicaid and the Children’s Health Insurance Program now cover about three million Illinois children, adults, and seniors – all of whom could see their lives either disrupted or improved depending on the decisions of political leaders and responses from providers, consumers, and advocates. As Medicaid represents a larger share of the overall health insurance market and as individuals churn between Medicaid and private insurance, decisions affecting Medicaid will ripple throughout the insurance and delivery systems.

Given these stakes, it is vitally important that we know which policies and reforms are working and which are not. To build an evidence base, we need data and reliable techniques of analysis. In the end we don’t just want to know what works in laboratory conditions; we also want actionable research that gives the State the tools to use its growing market share to nudge all actors in the health system to adopt effective practices. Those actors—providers, consumers, payers, employers that are purchasers of insurance products—also need the incentives and the means to implement reforms in coordination with one another.

The truth is that we don't know what "a Medicaid system that works" looks like, so there is no blueprint for reform. Rather, we are building the trail that we, and more importantly people enrolled in Medicaid, must walk along. It is imperative that we cast a critical eye both backward and forward as we work, noting mistakes and making corrections while anticipating future challenges that we can act today to mitigate.

This series of policy briefs will examine particular issues in quality measurement and improvement and their policy implications. During the long budget impasse in Illinois, we have an added imperative: to continue the drumbeat of reform even as the urgent question of whether and how we will fund existing services, on which many Illinoisans depend, is more pressing every day. We are grateful to have the time and resources to spend on longer-term, 'bigger picture' problems confronting the health care system, and hope our work contributes to substantive changes that may prevent crises such as the present one from recurring.

This edition of Quality Matters addresses hospital readmissions penalties. Health & Medicine has been engaged in efforts to reduce Medicare hospital readmissions and improve transitional care through our partnership in the [Bridge Model](#). The Bridge Model informs Health & Medicine's research with a ground-level view of how regulations, reimbursement methodologies, or market characteristics facilitate or interfere with successfully and sustainably implementing evidence-based strategies. The Bridge Model has been one tool for hospitals across the country to respond to Medicare's readmissions penalties, and Health & Medicine has commented on the Medicare Hospital Readmission Reduction Program (HRRP) from a policy perspective. Since it began in 2010, the HRRP appears to have had an effect on the way hospitals operate, as readmissions have dropped nationwide. As a recent study in the *New England Journal of Medicine* showed, the decline in readmissions was not the result of simple gaming of the penalties by increasing use of observation status in place of admissions that could trigger a penalty. This latest research inspired us to return to the topic of readmissions and shift our policy focus to Medicaid, where readmissions reductions programs are newer. Illinois's potentially preventable readmission penalties target a different patient population with different root causes for readmission, so it is no surprise that the methodology and implementation differ significantly from the Medicare HRRP. Given the indications that Medicare's program, despite some problems, has been effective, we ask what Medicaid programs can learn from the HRRP and where its success may not be replicable in the Medicaid context.

A Note on Data

There is one area in readmissions policy that Health & Medicine has grown familiar with and can decisively recommend that Illinois Medicaid follow the example of Federal Medicare. That area is data reporting to the public. One goal of readmissions reduction is to encourage hospitals to better coordinate hospital and medical care with social services and community supports. This aim is part of

an ambitious effort to transform the health care system to provide better care at lower per capita costs, which will require difficult organizational, financial, and cultural changes. To complicate this already challenging process, all the agents that are adapting to reform—providers, payers, purchasers—are doing so in a competitive environment, where practices like price transparency and other demands for information-sharing from private entities become fraught with risk. Where we can share open data, however, we should. Debates over public policy, like the impact of readmission penalties, are more productive when factual, if not ideological, disagreements can be settled by reference to an accurate, comprehensive, and open public record. Both Medicare and Illinois Medicaid have improvements to their online data access, and we encourage continued efforts to make Medicare, Medicaid and related public health information accurate, accessible, and user-friendly. The more informed debate we can have about health care reform, the closer we get to the goal of better health outcomes with fewer disparities and lower costs.

Medicare has a dedicated website for data downloads, and readmissions penalty data are readable as .csv files that include hospital Medicare ID numbers, names, locations, and other basic information that is useful for distinguishing hospitals with similar names, subsetting data, and linking readmissions to other data points such as racial/ethnic composition of patients, DSH-status, and payer mix. Reading Medicaid data from the HFS website is much more burdensome, as Potentially Preventable Readmissions (PPR) reports are published as individual PDFs and consolidated reconciliation reports lack identification numbers. By bringing this up here we hope to help further the conversation about effective, user-friendly ways for state agencies in Illinois to collect and share data with the public.

In that spirit, we welcome and encourage feedback from readers of this paper. We expect to update most of the original data analysis presented here, and look forward to working with others who are involved in research, advocacy, or practice related to readmissions, hospital quality, and health disparities. Most of the data analysis was performed with the statistical software R and in the interests of transparency the code is available on Github. Excel files with additional data processing and formatting are available upon request.

Readmission Reduction Programs in Medicare

Penalties for excessive hospital readmissions of Medicare patients were introduced in the Affordable Care Act in 2010 through the Hospital Readmissions Reduction Program. Since then a great deal of research has investigated the various methods hospitals have experimented with to reduce readmissions. Critics have also examined in detail the penalties themselves. Building on the attention that the Affordable Care Act has brought to 30-day hospital readmissions, many States are beginning to monitor hospital readmissions in their Medicaid programs and in some cases, levy penalties on hospitals that miss targets.

In Illinois, the SMART Act of 2012 authorized the Potentially Preventable Readmissions Policy (PPR) that penalizes hospitals with high rates of 30-day Medicaid hospital readmissions. This brief will explore the use of readmissions as a quality metric and compare the approaches to measuring and penalizing readmissions used by Medicare and by Illinois Medicaid, with a brief look at the approach that New York Medicaid is taking to readmissions as an additional comparison.

We are four years into the Medicare HRRP, and there is some evidence that the program has been effective at reducing readmissions and changing the way hospitals operate in ways that create spillover effects from this new level of accountability¹. National Medicare readmissions have declined by 1.1 percentage points since the HRRP began. A study published in the New England Journal of Medicine in 2016 demonstrated that hospitals were not gaming the readmissions penalties by increasing use of observation status. Concerns remained about disparate impacts on hospitals that serve vulnerable populations. But the gap in penalties between safety net and non-safety net hospitals narrowed between 2013 and 2015.

Medicare is making progress, and States are following suit. State governments, including Illinois, are devising Medicaid-specific readmissions penalties rather than adopting the methodology of the Medicare penalties. As providers, payers, patients, and policy makers respond to experiences and criticism of the existing penalties, there may be opportunities to adjust readmissions reductions programs to obtain better results and to produce actionable research into the root causes of breakdowns in care transitions in general. This policy brief compares Medicare and Medicaid penalties, and, in light of the recent research on the effectiveness of Medicare's HRRP, asks what Medicaid can learn from the Medicare experience.

Fast Facts on Hospital Readmissions

National average readmission rates

Medicare: 18.4%¹

Medicaid adults (21-64): 12.8%²

Top readmitting diagnoses³

Medicare: Congestive heart failure, septicemia, pneumonia

Medicaid: Mood disorders, schizophrenia, diabetes

Commercial insurance:

Chemotherapy, mood disorders, and surgical or medical complications

Costs

In 2011, readmissions cost the health care system an estimated \$41.3 billion in hospital costs.⁴

¹ Jha, Ashish. "Readmissions Penalty at Year 3: How are we doing?" An Ounce of Evidence blog, May 14, 2015.

<https://blogs.sph.harvard.edu/ashish-jha/readmissions-penalty-at-year-3-how-are-we-doing/>

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Readmission Reduction Programs in Illinois Medicaid

At the September 2014 meeting of the Illinois Medicaid Advisory Committee, the Department of Healthcare and Family Services (HFS) announced early results of the PPR policy. The methodology for the penalties evolved in negotiations with stakeholders such as the Illinois Hospital Association. HFS implemented the penalties in phases. In the first phase, HFS calculated preliminary potentially preventable readmission rates and financial penalties, then levied initial penalties equal to 25% of the total. In the second cost avoidance phase, the hospitals then had an opportunity to see the data, identify problems, act to mitigate them, and avoid, in whole or in part, the remainder of the penalty by reducing their readmissions. The methodology for calculating the financial penalty changed in subsequent years, as described in the [Illinois Administrative Code](#) and summarized in the chart on pages 14 - 16 below.

Under the preliminary calculations for FY 2013, 149 hospitals statewide would have incurred a penalty for exceeding their state-defined target for readmission rates. However, after receiving that preliminary information on their performance and having time to improve, 66 of those 149 hospitals made changes, reduced their Medicaid readmissions rates, and thus avoided any additional financial penalty. In addition, 53 hospitals were able to partially reduce their final penalty by improving their rates over the course of the fiscal year.²

An optimistic narrative of this early result is that hospitals responded to an incentive and improved performance to avoid a targeted financial penalty. By no means do we reject that narrative. We do suggest two complications, however. One is perhaps an obvious question: what about those 30 hospitals that were not able to respond to the early warning and cost avoid at all? Is there something systemically different about those hospitals, and do they serve a distinct population? We attempt to look into this question later in this paper, and for now we highlight the challenging question of disparities in readmissions and the importance of the site of care—often a safety net hospital for African-American, Latino, and low-income patients—as well as individual patient-level socio-demographic characteristics, an topic that we addressed in an earlier paper, [“Addressing Inequities in Care Transitions.”](#)

We raise this issue to suggest that there could be valuable lessons in examining who does and does not benefit from quality improvement programs that rely on financial incentives. While some providers may respond directly to financial incentives, others may need to take steps toward culture change or need additional technical assistance in order to implement quality improvements that we want to incentivize. Data collected from programs like Medicare’s HRRP and Medicaid’s PPR policy can shine a light on those features of the provider landscape.

The second question is, for the hospitals that did improve their performance, what did they *not* do to improve other aspects of performance, like reducing “never events” and other medical errors? Penalties for adverse events that are unambiguous, serious, and usually preventable were not included in the 2012 SMART Act that introduced readmissions penalties, but are arguably more important for patient safety and outcomes than

² Analysis of SFY 2013 PPR Payment Reduction Recoupments and Remaining Amount Owed After Cost Avoidance available at www2.illinois.gov/hfs/SiteCollectionDocuments/FY2013PPRReconciliation.pdf

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readmissions. While recognizing the disruption to the lives of patients and their families that readmissions cause, and the failure of the overall health care system that high rates of preventable readmissions represents, we believe a critical dialogue regarding specific policies addressing readmissions will strengthen those policies and the practice-level interventions they stimulate.

Critiques of readmissions as a quality measure

The Hospital Readmissions Reduction Program (HRRP) was one of the key hospital quality initiatives in the Affordable Care Act. Along with other ACA provisions like shared savings, bundled payments, and value-based purchasing, the HRRP reflects the goal of shifting Medicare reimbursement from paying for the volume of services provided to increasingly pay for quality outcomes. The Medicare HRRP penalizes hospitals with payment reductions of up to 3% of total inpatient reimbursement³ for greater than expected readmissions rates for six conditions—heart failure, acute myocardial infarction, pneumonia, chronic obstructive pulmonary disorder, total knee arthroscopy, and total hip arthroscopy.

A note about “value” in health care

While “paying for value” is a commonly cited goal of payment reform, the rhetoric of “value” can obscure as much as it enlightens. The complexity of “value” in the health care system, which after all deals day-in-day-out with life and death as well as dollars and cents, should be always in mind in reform debates. We are understandably hesitant to put a dollar value to a life or to an additional year of life that might be obtained from a proposed treatment or method. However, as Uwe Reinhardt has carefully explained^{*}, without assigning a dollar value to some composite metric for “health care outcomes” (like additional year of life or quality-adjusted life year), then we cannot claim to be defining value or determining if the net value-added of a treatment or method is positive or negative. It is important in any discussions of health care quality to avoid falling into sloppy comparisons of “value” defined as costs per outcome without a rigorous definition of “outcome” that allows for meaningful comparisons of different outcome-cost pairs.

In the context of readmissions penalties, the question of value arises when we consider the “value” of preventing readmissions compared to the “value” of other quality improvements that Medicare and other payers could be targeting with financial incentives. It is in this context that the importance of spillover effects becomes clear, even without a precise definition of value. It is possible that reducing readmissions does not have the biggest “bang for the buck” in terms of producing additional quality-adjusted life years (or other measure of patient outcome). But the usefulness of the HRRP and other readmission penalties may lie in stimulating hospitals to change their practices in ways that improve processes that also, for example, reduce surgical complications and hospital-acquired conditions. That benefit of readmissions penalties remains theoretical, however, and continued monitoring of hospital practices and patient outcomes will be needed to demonstrate real-world effects on hospital practice and patient outcomes.

^{*} See Uwe Reinhardt, “Sense and Nonsense in Defining “Value”,” presented at Altarum Institute’s Symposium on Sustainable U.S. Health Spending: *The Quest for Value*, Washington, DC, July 15, 2014.

³ The HRRP penalty is applied to Medicare payments for all admissions, not just payments for preventable readmissions. The penalty calculated for each hospital is applied to the base operating DRG payment amount, which includes wage adjustments and new technology payments. See <http://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/AcuteInpatientPPS/Readmissions-Reduction-Program.html> for details.

The excess hospital readmissions targeted by the HRRP may be the consequences of complications that are potentially preventable with effective post-hospitalization community-based care and supports. Hospital penalties for excess readmissions presume that improvements in hospital discharge planning can reduce those readmissions. Operationalizing that assumption inevitably includes some missteps and the program has generated significant criticism from hospitals, physicians, and researchers.

Critiques of readmissions penalties generally fall into two categories. One line of critique questions whether a hospital's readmissions rate is, strictly speaking, a measure of hospital *quality*. A sometimes overlapping argument identifies methodological challenges along with the errors and unintended consequences that result from imperfect efforts to overcome those technical challenges. The disparate impacts on providers that serve vulnerable populations is a major concern, for example. The Medicare Payment Advisory Council has proposed using peer group comparisons, based on share of low-income patients, to account for socio-economic factors,⁴ and a bill introduced Congress would require Medicare to implement peer group comparisons and develop other risk adjustment mechanisms for future use.⁵

While we take these critiques seriously, we note that when talking about “quality” there is a danger of slipping into sloganeering that conceals hidden interests or prior ideological commitments. After all, who is *against* quality? On the other hand, when talking about disparities in quality, there is quite a different risk, that one is drawn into point-scoring in a blame game that is far removed from the practical questions of how we improve outcomes for people who are poorly served in the current system. We will keep those rhetorical pitfalls in mind as we summarize some critiques of readmissions penalties.

What do readmissions rates measure?

Readmission rates are straightforwardly a utilization measure. A hospital patient who is admitted, discharged and readmitted is utilizing more hospital resources than a patient who is not readmitted, and hospital resources are a major component of health care costs (32% of US health expenditures in 2013⁶). However, it is less clear that readmission rates reflect the quality of care within the hospital. Hospitals that perform best on mortality for heart failure patients, for example, received some of the highest Medicare penalties for excess heart failure readmissions.⁷ Medical readmissions may be influenced more by the acuity and, importantly, poverty, of a hospital's patients than by how well-run the hospital is—i.e. how well a hospital's structural and procedural characteristics keep patients well.⁸ Surgical readmissions rates may align more with the process and

⁴ MedPAC blog, “The hospital readmission penalty: How well is it working?” March 24, 2015
<http://www.medpac.gov/blog/march-2015/march-2015/2015/03/24/the-hospital-readmission-penalty-how-well-is-it-working->

⁵ The Helping Hospitals Improve Patient Care Act of 2016 (HR5273), Section 102
http://tiberi.house.gov/uploadedfiles/hipc_sec-by-sec__final.pdf

⁶ National Health Expenditures by type of service and source of funds, CY 1960-2013, accessed June 4, 2015 from
<https://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/NationalHealthExpendData/NationalHealthAccountsHistorical.html>

⁷ Ashish Jha, “The 30-day Readmission Rate: Not a quality measure but an accountability measure,” *An Ounce of Evidence*, February 14, 2013, <https://blogs.sph.harvard.edu/ashish-jha/the-30-day-readmission-rate-not-a-quality-measure-but-an-accountability-measure/>

⁸ *Ibid*

outcome quality at a hospital, so it is significant for this discussion that the FY2015 Medicare readmission penalties added two surgical procedures, hip and knee replacement, to the list of readmitting conditions it measures.

However there remains an outstanding question of how well readmissions rates as measured by the HRRP reflect hospital quality. Ashish Jha has written about the divergence between mortality and readmissions rates. Jha has also noted the relative lack of attention to hospital acquired conditions, like infections and injuries suffered while receiving care in a hospital, and has pointed out both the importance and the flaws in the Medicare Hospital Acquired Conditions (HAC) Reduction Program.^{9,10} That program ranks hospitals based on the prevalence of certain HACs—central line-associated bloodstream infections, sepsis, deep vein thrombosis, and others—and penalizes hospitals in the lowest, worst performing quartile. Research commissioned by CMS on HACs and readmissions reports a “very strong relationship between the presence of a HAC and the likelihood of...readmission.”¹¹ We would expect that hospitals in the top quartile of HAC scores—that is, the worst performers in Medicare’s HAC Reduction Program—would also have higher readmissions penalties in Medicare’s HRRP if it is appropriately capturing this relationship between HACs and readmissions. The table below shows the average FY2015 Medicare readmission penalties for hospitals in the top-performing quartile (the bottom quartiles, in this case, since lower HAC scores indicate better performance) and the worst-performing quartile for HACs. Readmissions penalties were indeed worse for hospitals that performed worse on preventing HACs (although not dramatically so). Complications are an obvious reason for readmissions, so this should not be too surprising. There could be lessons in further investigating the alignment of a metric that assesses performance inside a hospital—HACs—and one that seeks to hold hospitals accountable for outcomes post-discharge. Are there key common factors in hospitals that do well on both?

⁹ For more details on the HAC Reduction Program see

<https://www.qualitynet.org/dcs/ContentServer?c=Page&pagename=QnetPublic%2FPage%2FQnetTier2&cid=1228774189166>

¹⁰ Jha, Ashish, “Penalizing Hospitals for Being Unsafe,” An Ounce of Prevention blogpost, June 23, 2014.

<https://blogs.sph.harvard.edu/ashish-jha/2014/06/23/penalizing-hospitals-for-being-unsafe/>

¹¹ Miller, Richard D., et al. “Readmissions Due to Hospital-Acquired Conditions (HACs): Multivariate Modeling and Under-coding Analysis,” RTI International report prepared for the Centers for Medicare and Medicaid Services Rapid Cycle Evaluation Group, September 2012.

www.cms.gov/Medicare/Mediare-Fee-for-Service-Payment/HospitalAcqCond/Downloads/Final-Report-Readmissions.pdf

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**FY2015 Medicare Readmission Penalties for Illinois Hospitals by
Performance in the Hospital Acquired Conditions Reduction Program**

	FY 2015 Medicare Readmission Penalty
Illinois hospitals in the worst performing quartile of HAC scores	0.83%
Illinois hospitals in the quartile of HAC scores	0.78%

Source: CMS FY 2015 Inpatient Prospective Payment System Final Rule: Hospital Acquired Condition Reduction Program Information (Table 17)¹² and FY 2015 IPPS Final Rule Readmissions Public Use Files¹³

Given the mixed evidence for readmissions as a direct measure of the quality of care in a hospital, however, it is perhaps both more accurate and more interesting to regard readmission rates, as Jha suggests, as a measure of accountability for the health system beyond the hospital’s walls. A key policy question is whether readmissions penalties, along with initiatives such as Value-Based Purchasing, can move hospital leadership to position their institutions to take on new roles within more integrated health systems and to develop strong clinical-community partnerships.

There is an added wrinkle, however: If readmission rates are not directly measuring quality *and* readmission penalties are falling disproportionately on the safety net hospitals least able to take on those new roles then it is more than an academic question to ask just what it is we are measuring when we calculate readmission rates, performance targets, and financial penalties.

Much ink has been spilled demonstrating the existence of disparities in readmission rates, some of it by Health & Medicine ourselves. In our paper, [“Addressing Inequities in Care Transitions”](#) we replicated some of Karen Joynt and Ashish Jha’s analysis of disparities in readmission rates,¹⁴ examining Chicago hospitals at which a majority of patients are African-American and comparing them to hospitals with a lower proportion of African-American patients. As in Joynt and Jha’s national research, we found that Medicare readmissions penalties tended to be higher at Chicago-area hospitals that served mostly African-American patients. Here we share just a few more snapshots of Chicago-area hospital data, including Medicaid readmissions data from the Illinois

¹² downloaded June 15, 2015 <http://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/AcuteInpatientPPS/HAC-Reduction-Program.html>

¹³ Downloaded November 2014, <http://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/AcuteInpatientPPS/Readmissions-Reduction-Program.html>

¹⁴ Joynt, Karen and Ashish Jha, “Characteristics of Hospitals Receiving Penalties Under the Hospital Readmissions Reduction Program,” *Journal of the American Medical Association* 309(2013): 342-343, doi:10.1001/jama.2012.94856. <http://jama.jamanetwork.com/article.aspx?articleid=1558273>

Department of Healthcare and Family Services.¹⁵ As is the case with all the data presented in this policy brief, the tables below are intended to start, and not end, a conversation about readmissions, quality, and disparities.

The tables below break down Chicago-area hospitals into quartiles based on the percentage of African-American patients and on Medicaid Inpatient Utilization Ratio (MIUR). The average penalty under the Medicare HRRP in FY2015 for the top quartile of African-American serving hospitals was more than double the average penalty for the lowest quartile. In the preliminary FY2015 Medicaid penalties we examined, the percentage by which hospitals missed the ‘target preventable potential readmissions’ rate (which determines their final monetary penalty) rises as the percentage of African-American patients and the Medicaid payer mix increases. In the table below we call this the “miss rate,” for which a lower number reflects better performance on the metric. The next section of this brief describes the Medicaid and Medicare readmission rates and penalty calculations in more detail.

Average Medicare penalties also jump as MIUR rises, but the top quartile by MIUR—the highest Medicaid hospitals--had lower penalties than the bottom. Looking closer at the hospitals in the top MIUR quartile shows that many are small community hospitals that have very low volume of Medicare patients with the conditions measured by the HRRP, which could explain the drop in Medicare penalties for high-Medicaid hospitals.

FY2015 Readmission Penalties by Proportion of Hospital Patients who are African-American—Chicago-Area			
Quartile	% African-American Patients Range	Mean Medicare Readmission Penalty	Medicaid Readmission Target “Miss Rate”
1st	0.23% - 7.19%	0.43%	95.86%
2nd	7.19% - 22.7%	0.80%	109.25%
3rd	22.7%- 53.0%	0.65%	125.74%
4th	53.0% - 95.6%	0.93%	132.50%

¹⁵ Medicaid data is available in individual hospital reports on the HFS website, <https://www2.illinois.gov/hfs/MedicalProvider/PPRReports/Pages/default.aspx> FY2015 Medicaid readmission data from these reports for Chicago-area hospitals is available as a comma separated values file on Sharon Post’s github page, github.com/postess/readmissions/data
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FY2015 Readmission Penalties by Medicaid Inpatient Utilization Ratio—Chicago-Area			
Quartile	MIUR Range	Mean Medicare Readmission Penalty	Medicaid Readmission Target “Miss Rate”
1st	3.97% - 10.6%	0.60%	97.86%
2nd	10.6% - 20.2%	0.84%	111.96%
3rd	20.2% - 29.4%	0.87%	123.38%
4th	29.4% - 54.7%	0.53%	135.31%

Source: Illinois Department of Public Health 2013 Annual Hospital Questionnaire, Illinois Department of Healthcare and Family Services SFY2015 Medicaid Potentially Preventable Readmissions Reports, and CMS FY 2015 IPPS Final Rule Readmissions Public Use Files¹⁶

The presence of disparities in readmissions rates and the danger that financial penalties may make them worse by disproportionately penalizing hospitals that serve more vulnerable patients are part of the context in which programs like the HRRP operate. One way to mitigate the danger of exacerbating disparities is to risk adjust the readmission measures to account for socio-demographic factors that we know affect utilization and outcomes. This kind of adjustment must be conducted with care to avoid creating lower standards for hospitals that serve populations that are already adversely affected by health inequities. Health & Medicine described the opportunities and pitfalls of risk adjusting quality metrics in the [first policy brief](#) in this series. Some critics argue that rates are inadequately risk-adjusted, resulting in unfair penalties for hospitals serving patients with several chronic conditions and advanced age.¹⁷

Illinois Medicaid’s readmissions rates are risk adjusted, and unlike Medicare’s HRRP, Illinois’s readmission reduction program also identifies and excludes non-preventable readmissions. In addition, Illinois Medicaid shares preliminary readmission rate calculations and claims data with hospitals to assist them in correcting problems that produce excess readmissions to avoid the full cost of the penalty. In FY2013, 30 out of 149 hospitals achieved no cost avoidance at all. Chicago-area safety net hospitals—those in the top quartile of

¹⁶ IDPH Annual Hospital Questionnaire (race and payer mix data) available at <http://www.hfsrb.illinois.gov/pdf/AHQ%20Data%20File%202013.xls>
HFS Medicaid Potentially Preventable Readmissions hospital reports available at <http://www2.illinois.gov/hfs/MedicalProvider/PPRReports/Pages/default.aspx>
CMS Medicare Hospital Readmission Reduction Program data available at <http://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/AcuteInpatientPPS/Readmissions-Reduction-Program.html>
All datasets, R code, and updates for this analysis is or will be available on Sharon Post’s github page, github.com/postess/readmissions/data (free registration required)

¹⁷ See for example, Academy Health’s 2013 presentation by Lane Koenig, “The Medicare Hospital Readmission Reduction Program: Potential Unintended Consequences for Hospitals Serving Vulnerable Populations,” <http://academyhealth.org/files/2013/monday/koenig.pdf> and Fuller, R, et al. “Indications of biased risk adjustment in hospital readmission reduction program.” *Journal of Ambulatory Care Management*, Jan-March 2015; 38(1) <http://www.ncbi.nlm.nih.gov/pubmed/25469577>

Medicaid utilization—were disproportionately represented among those non-cost avoiding hospitals.¹⁸ However, there were safety net hospitals in the top Medicaid utilization quartile that did achieve some cost avoidance. It is worth asking what, if any, systemic difference may exist between these two groups of safety net hospitals and how they responded to the initial penalties and data-sharing.

Risk adjusting (excluding non-preventable readmissions) and levying the penalty in phases with an opportunity to review data and cost-avoid, should all mitigate the absolute effects of the penalty and also protect hospitals that serve vulnerable populations from bearing a disproportionate impact. However, in the first year of the program it appears that safety net hospitals were less likely to successfully cost-avoid than other providers. This raises a question about whether the program as it is structured is unfair to those providers or whether safety net providers as a class need more support to improve their performance on readmissions, whether that support be technical assistance or something more like a culture change to adapt to new payment methodologies.

Can we measure what we want to measure?

Health care providers and researchers have identified other methodological problems with readmission penalties that may produce various negative unintended consequences. In fact, the calculation of the Medicare penalty itself may interfere with the incentive it is intended to create. Both Medicare and Illinois Medicaid calculate “excess” readmissions to determine penalties. To do so, both calculate a readmission rate that reflects each hospital’s performance (the numerator) and a target readmission rate based on the expected performance of the hospital based on average risk adjusted hospital performance (the denominator). Both measure readmissions *rates* by dividing readmissions by total discharges. If a hospital reduces overall admissions—generally regarded as a worthy goal if patients are receiving more appropriate preventive care in the community—and therefore has fewer discharges as well as fewer readmissions, its ratio of readmissions/discharges will appear worse as the denominator decreases.¹⁹

Another objection to Medicare penalties specifically calls out the numerator in the Medicare HRRP excess readmission rate calculation. The Illinois Medicaid PPR program calculates the “excess potentially preventable readmissions” by comparing actual, observed readmission rates to a target rate based on a risk-adjusted statewide average readmission rate. The Medicare HRRP takes an extra step and adjusts *observed* readmissions to account for differences in severity of illness and patient volume across hospitals to produce a *predicted* rate. That is compared to the target *expected* rate. Some critics have charged that the use of predicted rather than observed readmissions makes it too hard for hospitals to measure their performance and progress on the measure, makes the measure meaningless for patients seeking to compare hospital quality, and is unfair to large hospitals²⁰.

¹⁸ Chicago-area hospitals in the top Medicaid inpatient utilization quartile represented 10% of the hospitals that incurred a penalty (15 out of 149) but 16.7% of hospitals that did not achieve any cost avoidance (5 out of 30).

¹⁹ Joanne Lynn, “The Evidence That the Readmissions Rate (Readmissions/Hospital Discharges) Is Malfunctioning as a Performance Measure,” *MediCaring.org*, December 8, 2014, <http://medicaring.org/2014/12/08/lynn-evidence/>

²⁰ Jayne Koskinas and Ted Giovanis Foundation, “Problems with the Medicare Readmissions Penalty,” July 2013.

Jktgfoundation.org/data/files/ReadmissionPaperFinal.pdf

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Even if we can get the numerator and denominator right when calculating readmission rates, in Illinois Medicaid there remains a difficult question of how to determine which readmissions are “preventable.” A readmission may be planned, and those can be excluded from readmissions measures. But unplanned readmissions may be the result of medical or surgical complications that are clearly the responsibility of the hospital to which the patient was first admitted, or they may result from factors that hospitals have far less control over such as poverty and limited access to health and social services in the community, including access to social supports and transportation. A combination of medical and social factors is likely to be behind many readmissions, and decisively categorizing readmissions as preventable based on available data is bound to generate controversy.²¹ A BMJ Quality and Safety study concluded that the quality of care for pneumonia readmissions flagged as preventable was not significantly different from readmissions classified as non-preventable, and questioned the utility of the category of preventable versus non-preventable readmissions for meaningfully measuring quality.²² Another study in JAMA Internal Medicine found that social factors such as race, education level, poverty, and disability were correlated with readmission rates and suggested that readmissions penalties that do not risk adjust for those factors unfairly penalize hospitals that treat more vulnerable patients. The researchers recommended more sophisticated and inclusive risk adjustment as well as revising incentives for improvement based on an individual hospital’s prior performance rather than comparing each hospital to national average performance rates.²³

Another methodological challenge is targeting readmissions penalties by diagnosis, as Medicare penalties do, or using hospital-wide readmissions with exclusions, as in the Illinois Medicaid readmission reduction program. Targeting readmissions reductions for a limited number of diagnoses risks incentivizing a two-tier discharge process in which Medicare fee-for-service patients with targeted diagnoses receive more intensive intervention than other patients. The patients with conditions included in the readmissions reduction program may not be the highest need and the interventions for the targeted patient population may not have the best ‘bang for the buck’ in terms of redesigning transitional care to improve outcomes for all patients.²⁴

Illinois’ readmission penalties do not target specific diagnoses or patients, but instead exclude particular kinds of admissions from consideration. These exclusions include obstetric and HIV admissions, as well as patients who left against medical advice or patients in Medicaid managed care (although Illinois is planning to include

²¹ See for example Salem, Deeb, et al. “Quantity Over Quality: How the Rise in Quality Measures is Not Producing Quality Results,” *Journal of General Internal Medicine*, March 2015. link.springer.com/article/10.1007%2Fs11606-015-32-6/fulltext.html#CR39, as well as Lavenberg, Julia, et al. “Assessing preventability in the quest to reduce hospital readmissions,” *Journal of Hospital Medicine*, September 2014, 9(9): 598-603. doi: 10.1002/jhm.2226.

www.ncbi.nlm.nih.gov/pmc/articles/PMC4234107, and MedPAC’s own “Refining the hospital readmissions reduction program,” MedPAC Report to Congress: Medicare and the Health Care Delivery System, June 2013. www.medpac.gov/documents/reports/jun13_ch04.pdf?sfvrsn=0

²² Borzecki, Ann, et al. “Do pneumonia readmissions flagged as potentially preventable by the 3M PPR software have more process of care problems? A cross-sectional observational study,” *BMJ Quality and Safety*. August 17, 2015, doi: 10.1136/bmjqs-2014-003911

²³ Barnett, Michael, et al. “Patient Characteristics and Differences in Hospital Readmission Rates,” *JAMA Internal Medicine*, September 14, 2015, doi: 10.1001/jamainternmed.2015.4660

²⁴ Boutwell, Amy. “Medicaid Readmissions: What’s Similar, what’s different, and the importance of behavioral health and social complexity,” presented at AHRQ Reducing Medicaid Readmissions Project, April 9, 2015.

managed care patients in the future). In addition to potentially shifting focus away from those patients, the exclusions may also make the Medicaid “potentially preventable readmissions” metric harder to affect, as researcher Amy Boutwell argues, weakening the incentive to invest in improvements in care transitions. Boutwell also points out that Illinois Medicaid counts *chains* of readmissions rather than counting each readmission as a distinct event, such that reducing multiple readmissions is not rewarded—one chain is one chain whether it has ten or five readmissions. The imperative for hospitals, she concludes, is to collect data on the progress they are making that is not reflected in the existing metrics and to advocate for changes based on that evidence.²⁵

There are other critiques of the methodology used in both Medicare and Illinois Medicaid readmission reduction programs, including concerns about the substantive differences in risk factors for 7-, 14-, and 30- day readmissions that may be obscured when 30-days are used to determine financial penalties. We share a few prominent methodological critiques to draw attention to the contested nature of both the conceptual foundation and technical details of quality measures.

Medicare and Medicaid Readmission Penalties: Methodologies

Medicaid readmissions penalties in Illinois create incentives for hospitals to implement programs to reduce preventable readmissions for a different population than those included in Medicare penalties. The Illinois Medicaid PPR Quality Initiative also presents an alternative to the Medicare HRRP model for measuring readmissions and calculating penalties, which offers an opportunity for researchers to observe how each metric operates and how delivery systems respond.

The following chart compares the methodology used in the federal Medicare Hospital Readmission Reduction Program to the Illinois Medicaid PPR Quality Initiative in FY2015. Note that the rules for each program are subject to annual updates, sometimes with significant substantive changes.

	Federal Medicare	Illinois Medicaid
Targeting types of readmissions	Penalties only for specific diagnoses: acute myocardial infarction, heart failure, pneumonia, and, starting in 2015, chronic obstructive pulmonary disorder, total hip arthroplasty, and total knee arthroplasty	Penalties for hospital-wide “potentially preventable readmissions” <i>excluding</i> specific categories of admissions (such as neonatal, detox, HIV) along with exclusions like planned readmissions, transfers and patients who left against medical advice ²⁶ . <i>See full list in footnote.</i>
Definition of preventable admission	National Quality Forum definition of readmission. Algorithm in FY2014 rule defined <i>planned</i> readmissions but the	3M PPR Grouping Software defines preventable readmissions and identifies PPR chains

²⁵ Ibid.

²⁶ Qualifying Admissions exclude managed care, dual eligibles, detox primary diagnosis codes, long-term acute care, and rehabilitation. PPR calculations exclude Neonatal Admissions, Normal Newborn Admissions, OB Admissions, Malignancy Admissions, Left Against Medical Advice, Admission Transferred, Non-Event (e.g.: Rehab) Admissions, Patient Died, HIV, and DRGs with fewer than 5 qualifying admissions.

	HRRP metric does not consider preventability.	
Risk adjustment	Readmission rates are adjusted for patient age and gender, co-morbidities, and frailty.	Each hospital's <i>target</i> readmission rate is risk adjusted for severity of illness, APR-DRG case-mix, secondary behavioral health diagnosis, and age. <i>Actual</i> rates of PPR have been adjusted using one of three pediatric/behavioral health factors starting in FY 2013.
Timeframe for readmissions	30 days	Readmissions are defined as within 30 days of the initial admission, but for the purpose of calculating PPR chains that timeframe resets after the most recent clinically related readmission.
How excess readmissions are calculated:	<p>"Excess readmission ratio" = Predicted / Actual readmissions</p> <p><u>Numerator:</u> "Predicted" readmissions, which are adjusted actual readmissions based on hierarchical logistic regression adjusting for variations in sickness and number of patients across hospitals.</p> <p><u>Denominator:</u> Expected readmissions, based on the probability of readmission at a hypothetical average hospital that admitted patients with the same risk factors</p>	<p>"Excess Potentially Preventable Readmissions" = Actual PPR Rate – Target PPR Rate</p> <p><u>Components of PPR Rate Calculation:</u> Actual PPR chains: PPR chains are initial admissions occurring at the facility that are followed by one or more clinically-related, potentially preventable readmissions.</p> <p>Actual Rate of Readmission: Actual PPR claims divided by total <i>qualifying admissions</i> (all admissions except those excluded from PPR calculations by rule).</p> <p>Targeted Rate of Readmission: In FY 2013, the statewide average risk adjusted PPR rate.</p> <p>In FY 2014 and thereafter, the average statewide, risk-adjusted PPR rate multiplied by 85% of for acute readmissions and by 90% for adult behavioral health. The target has been, and likely will be, adjusted to meet policy goals.</p> <p>Excess Rate of Readmission is equal to the Targeted Rate of Readmission minus the Actual Rate of Readmission</p> <p>Excess Readmissions: In FY 2013, Excess Rate of Readmission times qualifying admissions.</p> <p>In FY2014 and thereafter, Targeted PPR Chains minus Actual PPR Chains.</p>
How excess readmissions are used to	The excess readmissions ratio is used to calculate the portion of base operating DRG payments for each condition that	In FY 2014 and thereafter: Average Readmission Penalty Payment per PPR Chain: HFS calculates the total cost of a

<p>calculate a penalty</p>	<p>are attributable to readmissions. The sum of those payment amounts for all conditions is the “aggregate payment for excess readmissions.” That is divided by the sum of base operating DRG payments for all discharges to calculate the readmission adjustment factor. The readmission adjustment factor is a number between 0.9700 and 1.0 that is multiplied by total Medicare DRG payments to calculate the actual financial penalty.</p>	<p>hospital’s readmissions to Medicaid—the total Medical Assistance net liability attributable to readmissions associated with PPR chains—and divides by Actual PPR Chains.</p> <p>The total annual penalty is the lower of:</p> <ul style="list-style-type: none"> • Average Readmission Penalty Payments per PPR Chain times the Excess Readmissions • The payment penalty cap times a hospital’s total inpatient medical assistance payments including all admissions. <p>The penalty cap is 3% for SFY2014 and thereafter.</p> <p>Starting in FY2014, hospitals pay 50% of the payment penalty remaining after application of cost avoidance (see below).</p>
<p>Cost savings</p>	<p>No statutory requirement. CMS estimates payment reductions of \$428 million in FY2015.</p>	<p>The SMART Act required the savings of \$40 million, including cost avoidance provision that allows hospitals to reduce monetary penalties by decreasing excessive readmissions.²⁷</p>
<p>Cost Avoidance Opportunity</p>	<p>None.</p>	<p>Starting in FY2014: Medicaid re-calculates the Actual Rate of Readmission and cost per PPR chain at then end of the fiscal year. Hospitals that lower their readmission rates to at or below the Target Rates of Readmission pay no penalty. Hospitals that reduce the variance between the Actual and Target Rates of Readmission and lower the Average Cost per PPR Chain can partially reduce their payment penalty.</p>
<p>Data source</p>	<p>Three years of discharge data. FY2015 penalties use July 1, 2010 to June 30, 2013 data.</p>	<p>Most recent complete claims data. SFY 2013 claims data were used for SFY 2015 penalties. Cost avoidance is calculated by comparing base year PPR rates and costs to the current fiscal year after hospital claims are closed.²⁸</p>

²⁷ Illinois Department of Healthcare and Family Services, “Quality Initiative to Reduce Hospital Potentially Preventable Readmissions (PPR): Status Update,” September 3, 2014.

www2.illinois.gov/hfs/SiteCollectionDocuments/PPRPolicyStatusUpdate.pdf

²⁸ Ibid and “Overview: Department of Healthcare and Family Services Potentially Preventable Readmissions Policy,” page 3

http://www2.illinois.gov/hfs/SiteCollectionDocuments/PPR_Overview.pdf

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It may also be instructive to compare the Medicare and Illinois Medicaid methodologies with the approach used in New York State, which began penalizing hospitals in 2010. A few highlights of the New York Medicaid readmission reduction program are:

- Potentially preventable readmissions are defined as readmissions for clinically-related cause within *14 days* of the original admission.
- Excess readmission rate is defined as the difference between the observed rate (actual readmissions divided by total admissions) and the expected rate (risk-adjusted hospital-specific rate).
- Risk adjustment includes severity of illness, APR-DRG, and age of patient at time of discharge.
- Readmissions involving an original behavioral health related admission (primary or secondary diagnosis) occurring before March 31, 2012 are excluded.
- Managed care encounters are included in readmission rates.
- The law implementing the readmission penalties required that Medicaid payment rates for hospital inpatient services be reduced by no less than \$35 million in the first nine months (by March 2011) and no less than \$47 million in the following 12 months (by March 2012).
- The law's regulatory impact statement says the readmission penalty is "the first step into addressing the policy issue of readmission rates in hospitals and will likely be refined in future regulation amendments to address a broader Medicaid population..."²⁹

Conclusion

As we note problems, raise questions, and recommend changes to the penalty itself, we are not precluded from simultaneously looking to capitalize on the incentives the existing, if imperfect, penalties create to change the dominant hospital business model in ways that will not only reduce readmissions but also improve what may be more substantive measures of quality, like rates of hospital acquired infections and medical errors.

In the spirit of openness that we hope characterizes this series, we end with a few potential questions for further research on readmissions and readmission penalties.

Penalties/rates by payer mix: If hospitals with few Medicaid patients have high readmissions for those patients, how does the State incentivize improvements when the penalty is a small fraction of total revenue? How do we make sure quality improvements for Medicare and commercially-insured patients translate to improvements for Medicaid and uninsured patients? On the other hand, how should policy makers respond if readmissions rates remain stubborn at high-Medicaid hospitals? Are monetary penalties the right tool to change the behavior of financially fragile safety net institutions?

²⁹ New York State Department of Health Notice of Proposed Rule Making, Amendment of Section 86-1.37 of Part 86 of Title 10 NYCRR, November 17, 2010
<http://w3.health.state.ny.us/dbspace/propregs.nsf/4ac9558781006774852569bd00512fda/1a21279f067ff672852577dc005ceba7?OpenDocument>
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Readmission in relation to other quality measures: How do 30-day mortality, “never event” rates, and Hospital Acquired Condition rates compare to readmission rates? Do improvements that reduce readmissions spillover to improve overall process, structure, and service delivery?

Cost avoidance: What is the effect of applying cost avoidance to penalties for poor performance? Is the incentive to improve enhanced or diminished? Does cost avoidance present more or less opportunities to game the penalty instead than make concrete improvements in services?

Fee-for-service emphasis: Most reduction programs are for fee-for-service (FFS) patients, but a growing number of patients are in managed care, especially in Medicaid. How do FFS quality incentives cross over to managed care? What are the challenges and opportunities to hold managed care organizations, hospitals, and other providers accountable in a capitated environment?

Behavioral health inclusion: Medicare penalties do not include behavioral health diagnosis. What is the impact of having behavioral health admissions “count” in the Illinois Medicaid penalty calculation? How has this affected hospital interventions thus far, and how will it continue to in the future?

Doubtless there are many more questions others would raise, and we hope this policy brief helps to stimulate more questions and perhaps a few potential solutions to the stubborn problems of readmissions and the challenge of measuring and improving hospital performance.

Page 4 Text Box Footnotes

¹ Gerhardt, Geoffrey, et al. “Data Shows Reduction in Medicare Hospital Readmission Rates During 2012,” Medicare & Medicaid Research Review, 2013: vol. 3, No. 2

² Based on sample from 19 states in Trudnak, Tara, et al. “Medicaid Admissions and Readmissions,” Health Affairs, August 2013, Vol. 33, No 8.

³ Hines, Anika, et al. “Conditions with the Largest Number of Adult Hospital Readmissions by Payer, 2011,” Healthcare Cost and Utilization Project Statistical Brief #172, April 2014.

⁴ Ibid

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Appendix

List of hospitals in top quartiles by proportion of patients who are black and by MIUR

Chicago-area hospitals MIUR, top quartile
Norwegian American Hospital
St. Bernard Hospital
St. Anthony Hospital
Provident Hospital of Cook County
Loretto Hospital
Presence Saint Mary Of Nazareth Hospital
Jackson Park Hospital
University of Illinois Hospital at Chicago
Mount Sinai Hospital Medical Center
John H. Stroger Hospital of Cook County
Roseland Community Hospital
VHS Westlake Hospital
Mercy Hospital & Medical Center
Adventist GlenOaks Hospital
Thorek Memorial Hospital

Chicago-area hospitals % patients who are black, top quartile
Roseland Community Hospital
St. Bernard Hospital
Jackson Park Hospital
Provident Hospital of Cook County
South Shore Hospital, Corp.
Loretto Hospital
Advocate Trinity Hospital
VHS West Suburban Medical Center
Mercy Hospital & Medical Center
MetroSouth Medical Center
Ingalls Memorial Hospital
Mount Sinai Hospital Medical Center
Advocate South Suburban Hospital
Little Company of Mary Hospital
University Of Chicago Medical Center

