

STate Action on Avoidable Rehospitalizations:
A Tool for State Policy Makers

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Overview

The national debate over how to transform the health care system is driven by consensus that health care costs are spiraling out of control while the quality of American health care ranges from very good to extremely poor. State policy makers must confront these issues in the context of dwindling resources to pay for the care of a growing number of persons. Challenges facing the states include:

- The growth in health care spending, which now accounts for an unprecedented 17% of GDP and is expected to reach 20% by 2017.¹
- A decline in the percentage of persons covered by private insurance. As of 2007, 45% of persons either have no health insurance, or government sponsored insurance, and this percentage is likely to grow.²
- Evidence that increased health care expenditures are not associated with consistent, high-quality care.
- Reduced revenues associated with the economic downturn that are straining state budgets nationwide.

Facing these challenges, states are increasingly looking for opportunities to reduce costs and improve the quality of care that patients receive. One such area is hospital readmissions, which the Medicare Payment Advisory Commission recently estimated cost the Medicare program \$15 billion annually.³ The Commonwealth Fund's recent ranking of statewide readmissions (see Table 1) illustrates how widely readmission rates vary—ranging from a Medicare fee-for-service readmission rate above 23% in Louisiana and Nevada to rates below 14% in Vermont and Wyoming.⁴ States that have published readmission rates have also reported wide variety in rates across their hospitals. For example, non-risk adjusted 30 day congestive heart failure readmission rates in Virginia varied from 12.5% to 31.78%,⁵ while in Florida, 15-day non-risk adjusted congestive heart failure readmission rates ranged from 3-22%⁶; in Pennsylvania, the highest non-risk adjusted 30-day readmission rate for a complication or infection following a congestive heart failure admission was 10.5% while the lowest such rate was 0%.⁷ While these states calculate readmission rates differently and some of the hospitals with the highest and lowest rates may serve patient populations with very different readmission risks, the amount of variability in readmission rates strongly suggests that significant human and financial costs of readmissions could be saved if the best practices for preventing unnecessary readmissions were universally adopted.

Many legitimate factors can account for hospital readmissions. Some are planned, some patients experience unavoidable complications, and some readmissions may be for conditions completely unrelated to the initial hospitalization. But there is strong agreement among policy makers and quality improvement leaders that many readmissions can be avoided.⁸

For state policy makers seeking to improve the quality and efficiency of their state’s health care system, reducing hospital readmissions is one important area to target. Hospital readmissions cost thousands of dollars each time they occur, seriously disrupt the lives of the patients and their families, and expose patients to new risks associated with being hospitalized. But any effort to change policies or support initiatives designed to decrease unnecessary readmissions requires that policy makers know where to focus their efforts. After all, readmissions could be due to any of the following factors, among others:

- Quality of care issues in the initial hospitalization;
- Lack of access to physicians to receive follow-up care after the first hospitalization;
- Hospital admission norms that discourage treatment in other care settings;
- Home health care access and quality;
- Effective discharge planning;
- Breakdowns in transitions of care between care settings; or
- Nursing home care access and quality.

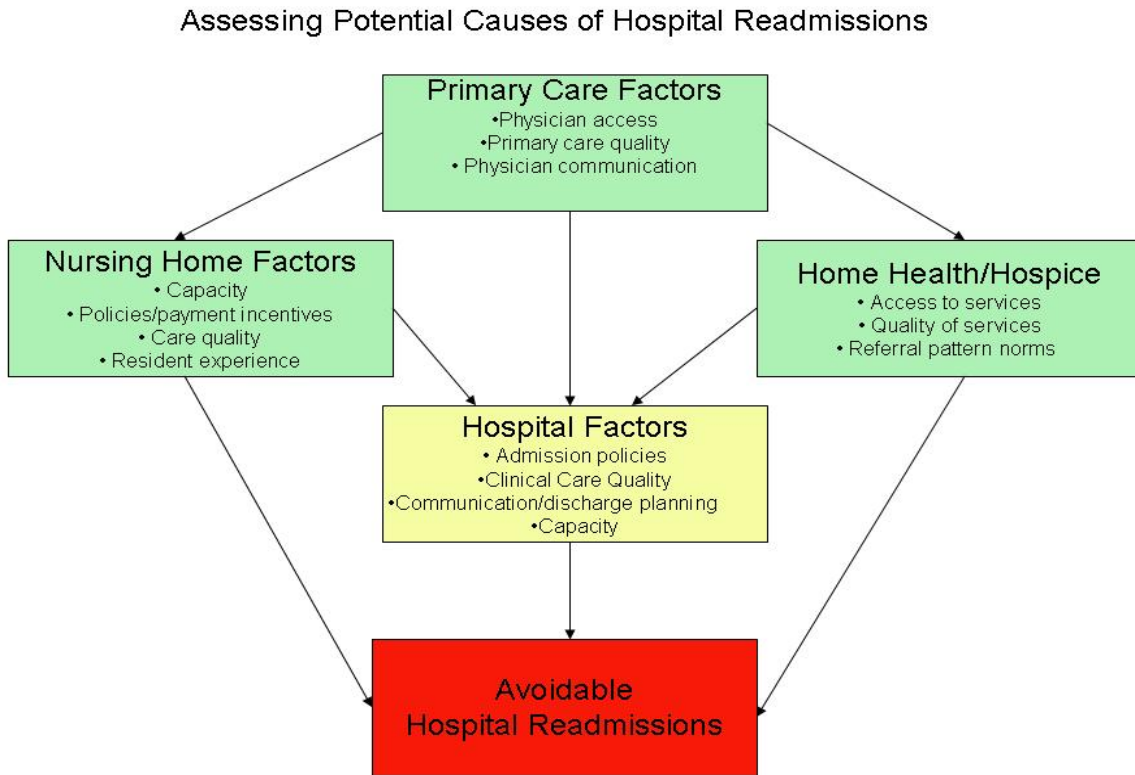
Which of these or other factors are the most important contributors to hospital readmissions vary from state to state, and from community to community. This tool is designed to assist your efforts to reduce hospital readmissions by identifying questions you can ask to focus your efforts to develop initiatives that focus on the contributing factors that may be the most relevant for you. Using evidence from the published literature as well as analyses done in support of IHI’s Reducing Hospital Readmissions project funded by the Commonwealth Fund, this tool guides you through a series of data-driven questions you can use to determine where you should probe more extensively to understand and ultimately address the factors that cause unnecessary readmissions in your state.

Because the entire system through which health care is provided may impact hospital readmissions, this tool includes questions about all aspects of the system, including:

- Hospitals;
- Nursing Homes;
- Home Health and Hospice Care; and
- Primary Care.

Figure 1 illustrates the interconnectedness of parts of the health system that collectively may impact hospital readmissions.

Figure 1



Obviously, other factors such as the age and health status of your population will clearly affect the frequency of hospitalizations and hospital readmissions. But the checklist provided below focuses on aspects of the health care system that policy makers can influence and for which data is available to assess your state's performance.

Checklist

Hospital Care

Hospital care clearly impacts your state's readmission rate, but it does so in very distinct ways, some of which may be very important in your state, while others are minor factors. Questions you should ask about hospital care include the following:

Are my state's hospital admission rates for ambulatory-sensitive conditions high?

Hospital admission rates for conditions that are potentially treatable outside the hospital are the best single predictor of state readmission rates. Examples of such conditions are complications from diabetes and asthma, hypertension, congestive heart failure, and urinary tract infections. Table 1 lists overall hospital readmission rates and admission rates per 100,000 Medicare beneficiaries for these ambulatory-sensitive conditions. These admission rates account for about 30% of hospital readmission rates.

While these rates only apply to the Medicare population, hospital readmissions also are related to care for adult and pediatric asthma. Table 2 provides state rates for asthma hospital admissions for children and emergency department and urgent care rates for all asthmatics. While data is not available for all states, there are solid correlations between each measure and hospital readmissions ($r=.42$ for pediatric asthma admissions; $r=.33$ for asthma ED visits).

Obviously, many factors can affect hospital admission rates for conditions that are potentially treatable in ambulatory settings, ranging from characteristics of your population, to availability of quality primary care and care in non-acute settings, to practice patterns in your state. Many of these same factors affect readmission rates. While the focus of this tool is on readmissions, it is important to recognize that if your state's admission rates for ambulatory sensitive conditions are high, improving care management for persons with these conditions may be key to your efforts to lower your state's hospital readmission rate.

Table 1: State Hospital Readmission and Admission Rates*

State	Medicare 30-Day Readmission Rates	Hospital Readmission Rates for Ambulatory Care Sensitive Conditions per 100,000 Medicare Beneficiaries	Medicare 30-Day Readmission Rates	Hospital Readmission Rates for Ambulatory Care Sensitive Conditions per 100,000 Medicare Beneficiaries
AK	15.7%	4726	MT	14.9%
AL	18.2%	9432	NC	15.9%
AR	19.9%	9429	ND	16.2%
AZ	18.0%	5565	NE	14.3%
CA	18.2%	6383	NH	17.1%
CO	17.5%	5729	NJ	18.3%
CT	16.6%	6647	NM	15.3%
DC	20.4%	8101	NV	23.5%
DE	18.2%	6851	NY	17.9%
FL	17.4%	6680	OH	18.6%
GA	18.1%	8531	OK	20.5%
HI	14.5%	4069	OR	14.1%
IA	14.0%	6199	PA	20.1%
ID	14.8%	5591	RI	15.5%
IL	20.3%	8480	SC	16.0%
IN	17.6%	8113	SD	20.2%
KS	18.9%	7328	TN	18.2%
KY	19.0%	10452	TX	20.6%
LA	23.8%	11368	UT	15.8%
MA	19.8%	7830	VA	16.7%
MD	20.6%	8031	VT	13.2%
ME	17.5%	6798	WA	16.5%
MI	19.4%	7278	WI	16.3%
MN	15.0%	5588	WV	17.0%
MO	17.8%	8084	WY	13.3%
MS	17.7%	11537		

* Commonwealth Fund. State Scorecard Data Tables 4.4 and 4.5, June 2007, Supplement to: *Aiming Higher: Results from a*

State Scorecard on Health System Performance. Accessed at:

http://www.commonwealthfund.org/usr_doc/State_data_tables.pdf?section=4039.

Table 2: Pediatric Asthma Hospital Admissions and Asthma Emergency Department Rates*

State	Pediatric Asthma Admissions per 100,000 Children Ages 2-17	Percent of Asthmatics with Emergency Dept or Urgent Care Visit	State	Pediatric Asthma Admissions per 100,000 Children Ages 2-17	Percent of Asthmatics with Emergency Dept or Urgent Care Visit
AK		13.1	MT		15.1
AL			NC	130.6	27.1
AR	116.9		ND		
AZ	131.1	15.5	NE	102.1	
CA	104.9	16.2	NH	54.4	12.8
CO	167.1		NJ	175.8	18.7
CT		16.6	NM		13.6
DC		25.8	NV	125.4	
DE		18.6	NY	283.8	21.2
FL	183		OH	113.8	15.1
GA	144.6	19.8	OK		18.8
HI	87.7	13.1	OR	48.5	
IA	81.2	9.1	PA		15.1
ID		11.0	RI	154	16.2
IL	128.8		SC	192.2	
IN		20.3	SD		12.5
KS	147.2		TN	155.7	
KY	212.7	19.2	TX	159.5	15.5
LA		17.4	UT	80.5	11.9
MA	143.3	13.7	VA	152.4	21.7
MD	160.8	14.3	VT	43.1	12.7
ME			WA	92.3	11.9
MI	174.9	19.4	WI	100.4	13.8
MN	121.6	10.2	WV	171.4	
MO	171.3				

* Pediatric asthma admission data for 2004 from AHRQ National Healthcare Quality Report, 2007, Table 1.110b. Accessed at: <http://www.ahrq.gov/qual/nhqr07/effectiveness/respdisc/T1.110B.htm>. No rates are available for states not participating in the AHRQ HCUP project. Percent of asthmatics with ED visit data from Commonwealth Fund. State Scorecard Data Table 4.3, June 2007, Supplement to: *Aiming Higher: Results from a State Scorecard on Health System Performance*. Accessed at: http://www.commonwealthfund.org/usr_doc/State_data_tables.pdf?section=4039. BRFSS data on which the table is based is not available for all states.

□ **How are state hospitals performing on quality-of-care measures?**

For several years, CMS has reported quality measures for hospital treatment for heart attacks, pneumonia, congestive heart failure, and surgical infection prevention. It stands to reason that patients who receive higher quality care are less likely to require readmissions. Using data for care provided from the second quarter of 2007 through the first quarter of 2008, we found strong negative associations between statewide hospital readmission rates and composite measures of quality for patients with heart attacks ($r=-.54$) and pneumonia ($r=-.34$), and smaller negative relationships between readmission rates and the other clinical area quality measures. If your state performs poorly on these measures (see Table 3), you may want to target these areas for improvement as part of your efforts to reduce hospital readmissions.

Table 3: Performance on Quality and Discharge Planning Measures*

State	Heart Attack Care Quality Composite	Pneumonia Care Quality Composite	Discharge Planning Quality Composite	State	Heart Attack Care Quality Composite	Pneumonia Care Quality Composite	Discharge Planning Quality Composite
AK	96.8%	89.1%	79.5%	MT	96.9%	92.4%	89.4%
AL	94.9%	90.4%	84.4%	NC	97.0%	92.2%	88.2%
AR	94.5%	91.5%	87.3%	ND	97.9%	92.6%	92.4%
AZ	95.5%	89.3%	84.7%	NE	97.4%	92.7%	88.7%
CA	95.8%	89.8%	85.2%	NH	97.8%	94.9%	93.4%
CO	97.2%	90.5%	88.1%	NJ	96.5%	94.2%	91.0%
CT	96.3%	91.3%	86.0%	NM	94.3%	86.8%	80.1%
DC	96.0%	79.5%	68.4%	NV	94.8%	87.3%	83.6%
DE	96.7%	90.2%	89.0%	NY	96.0%	90.5%	86.8%
FL	95.4%	91.7%	87.9%	OH	96.5%	92.3%	89.1%
GA	95.0%	89.8%	82.0%	OK	95.1%	91.4%	86.4%
HI	95.8%	86.9%	80.9%	OR	97.2%	90.6%	84.8%
IA	97.8%	93.8%	91.6%	PA	96.5%	91.7%	87.5%
ID	97.5%	92.8%	90.8%	RI	98.0%	91.4%	86.3%
IL	95.6%	90.3%	85.0%	SC	97.0%	92.9%	89.3%
IN	95.9%	92.3%	89.4%	SD	98.0%	92.6%	91.4%
KS	94.6%	87.1%	79.1%	TN	95.4%	91.4%	85.7%
KY	95.2%	91.4%	84.9%	TX	95.5%	90.9%	86.4%
LA	93.5%	89.0%	82.9%	UT	95.3%	91.2%	88.0%
MA	97.2%	90.9%	86.2%	VA	96.9%	92.5%	87.9%
MD	95.3%	89.1%	82.8%	VT	98.1%	94.8%	91.0%
ME	98.1%	93.3%	91.4%	WA	96.7%	89.8%	85.2%
MI	96.3%	92.2%	88.3%	WI	97.0%	92.9%	88.0%
MN	97.7%	91.9%	88.6%	WV	95.8%	91.2%	88.4%
MO	96.7%	92.1%	88.6%	WY	96.4%	91.4%	85.2%
MS	94.2%	88.8%	82.5%				

* Data drawn from CMS Hospital Compare for time period quarter 2, 2007-quarter 1, 2008. Accessed at:

<http://www.hospitalcompare.hhs.gov/Download/DownloadDB.asp> Composite measures reflect weighted state rates, based on hospital volume. Discharge planning measure is a weighted average of all quality measures from Hospital Compare linked to discharge planning processes.

□ **How strong is discharge planning in your state's hospitals?**

Discharge planning has a proven relationship to the likelihood of readmissions.^{9 10 11} When patients do not understand medications they should take, complications they should be alert to, outpatient visits they should schedule, and other information critical for effective self-management, the likelihood of a readmission increases.

Table 3 summarizes state performance on a composite measure of discharge planning effectiveness drawn from variables reported on Hospital Compare. If your state performs poorly on this measure, you may want to focus particular attention on discharge planning as a strategy for reducing hospital readmissions. But even if your state performs comparatively well, transitions of care should be addressed as an important determinant of patient rehospitalization.

□ **How do patients perceive their experiences in the hospital?**

Most clinicians believe that patients have little, if any, ability to correctly gauge the quality of care they receive. Even if this view is correct, it is a mistake to discount the importance of patients' perceptions of their care, since these perceptions are related to hospital readmission rates. Patient dissatisfaction could:

- Reflect patient awareness of poor quality care, which leads to a readmission;
- Reflect dissatisfaction with discharge planning and other communication from hospital staff that influence the patient's ability to avoid a rehospitalization; or
- Create concerns about their care that predispose patients to seek treatment in a hospital's emergency department, leading to a readmission.

Even though we do not know the exact mechanisms through which patient dissatisfaction is linked to readmissions, a number of measures drawn from the universally used HCAHPS data are solid predictors of readmissions, including:

- Patient Dissatisfaction. The percentage of patients who would definitely not recommend the hospital is positively correlated to statewide hospital readmission rates ($r=.30$).
- Effective Communication. Effective communication enhances patients' ability to understand treatment regimens and avoid complications that can lead to readmissions. States where patients report greater satisfaction with nurse and staff communication have lower hospital readmission rates ($r=-.31$).

Table 4 summarizes the performance of states on these aspects of hospital patient experience. If your state performs poorly in one or both of these areas, you may want to focus on it in your efforts to reduce readmissions.

Do a high percentage of patients leave against medical advice?

While the average percentage of Medicare patients who leave against medical advice is quite low (under 1% nationally), this rate is a surprisingly strong predictor of hospital readmission rates. After excluding patients being treated for substance abuse or psychiatric conditions, leaving against medical advice rates are strongly correlated with dissatisfaction with hospital care ($r=.62$) and with readmission rates ($r=.50$). One explanation for this correlation is that leaving against medical advice occurs when treatment is poor; another is that when patients leave abruptly, the discharge planning process is impacted. While the reasons for this relationship are not clear, if your state's rate of leaving against medical advice is high, you may want to discuss potential reasons for this and account for these reasons when planning strategies to reduce hospital readmissions.

Table 4: Patient Experience on Variables Linked to Hospital Readmissions*

State	Patient Dissatisfaction Composite	Effective Communication Composite	Patients Leaving Against Medical Advice	State	Patient Dissatisfaction Composite	Effective Communication Composite	Patients Leaving Against Medical Advice
AK	10.2%	70.3%	0.33%	MT	10.0%	70.1%	0.17%
AL	9.7%	75.6%	0.35%	NC	10.5%	73.4%	0.40%
AR	11.4%	71.5%	0.37%	ND	12.4%	63.1%	0.23%
AZ	12.9%	66.4%	0.59%	NE	9.5%	71.2%	0.14%
CA	14.6%	65.3%	0.98%	NH	8.9%	73.1%	0.48%
CO	11.1%	67.3%	0.31%	NJ	13.8%	68.0%	0.67%
CT	12.7%	68.9%	0.38%	NM	13.8%	66.8%	0.58%
DC	15.0%	65.3%	0.82%	NV	20.1%	56.3%	1.71%
DE	12.7%	69.3%	0.46%	NY	15.8%	65.1%	1.01%
FL	16.1%	63.6%	0.95%	OH	12.5%	67.7%	0.40%
GA	12.2%	69.9%	0.49%	OK	11.7%	69.6%	0.46%
HI	16.7%	62.8%	0.70%	OR	11.3%	67.0%	0.27%
IA	9.4%	69.7%	0.21%	PA	12.3%	68.9%	0.48%
ID	12.0%	66.4%	0.20%	RI	12.8%	68.6%	0.75%
IL	12.9%	68.3%	0.57%	SC	11.5%	71.0%	0.39%
IN	11.0%	69.1%	0.29%	SD	8.6%	71.4%	0.25%
KS	12.3%	67.8%	0.29%	TN	12.0%	70.2%	0.42%
KY	11.9%	70.9%	0.44%	TX	13.3%	67.5%	0.55%
LA	12.0%	72.5%	0.44%	UT	10.4%	70.0%	0.17%
MA	10.9%	70.9%	0.65%	VA	12.5%	68.3%	0.42%
MD	14.1%	67.6%	0.67%	VT	9.3%	71.8%	0.26%
ME	9.4%	72.9%	0.43%	WA	11.4%	68.9%	0.35%
MI	12.3%	67.8%	0.51%	WI	8.6%	72.4%	0.25%
MN	9.8%	70.1%	0.26%	WV	12.5%	69.8%	0.63%
MO	11.3%	70.0%	0.44%	WY	9.2%	71.7%	0.21%
MS	11.6%	72.9%	0.44%				

* Data drawn from CMS Hospital Compare for time period quarter 2, 2007-quarter 1, 2008. Accessed at:

<http://www.hospitalcompare.hhs.gov/Download/DownloadDB.asp> Composite measures reflect weighted state rates, based on hospital volume. Discharge planning measure is a weighted average of all quality measures from hospital compare linked to discharge planning processes. Leaving against medical advice data drawn from 2006 Medpar file. AMA rates exclude patients whose primary care was related to substance abuse or a psychiatric condition.

Nursing Home Care

Access to quality nursing home care may contribute to lower hospital readmission rates.

Because many very sick patients are admitted to hospitals from nursing homes and discharged to nursing homes from hospitals, the link between nursing home care and readmissions should be examined closely. Asking the following questions can help guide your assessment of these connections.

What are your state's nursing home bed hold policies?

Some states have policies that reimburse nursing homes for leaving beds open for residents they admit to the hospital. While the goal of these policies is desirable (ensuring that residents can return to the nursing home after hospital discharge), these policies may encourage nursing homes to transfer borderline patients to hospitals.

A recent study by Intrator and colleagues found significantly higher odds of hospitalizing nursing home residents in states where bed hold policies exist.¹² Because this trend almost certainly impacts readmissions as well, it is important to examine how the bed hold policies and Medicaid per diem rates in place in your state impact your state's hospital readmission rates.

How prevalent are delirium and pain among short-term nursing home residents?

Medicare reports on a number of variables associated with nursing home care. While there were no discernible links between measures of care for long-term nursing home residents, statewide readmission rates were generally inversely related to short-term resident experience. Bad experiences for short-term nursing home residents are associated with higher rates of resident readmission to the hospital. The following two aspects of resident experience are the strongest predictors of readmission:

- Short-Term Residents with Delirium. States with higher readmission rates have lower percentages of short-term residents who experience delirium ($r=-.48$).

- Short-Term Residents with Pain. States with higher readmission rates also have lower percentages of short-term residents who experience pain ($r=-.33$).

Table 5 summarizes state performance on these two measures.

□ How do your nursing homes perform on facility survey measures?

Data regarding nursing home surveys is controversial. Inspectors in some states report much higher numbers of deficiencies and complaints than others, despite little evidence of objective differences.

We did not find relationships between the results of nursing home surveys (either regularly scheduled or in response to a complaint). This was true for all levels of harm or potential harm. However, it still may be very valuable for you to assess whether some nursing homes in your state with histories of deficiencies and complaints are impacting the number of hospital readmissions.

Table 5: Statewide Nursing Home Care for Short-Term Residents*

State	Short-term Nursing Home Residents with Delirium	Short-term Nursing Home Residents with Pain	State	Short-term Nursing Home Residents with Delirium	Short-term Nursing Home Residents with Pain
AK	4.8%	37.1%	MT	2.4%	35.0%
AL	1.1%	16.2%	NC	1.3%	17.2%
AR	1.9%	12.2%	ND	2.7%	20.6%
AZ	1.3%	24.7%	NE	3.7%	23.4%
CA	0.8%	24.2%	NH	1.9%	20.0%
CO	1.7%	21.9%	NJ	0.8%	15.0%
CT	1.6%	19.9%	NM	1.5%	22.6%
DC	1.2%	12.7%	NV	2.0%	22.5%
DE	1.1%	19.7%	NY	0.9%	14.2%
FL	1.1%	19.4%	OH	1.7%	24.4%
GA	2.0%	17.2%	OK	1.9%	20.3%
HI	1.3%	15.8%	OR	2.2%	35.1%
IA	3.6%	24.2%	PA	1.6%	19.1%
ID	2.4%	26.4%	RI	2.6%	20.8%
IL	2.5%	19.0%	SC	1.3%	14.8%
IN	0.9%	17.4%	SD	2.6%	25.5%
KS	2.0%	18.8%	TN	2.0%	17.2%
KY	0.8%	16.6%	TX	1.6%	13.8%
LA	3.0%	11.9%	UT	3.1%	29.7%
MA	1.9%	19.2%	VA	1.6%	17.1%
MD	1.1%	12.9%	VT	3.2%	22.8%
ME	2.3%	21.1%	WA	2.6%	30.6%
MI	2.0%	20.4%	WI	1.9%	24.7%
MN	1.7%	22.1%	WV	1.4%	18.0%
MO	2.5%	20.7%	WY	1.3%	17.1%
MS	1.6%	13.4%			

* Data drawn from CMS Nursing Home Compare website, accessed at:

<http://www.hospitalcompare.hhs.gov/Download/DownloadDB.asp>

Home Health and Hospice Care

Access to good quality home health care may reduce the need for costly hospital readmissions. However, good home health care may also result in more readmissions when conscientious nurses identify conditions they feel require treatments available only in the hospital. Because home health care is often provided for recently hospitalized patients, the following questions should be asked about potential links to readmissions.

What is the quality of the care provided by home health agencies in your state?

States with higher measures of home health care quality tend to have both higher readmission rates overall and rates of home health care patients who had to be admitted to a hospital. It is obviously inappropriate to conclude that your state should reduce home health care in order to decrease hospital readmissions. However, understanding why better home-based care and readmissions are linked may be valuable. You may wish to examine:

- The types of patients receiving home health services;
- The duration of home health services provided; and
- Other outcomes, including mortality, that may impact the frequency of readmissions.

Table 6 summarizes state performance on a composite measure of good quality care drawn from home health compare and states' rates for home health care patients requiring readmission to a hospital.

Table 6: Home Health Care Quality and Admission to Hospital Rates*

State	Good Home Health Care Composite	Patients Requiring Hospital Admission	State	Good Home Health Care Composite	Patients Requiring Hospital Admission
AK	44.8%	24.0%	MT	50.0%	24.0%
AL	52.3%	31.0%	NC	50.3%	29.0%
AR	48.9%	31.0%	ND	46.6%	22.0%
AZ	48.9%	29.0%	NE	47.8%	26.0%
CA	51.9%	25.0%	NH	47.6%	29.0%
CO	50.1%	25.0%	NJ	54.3%	28.0%
CT	50.0%	32.0%	NM	50.3%	27.0%
DC	59.0%	27.0%	NV	53.0%	29.0%
DE	51.0%	28.0%	NY	51.8%	30.0%
FL	51.6%	25.0%	OH	51.1%	30.0%
GA	54.6%	28.0%	OK	48.9%	35.0%
HI	51.5%	26.0%	OR	50.0%	24.0%
IA	46.6%	29.0%	PA	51.6%	27.0%
ID	47.9%	24.0%	RI	53.3%	30.0%
IL	53.0%	29.0%	SC	56.9%	28.0%
IN	50.6%	30.0%	SD	47.8%	23.0%
KS	50.0%	26.0%	TN	52.3%	32.0%
KY	49.9%	31.0%	TX	47.3%	34.0%
LA	49.9%	38.0%	UT	54.1%	22.0%
MA	52.4%	29.0%	VA	50.6%	27.0%
MD	51.3%	27.0%	VT	44.4%	28.0%
ME	48.8%	25.0%	WA	49.6%	24.0%
MI	51.8%	27.0%	WI	48.9%	26.0%
MN	46.4%	29.0%	WV	51.0%	30.0%
MO	51.3%	25.0%	WY	46.1%	27.0%
MS	53.1%	37.0%			

* Data synthesized from variables provided on CMS Home Health Compare website, accessed at:

<http://www.hospitalcompare.hhs.gov/Download/DownloadDB.asp>

□ What is the access to and use of hospice care in your state?

While there is no published relationship between access to or the quality of hospice care and hospital readmission rates, many hospital readmissions do occur within the final year of life, when hospital-based care may not be desired or beneficial for the patient. Norms related to the use of hospice vary substantially across states and are not amenable to changing by policy makers. However, because of the potential importance of good hospice care in reducing readmissions and improving care at the end of life, asking about the access to and use of hospice care in your state may be worthwhile.

Primary Care

The link between primary care and hospital readmissions was noted earlier in this document in our discussion of admissions for ambulatory-sensitive conditions. Understanding access to and quality of primary care may be critical to your efforts to devise an effective strategy for reducing hospital readmissions. Other questions you can ask about the primary care setting include:

What quality of care is provided in the primary care setting to Medicare recipients?

Care quality received by Medicare recipients may be indicative of the quality of primary care more generally in your state. In general, the better the quality of primary care patients receive, the lower the hospital readmission rates. This correlation is strongest for fee-for-service Medicare patients. Below are some measures with statistically significant relationships to statewide hospital readmission rates:

- Fee-for-Service (FFS) Doctors Who Communicate Well. CMS reports Medicare Advantage beneficiary data on fee-for-service patient experience. States with higher readmission rates have lower percentages of doctors who communicate well to their patients ($r=-.37$).
- FFS Patients Getting Care Without Long Waits. Length of wait time is another measurement reported by CMS to reflect patient experience in the primary care setting. States with higher readmission rates have lower percentages of fee-for-service patients getting care without long waits ($r=-.40$).
- FFS Patients Getting Care That Is Needed. States with higher readmission rates also have lower percentages of fee-for-service patients who report getting care that is needed ($r=-.56$).
- FFS Flu Shot Rates. The rate of patients who receive a flu shot is a standard and measurable process that is reported by CMS to reflect quality of primary care. States with higher readmission rates have lower rates of influenza vaccinations for fee-for-service patients ($r=-.58$).

- FFS Quality Measures Scores. In addition to individual measures, overall quality of primary care and patient experience is a strong predictor for hospital readmissions. States with higher readmission rates have a lower percentage of fee-for service Medicare patients who receive high quality care based on a seven-item composite measure ($r=-.29$).

Table 7 summarizes the performance of states reporting the quality of care available to patients participating in Medicare Advantage plans. While not all states are included, and while these results are limited to a subpopulation of Medicare patients, they still may be useful in identifying opportunities for improving the primary care system in your state that may impact hospital readmissions.

Table 7: Medicare Advantage Primary Care Measures*

State	FFS Good Doctor Communication	FFS Care Without Long Waits	FFS Patients Get Needed Care	FFS Patients Receive Flu Shots	FFS Quality Composite
AK					70.5%
AL	69.0%	57.0%	87.0%	72.0%	66.6%
AR					73.5%
AZ	65.0%	56.0%	84.0%	73.0%	63.1%
CA	67.0%	54.0%	85.0%	71.0%	62.4%
CO	67.0%	60.0%	86.0%	77.0%	63.6%
CT	66.0%	60.0%		75.0%	62.7%
DC	68.0%	54.0%		60.0%	52.4%
DE					78.5%
FL	66.0%	53.0%	82.0%	70.0%	64.9%
GA	66.0%	53.0%		72.0%	58.5%
HI	74.0%	57.0%	89.0%	76.0%	67.1%
IA	70.0%	66.0%	92.0%	79.0%	68.0%
ID	69.0%	60.0%		71.0%	59.5%
IL	68.0%	59.0%	88.0%	71.0%	65.1%
IN	67.0%	64.0%	93.0%	74.0%	66.6%
KS	66.0%	56.0%	88.0%	78.0%	64.6%
KY	67.0%	60.0%		71.0%	60.5%
LA	68.0%	53.0%		71.0%	60.5%
MA	72.0%	61.0%	90.0%	70.0%	67.3%
MD	66.0%	54.0%	86.0%	73.0%	64.1%
ME					80.5%
MI	68.0%	60.0%	88.0%	70.0%	66.9%
MN	65.0%	58.0%	91.0%	78.0%	65.7%
MO	70.0%	62.0%	89.0%	73.0%	66.0%
MS					71.5%
MT					78.0%
NC	68.0%	60.0%	88.0%	73.0%	66.0%
ND	65.0%	59.0%		77.0%	64.0%
NE	73.0%	64.0%		81.0%	64.7%
NH	74.0%	65.0%		76.0%	63.3%
NJ	70.0%	55.0%	83.0%	71.0%	63.7%

NM	69.0%	53.0%		76.0%	58.5%
NV	61.0%	55.0%	77.0%	66.0%	60.1%
NY	67.0%	56.0%	85.0%	72.0%	64.0%
OH	68.0%	59.0%	89.0%	71.0%	64.7%
OK	66.0%	57.0%	84.0%	77.0%	63.4%
OR	66.0%	57.0%	89.0%	75.0%	63.9%
PA	70.0%	58.0%	90.0%	71.0%	66.1%
RI	71.0%	57.0%	90.0%	74.0%	66.4%
SC					76.0%
SD					77.5%
TN	68.0%	58.0%	91.0%	74.0%	66.0%
TX	67.0%	56.0%	85.0%	74.0%	63.9%
UT					74.0%
VA	69.0%	58.0%		75.0%	61.0%
VT					79.0%
WA	67.0%	57.0%	88.0%	74.0%	62.7%
WI	71.0%	64.0%	92.0%	77.0%	67.1%
WV	72.0%	64.0%	90.0%	70.0%	66.7%
WY					73.5%

* Data provided by CMS for fee-for service participants in Medicare Advantage plans, 2008. Accessed at:

<http://www.hospitalcompare.hhs.gov/Download/DownloadDB.asp>

Exploring Further

We fully understand that the questions posed above are only a start for state efforts to curb unnecessary hospital readmissions. Moreover, the data that we provide in the tables above is at the statewide level, is less current than data you may possess, and is limited in many other ways as well. So this checklist is a starting point designed to help guide you in the initial stages of developing a strategy to reduce hospital readmissions. There are other questions you can and should be asking that will do as much, or more, to help you develop a successful strategy. These questions include:

- What other factors potentially under the control of state policy makers or the state's provider community may be contributing to unnecessary hospital readmissions?**

If you pose this question to policy makers, health department officials, leaders in your state's provider community, and advocates for better health care, you will certainly learn more potential causes of readmissions, along with how these people think they can be addressed.

- Are the problems you identify statewide, or limited to particular regions, hospital types, or hospitals?**

The statewide rates we report may conceal enormous variation within your state that is critical to understand. Some regions may have different challenges than others, so replicating the types of analyses we've reported at the state level at smaller units of analysis (e.g., particular regions, provider types, patient populations, etc.) may be very important. States participating in IHI's readmission project will receive assistance with this activity.

- Why do hospital leaders in areas with high and low readmission rates believe they differ from others?**

There is no data to answer this question. You'll need to initiate conversations with hospital leaders and other key stakeholders to answer these questions, and to devise potential solutions to improve care quality and reduce readmissions in the areas you have targeted.

References

- ¹ Keehan, S. et al. Health Spending Projections Through 2017, *Health Affairs* Web Exclusive W146: 21 February 2008.
- ² U.S. Census Bureau. *Health Insurance Coverage:2007*. Accessed at: <http://www.census.gov/hhes/www/hlthins/hlthin07/hlth07asc.html> .
- ³ Medicare Payment Advisory Commission. 2007. *Report to Congress: Promoting Greater Efficiency in Medicare*. Washington, DC: Medicare Payment Advisory Commission.
- ⁴ Commonwealth Fund. State Scorecard Data Tables, June 2007, Supplement to: *Aiming Higher: Results from a State Scorecard on Health System Performance*. Accessed at: http://www.commonwealthfund.org/usr_doc/State_data_tables.pdf?section=4039.
- ⁵ Virginia Health Information. 2006. *Cardiac Care*. Accessed at: www.vhi.org.
- ⁶ The Florida Agency for Health Care Information. 2007. Accessed at: www.floridahealthfinder.gov.
- ⁷ Pennsylvania Health Care Cost Containment Council. 2007. Accessed at: www.pch4.org.
- ⁸ Minott J. *Reducing Hospital Readmissions*. Washington, D.C.: Academy Health; 2008.
- ⁹ Minott J. *Reducing Hospital Readmissions*. Washington, D.C.: Academy Health; 2008.
- ¹⁰ Aujesky D, Mor MK, Geng M, Stone RA, Fine MJ, Ibrahim SA. Predictors of early hospital; readmission after acute pulmonary embolism. *Arch Intern Med*. 2009;169(3):287-293.
- ¹¹ van Walraven C, Seth R, Austin PC, Laupacis A. Effect of discharge summary availability during post-discharge visits on hospital readmission. *J Gen Intern Med*. Mar 2002;17(3):186-192.
- ¹² [Inrator O](#), [Grabowski DC](#), [Zinn J](#), [Schleinitz M](#), [Feng Z](#), [Miller S](#), [Mor V](#). Hospitalization of nursing home residents: the effects of states' Medicaid payment and bed-hold policies. *Health Serv Res*. 2007;42(4):1651-71.