RESEARCH NOTE

Advisory Board

Data Primer: Avoidable Hospital Days

Data-driven insights on the efficiency of acute-to-post-acute transitions

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RECOMMENDED FOR

Acute and post-acute strategy leaders

READING TIME

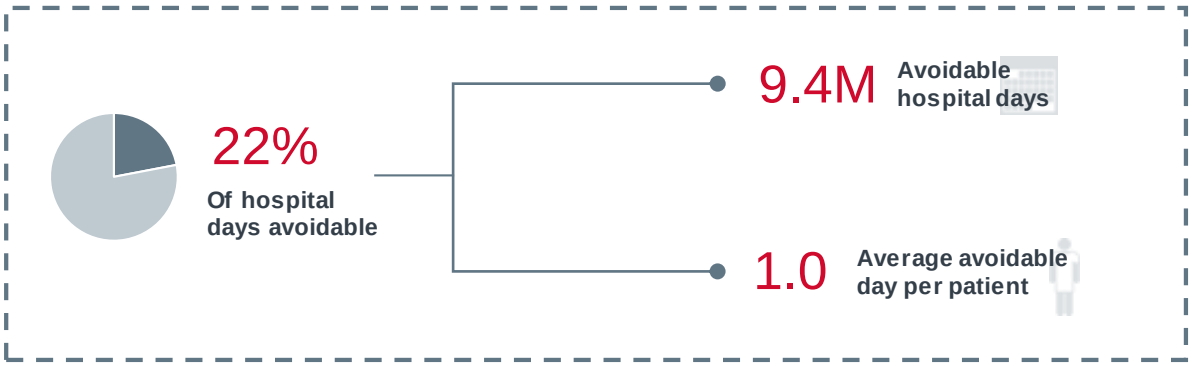
10 Min.

Excess patients days are an evergreen hospital challenge

Individual avoidable days add up to more than one-fifth of all hospital days

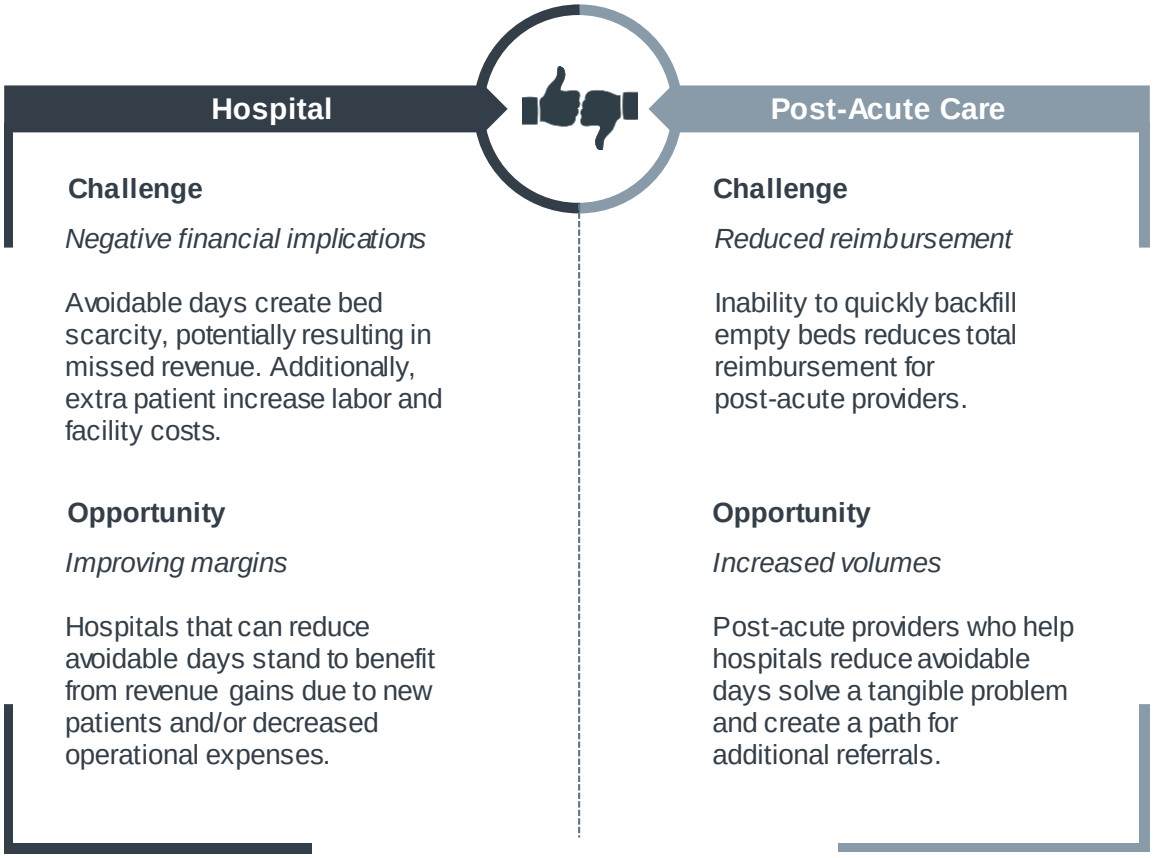
Avoidable hospital days are extra days patients spend in the acute care setting relative to national averages due to clinical or discharge related delays. Excess hospital days negatively impact financial performance by increasing a patient's average length of stay and, in turn, hospital operational costs.

The magnitude of avoidable days[1]



The impact of excess hospital days isn't localized to acute care providers. As hospitals grapple with the effects of longer lengths of stay, downstream partners like post-acute providers face the consequences such as delayed intake, poorly timed transitions, and lost volumes or post-acute days.

Avoidable hospital days pose challenges and opportunities for post-acute providers



1) Data from Medicare Fee-for-Service Claims from Q1 2018 to Q4 2018.

Source: CMS, Advisory Board Analysis; Post-Acute Care Collaborative interviews and analysis.

Understanding the data methodology

Excess days reveal substantial deviation from average length of stay

In 2018, 9.4 million avoidable hospital days occurred—the equivalent of maintaining staff, beds, and resources at 86 regional-sized hospitals[1] for an entire year. Additionally, keeping patients in the hospital longer than necessary increases risks of hospital acquired conditions and delays necessary post-acute treatments.

9.4M
Avoidable days

=

86
Regional-sized hospitals, full for an entire year

The box below summarizes the avoidable days calculation methodology. Average length of stay for a specific condition per hospital is compared to national averages to calculate the total number of avoidable days.

Data analysis methodology

Data Set

CMS Standard Analytical Files (SAF) which include 100% **Medicare FFS[2] claims data**.

Timeframe

Medicare FFS claims data **from Q1 2018 to Q4 2018**.

Methodology

Length of stay compared to GMLOS[3], which is determined by multiplying all of the length of stay values and then taking the Nth root, where N is the number of values.

Representative avoidable days equation

(-) x =

4.2	4.0	100	20
Average length of stay for a specific DRG[4]	**National GMLOS** for that DRG	**Patient volume** for DRG	**Avoidable days**

Avoidable days for all DRGs seen per hospital are summed to calculate total avoidable days per hospital.

In order to reduce avoidable days, hospitals must understand the underlying causes contributing to excess days. The remainder of this research note will assess avoidable days in relation to clinical conditions, readmission rates, and discharge disposition.

1) Assumes a Standard 300 Bed Hospital.
2) Fee-For-Service.
3) Geometric Mean Length of Stay.
4) Diagnosis Related Group.

Source: CMS, Advisory Board Analysis; Post-Acute Care Collaborative interviews and analysis.

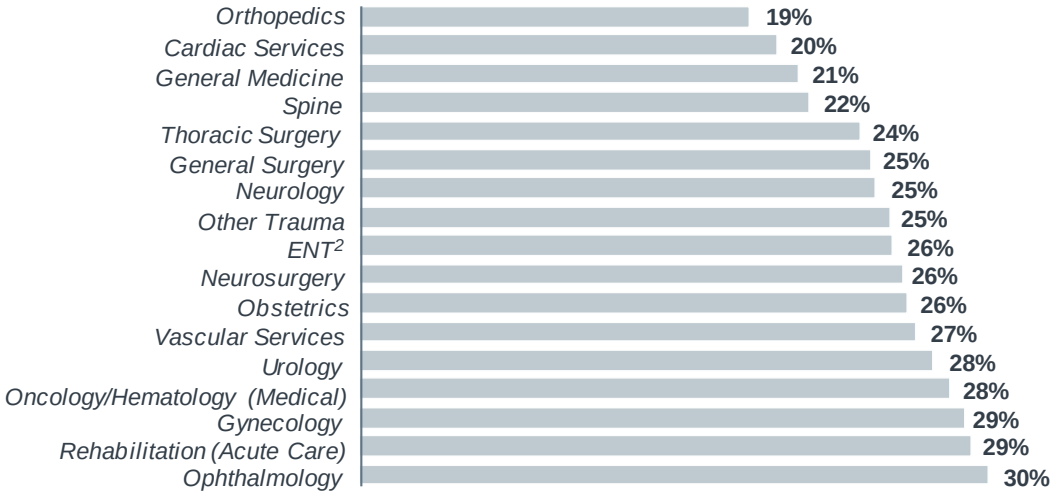
Avoidable days ubiquitous across service lines and hospitals

Takeaway #1 **Avoidable days are prevalent across all patient types and conditions**

Although inefficient service lines with long lengths of stay may seem like the primary source of excess days, national data shows that 19% or more days are avoidable for each major service line. As such, avoidable days are commonplace across hospital departments and the source of delays likely extends beyond clinical condition.

Share of avoidable days by service line

Medicare FFS[1], Q1 2018-Q4 2018



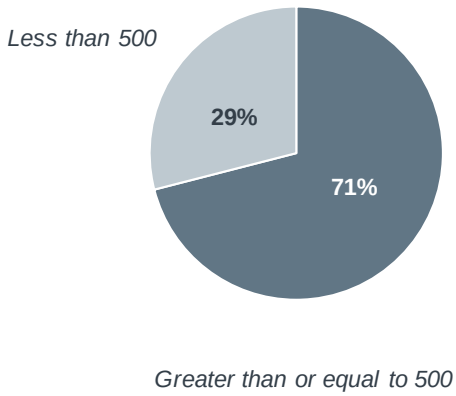
Takeaway #2 **Majority of hospitals are fraught with avoidable days**

Avoidable days aren't just a challenge for certain hospitals—such as regional referral centers with capacity issues. Rather, 71% of hospitals have at least 500 avoidable days per 1,000 cases. In practice, this means that patients at most hospitals are spending, on average, at least half a day longer than necessary in acute care.

Share of avoidable days by hospital per 1000 cases

Medicare FFS, Q1 2018-Q4 2018

n = 3,342 hospitals



1) Fee-for-Service.

Source: CMS, Advisory Board analysis; Post-Acute Care Collaborative interviews and analysis.

Deterring readmissions? Think again

Aggregate data shows impact of avoidable days on readmissions is negligible

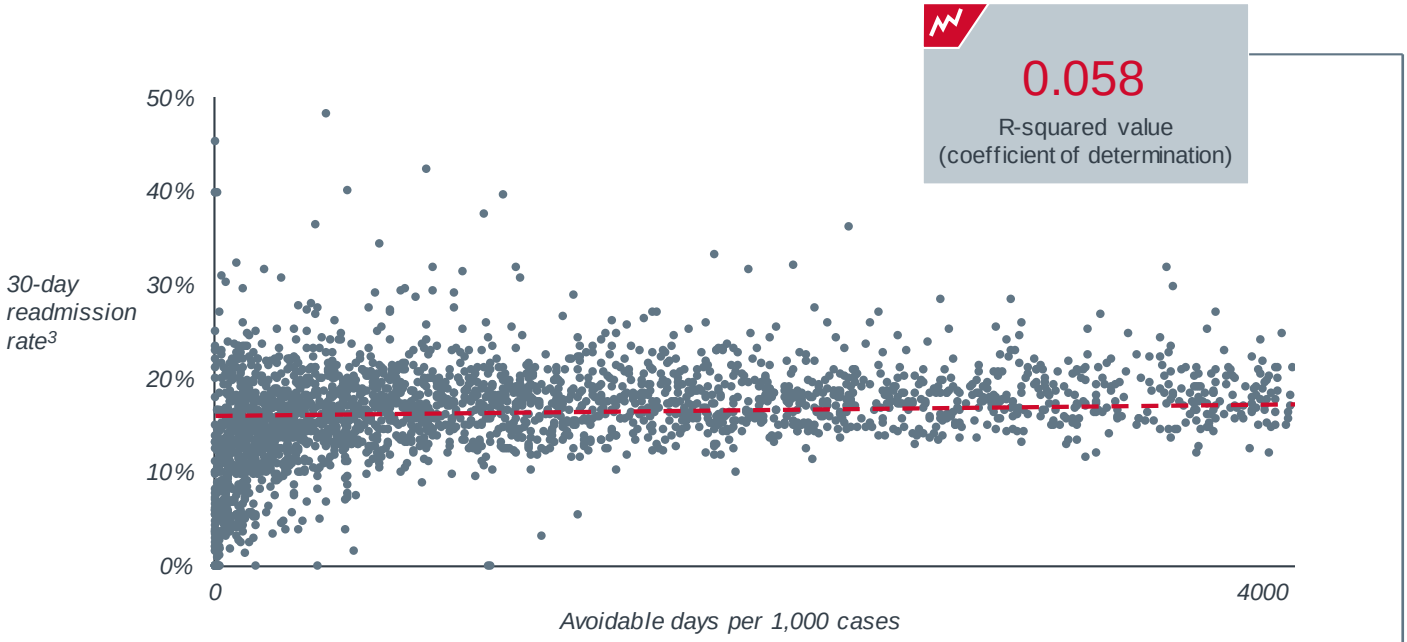
Takeaway #3 **Longer hospital stays are not reducing hospital readmission rates**

Anecdotal evidence suggests select hospitals may be keeping patients in acute settings longer to improve patient stability with the hopes of reducing readmissions down the line. In the chart below, each dot represents one short term acute care hospital's average avoidable days per 1000 cases and corresponding 30-day readmission rates. Statistical analysis of this correlation demonstrates that a longer acute care stay does not lower readmission risk.

30 day readmission rates vs. avoidable days per 1000 cases[1]

Medicare FFS[2], Q1 2018-Q4 2018

n = 3,342 hospitals



Understanding R^2 values

The R^2 value (the coefficient of determination) explains how much of the variability in the Y-variable can be explained by the X-variable. Values range from 0 to 1, with 0 indicating no correlation and 1 indicating perfect correlation between the two variables.

In the graph above, the R-squared value of avoidable days versus readmission rates is approximately 0, demonstrating that avoidable days have a negligible impact on 30-day readmission rates.

1) Each grey dot represents a single hospital. The hospital's average avoidable days per 1000 cases are on the X-axis and their average 30-day readmission rate is on the Y-axis.
2) Fee-For-Service.
3) Values greater than 50% not displayed due to outliers.

Source: CMS, Advisory Board analysis; Post-Acute Care Collaborative interviews and analysis.

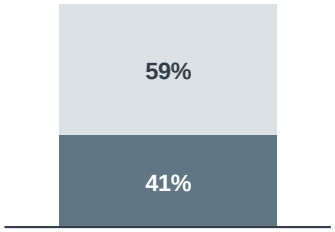
Discharge disposition is the best predictor of avoidable days

Takeaway #4 **Discharges to post-acute settings disproportionately contribute to avoidable days**

41% of Medicare patients are discharged to a post-acute setting[1]. Despite being the minority of patients, this group makes up 76% of total avoidable days. Even accounting for patient acuity by comparing length of stay to the average length of stay for each site of service, discharges to post-acute care still make up 55% of total avoidable days. The disparity in share of avoidable days between patients going home versus to post-acute care demonstrates that this is an area for health systems and post-acute providers to reduce avoidable days.

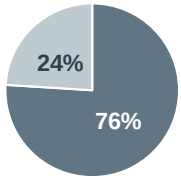
Post-hospital discharge setting, all patients

Medicare FFS[2], Q1 2018-Q4 2018

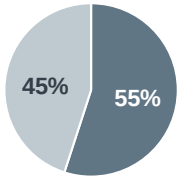


Share of days deemed avoidable, all patients

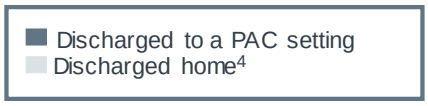
Medicare FFS, Q1 2018-Q4 2018



Avoidable days based on national benchmarks



Avoidable days adjusted by site-of-service GMLOS[3]



Takeaway #5 **Opportunities to reduce avoidable days exist for all post-acute settings**

The majority of avoidable hospital days occur prior to a post-acute transition. Although the underlying cause of avoidable days varies by discharge setting, improving transitions to post-acute settings represent a substantial opportunity for providers to reduce avoidable days.

Avoidable hospital days by discharge setting

Site-of-service GMLOS[3], Q1 2018-Q4 2018

Discharge setting	Total number of inpatient days	Total number of avoidable days	Share of days deemed avoidable
Hospice	2,136,936	627,737	**29.4%**
LTACH	1,131,965	262,798	**23.2%**
Home Health	4,771,445	1,093,327	**22.9%**
IRF	2,089,136	470,343	**22.5%**
SNF	12,151,939	2,415,060	**19.9%**

1) LTACH, IRF, SNF, Hospice, or Home Health.
2) Fee For Service.
3) Geometric mean length of stay is calculated for each setting to determine the share of avoidable days per discharge setting. For example, SNF length of stay is only compared to SNF GMLOS to determine avoidable days for SNFs.
4) Without Post-Acute Services.

Source: CMS, Advisory Board Analysis; Post-Acute Care Collaborative interviews and analysis.

Executive summary

Avoidable days insights to share with your leadership team

Avoidable days are not linked to diagnoses

At least 19% or more days are considered avoidable across all service lines. This means that clinical condition alone cannot account for the prevalence of avoidable hospital days.

Majority of hospitals are fraught with avoidable days

71% of hospitals have at least 500 excess days per 1000 cases. Patients spend, at minimum, an extra 12 hours in the acute setting at 71% of hospitals. Accordingly, most hospitals have room to reduce excess days.

Longer hospitals stays are not lowering readmissions

Correlated analysis of 30-day readmission rates and the number of avoidable days demonstrate that keeping patients in the hospital longer than necessary does not lower readmission rates.

Excess hospital days mostly occur prior to a post-acute transition

While 41% of all Medicare FFS[1] cases are discharged to post-acute care, they account for 55% of all avoidable hospital days. Transitions to post-acute care represent the prime opportunity to reduce avoidable days.

All post-acute settings share the burden of avoidable hospital days

Nearly 20% of days prior to post-acute transitions are avoidable. Providers looking to minimize these days should identify the underlying causes for each setting to develop appropriate interventions.

1) Fee-For-Service.

Source: CMS, Advisory Board Analysis; Post-Acute Care Collaborative interviews and analysis.

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