



NEWS RELEASE

# Premier Inc. Analysis Finds Opportunity to Reduce ICU Stays, Enhance Care Quality and Improve Patient Workflow

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In-depth data report identifies 10 diagnoses with the highest levels of unjustified variation within the ICU; cardiac procedures and sepsis are biggest opportunity areas

CHARLOTTE, N.C.--(BUSINESS WIRE)-- Premier Inc. (NASDAQ: PINC), a leading healthcare improvement company, has identified 10 diagnoses with the biggest opportunity to curb variation within the intensive care unit (ICU) and reduce unnecessary length-of-stay. The analysis was published in **Premier's latest Margin of Excellence report**, which provides unparalleled, data-driven, evidence-based insights on cost and quality improvement opportunities.

**The Premier report** focuses on evidence-based improvement steps in the ICU based on an analysis of 20 million patient discharges across 786 hospitals over a five-year period (2011-2016). According to the analysis, Premier found opportunities to reduce ICU days by 988,111 days overall or nearly 200,000 annually. Overall, patients treated at top-performing hospitals spent 24 percent less time in the ICU. Opportunities were identified by comparing all hospitals in the analysis to peers that utilized the ICU for the same populations in the most efficient manner without compromising quality (metrics examined included inpatient mortality rates and unplanned 30-day readmissions).

The findings underscore the value of identifying evidence-based improvement opportunities that healthcare leaders are focused on. For instance, a recent Premier C-Suite survey found respondents overwhelmingly ranked reducing clinical variation and standardizing the use of products, resources and services as a top cost management priority (96 percent), with more than half ranking it as the top priority when tackling cost inefficiencies. The ICU report can help providers pinpoint areas with the most opportunity to reduce variation.

## 10 ICU Diagnoses with Highest Variation in ICU Stays over a Five-Year Period

1. Sepsis patients with major complications or comorbidities: Represents 19 percent of the ICU reduction opportunity
2. Infectious and parasitic diseases associated with operating room procedures, and major complications or comorbidities: Represents 15 percent of the ICU reduction opportunity
3. Cardiac valve and other major cardiothoracic procedures without cardiac catheterization, but with major complications or comorbidities: Represents 12 percent of the ICU reduction opportunity
4. Coronary bypass without cardiac catheterization, but with major complications or comorbidities: Represents 9.8 percent of the ICU reduction opportunity
5. Respiratory system diagnosis with ventilator support for up to 96 hours: Represents 9.5 percent of the ICU reduction opportunity
6. Craniotomy and endovascular intracranial procedures with major complications or comorbidities: Represents 8.9 percent of the ICU reduction opportunity
7. Sepsis patients using a mechanical ventilator >96 hours: Represents 6.8 percent of the ICU reduction opportunity
8. Cardiac valve and other major cardiothoracic procedure with cardiac catheterization and major complications or comorbidities: Represents 6.8 percent of the ICU reduction opportunity
9. Cardiac valve and other major cardiothoracic procedure without a cardiac catheterization, but with complications or comorbidities: Represents 6.1 percent of the ICU reduction opportunity
10. Heart failure and shock with major complications or comorbidities: Represents 6 percent of the ICU reduction opportunity

“Spending too much time in the ICU can negatively impact patients and the bottom line, particularly in this era of value-based care payment models,” said Robin Czajka, RN, service line vice president of cost management at Premier. “Decisions around admitting patients to the ICU and how they are treated can often be subjective calls, rather than guided by evidence. While ICU optimization is no easy task, robust data and analytics can help unveil opportunities to improve care delivery and quality within this setting – ranging from identifying diagnoses with the greatest variation in outcomes to monitoring patients who no longer need ICU-level care within newly-created

intermediate care settings.”

Premier also found that providers in the analysis are making progress in optimizing care, identifying a 13 percent decrease in patient days spent in the ICU across the top 10 diagnoses over the five year period. Improvements were associated with the following key best practices:

- Using evidence-based practices performed collectively to tackle healthcare-associated infections (HAIs) and delirium;
- Creating intermediate care settings to seamlessly provide an effective transition unit for patients who no longer require ICU-level care;
- Leveraging checklists to monitor patient progress and goals; and
- Multidisciplinary care team collaboration with physicians, nurses, pharmacists, residents and other members of the ICU staff.

**Premier’s analysis** provides a deep understanding of cost and quality trends so that providers can compare performance against peers and identify unjustified variation, as well as drill down to contributing institution-, service line- and physician-level sources.

“Data is the foundation for our optimization efforts – helping transform the delivery of care within our ICUs,” said Dr. Pinckney McIlwain, chief medical officer of Charleston Area Medical Center (CAMC) in West Virginia. “Focusing on unnecessary ICU days has the potential to improve patient outcomes, reduce payment penalties, create additional bed capacity, decrease patient holding time within the emergency department, optimize workflow and increase patient satisfaction – all while reducing cost pressures and creating additional savings. As we continue on this journey, data is fueling this initiative to understand our performance and ability to improve ICU and critical care delivery.”

### Examples of success at Premier member health systems

- CAMC (Charleston, WV) has seen an overall reduction in length-of-stay within the ICU and Medical Intensive Care Unit by 1.15 days over a 21-month period and deferrals have decreased dramatically.
- Mercy Health (Cincinnati, Ohio) streamlined changes across institutions and departments that touch ICU and critical care that would continue to enhance quality care. As a result, the system also generated \$6.7 million in savings over a two-year period.
- Inova Fairfax (Falls Church, Va.) launched a 90-Day Clinical Effectiveness Sprint focused on craniotomy patients and in a 10-month period, the team has seen patient readmissions to the ICU decrease by 54

percent, and the average length-of-stay for its neurological ICU reduce from 5.2 days to 2.1 days.

Premier's Margin of Excellence reports provide a detailed view on cost and quality trends across the continuum, as well as share insights on evidence-based strategies and tools designed to tackle inefficiencies in healthcare, ranging from variation in clinical practices to resource utilization. The analyses tap Premier's robust integrated database, PremierConnect®, linking clinical, financial and supply chain data. Results are leveraged by providers seeking to pinpoint areas of improvement by comparing their performance to national peer data.

## Methodology

The ICU utilization analysis included data from 786 facilities based in 45 states, representing more than 20 million discharges over a five-year period (2011- 2016). Researchers reviewed charges within this data for ICU stays from within 128 MS-DRGs, which account for 80 percent of ICU use at these facilities.

## About Premier Inc.

Premier Inc. (NASDAQ: PINC) is a leading healthcare improvement company, uniting an alliance of approximately 3,900 U.S. hospitals and health systems and approximately 150,000 other providers and organizations. With integrated data and analytics, collaboratives, supply chain solutions, and advisory and other services, Premier enables better care and outcomes at a lower cost. Premier, a Malcolm Baldrige National Quality Award recipient, plays a critical role in the rapidly evolving healthcare industry, collaborating with members to co-develop long-term innovations that reinvent and improve the way care is delivered to patients nationwide. Headquartered in Charlotte, N.C., Premier is passionate about transforming American healthcare. Please visit Premier's news and investor sites on [www.premierinc.com](http://www.premierinc.com); as well as [Twitter](#), [Facebook](#), [LinkedIn](#), [YouTube](#), [Instagram](#) and [Premier's blog](#) for more information about the company.

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