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Acute Care Portfolio Planning: The first step in resource stewardship and spend management

Rising inpatient acuity is placing continued financial pressure on health systems. In response, hospitals must examine their acute care portfolio to identify smart growth opportunities, system optimization and care redesign efforts.

Health systems continue to falter financially. In Q1 2023, eight hospitals defaulted, the most in more than a decade.[1] Alarmingly, the financial crisis impacting hospitals shows no signs of decreasing. Overall hospital expenses are 17.5% higher compared to pre-pandemic levels. The American Hospital Association suggests the increase in overall supply spend is even higher at 18.5% per patient between 2019 and 2022.[2]

The U.S. population's battle with chronic disease will further exacerbate financial challenges. Rising patient acuity is driving accelerated utilization of acute care resources, which will put upward pressure on supply spend through increased use of higher acuity resources and hospital units. With reimbursements declining or flat at best, higher costs will further squeeze razor thin hospital margins.

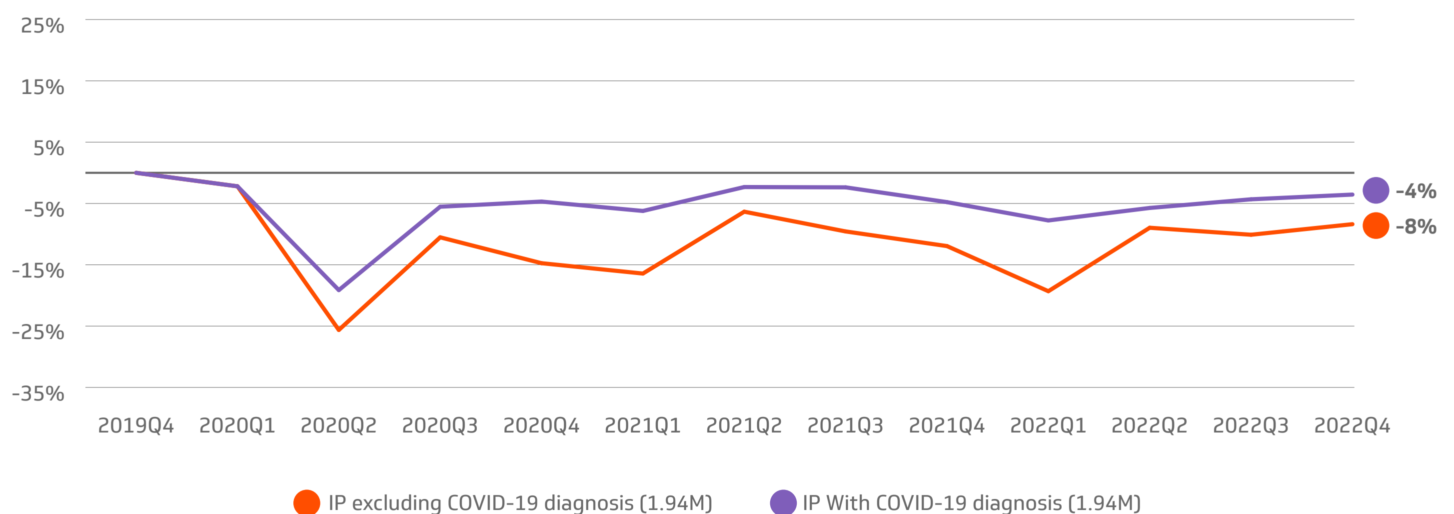
Patient metrics are moving in the wrong direction

Nationally, inpatient discharges have not rebounded to pre-pandemic levels. As of Q4, 2022, inpatient discharges for both patients with and without COVID 19 were 4% and 8%, respectively, below baseline 2019 levels. (See Figure 1).

Despite flat growth for discharges, overall inpatient utilization, as measured by patient days, has grown. The average length of stay per patient increased 9.9% by the end of 2021 compared to pre-pandemic levels in 2019.[3] Patient days are up 6% over the 2019 baseline.

Figure 1: Adult inpatient discharges trends, 2019-2022

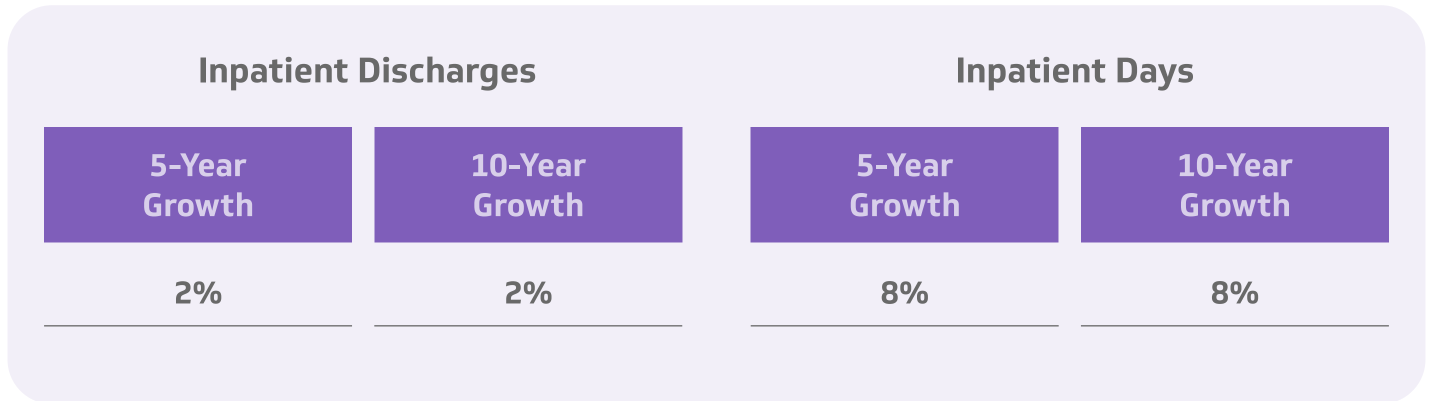
Adult quarterly comparison of volumes, 2019 vs. 2020–2022 (National)
Vizient Clinical Data Base



Note: Volumes listed are representative of Q1 2019 Sources: Data from the Vizient Clinical Data Base/Resource ManagerTM used with permission of Vizient, Inc. All rights reserved. Q1 2019–Q4 2022; Sg2 Analysis, 2023.

This trend is expected to continue. Sg2 projects 8% growth for inpatient days over the next 10 years while inpatient discharges, overall, are expected to remain flat (2% growth over that same time horizon).

Sg2 Impact of Change Forecast, National Discharges and Days, 2022 – 2027 & 2032



Note: Analysis excludes 0–17 age group. Sources: Impact of Change®, 2022; HCUP National Inpatient Sample (NIS). Healthcare Cost and Utilization Project (HCUP) 2019. Agency for Healthcare Research and Quality, Rockville, MD; Claritas Pop-Facts®, 2022; Sg2 Analysis, 2022.

Why is patient acuity increasing?

There are many interrelated factors contributing to increases in patient acuity. Mental illness, chronic diseases like diabetes and obesity, and the lasting impacts of COVID-19 are some of the primary contributors.

Table 1: Leading factors contributing to increased patient acuity

Contributing Factor	Overview
Mental Illness	26% of the adult population across the U.S. suffers from mental illness. According to Sg2, adult inpatient discharges and days for behavioral health are expected to grow 5% and 8%, respectively, by 2027. Co-occurring medical and behavioral health conditions are also on the rise. In one case example, 25% of patients admitted to the hospital for a medical condition had a co-occurring behavioral health condition. These dual-diagnosis (dual-dx) patients are clinically more complex and often have a higher length of stay (LOS). According to that same case example, patients with a dual-dx had a LOS 30% higher than those patients admitted with only a medical diagnosis.
Chronic Disease & Obesity	According to the CDC, 30% of the adult population has chronic disease with 68% of patients 65+ suffering from multiple chronic conditions. High prevalence of chronic disease is expected to drive increased utilization of acute care services. Obesity is the leading driver of chronic disease. In 1994, the national obesity rate was 22%; in 2000, it grew to 31%, in 2019, it was 42%; by 2030, the CDC projects the national obesity rate to exceed 50%. This translates to a multitude of diseases and increased utilization. For example, inpatient days for diabetes admissions are expected to grow 41% by 2027.
"Long-haul" COVID-19	While the long-term impacts of COVID remain unknown, one study suggests that patients who were hospitalized with COVID-19 have a higher risk of long-term chronic health issues, psychological and emotional illness, and approximately 10–20% are at higher risk for readmission within 30–60 days.

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1. What is the impact on spend?

Rising patient acuity will put upward pressure on all spend categories but will directly impact overall spend across med/surg, facilities and capital.

-1.1%

Kaufman Hall's National Operating Margin Index has hovered in negative territory for the past 12 months. The outloook improved somewhat in May, with flat margins.

Med/Surg: Increased cost of care delivery and supplies

Higher patient acuity translates to an increase in hospital expenses per patient across every spend category. According to the Vizient Clinical Data Base (CDB) data, direct cost per patient discharge has increased 15% and direct supply costs have increased 14% between 2019 and 2022.

Facilities/Capital: Increased utilization of higher acuity (higher cost) units

Hospitals should expect increased utilization of higher acuity resources and units. ICU patient days increased 8% between 2019 and 2022, which is noteworthy given that ICU supply costs are higher than general med/surg costs. Overall, direct costs associated with ICU patient days increased 19% from 2019 to 2022. Increasing utilization of the highest cost units will lead to continued financial pressures for health systems that fail to take proactive measures when examining their acute care portfolio.

Facilities/Capital: Increased facility needs

Health systems will continue to struggle with capacity management and planning resulting from projected increases in bed utilization. Extreme examples suggest some health systems could face deficits of hundreds of beds - one multi-hospital system on the west coast projects a deficit of 340 to 500 beds. While this is an extreme example, most hospitals are dealing with a squeeze on current and future capacity. Spend to operate additional beds/units will continue to put upward pressure on overall supply spend.

2. What can providers do to mitigate spend impact?

Near-Term: Prioritize immediate cost savings strategies

Providers will need to consider and act quickly on immediate cost savings strategies. For example, costs that do not typically go through the supply chain are ripe for savings. (**See Purchased Services Represents Ideal Opportunity to Control Costs, Improve Efficiencies**). Similarly, examining physician preference cards can lead to quick wins. (**See Physician Preference Cards: How a Small Card Can Lead to Big Savings in The Operating Room**).

Mid- to Long-Term: Understand your current acute care portfolio by acuity and margin potential

At the same time, providers must consider their acute care portfolio to identify profitable growth opportunities, system optimization, care redesign efforts and opportunities to decant inpatient volume to lower cost sites of care. Sg2 provides a framework that segments patients, at the national level, by Diagnosis Related Group and margin benchmarks.

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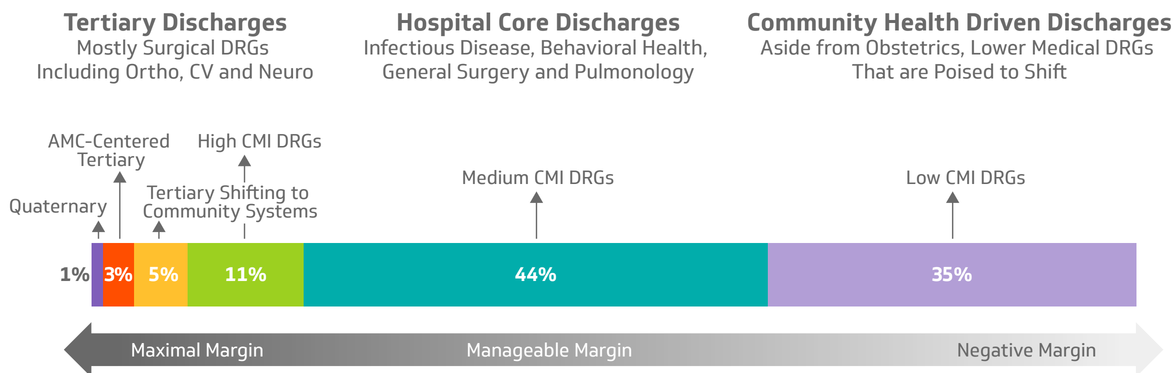
Figure 2: Sg2 acute care portfolio framework

Inpatient discharges by DRG subtype
U.S. market, 2022, breakout of all hospitals



Note: Discharges and forecast exclude COVID-19 admissions. Analysis excludes 0–17 age group. Percentages may not add to 100% due to rounding. AMC-centered tertiary is Sg2 2022 Tertiary DRG list; tertiary at risk of shifting = DRGs removed from Sg2 Tertiary List from 2017 to 2022. Quaternary is Sg2 2022 Quaternary DRG list. High CMI: >2.0; Medium CMI: 2.0 to 1.0; Low CMI: <1.0. CMI = case mix index. Sources: Vizient Clinical Data Base/Resource Manager™. Irving, TX: Vizient, Inc; 2022. https://www.vizientinc.com. Accessed September 2022; Impact of Change®, 2022; HCUP National Inpatient Sample (NIS). Healthcare Cost and Utilization Project (HCUP) 2019. Agency for Healthcare Research and Quality, Rockville, MD; Claritas Pop-Facts®, 2022; Sg2 Analysis, 2022.

Applying Sg2's Impact of Change growth forecast by DRG subtype provides insight into strategic considerations hospitals and health systems must be cognizant of as they seek to manage their inpatient portfolio to mitigate rising cost implications of increased patient acuity. Strategic pursuit of optimal service mix allows organizations to:

1. **Hedge against financial pressures:** Having the optimal mix of services that will drive maximal margin can help to offset financial pressures while optimizing the utilization of your highest cost care setting, the inpatient hospital.
2. **Inform service distribution:** For multi-hospital systems, deeper understanding of current and future service mix allows organizations to strategically distribute services across their acute care assets (e.g. academic medical center, community hospitals, etc.) For smaller or stand-alone systems, acute care portfolio planning might influence strategic partnership considerations (e.g. transfer agreements, joint ventures, etc.)
3. **Determine future facility needs:** Careful and planned inpatient portfolio management allows health systems to plan for and staff the optimal complement of inpatient beds, procedural/recovery areas, and other ancillary sites needed in the future. As a result, health systems can avoid capacity-related delays in care, especially for lucrative procedures.

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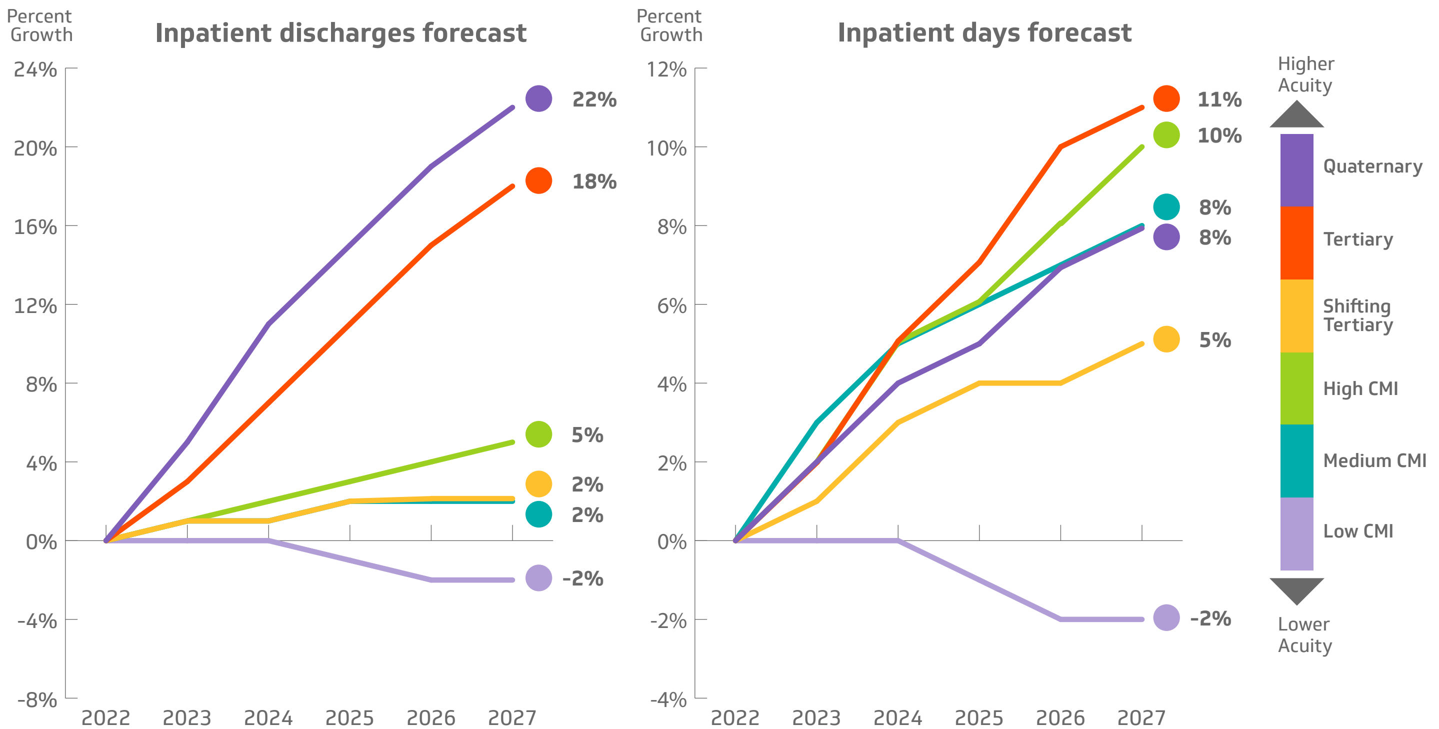
Figure 3: Sg2 Impact of Change forecast by DRG sub-type segments

Adult inpatient discharges and days forecast, U.S. Market, Sg2 Impact of Change® 2022–2027



Note: Analysis excludes volumes for ICD-10 diagnosis code U07.1, COVID-19 infection. Analysis excludes 0–17 age group. Percentages may not add to 100% due to rounding. AMC-centered tertiary is Sg2 2022 Tertiary DRG list; tertiary at risk of shifting = DRGs removed from Sg2 Tertiary List from 2017 to 2022. Quaternary is Sg2 2022 Quaternary DRG list. High CMI: >2.0; Medium CMI: 2.0 to 1.0; Low CMI: <1.0. Sources: Impact of Change®, 2022; HCUP National Inpatient Sample (NIS). Healthcare Cost and Utilization Project (HCUP) 2019. Agency for Healthcare Research and Quality, Rockville, MD; Claritas Pop-Facts®, 2022; Sg2 Analysis, 2022.

Strategic considerations by DRG sub-type segment

1. **Maximum margin - Pursue growth opportunities:** While increased cost of care delivery associated with increased patient acuity and utilization is a concern for most organizations, relief might be in sight. According to Sg2's Inpatient Portfolio framework, the highest acuity discharges (on the left in Figure 2), are typically associated favorable margin, providing insight into where favorable growth opportunities exist. (See Figure 3) At the same time, this subgroup, comprised of quaternary, tertiary and high CMI, is also projected to grow. Health systems may be able to leverage these dynamics to their financial advantage.

   - **Optimize your System of CARE (Clinical Alignment and Resource Effectiveness):** Ensure seamless connectivity between providers by strengthening points across the care continuum that serve as access channels for these services (e.g. screening, diagnostics, etc.).
   - **Differentiate services:** Health systems that commit to cost, quality, access and patient experience as strategic levers can likely build a competitive advantage. Having a defined strategy in place for managing higher acuity patients, and socializing it properly, will lead to increased confidence in patients with chronic conditions while engaging clinicians and suppliers.
   - **Collaborate with supply chain:** Include supply chain in growth planning endeavors, leveraging their expertise in sourcing and value analysis to ensure optimum value when it comes to implants, devices and other high-cost supplies required for these services. Collaborate with supply chain during the planning process to mitigate any scheduling delays, which can reduce quality and cost variation and contribute to optimal patient outcomes.

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2. **Manageable margin - Pursue operational efficiencies:** For most hospitals and health systems across the country, the bulk of patient utilization will reside in the middle – mid-range in terms of acuity and mostly manageable in terms of margin. While Sg2's IoC forecast suggests flat growth for this segment (2%, 2022 – 2027), days are expected to grow by 8% over that same time frame. Health systems will need to focus on tightly managing utilization and cost for this segment in order to optimize margins and mitigate the financial risk associated with rising acuity.
   - **Reduce length of stay (LOS) where feasible:** Longer patient stays increase patient risk for complications, reduce patient satisfaction and contribute to higher costs. Managing and reducing LOS through measures like better managing transitions of care and working more closely with post-acute care providers and sites of care can help mitigate potential risks related to reduced outcomes and higher cost.
   - **Manage throughput:** Many hospitals struggle with optimal utilization of step-down units as usage of these units creates more patient movement from admit though discharge and requires careful operational planning and workflow management. Better leveraging these lower acuity, lower cost units could help reduce the higher costs associated with increased ICU utilization.
   - **Redesign care:** Systematically consider care alternatives leveraging technology (e.g. remote monitoring, AI, etc.) to either shift care to alternate (lower cost) sites of care or refine care processes/protocols where clinically appropriate. Care redesign efforts can help manage utilization, reduce costs / spend, and improve outcomes.
3. **Low/Negative Margin - Decant where clinically appropriate:** The lowest acuity discharges are typically associated with negative margin. While growth for both discharges and days is expected to decline (-2% for both measures 2022-2027), left unchecked, acute care utilization for this segment will put pressure on capacity, resources, and financials. Hospitals and health systems should determine optimal site of care for patient volume associated with this category and determine strategies to shift this volume when and where clinically appropriate.
   - **Explore care at home models:** Care at home models are emerging with the intent of managing this segment of inpatient utilization. Patients admitted to the hospital split recovery time between the hospital and their home. While these models are still being evaluated, in the near-term, care at home could serve as a release valve for inpatient utilization by reducing LOS and reducing the need for additional inpatient beds, thereby reducing overall acute care med/surg and facility spend. Longer term, care at home models targeting chronic disease management have greater potential to reduce acute care utilization. Treating chronic care at home better engages patients in disease management and ultimately leads to reduced hospital admissions and lower acuity (i.e. lower LOS, reduced utilization of costly supplies, etc.) during an inpatient stay.
   - **Build business case for community health:** Enhance health equity by addressing detrimental social determinants of health to bolster the overall bottom line by avoiding potentially low/no margin admissions.

It is crucial to closely examine inpatient portfolios across your entire health system. By better understanding capacity needs and fluctuations and improving long-range capital and facility planning, health systems can better manage spend, gain better patient outcomes and improve overall financial performance.

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