DATA ON THE EDGE

Smart growth: the imperative to integrate quality and market growth data

Successful organizations of the future will capture smart growth opportunities—identifying clinical services with a positive growth trajectory, a sustainable margin and high-quality outcomes. Organizations that act decisively to identify and execute on smart growth opportunities, even in the face of uncertainty, will secure resiliency and establish a competitive advantage in today's challenging market environment.

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To learn more, check out Vizient data resources on page 7.

Smart growth strategies rely on the intersection of market performance and quality analytics to identify opportunity. Specific insights by clinical level are essential to pinpoint organizations' strengths and opportunities for improvement. The following example utilizes sample data analytics from a blinded health system ("Great State Health System") to show how to combine quality, market growth and cost data to identify smart growth opportunities.

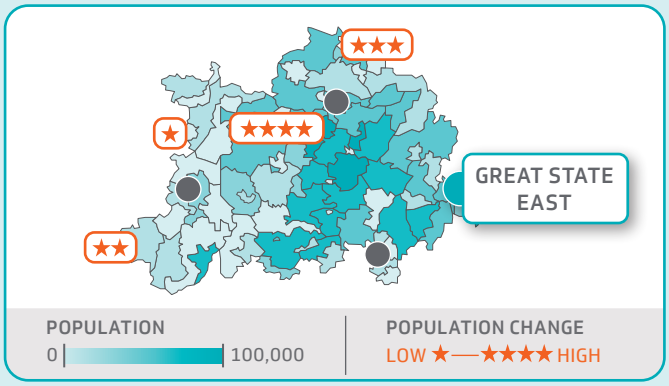
Step 1: Compare organic growth opportunities with overall quality performance

Assessing both population growth—natural growth driven by demographic changes—and projected clinical service line growth is the first step in building a smart growth foundation. Equally important is determining quality performance for each service line, as targeting a poorly performing service line without addressing quality improvement introduces risk.

Figure 1. Not all growth is desirable. Where are Great State Health System's smart growth opportunities?

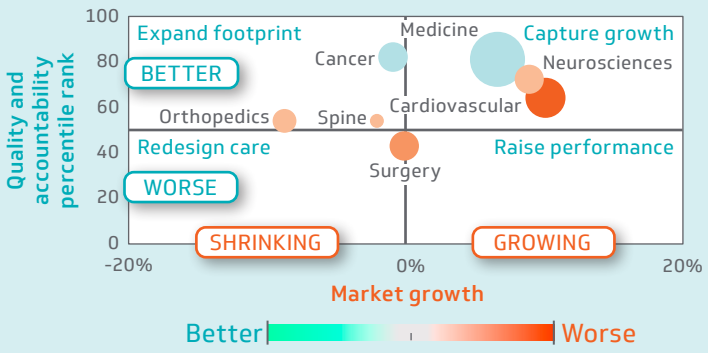
Understand future market trends for your system.

Population distribution and five-year % change by zip code, Great State Health System market



Examine the intersection of quality and growth for each hospital and service line.

Five-year inpatient growth compared to quality ranking, Great State East



Note: The gray dots on the map indicate other locations of Great State Health System hospitals. In the chart: bubble color = direct cost index, bubble size = Sg2 forecast baseline volume. Figure 1 Note and Sources: *See page 6.*

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As shown in Figure 1, Great State Health System operates multiple hospitals in the Midwest. The largest hospital in its primary and secondary service areas is Great State East, which is an academic medical center (AMC). The health system aims to expand its market presence and improve its margin. Looking to clinical service growth and quality performance, it is clear that cardiovascular, neurosciences and medicine service lines are prime for growth. Yet, quality performance improvement in surgery, orthopedics (ortho) and spine services specifically should be further evaluated and targeted in order to expand growth in those services.

Step 2: Dive deeper to uncover improvement actions needed to capture smart growth.

Action 1: Assess specific quality improvement and cost reduction opportunities to support smart growth.

Smart growth is only achievable when quality and cost metrics are high performing, especially for services with strong and stable market share and an accelerated growth trajectory. Table 1 shows data for each service line.

Table 1. Inpatient cost, quality and market performance dashboard, Great State East

Performance compared to national benchmarks

Service line	1 LOS index	2 Direct cost index	30-day readmit %	3 Mortality index	Inpatient market share	3 Sg2 5-year discharge forecast	Sg2 5-year patient days forecast
Overall	1.3	1.1	10.1	1.1	17%	2%	7%
4a Cancer	1.0	0.9	9.0	0.9	33%	0%	2%
4b Cardiovascular	1.1	1.6	8.5	1.3	18%	7%	9%
Medicine	1.2	1.0	14.2	0.7	16%	5%	10%
Ortho/spine	1.2	1.2	6.9	0.8	20%	-7%	2%
Neurosciences	1.3	1.2	6.5	1.1	16%	5%	6%
Surgery	1.3	1.3	13.1	1.3	19%	-1%	5%

Better — Worse

LOS = length of stay. Table 1 Note and Sources: *See page 6.*

1 **Efficiency improvement:** Great State East has opportunities to enhance efficiency, as its length of stay index is higher than expected, both overall and across all major service lines, compared to its peers. If unaddressed, these inefficiencies could hinder growth capture as capacity will be constrained.

2 **Growth and direct costs:** With a projected 2% volume growth over the next five years, Great State East must prioritize reducing its overall average length of stay and better managing direct costs. Without these improvements, additional volume growth could create significant financial and operational burden for the organization. Looking deeper, neurosciences and cardiovascular are two clinical services that are both prime for growth and areas of high direct cost index.

3 **Quality and market positioning:** Great State East demonstrates a mortality index ranking and readmission rate performance that is better than expected in some services, but inconsistent across all service lines. Maintaining consistent high-quality care is essential to reinforcing its market position and competitive advantage.

4 **Service line optimization:** Each service line should be reviewed to identify targeted initiatives that support sustainable growth. For example:

- a **Cancer** volume is expected to remain flat, but with a strong market share and performance metrics—mortality, direct cost indices and readmission rates—exceeding peer benchmarks, Great State East is well positioned to expand its footprint. However, optimizing length of stay is essential, as a slight increase in patient days is expected over the next five years.
- b **Cardiovascular** volume and days are expected to grow over the next five years. Yet capturing that volume growth will not lead to sustainable system performance unless Great State East can bring costs, mortality and length of stay in line with peers.

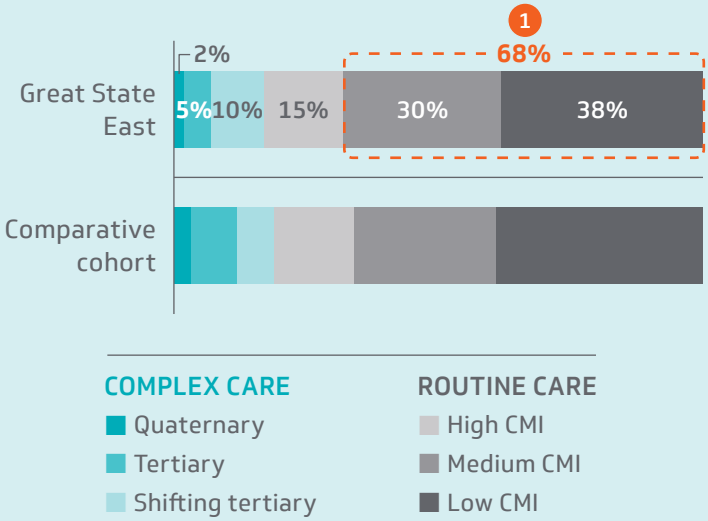
Action 2: Assess capacity creation opportunities, leveraging portfolio thinking to create better access.

Capturing growth, especially for academic medical centers, often requires identifying ways to expand capacity to improve access. Without capacity to support growth ambitions, growth will be unattainable. Yet building more beds is not always a sustainable approach to capturing growth, especially if capacity for shifting volumes exists within the broader system's acute care footprint. In addition to acute care capacity, looking upstream to solve access challenges in the clinic-based setting is a key element of addressing a patient's comprehensive care journey. This forward thinking is critical not only to support smart growth efforts but also to secure longer-term patient loyalty with the opportunity to drive a superior patient experience in the clinic-based setting.

Figure 2. Capacity constraints

INPATIENT

Patient volume distribution by acuity cohorts



AMBULATORY

New patient access: meeting current demand

Sg2 service line	% new patients seen within 10 days	Median days from scheduled appointment
2 Cancer	44%	13
Cardiovascular	30%	20
Medicine	30%	31
Neurosciences	27%	29
Orthopedics	59%	7
Spine	30%	20
Surgery	42%	14

Better — Worse

CMI = case mix index. Figure 2 Sources: *See page 6*.

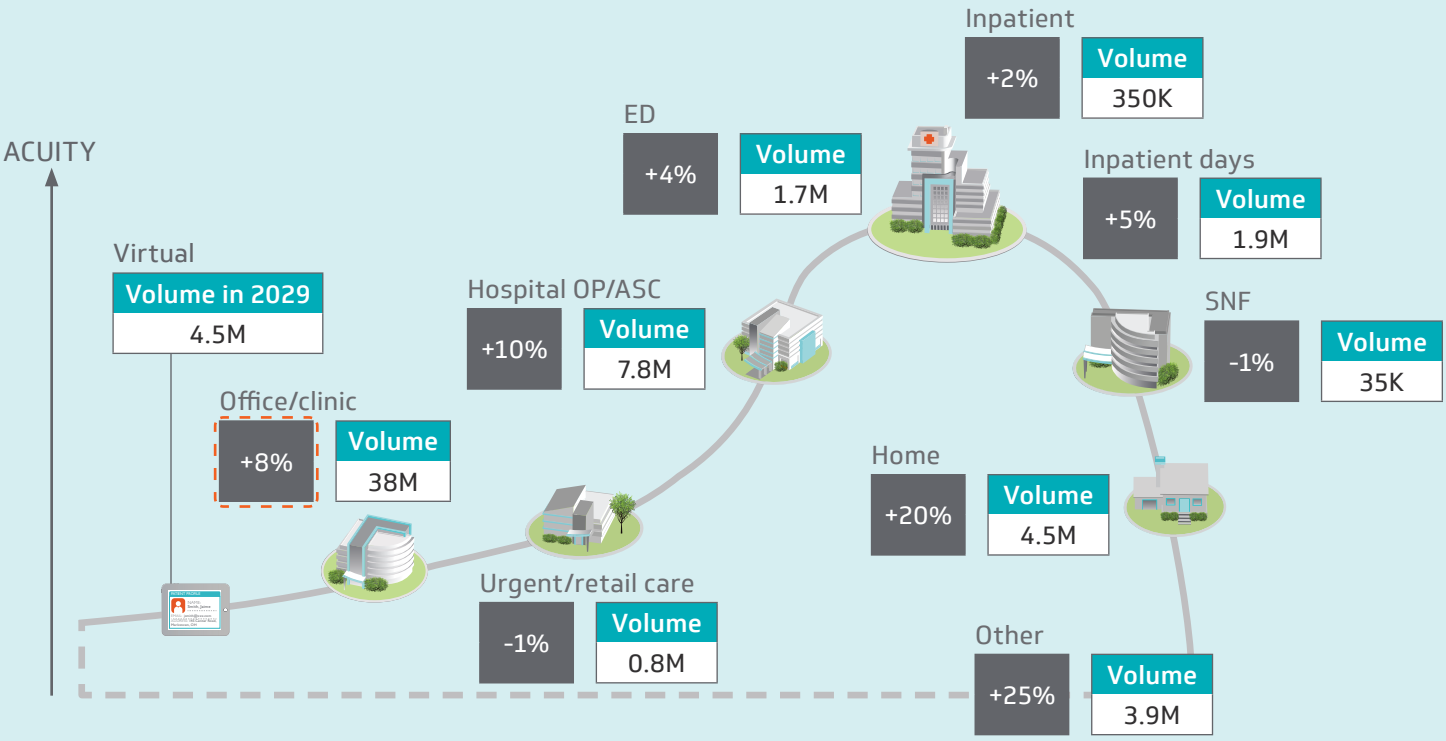
1 **Capacity optimization:** While Great State East's patient distribution across the acuity portfolio aligns with its peers, 68% of inpatient volume consists of low- and medium-CMI cases, shown in Figure 2. A further strategic evaluation of what cases and programmatic offerings can be shifted to other system hospitals—and lower-acuity sites of care—is warranted, as it supports optimizing resources and improving efficiency. There are many cultural and infrastructure requirements to do this successfully. (See the Data on the Edge report *Quality Outcomes as a Driver for Service Optimization*.)

2 **Access and growth:** Great State East's ability to expand services will depend, in part, on its capacity to provide timely access to care while keeping pace with competitors. Using cancer care as an example, growth starts with improving upstream access, ensuring new patients can easily schedule primary care visits, undergo screenings and complete diagnostic lab work. Data show that 44% of cancer patients are seen within 10 days, with a median wait time of 13 days from the scheduled appointment, which is in line with benchmark data. Any wait poses a risk to losing patients looking for timely care, and it presents an opportunity for competitors to capture the initial specialty visit as well as downstream higher-acuity care and related ancillary services (chemotherapy, screenings, follow-up care). Strengthening early access pathways is essential for sustained growth.

Action 3: Optimize services across the System of CARE to accelerate smart growth.

After addressing quality and cost and identifying market growth opportunities, the next action in planning for smart growth is turning attention outside of the acute facility to more intentionally construct the right portfolio of assets across the footprint to capture growth. A System of CARE (Clinical Alignment and Resource Effectiveness) strategy is essential in reaching more patients with a footprint that is optimized for acuity, access, market growth and clinical capabilities—all necessary to ensure seamless care delivery. In addition, a robust ambulatory strategy supports providing patients with the right care in the right place and at the right time, and when paired with seamless access it can avoid or delay the need to build acute capacity.

Figure 3. Five-year forecast by site of care, Great State Health System



ASC = ambulatory surgery center; ED = emergency department; OP = outpatient; SNF = skilled nursing facility. Figure 3 Note and Sources: *See page 6*.

- **Future demand and care delivery changes:** Accelerated population growth and an aging population drive demand across all care settings in Great State Health System's market. As shown in Figure 3, acuity levels are rising in inpatient, ED and hospital outpatient settings, driving increased demand in those settings. While virtual care adoption is projected to grow, office/clinic volumes are up 8% as more procedures and diagnostics move to outpatient settings.
- **System of CARE strategy:** To optimize its footprint and expand access, Great State Health System must develop its System of CARE strategy. Strategic partnerships will be essential to ensuring seamless care delivery and supporting market expansion. Great State Health System will have to prioritize investments across the ambulatory continuum to capture growth, meet patient needs and increase timely access to care. In addition, a well-developed, accessible System of CARE is essential in effective management of quality performance; specifically, LOS and 30-day readmissions metrics are impacted by the degree of effective patient transitions and management of care in the home-based and post-acute care settings.

Action 4: Address areas with high vulnerability head on.

Finally, in addition to bringing together quality and market growth data, identifying targeted areas for improvement, assessing capacity and access, developing a System of CARE strategy, and identifying strategic partnerships, smart growth and capacity planning require understanding the vulnerabilities of the local patient population by geographic area in order to effectively meet the needs of all patients within the community. Tailored strategies to address the unique needs of patients and effectively manage care for all individuals a system serves is essential in building a sustainable growth foundation.

- **Develop targeted strategies for high-need areas:** Leverage the patent pending Vizient Vulnerability Index™ (VVI) to identify and prioritize high-need neighborhoods (see Figure 4). Focusing on highly vulnerable geographies—areas with a VVI score ≥1.0—enables health systems to address disparities in healthcare access, surgical utilization and quality outcomes. (See the Data on the Edge report *A Performance Improvement Guide to Advancing Health Equity*.)
- **Enhance equitable access:** Use health equity data—both at an overall level and at an individual driver level—to assess underutilization of clinical services in highly vulnerable geographies. Expanding access through improved transportation support and access to care can enhance patient outcomes while creating better patient management for Great State Health System.
- **Identify partnerships:** Strengthening community-based partnerships can help bridge care gaps by bringing high-quality services to underserved areas. Diving deep to understand the unique needs of vulnerable populations in your community and the existing network of partners offering supportive services is essential in a smart growth effort.

Figure 4. Vizient Vulnerability Index™

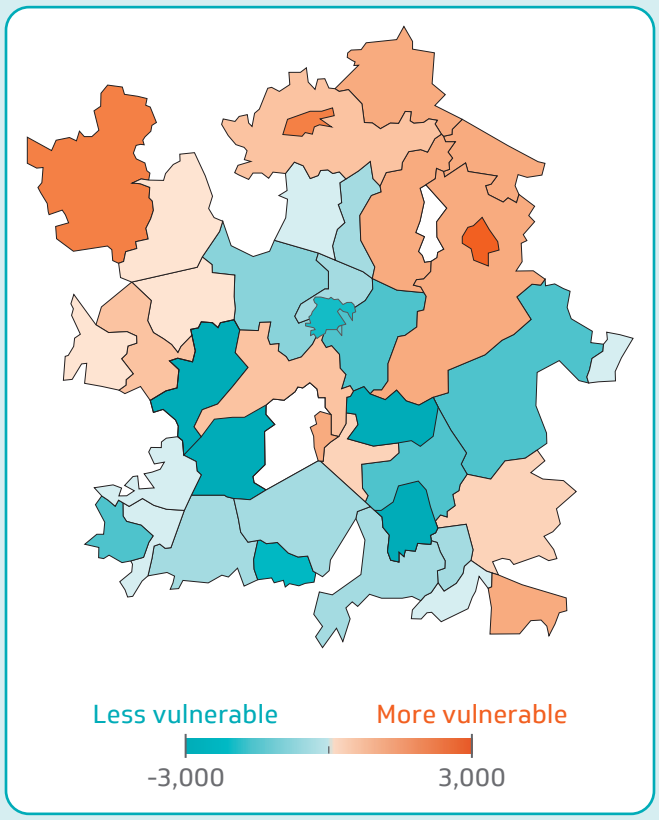


Figure 4 Note and Source: *See page 6.*

Why it matters

For C-suite leaders, the dynamic change in healthcare's macroenvironment only continues to accelerate. Rising costs, changing acuity, site-of-care shifts, payer pressure and innovation are rapidly reshaping where and how care is delivered, who delivers care, and how to effectively stay in business. Health systems that pay keen attention to capturing smart growth—bringing together quality performance, financial performance and market growth data with an eye toward building a balanced portfolio—will remain resilient in the long term. Vizient's portfolio of solutions can help systems achieve this goal.

To learn more about Vizient's smart growth solutions, email membercenter@sg2.com.

Notes and Sources

Figure 1

Note: Analysis excludes 0-17 age group. The Vizient Quality and Accountability ranking is an annual assessment of healthcare organization performance in the following key domains: mortality, effectiveness, safety, equity, patient centeredness and efficiency. Direct cost refers to expenses that fluctuate based on the number of patients seen or services provided. Examples include labor, medical supplies, pharmaceuticals, lab tests and blood products. Direct cost index is a ratio of observed-over-expected value with expected value calculated based on Vizient risk-adjusted models. Sources: Data from Vizient® Clinical Data Base used with permission of Vizient, Inc. All rights reserved. Accessed February 2025; Impact of Change®, 2024; HCUP National Inpatient Sample (NIS). Healthcare Cost and Utilization Project (HCUP) 2019. Agency for Healthcare Research and Quality, Rockville, MD; Proprietary Sg2 All-Payer Claims Data Set, 2022; The following 2022 CMS Limited Data Sets (LDS): Carrier, denominator, Home Health Agency, Hospice, Outpatient, Skilled Nursing Facility; Claritas Pop-Facts®, 2024; Sg2 Analysis, 2025.

Table 1

Note: Analysis excludes 0-17 age group. Sources: Data from Vizient® Clinical Data Base used with permission of Vizient, Inc. All rights reserved. Accessed February 2025. Impact of Change®, 2024; HCUP National Inpatient Sample (NIS). Healthcare Cost and Utilization Project (HCUP) 2019. Agency for Healthcare Research and Quality, Rockville, MD; Proprietary Sg2 All-Payer Claims Data Set, 2022; The following 2022 CMS Limited Data Sets (LDS): Carrier, Denominator, Home Health Agency, Hospice, Outpatient, Skilled Nursing Facility; Claritas Pop-Facts®, 2024; Sg2 Analysis, 2025.

Figure 2

Sources: Analysis excludes 0-17 age group. Data from Vizient® Clinical Data Base used with permission of Vizient, Inc. All rights reserved. Accessed February 2025; Data from AAMC-Vizient Clinical Practice Solutions Center® used with permission of Vizient, Inc. All rights reserved. 2024.

Figure 3

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Figure 4

Note: Vizient Clinical Data Base distinct patients, any ages, seen in any setting, 2024. Linked to the Vizient Vulnerability Index™ by patient zip code. Zip codes representing less than 0.5% of all distinct patients are omitted from the maps. Distance to patient zip code based on zip code tabulation area centroid. Source: Vizient Vulnerability Index™ Patent Pending. Copyright Vizient Inc. 2022. All rights reserved.

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VIZIENT DATA AND DIGITAL ANALYTICS

This report's analysis leverages the following proprietary data and analytics assets.

Sg2 Intelligence is a diverse team of subject matter experts and thought leaders who represent specialties ranging from clinical service lines to enterprise strategy. The team develops strategy-specific content in the form of editorial reports, including the Data on the Edge series, and perspective-based analytics, such as the Impact of Change® forecast.

Sg2's Impact of Change® model forecasts demand for healthcare services over the next decade, examining the cumulative effects and interdependencies of key impact factors driving change in utilization. Using both disease-based and DRG-based analyses, the forecast provides a comprehensive picture of how patients will access inpatient and outpatient services along the continuum of care.

The **Vizient Clinical Data Base** is the definitive healthcare analytics platform for performance improvement. The CDB provides high-quality, accurate and transparent data on patient outcomes—such as mortality, length of stay, complication and readmission rates, and hospital-acquired conditions—that enable hospitals to benchmark against peers; identify, accelerate and sustain improvements; reduce variation; and expedite data collection to fulfill agency reporting requirements. Clinical benchmarking tools such as dashboards, simulation calculators, and templated and customizable reports enable you to quickly identify improvement opportunities and their potential impact.

The **AAMC-Vizient Clinical Practice Solutions Center®** (CPSC), developed by the Association of American Medical Colleges (AAMC) and Vizient, resulted from member input regarding the burdensome nature of duplicative data collection and survey activities related to provider practice patterns and performance. Designed to meet critical gaps in data management needs and provide insightful analytics, the CPSC provides physicians and medical groups with the clarity to inform and improve areas such as physician productivity, coding and compliance, charge capture, collections, denials, contract rate management, patient access, and quality of care specific to physician billing activity.

The **Sg2 CARE Grouper** is Sg2's proprietary methodology that organizes data across all sites into standardized, clinically relevant categories. It amalgamates ICD-10 diagnosis codes into clinically pertinent disease categories, which are then organized into broader service lines and service line groups. It also groups ICD-10 codes and CPT/HCPCS procedure codes into inpatient and outpatient procedure categories, respectively. These categories facilitate a standardized approach to tracking patient volumes and service utilization seamlessly across inpatient and outpatient settings. The Sg2 CARE Grouper is foundational for our analytics offerings and also serves as a stand-alone product that health systems rely on to manage their organizational data efficiently.

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The patent pending **Vizient Vulnerability Index™** identifies social needs and obstacles to care in neighborhoods that may influence a person's overall health. The data allow users to support social drivers of health at the neighborhood level, providing nine domains of social needs and the overall vulnerability index for each census tract and zip code across the U.S. Any score greater than 1.0 is considered an area of "high vulnerability." These are neighborhoods that experience specific obstacles to care greater than one standard deviation above the national mean.

Unlike other indices, the Vizient Vulnerability Index flexes to ensure the index values are location appropriate. Other indices have a single index algorithm for the whole country, while the Vizient Vulnerability Index adapts to the local relevance of each domain as it correlates to life expectancy. This allows for variation in the weighting of the domains across different geographic areas depending on what's important—the most relevant factors affecting health in Lincoln, NE, might not be the most relevant in New York City.

Vizient Vulnerability Index domains

ECONOMICS	HOUSING	EDUCATION
SOCIAL ENVIRONMENT	PUBLIC SAFETY	HEALTHCARE ACCESS
NEIGHBORHOOD RESOURCES	TRANSPORTATION	CLEAN ENVIRONMENT

The **Sg2 IP Portfolio Subtype** grouper translates Medicare Severity Diagnosis-Related Group (MS-DRG) discharges to six acuity-based portfolio subtypes:

- **Quaternary:** MS-DRGs mapped to Sg2's 2022 quaternary DRG list. Examples include transcatheter valve procedures; head and neck cancer procedures; kidney, liver, heart and lung transplants; and CAR (chimeric antigen receptor) T-cell therapy.
- **Tertiary:** MS-DRGs mapped to Sg2's 2022 tertiary DRG list, which is composed of AMC-centered tertiary DRGs. Examples include brain/skull surgery, hepatectomy for liver cancer and traumatic injury.
- **Shifting tertiary:** MS-DRGs removed from Sg2 tertiary DRG list from 2017 to 2022, as these services have shifted, or are shifting, to community acute care providers. Examples include coronary artery bypass graft, endovascular procedures, lumbar/spinal fusion procedures and nephrectomy.
- **High acuity:** Discharges with a DRG weight of >2.0. Examples include leg amputation, mechanical ventilation, fracture repair, septicemia procedures and large bowel resection.
- **Medium acuity:** Discharges with a DRG weight of 2.0 to 1.0. Examples include primary hip/knee replacement, c-section, psychosis and congestive heart failure medical admission.
- **Low acuity:** Discharges with a DRG weight of <1.0. Examples include vaginal delivery, intestinal obstruction, diverticulitis, urinary tract infection and diabetes medical admission.

The Vizient Data on the Edge series team includes Brianna Motley, Catherine Maji, Eric Lam and Sg2 Creative Services.