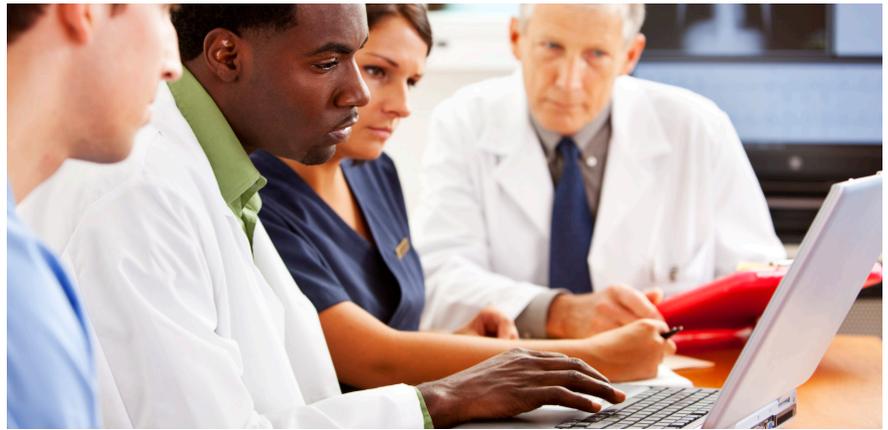


Executive Brief



Patient Complexity as a Driver of Strategy in Hospital Systems

Many of the hospital systems that formed or expanded during the wave of mergers in the previous decade were built on realizing back-office synergies. However, in today's environment, there will be an increasing emphasis on maximizing the use of system assets to optimize costs of clinical care delivery. To do this, leadership of regional hospital systems must understand and influence the distribution of patients across their systems. Expected cuts and changes to hospital reimbursement, resulting from reform, amplify the importance of ensuring patients receive treatment in appropriate cost and quality environments. Now, continuing to derive benefits from mergers requires leadership of these systems to influence their markets and improve operations by shifting focus to developing clinical programs and coordinating patient care across their systems.

Complexity-Based Segmentation Overview

Often, hospital leaders use the MS-DRG system as the foundation for analyzing inpatient distribution and clinical programs. Patient records are grouped into service lines, driven by assigned DRGs, or diagnosis codes, focusing discussion and analytics on performance of and investments in broad service lines. Due to our reimbursement system, hospitals constantly strive to increase the complexity of their inpatient census and tend to focus on service lines correlated with higher acuity.

Using the case mix indices (CMI) associated with each MS-DRG, alone, to analyze patient complexity proves problematic. Each patient record is assigned only one MS-DRG (CMI). In reality, within a given DRG, assigned patients' complexities often vary significantly.

Thus, Kurt Salmon Associates uses a multivariate approach (Complexity-Based Segmentation, CBS) to analyze each individual patient's complexity, identifying each patient as "high," "moderate" or "basic" complexity. Beyond CMI, factors considered include patient admission source, length of stay, age and charges. (See Exhibit 1.)

EXHIBIT 1: Factors Correlated to Complexity

CONSIDERATION	COMPLEXITY IMPLICATIONS
Admission Source	<ul style="list-style-type: none">> Transfers typically represent more complex patients> Self-admits through the ED often represent less complex patients
Length of Stay	<ul style="list-style-type: none">> Longer patient lengths of stay typically indicate more complex patient cases when compared to the average for that diagnosis
Patient Age	<ul style="list-style-type: none">> Older patients often present with comorbidities and thus require more complex care
Charges	<ul style="list-style-type: none">> More complex patients typically have higher charges (due to more tests/procedures)

Compared to the traditional DRG-based analysis of patient complexity, the CBS approach more easily lends itself to analyzing distribution of, behavior of and hospital performance in treating tranches of patients within individual subservice lines.

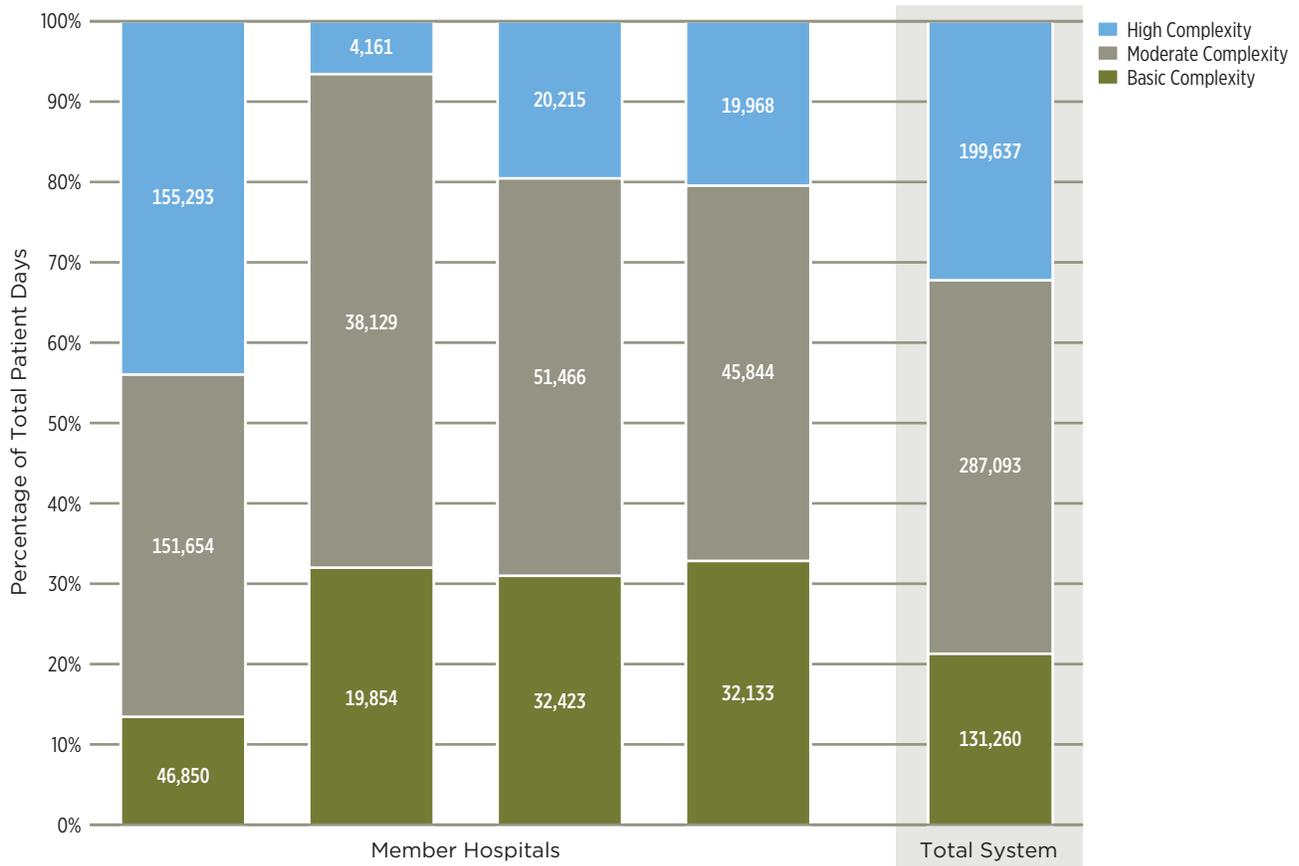
CBS Applications: Regional Systems

At a high level, CBS has three applications for leaders of regional hospital systems. Specifically, it provides insight into the distribution of patient complexity within a hospital system, the positioning of system programs versus competition and the behavior of complexity segments in the market.

Patient Complexity Distribution

CBS can help leaders of regional systems understand where, within their system, highly complex or less complex patients are treated. More importantly, coupling CBS outputs with other analyses can provide insight into implications of the current distribution of patients by complexity segment across the system, providing leaders with a framework to drive programmatic investment decisions. (See Exhibit 2.)

EXHIBIT 2: Example System Patient Complexity: 2009



Example questions answered for previous Kurt Salmon clients include:

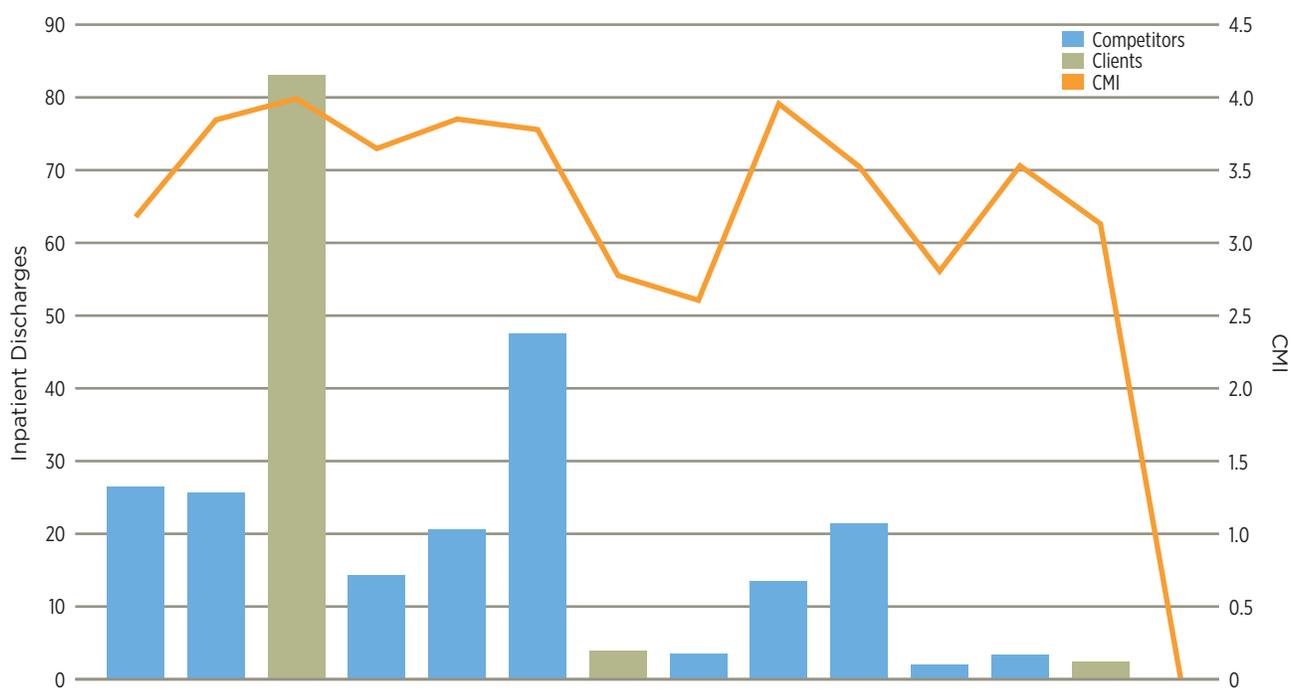
- > Which clinical programs, by system hospital, offer advanced subspecialized care?
- > Are system hospitals “competing” for the same complexity patients or cooperating to offer distinct services to a shared patient population?
- > Which system hospitals have operational efficiencies to allow profitable treatment of less complex patients?

Positioning of System Programs

Not only can CBS help leaders of regional systems understand distribution of patients within their system, but also how system programs at member hospitals compare to their competition. In concert with other analyses, CBS can provide system leaders with information on positioning clinical programs versus competition. (See Exhibit 3.) Example questions answered for previous Kurt Salmon clients include:

- > Which market programs compete on expertise, consolidating large volumes of highly complex patients?
- > Which market programs compete on access, consolidating large volumes of less complex patients? Which access points do these programs leverage to accomplish this strategy?
- > Are there programmatic opportunities in the market to deploy capital and develop access or expertise strategies?

EXHIBIT 3: Example High Complexity Neurosciences Patients: 2009



Behavior of Complexity Segments

Finally, CBS can enable system leaders to understand how subservice line complexity segments within their market behave. This information can facilitate development of programmatic growth strategies within the system. Example questions answered for previous Kurt Salmon clients include:

- > How do our most/least complex patients access our system (e.g., ED, physician referral, transfer, etc.)?
- > Where, geographically, do our most/least complex patients originate?
- > Which individual physician practices within our system treat high volumes of patients in each complexity segment?
- > What levers are available to the system to target growth of complexity segments within clinical programs?
- > What are the financial implications of growing highly complex versus less complex volumes within a defined clinical program?

Kurt Salmon Associates

Kurt Salmon Associates is the premier management consulting firm for today's leading hospitals and health systems. We work closely with our clients to create tailored solutions for their strategic and finance, facility development and performance, operational and information technology needs.

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