

Executive Brief



Patient Complexity as a Driver of Strategy in Academic Medical Centers

Academic medical centers (AMCs) historically, and to this day, are generally quaternary and tertiary referral sites for services in their region. However, in the changing health care environment of improved technology and the consolidation of large regional systems, AMCs are seeing more competition for the high complexity patient population due to more favorable reimbursement for higher severity illnesses. An effective strategy targeting patient complexity is essential for academic medical centers to remain strong quaternary and tertiary referral centers. AMCs' strategies need to focus on the complexity trends of both their patient population and the market in order to target specific programs and patient cohorts for growth to ensure long-term success of the institution.

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, patient 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 cohorts of patients within individual subservice lines.

Advancing Your Information Capabilities

At a high level, CBS has three applications for academic medical centers.

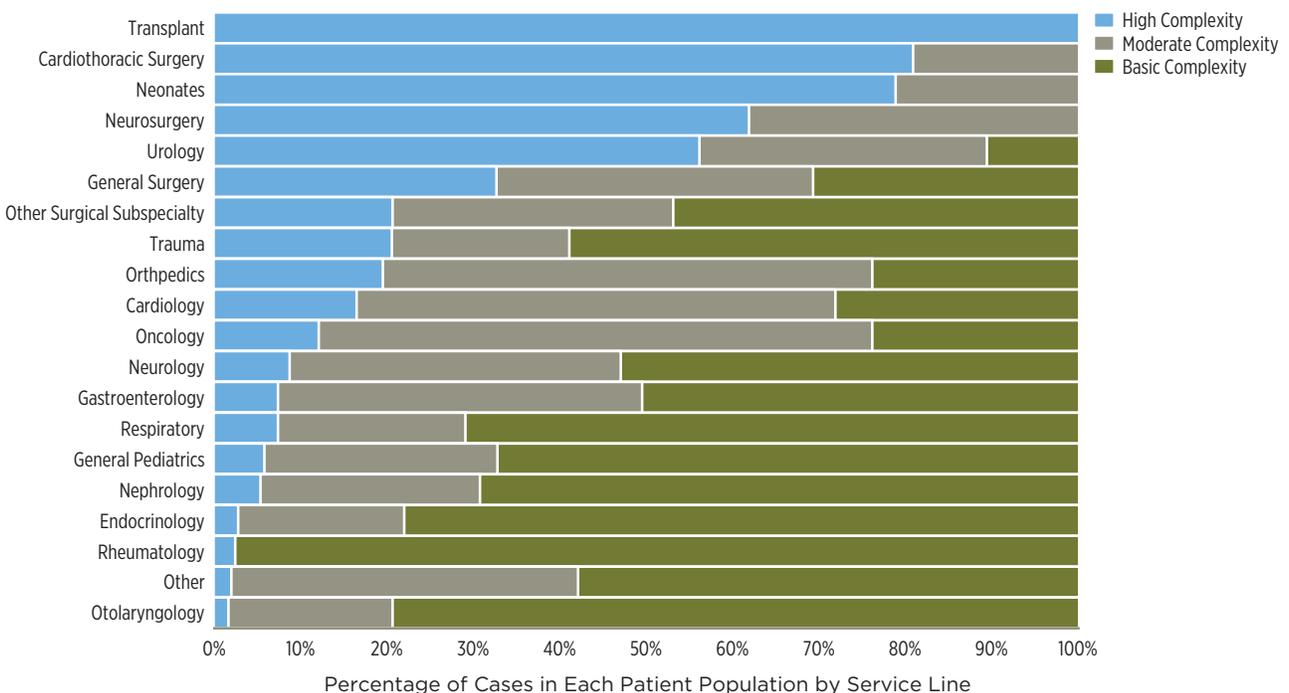
- > Provides insight into the distribution of patient complexity within the institution, including financial and operational tendencies
- > Market outlook—comparisons to competition and other comparable AMCs throughout the country
- > Behavior of complexity segments in the market and within our institution at the subservice line level

Patient Complexity Distribution

CBS can help leaders of AMCs understand what services are providing the highest complexity of patients by volume. (See Exhibit 2.) More importantly, coupling CBS outputs with other analyses such as financial analytics, market shares, occupancy rates, sources of admission, etc. can direct insight into implications for strategic growth by complexity segment—providing leaders with a framework to drive programmatic investment decisions. Example questions answered for previous Kurt Salmon clients include:

- > Which clinical programs drive the highest complexity of care?
- > Do we, as a hospital, have the right complement of high vs. moderate vs. basic patients?

EXHIBIT 2: Example AMC Patient Complexity



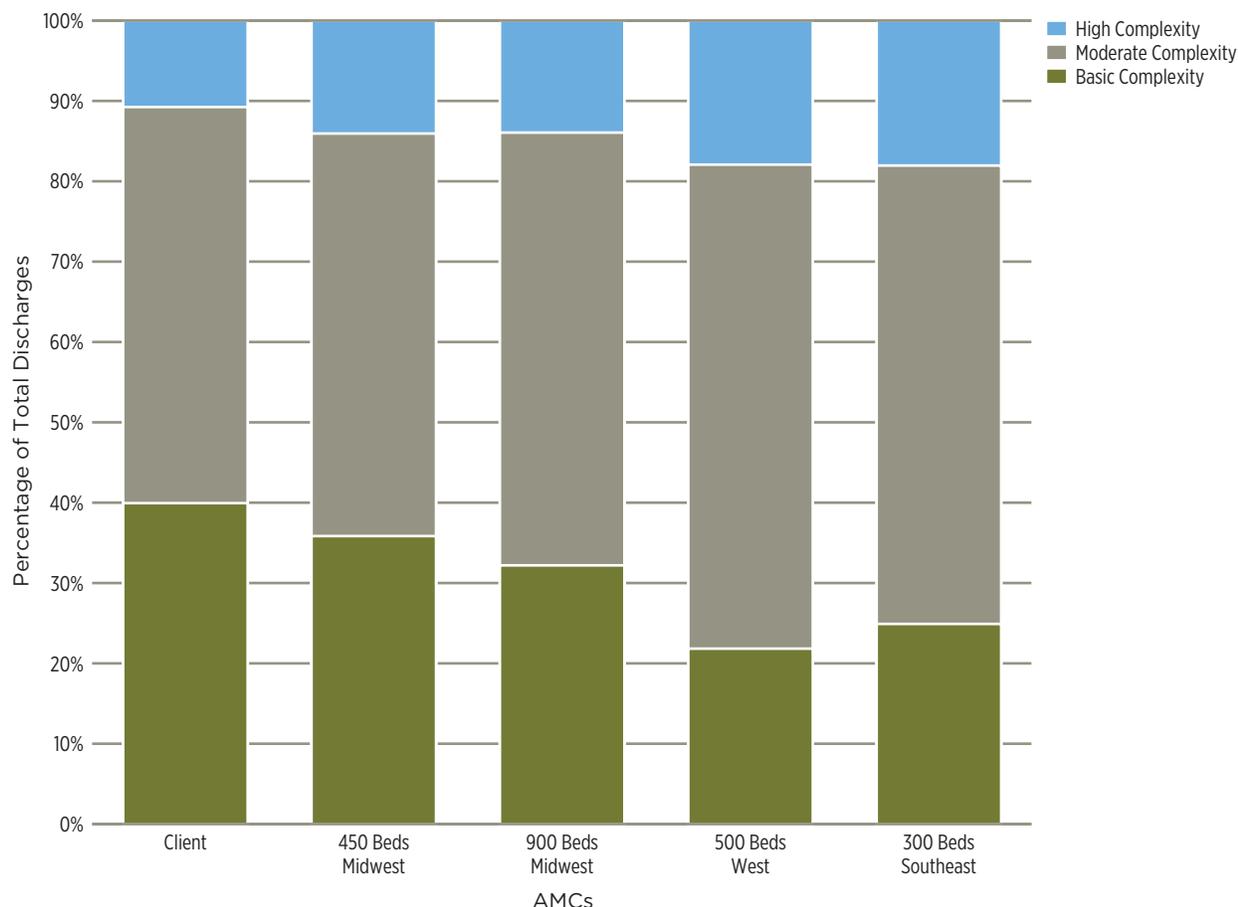
- > Which programs and patient cohorts contribute the most from a financial perspective to the organization?
- > Which programs should we target to grow our high and moderate complexity volumes?

Market Comparison

Not only can CBS help leaders of AMCs understand the distribution of patients within their hospital, but also how their programs compare to their competitors and other AMCs throughout the country. (See Exhibit 3.) In concert with other analyses, CBS can provide leaders with information on how best to position clinical programs versus both local and community hospital competitors and other regional academic medical centers. Example questions answered for previous Kurt Salmon clients include:

- > How does our complexity complement compare to other institutions like us?
- > Which programs do comparable institutions strategically grow to adjust the complexity complement?
- > With whom do we compete in the market for moderate and high complexity care?
- > What is our market share by program by complexity segment?

EXHIBIT 3: AMC Comparable Complexity



Behavior of Complexity Segments

Finally, CBS can enable AMCs to understand how subservice line complexity segments within their market behave. This information can facilitate development of programmatic growth strategies within the organization. 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 institution treat high volumes of patients in each complexity segment?
- > What levers are available to the organization to target growth of complexity segments within clinical programs?
- > What are the financial implications of growing highly complex vs. less complex volumes within a defined clinical program?

CBS Conclusions

Because strategic decisions are so vital to academic medical centers, it is essential that leadership have all the relevant information at their disposal. Although many components go into formulating strategies for an organization such as analyzing market trends, payor environments, physician/faculty recruitment, etc., understanding patient complexity for markets and programs is essential for long-term planning. Complexity-Based Segmentation is a robust and useful tool to get leaders to understand the patient complexity component both in the market and internally, ultimately allowing for a better foundation for making strategic decisions.

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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