Vizient Research Institute

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Delivering on the value promise: Are health systems there yet?

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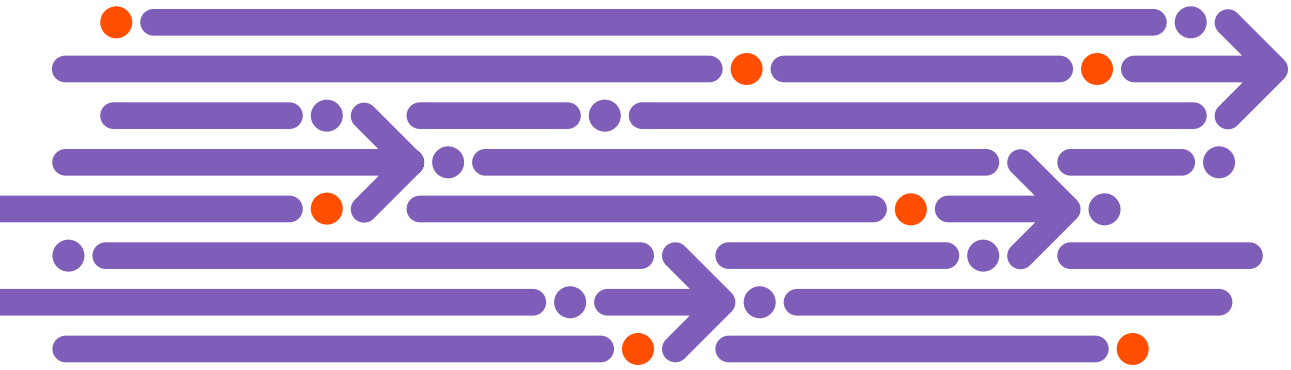


Background

One of the key strategic issues facing hospitals and physician practices today is whether to be part of a health system. The value of system formation to health care providers includes economies of scale (via centralizing administrative functions and consolidating overlapping clinical programs) and standardization of care processes, both of which eliminate avoidable variation to improve quality and reduce unnecessary spending. As financial pressures on health care providers increase due to vacant capacity, increasing capital needs, declining reimbursement and escalating costs, hospital and physician practices continue to look to building scale as a way to achieve efficiencies and maintain their margins.

In 2016, the Vizient Research Institute set out to assess health system formation and the value health systems deliver not just to themselves but to those they serve, such as patients and payers. Implicit in most health systems' value propositions—and specifically in their market-facing communications (the right care at the right place at the right time)—is the expectation of consistency. Two clinically similar patients who present at different hospitals within the same health system should expect to receive a similar course of treatment. Intrasystem reliability is a core component of a health system's value proposition.

We analyzed five marker events identified by clinical experts from Vizient® members. Marker events are distinct from "never" events, in that their utilization is not expected to approach zero. Each marker event is a category of discretionary utilization that merits attention if wide variation in use rates is observed. Health systems that effectively standardize care processes and reduce avoidable utilization would be expected to exhibit far lower intrasystem variation in marker event occurrence. The five marker events included:

- Percentage of patients discharged to a post-acute care (PAC) facility (as opposed to being discharged home) following uncomplicated lower joint replacements
- Percentage of nontrauma emergency room (ER) patients presenting with back pain who receive major imaging, such as computed tomography (CT) or magnetic resonance imaging (MRI) scans
- Incidence of repeat major imaging of the abdomen-pelvis within 90 days (excluding cancer patients)
- Percentage of cancer decedents who received fewer than three days of hospice care
- Percentage of cancer decedents with an intensive care unit (ICU) stay during their last 30 days of life

During the original study period, we examined Medicare claims data between 2012 and 2014 to assess utilization within and across 209 multihospital health systems across the five marker events. The original study findings identified significant variation in utilization between health systems and even more variation within an individual health system.[1] Across most of the marker events, utilization rates at one hospital were often three to four times higher than other hospitals within the same system.

In 2017, hospital and health system merger and acquisition activity hit an all-time high, with 115 transactions recorded.[2] Recent data has showed a slowdown in this activity, while nontraditional types of consolidation—such as insurers acquiring hospitals or physician practices, or retail pharmacy chains merging with insurers—are escalating.[3] However, there were still nearly 100 mergers and acquisitions in 2018 and Moody's anticipates continued consolidation among hospital and health systems as a primary growth strategy despite increased scrutiny from state and federal regulators.[4]

Given continued interest among Vizient members in forming or expanding their current health systems, we revisited our original study findings to see if health systems have delivered on their value promise.

Approach

The Vizient Research Institute examined Medicare claims data to assess the original five marker events between 2015 and 2017 and determine if there were any improvements made in reducing intersystem variation and, more importantly, intrasystem variation across the same health systems included in the original study (2012-2014). Over the past three years, further consolidation has occurred within the original 209 health systems; thus, the total number of health systems assessed during the new study period totaled 184.

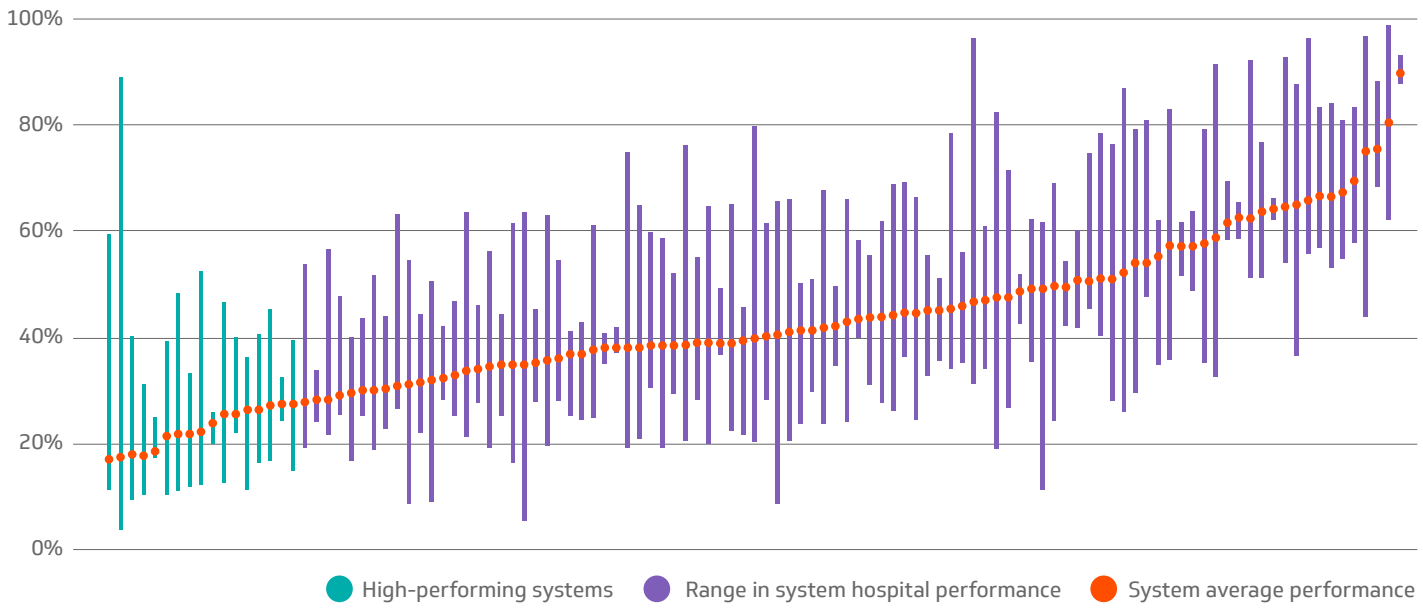
For each hospital within a system, utilization across the five marker events was assessed and a system average was calculated for the new time period. Utilization from the original time period (2012-2014) was compared to utilization during the new study period (2015-2017) to determine if not only individual hospitals but the entire health system had increased or decreased their utilization and if variation across and within health systems had increased, decreased or stayed the same.

Findings

The original study findings identified consistently widespread variation—between health systems but more importantly among hospitals within each health system—across the five marker events. Figure 1 shows the range in utilization of PAC services following an uncomplicated joint replacement between 2012 and 2014.

A fourfold difference in the percentage of uncomplicated joint replacement patients discharged to PAC facilities was observed across the 209 health systems. In addition, it was common to see a threefold difference in utilization among hospitals within the same system (illustrated by the vertical bars in Figure 1).

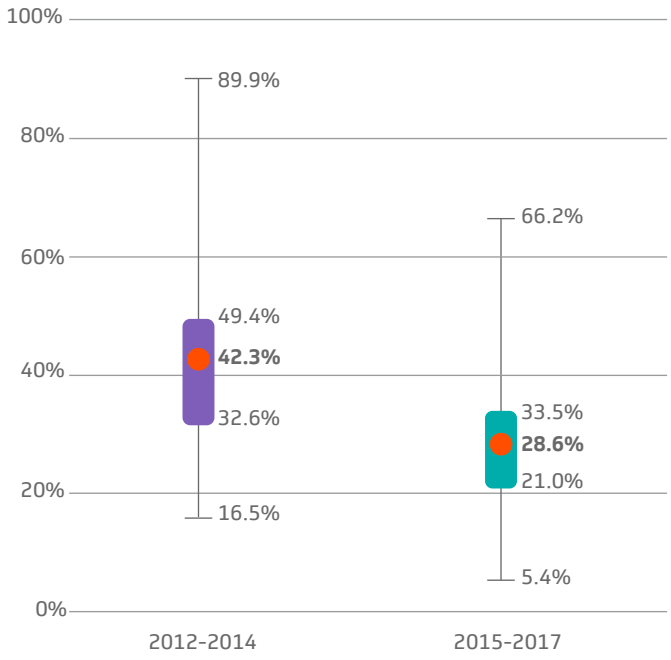
Figure 1. Percentage of uncomplicated joint replacement patients discharged to skilled nursing or inpatient rehabilitation



Source: Vizient Research Institute, analysis of Medicare claims, 2012-2014.
Note: Includes health systems with ≥ three hospitals meeting minimum volume thresholds. Systems with a significant multistate presence are split up by state.

Between 2015 and 2017, PAC utilization following an uncomplicated joint replacement decreased across nearly all health systems, as shown in Figure 2. The average system performance across all health systems fell from 42.3% during the original study period to 28.6% in the new period. Due to many health systems' participation in the Bundled Payments for Care Improvement initiative between 2013 and 2016, and the fact that providers are now liable for PAC expenses, a steady decline has been seen in year-over-year PAC utilization following uncomplicated joint replacements.

Figure 2. Post-acute care: distribution of health systems by system average performance, 2012-2014 versus 2015-2017



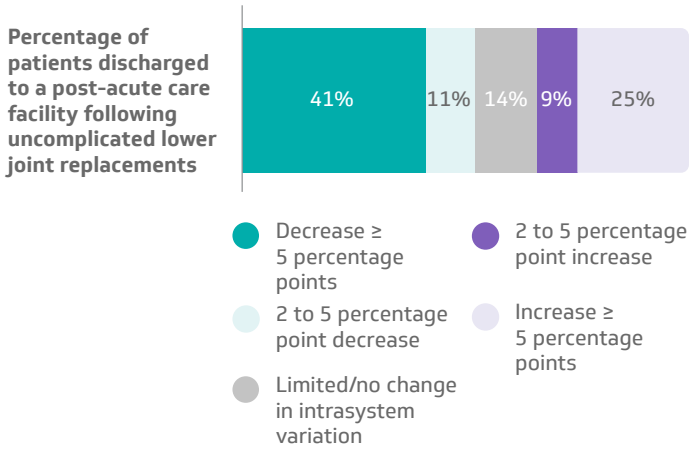
Percentage of patients discharged to a post-acute care facility following uncomplicated lower joint replacements

Source: Vizient Research Institute, analysis of Medicare claims data, 2012-2014 and 2015-2017.

Note: Orange dot indicates average performance across all health systems; box indicates 75th and 25th percentiles; error bars indicate highest and lowest observed system averages.

In addition to a decline in overall PAC utilization, intrasystem variation also decreased by 5 percentage points or more for 41% of health systems studied, as shown in Figure 3. Despite this strong improvement, 25% of health systems exhibited an increase of 5 percentage points or more in intrasystem variation for PAC use, with some systems still exhibiting 100% or more variation in utilization between hospitals that were part of the same system. There have been significant improvements over the last few years in reducing variation in PAC facility use following joint replacements, but an opportunity remains for many systems to narrow the gap even further.

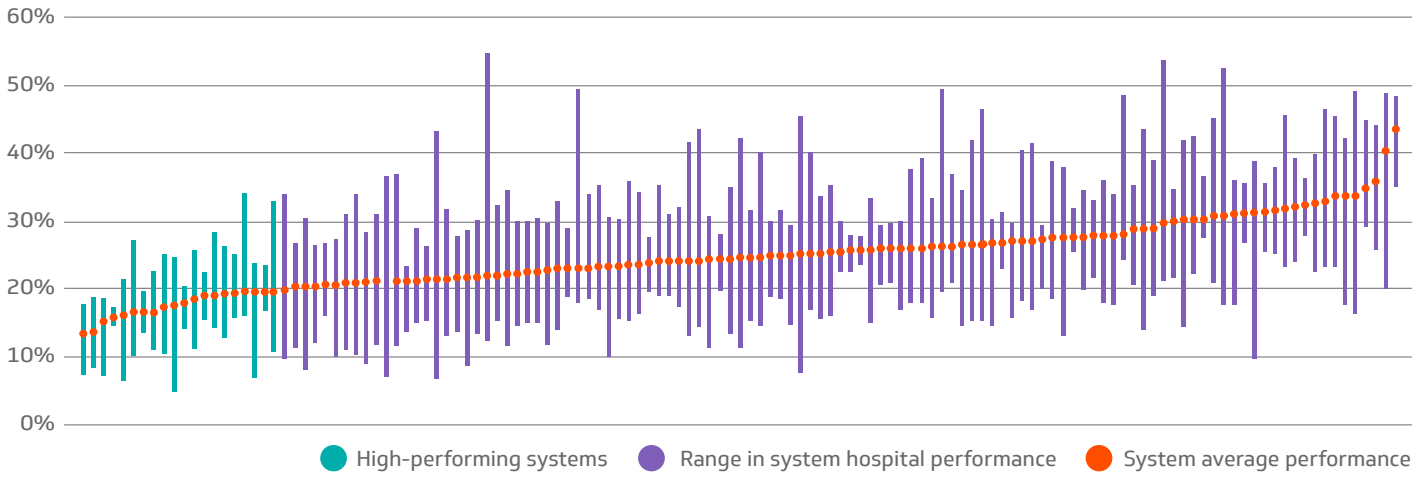
Figure 3. Post-acute care: distribution of health systems by percentage point change in intrasystem variation, 2015-2017 versus 2012-2014



Source: Vizient Research Institute, analysis of Medicare claims data, 2012-2014 and 2015-2017.

During our original study period, the use of major imaging (CT or MRI) for nontrauma patients with back pain who presented in the ER of one of the hospitals within the health systems studied varied threefold between low- and high-utilizing health systems. In many cases, even larger intrasystem variation existed between hospitals within the same system (Figure 4).

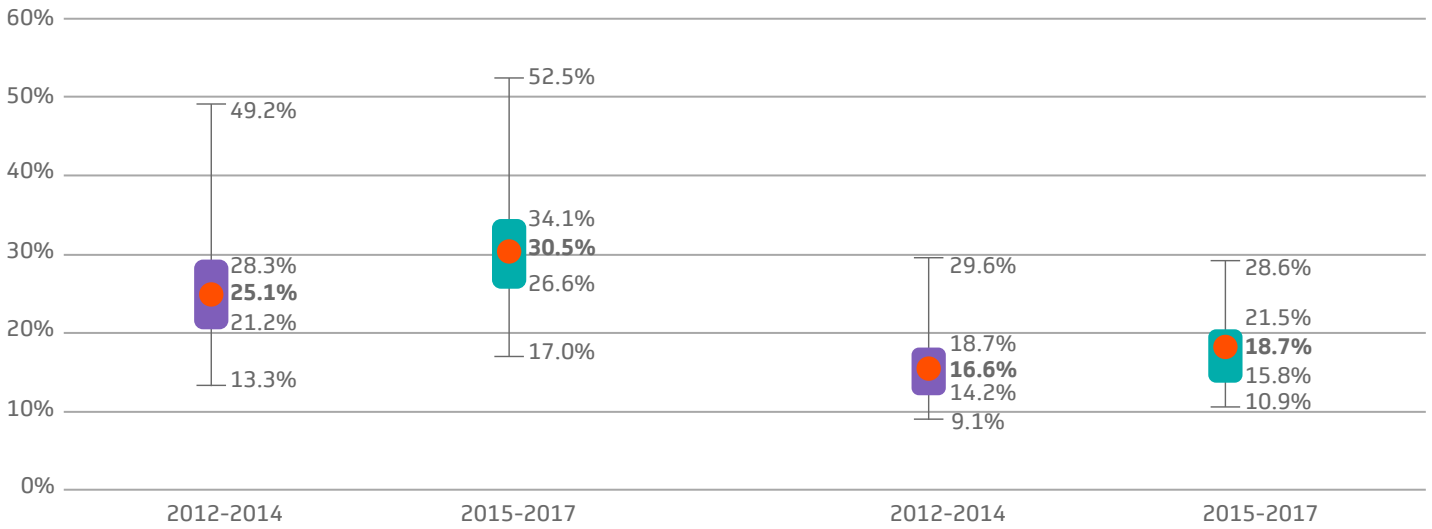
Figure 4. Percentage of ER visits for back pain with CT or MRI



Source: Vizient Research Institute, analysis of Medicare claims, 2012-2014.
Note: Includes health systems with ≥ three hospitals meeting minimum volume thresholds. Systems with a significant multistate presence are split up by state.

Between 2015 and 2017, utilization of major imaging for nontrauma ER patients with back pain increased across the board. Nearly all health systems exhibited an increase in imaging use in the ER, with the system average performance rising from 25.1% to 30.5%. Similar results were observed for the incidence of repeat imaging within 90 days across most health systems, though the overall utilization was lower. The average utilization of repeat imaging within 90 days was 16.6% for 2012-2014 versus 18.7% for 2015-2017, as shown in Figure 5.

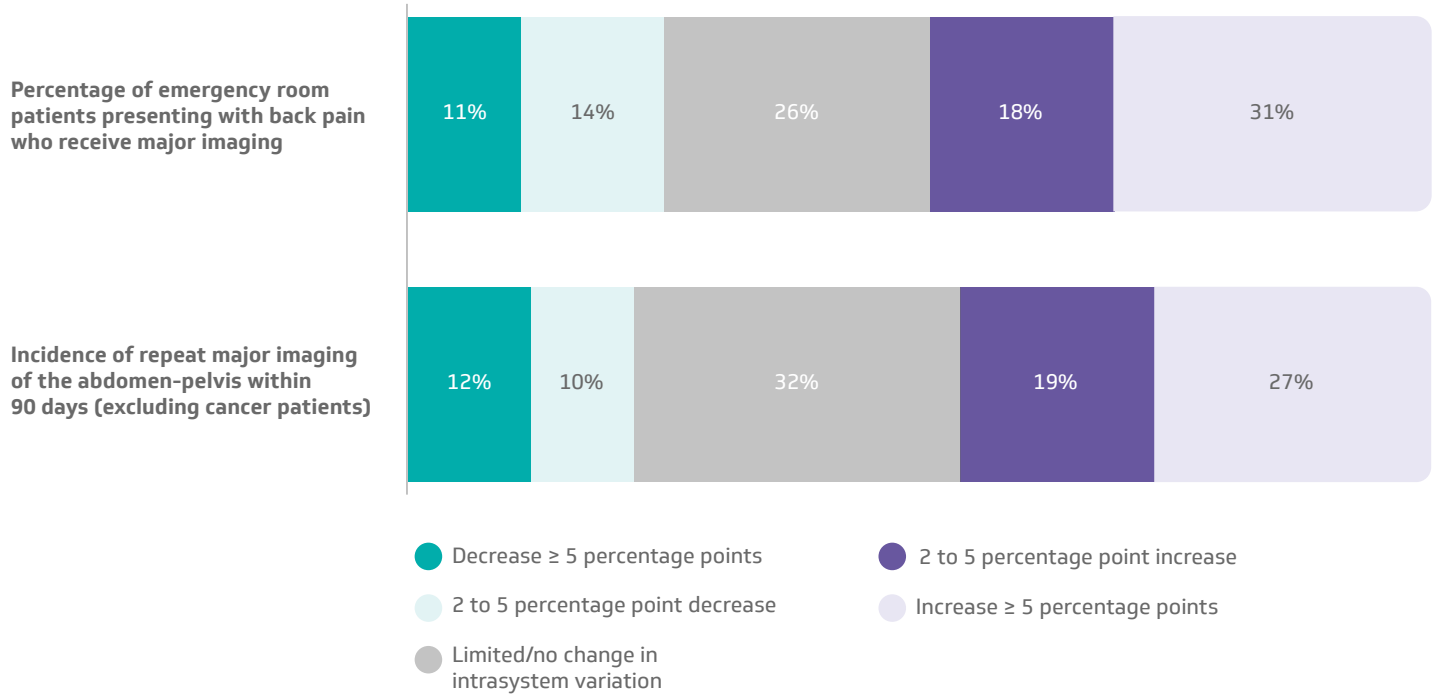
Figure 5. Major imaging: distribution of health systems by system average performance, 2012-2014 versus 2015-2017



Source: Vizient Research Institute, analysis of Medicare claims data, 2012-2014 and 2015-2017.
Note: Orange dot indicates average performance across all health systems; box indicates 75th and 25th percentiles; error bars indicate highest and lowest observed system averages.

In addition, many health systems observed an increase in the variation in utilization of imaging across their individual hospitals. Nearly half of the health systems saw increases in intrasystem variation for major imaging in the ER for back pain, while 31% saw a significant increase of 5 percentage points or more between the original study period and the new study period. Only 11% of the health systems studied saw a similar decrease in intrasystem variation. Comparable trends were observed for repeat imaging within 90 days, as shown in Figure 6. Given the health care industry's focus on decreasing the overutilization of imaging through various initiatives such as the Choosing Wisely campaign, it is surprising to see this increase, but it further highlights health systems' opportunity to deliver on their value promise.

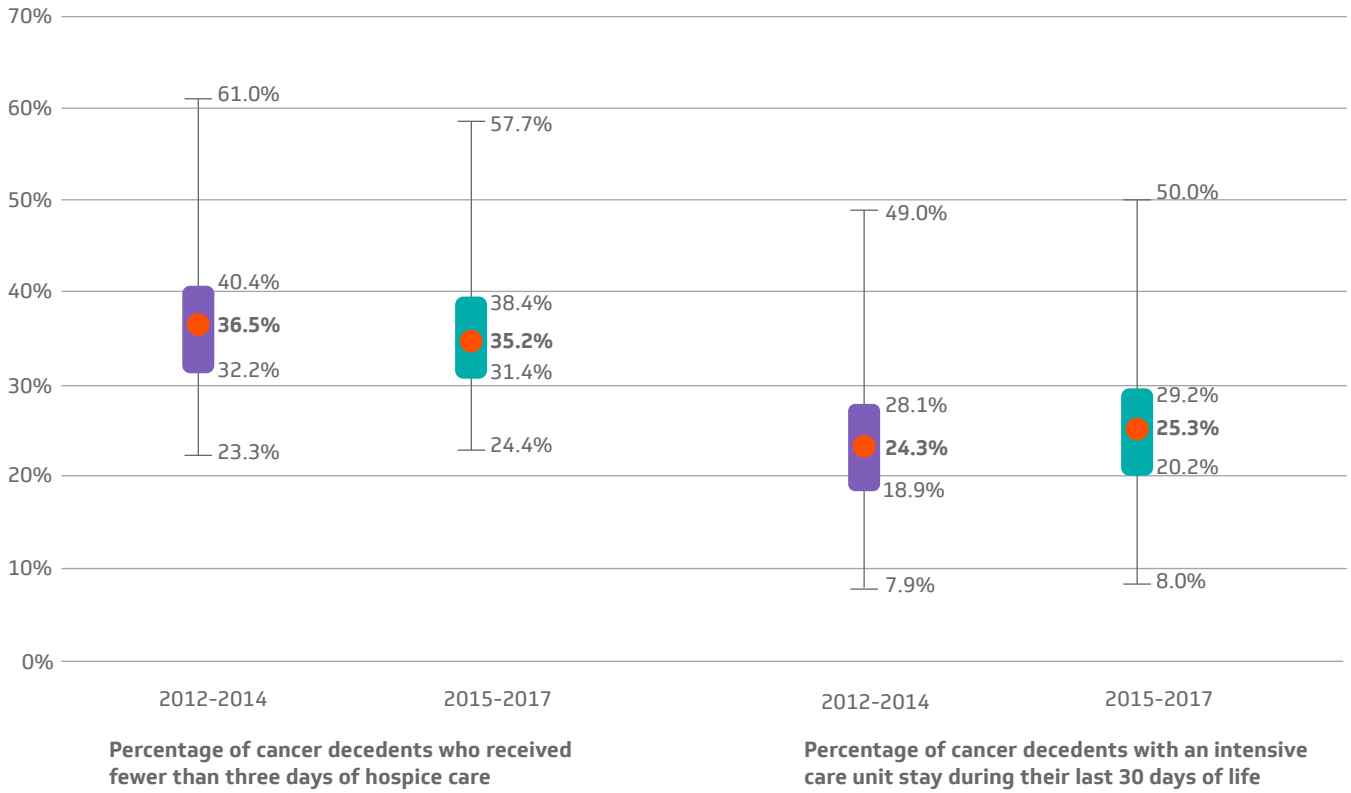
Figure 6. Major imaging: distribution of health systems by percentage point change in intrasystem variation, 2015-2017 versus 2012-2014



Source: Vizient Research Institute, analysis of Medicare claims data, 2012-2014 and 2015-2017.

Due to escalating health care spending in the U.S., there has been considerable national attention on health care utilization near the end of life as well as concerns about patients' quality of life. During the original study period, we observed a two- to threefold difference in hospice care and ICU utilization among cancer decedents across the 209 health systems, a variation that was also seen across the other marker events. For the new study period, the intersystem variation decreased slightly for the percentage of cancer decedents receiving fewer than three days of hospice care and remained relatively the same for the percentage of cancer decedents with an ICU stay in their last 30 days of life, as shown in Figure 7. The average ICU utilization across all health systems in the last 30 days of life increased slightly between the original study period and the new study period from 24.3% to 25.3%, respectively.

Figure 7. End-of-life care: distribution of health systems by system average performance, 2012-2014 versus 2015-2017



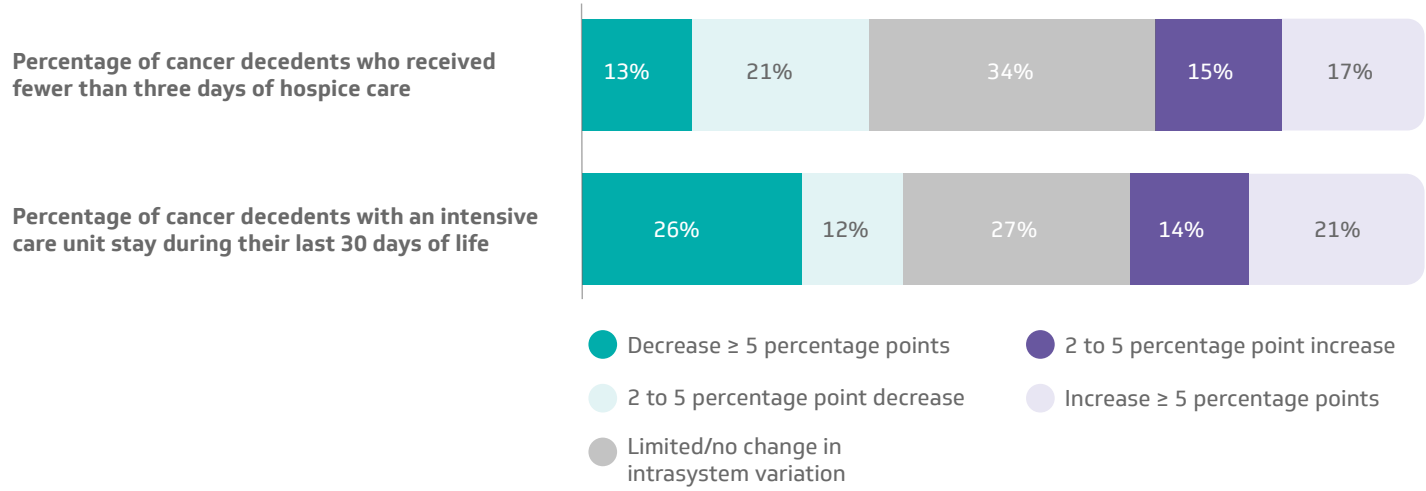
Source: Vizient Research Institute, analysis of Medicare claims data, 2012-2014 and 2015-2017.
Note: Orange dot indicates average performance across all health systems; box indicates 75th and 25th percentiles; error bars indicate highest and lowest observed system averages.

Unlike our findings for imaging utilization—where a disproportionate share of health systems saw their intrasystem variation increase between the two study periods—a similar number of health systems experienced either an increase or decrease in intrasystem variation for ICU use in the last 30 days of life. A total of 35% of health systems studied saw an increase in intrasystem variation for ICU use between the first and second study periods, while 38% saw their intrasystem variation decrease in the new study period. In fact, a slightly larger proportion of health systems observed a significant decrease of 5 percentage points or more between the original study period and the new study period compared to the health systems that observed a significant increase in intrasystem variation, as illustrated in Figure 8.

For the percentage of cancer decedents with less than three days of hospice care, the average for all health systems between the two study periods actually decreased nominally from 36.5% to 35.2% (see Figure 7). Though persistent intrasystem variation was also observed, the changes fluctuated across the health systems for hospice utilization. A total of 34% of the health systems saw no significant change (± 2 percentage points) for the percentage of cancer decedents with less than three days of hospice care during the new study period, while 32% saw an increase and the other third saw a decrease. At the extremes, a larger percentage of the health systems studied observed a significant 5 percentage point increase in hospice utilization between the two study periods compared to those systems that experienced a 5 percentage point decrease in intrasystem variation (see Figure 8). We concluded during our original study that a number of factors impact hospice utilization, including the role of patients and their families, cultural differences and socioeconomic factors beyond provider discretion, all of which are likely impacting hospice utilization among health systems and contributing to the variation.

Larger health systems often exhibit wider intrasystem variation than smaller systems—an anticipated outcome in the absence of a system intervention to combat such variation. For a significant share of the health systems studied, the number of hospitals within the health system increased between our original study period and our new study period. For health systems that added hospitals and observed an increase in intrasystem variation across the marker events, the new hospitals appeared to be a driver of their increase in intrasystem variation over 70% of the time.[5]

Figure 8. End-of-life care: distribution of health systems by percentage point change in intrasystem variation, 2015-2017 versus 2012-2014



Source: Vizient Research Institute, analysis of Medicare claims data, 2012-2014 and 2015-2017

Insights into reducing intrasystem variation

Following the quantitative analysis of the five marker events, health systems that had observed a decline in intrasystem variation across four or more of the marker events between the original study period and new study period were identified. The Vizient Research Institute conducted interviews with select Vizient members to identify successful strategies that could be used to address variations in care within a health system.

Key themes that emerged from these interviews included changes in leadership and culture, accountability, organizational structures, process improvement, and financial risk and incentives. Across the health systems that observed a decrease in intrasystem variation, there was a deliberate change in leadership responsibilities from the local level to the system level, resulting in a new culture across the organization and changed behaviors throughout the system. As part of the culture change, a new level of accountability was established, with incentives tied to performance goals focused on the health system's performance rather than an individual hospital's performance. New organizational structures were established, including system service lines, system-level committees and physician employment models. These service lines and committees included clinical and administrative representatives from each local hospital or clinic. The new committees helped organizations standardize care across each site, and redesign and improve care processes. In addition to tying individuals' compensation incentives to system performance, some of the health systems interviewed entered into risk-based contracts with insurers, creating additional incentives for staff to remain focused on reducing variation across the system.

Conclusion

Though the reasons for building multihospital health systems were well-intended, most health systems have fallen short in delivering on their value promise. The original study served as a call to action to health systems that we can and must do better in providing consistent patient care across the enterprise. Unfortunately, despite such efforts underway, not much headway has been made over the last three years to deliver on our value proposition as health systems. Though some systems have made progress in reducing variations in care, two- to threefold variation still exists across health systems today. With the exception of PAC use following a joint replacement, over two-thirds of health systems studied saw their intrasystem variation largely increase or stay the same between the original study period and the new study period. Forming a system—and operating like one—is a journey that appears to be ongoing for most health systems. Delivering the right care at the right place at the right time largely remains an unmet promise. For a health system to deliver on its value promise, it must focus on reducing variations in care to deliver a high-quality, consistent patient experience across the enterprise.

References

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