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The Future of Healthcare Data Management

A SINGLE SOURCE OF INTEGRATED DATA DRIVES BETTER DECISION MAKING AND RISK MANAGEMENT

Despite recent ramping up in the industry, healthcare organizations still lag behind other industries in tapping the incredible potential of data analytics to improve quality.

This occurs despite the fact that there's much more at stake in healthcare. The challenge is not lack of understanding or even a lack of expertise — but rather access to the right tools and resources to bring data together. Currently, most healthcare data sources are fragmented and separated from a larger, system-wide context. Unstructured data on everything from safety incidents and infection control to staff competencies exist in siloed areas and a range of formats.

This white paper will explore the challenges and solutions of integrating information in a way that it can be acted on in a meaningful, proactive manner. A single, comprehensive source of data analytics — one closely linked to today's accreditation standards — is potentially the most effective solution for reducing patient safety risks.

56%

Hospitals with no data strategy[1]

"It's vital that hospitals boost their analytics, because significant dollars and patient lives are at risk," says Carrie Mayer, Director, Strategic Initiatives at Joint Commission Resources, a nonprofit organization dedicated to improving healthcare quality and safety.

FEATURES TO LOOK FOR IN A DATA ANALYTICS TOOL

At first glance, it would seem that simply standardizing and organizing data is a viable data strategy — an enormous task, but doable with products currently available on the market. However, the truth is that organizing data or applying more resources to better coordinate data is not enough to truly reduce risk and drive change.

One approach that leading healthcare systems have successfully deployed is installing a turnkey, holistic system based on true data analytics principles. Joint Commission Resources' own data analytics platform, Illuminate Analytics™, integrates many of the features that can elevate organizations from merely consolidating or tracking streams of data to translating it into real change for safer, standardized care. When looking for solutions to data management, consider a platform that has features like those found in Illuminate:

- Designed with data analytics principles and created in partnership with clinical, accreditation and safety experts.
- Data insights can be integrated with accreditation standards and the organization's accreditation history and goals.
- The system is holistic, drawing together data from multiple sources and translating it into actionable data points.
- Data insights are provided with real-time visibility.
- Easy, turnkey implementation with highly accessible user interface for staff of varying analytic skill levels.

DATA TOOLS

HOW THE RIGHT DATA TOOL SOLVES CURRENT DATA MANAGEMENT CHALLENGES

Overcoming obstacles to analyzing and integrating data effectively is subject to strains on revenue, human resources, expertise, training and time. While hospitals may generate extensive data to address risk, gathering it in a form that can be analyzed effectively means overcoming a host of challenges with the right solution — one that's integrated, holistic, and follows true analytics principles.

1. **Challenge: Lack of standardization.** Lack of comparable metrics severely limits any kind of analysis

or continuous improvement. “Standardizing data is critical for comparison and tracking,” says Susan Swarts, Associate Director of Product Strategy at Joint Commission Resources. “Are you improving? You need to have those numbers to set priorities and make comparisons within a hospital or between a system’s hospitals and departments.”

11-14%

Lower safety performance rate when health systems lack standardized data collection[2]

Solution: Data gathering tools that standardize input. Data from digital surveys can give administrators the ability to standardize input and target the data needed — solving the problem of disparate data from multiple sources. This could support uniform information allowing managers to more easily track status and improvement. Bhavna Mishra, Executive Director, Electronic Products at Joint Commission Resources, who led development of the organization’s new Illuminate Analytics™ data tool, offers an example of how that type of data might also work in assessments not directly related to accreditation, such as in post-operative care.

“Our system pulls in data based on Joint Commission standards and surveys using our Tracers with AMP® *tool which might ask, for example, ‘Postoperatively, was your patient nauseated?’ Your system can then collect that data to see who has the highest percentage of nausea on your anesthesia team to establish best practices.”*

2. **Challenge: Siloed safety and quality information.** Different hospitals, and often different departments within hospitals, input and track information in their own databases. Typically, this approach makes it more difficult to exchange, compare or integrate data for more meaningful insights.

   Solution: Integrated data repository that overcomes silos. An organization-wide platform gives administrators the opportunity to gather data from different departments and centralize it. This might be done using proprietary data gathering tools — for example, digital surveys or mobile questionnaires that department heads can complete on tablets or smartphones — or by funneling data from existing spreadsheets or databases.

3. **Challenge: Inconsistent data collection.** In most cases it’s not a matter of having limited data but rather too much. Some systems still rely on manual, paper-based collection. How can hospitals clearly define the kind of data they need to collect and how they collect it?

38%

Percentage of healthcare organizations adequately staffed for data management and IT[3]

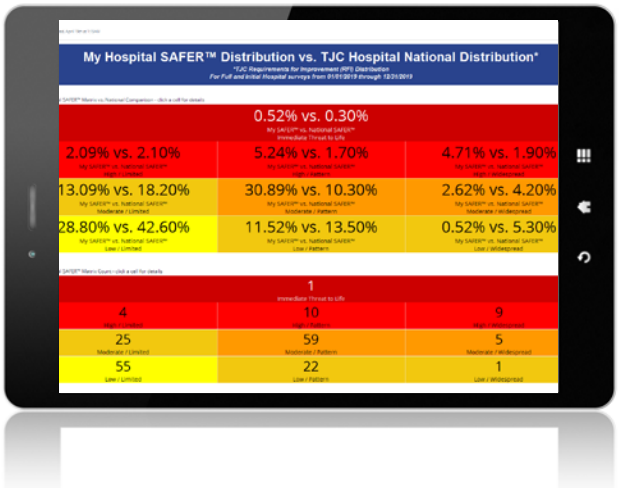
   Solution: Target the data to minimize and manage collection. With the move to an integrated digital platform, administrators gain the power to set priorities for what kind of data they want, manage far more input than is possible with paper reports, and analyze data at a much faster rate.

4. **Challenge: Varying levels of tech sophistication.** Recently, healthcare organizations have begun investing more in advanced informatics and data analytics products and staffing – nearly 56% expect their budgets to rise in this area.[3] However, the majority of staff members have a lower comfort and skill level with data, and not all healthcare systems can invest in expanding analytics staff.
   “Most individuals working with data on a regular basis have limited or no data analysis or technology experience,” says Mishra. “They don’t know where to start or how to apply limited resources.”

Well-designed interfaces, such as those shown in this Illuminate Analytics™ screen, help simplify and visualize data.

Solution: User friendly interface for varying levels of skill. A tremendous advantage of a turnkey data analytics tool is that its graphical user interface can be designed by experts who know how to simplify the presentation of masses of data. It need not be a complex display.

"It should be as simple as your car's dashboard," says Mishra. "A car's dashboard clearly tells you the status of your car, and then you can make the right decisions about getting gas, repairs, etc." In the same way, simple visualizations of complex data can provide meaningful information to decision makers, allowing them to make informed decisions easily and quickly.



Illuminate's *SAFER*® and Requirement for Improvement (RFI) data, based on Joint Commission standards, are an example of how integrating separate streams of data quantifies risk and identifies areas for prioritization.

5. **Challenge: Reactive approaches.** With constantly changing regulations, hospitals are often forced to be reactive when determining policies and procedures. And yet, every data set must be regularly evaluated for accuracy and timeliness against current regulations and standards. Going beyond mere data collection to identify potential new problems or anticipate regulations is typically a lower priority.

   Solution: Leverage combined data to anticipate risks. For example, analytics can show a number of variables related to staff competency and problem resolution. What action was taken? How many times was intervention necessary? How successful was it? Administrators can track interventions over time to get to the root causes of persistent safety and quality issues.

6. **Challenge: Frequent changes in regulations and standards.** Based on proprietary research conducted by Joint Commission Resources, we know that changing regulations, along with staff education and skill levels, infection control, and achieving accreditation are among the top concerns of healthcare organizations. These areas are directly related to patient risk — and more easily managed with the right data management tool or platform.

   Solution: A central database integrated with regulations and standards. A platform that captures and stores Joint Commission, Centers for Medicare and Medicaid Services (CMS) or other standards performance in a single database can help administrators monitor and address compliance over time, including:

   - Accessing reports that help identify critical CMS items
   - Analyzing performance against CMS regulations
   - Conducting compliance self-assessment, cross-referencing A-tags and C-tags
   - A single, cohesive platform also allows changes to be implemented system-wide

7. **Challenge: Limited budgets.** Healthcare expenditures in the United States comprise nearly 20 percent of GDP.[4] Despite this hefty outlay, hospital budgets tend to be under consistent pressure, making it difficult to justify expanding human resources dedicated to data.

Solution: A digital tool boosts cost efficiency. A system-wide solution entails known costs that allows more accurate budgeting. It also gives administrators the ability to manage resources by moving healthcare staff from manual data entry or analytical tasks to actually working on improvement of issues or problems that the data has identified.

ILLUMINATE ANALYTICS™: A TURNKEY, HOLISTIC DATA MANAGEMENT SOLUTION TO REDUCE RISK

Illuminate Analytics™ is one of many intelligent business tools the Joint Commission enterprise has developed as part of the DASH (Data Analytics for Safe Healthcare) initiative. It's unique in that it offers a single, cohesive platform that integrates data from multiple sources: data housed in Joint Commission Resources' suite of electronic products, data collected as part of mock survey consulting engagements, and publicly available accreditation data. This consolidated data, along with compelling visualizations, offers leaders more robust decision support.

- Integration of multiple performance data sources — self-assessment data from *Tracers with AMP®*, findings from mock surveys and Joint Commission RFI and *SAFER®* data.
- Visualizations with filtering options and drill downs
- Seamless, daily data pulls
- Controlled, permission-based access for additional users within your organization

Click here to learn more.

CASE STUDY

Data from Tracers Improves Quality at Washington hospital system

Situation: New leadership at a nonprofit, five-hospital system in Washington brought an intense focus on quality and patient safety. Executives redefined how quality was embedded within their culture, with emphasis on continuous readiness for Joint Commission accreditation as well as CMS and state surveys.

Opportunity: The system's quality team aimed to modernize their use of tracer methodology, moving it from an infrequent paper-based exercise to an automated and user-friendly tool embraced by staff. After evaluating several software products, the team chose *Tracers with AMP®* from Joint Commission Resources (JCR) because of the product's direct link with Joint Commission standards and its affordability. Data from *Tracers with AMP®* is one of many data sources integrated into the Illuminate data analytics platform.

Solution: Key leaders at the hospital system were shown how to use and optimize the tracer tool. They could also access JCR's library of close to 20,000 sample questions linked to Standards and Elements of Performance and then build their own templates and questions to fit a custom need. Before *Tracers with AMP®*, individuals were tracking questions by paper but were frustrated that they did not have the time to organize or analyze results.

JCR proposed that they use the Tracers software to conduct a focused tracer and leaders opted to begin with surgical timeouts; they kept it simple (just a few questions) and were pleased with the results.

Outcomes: Data from *Tracers with AMP®* is emerging as a powerful safety and quality tool at this hospital system and driving high staff engagement. Data-rich reports inform weekly huddles and other performance-improvement activities. The data also supports the system's quality agenda and accreditation readiness. Their teams now have the robust data needed to gauge infection control and hospital performance among adult, pediatric and neonatal patients. Timely reports have also strengthened the system's ability to compare departments and sites, respond to gaps, and improve compliance.

References

[1] https://healthitanalytics.com/news/56-of-hospitals-lack-big-data-governance-analytics-plans

[2] This data comes from Truven Health Analytics annual ranking of hospitals, which is based on 14 different separate scores of hospital performance.

[3] Bresnick, Jennifer. "48% of businesses, including healthcare, face big data gap skills." May 8, 2017. https://healthitanalytics.com/news/48-of-businesses-including-healthcare-face-big-data-skills-gap

[4] According to the Centers for Medicare & Medicaid Services https://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/NationalHealthExpendData/NHE-Fact-Sheet#:~:text=Historical%20NHE%2C%202019%3A,Gross%20Domestic%20Product%20(GDP).