Case Study: Data Integrity

Applied Medical Software
Collingswood, NJ

Challenge

AMS has been an advocate, thought leader, and a major driver of gainsharing in the United States since 1999. Gainsharing promotes a higher level of performance by establishing incentives that align physician and hospital goals. By focusing on hospital costs and providing clear opportunities for improvement, hospital staff and physicians can collaborate in an environment that quantitatively defines efficiency and quality improvement, while providing systematic feedback. The Applied Medical Software Performance Based Incentive System® (AMS PBIS®) is used by hospitals and health systems, and it provides the necessary safeguards and protections to address legal and regulatory issues related to gainsharing. The program has been approved by CMS in several Medicare initiatives and is also used in commercial programs offered in partnership with state hospital associations.

To succeed in its business model and to ensure that its clients succeed, AMS is dependent upon a data infrastructure that can handle large amounts of complex healthcare data reliably. Each client provides AMS large sets of data on a regular basis. The analysis generated from these data must be accurate and reflect actual performance in cost savings and quality improvement. This data is the basis for the program's reports and analytics and determines the physician incentive payments.

Physician engagement is critical to the success of the gainsharing program, and as a result data integrity is the highest priority. AMS must know about and act upon any data anomalies noted in the collection of data before completing any of its analyses. When significant anomalies are discovered early in the process, as happened with a client in 2017, AMS was able to work with the hospital and address the issues before any information was finalized. In this instance, changes in the hospital's internal system changed the content of the data significantly, relative to previously submitted data. If this issue were not identified, gainsharing reports would have misrepresented physician performance and improvement and compromised the program's integrity. Ensuring accurate analyses requires AMS to rapidly identify, isolate, resolve and communicate the root cause of the issue.

Resolution

The principals at hMetrix have been providing analytical services for AMS for two decades. hMetrix, a Bala Cynwyd, PA-based data solutions partner, works exclusively with healthcare partners, and that focus has generated deep experience in the nuances and complexities of collecting, integrating, and analyzing healthcare data. More importantly, hMetrix works in an intense partnership model with its clients, seeking to jointly define problems and tailor resources and processes to solve those problems. Its 20-year partnership with AMS highlights hMetrix' ability to adapt to the growth and evolution of its partners while maintaining their trust and providing sustained value.

As AMS' data partner, hMetrix manages its inpatient data which enables AMS to achieve unrivaled management of data quality. As part of the ongoing data collection for AMS, hMetrix, performs a robust set of data quality checks. During this process, a significant change in the data was identified for an AMS hospital when compared to previous quarters, which warranted additional investigation. Informed by its deep knowledge and experience with healthcare data, hMetrix recognized that it had to find a timely and accurate resolution of this issue.

hMetrix, based on its experience, recognized that such anomalies usually fall into the following categories:

1) The anomaly captures the reality of a change in performance: the hospital client changed workflows, processes, or behaviors.

2) The anomaly reflects changes in the processes of capturing or compiling the data by hMetrix, the data receiver.

3) The anomaly reflects changes in the processes of capturing or compiling the data by the hospital client, the data generator.

Resolving such an issue depends upon open, intense collaboration between hMetrix and AMS and, in this case, with the key data management staff at the hospital. Confident in the relationships among these parties, hMetrix began a focused, systematic exploration of this issue.

It was clear from conversations with AMS and hospital leadership that there had been no changes in their approach to the gainsharing process, thereby eliminating the first category. Next, hMetrix did a thorough review of its internal processes that managed the datasets generated by the hospital. hMetrix tested hospital outputs with results generated independently by hMetrix and found no issues, eliminating the second category.

In conversation with the hospital team as it went through this problem-solving process, one of the hospital team members noted that the hospital had recently changed enterprise EHR vendors and had completed its implementation before generating the quarterly data that included the anomaly. hMetrix recognized this event as a potential key to the identification of the root cause of the problem.

Acting on this insight, hMetrix then conducted a more detailed comparison of the hospital's data from previous quarters to the quarter containing the data anomaly. As a result of this comparison, hMetrix quickly identified that parts of the key diagnostic coding data were missing from the current dataset. Armed with this knowledge of the root cause, hMetrix worked with the hospital data team and determined that the data translation process between the old EHR vendor and the new EHR vendor had stripped out parts of the key diagnostic coding data. Since these data specifically impacted DRG assignment and the severity of illness level, this change explained the anomaly.

The hospital data team developed a correction for this issue and provided a replacement dataset. hMetrix completed the process of identifying the anomaly, researching the possible causes and identifying the root issue, and re-analyzing the corrected dataset in two weeks. The resolution of this issue ensured the data integrity of the gainsharing program and produced the reports to the hospital and its physicians promptly. The issue identified also benefitted the hospital more broadly, since diagnostic coding is integral to many hospital functions, including billing and other internal reporting. The identification and quick resolution of this issue enhanced the value of AMS and hMetrix as its partner to the hospital.

Partners' Perspectives

George Chalissery, the hMetrix CEO, appreciates the confidence AMS has in hMetrix. "Our goal is to continue to grow in partnership with AMS. They have unique expertise that we complement with our capabilities in data management. It is a pleasure to work with AMS as they more fully explore and expand their model."

"AMS has maintained its long partnership with hMetrix because we know that they are committed to the integrity of the data and analyses that our clients and we require," notes Jo Surpin, president of AMS. "The rapid turnaround time between their identifying a data anomaly that would have compromised the gainsharing program at our client and the resolution and completion of corrected reports is a concrete instance of that commitment. As we continue to assist healthcare entities implement gainsharing programs, we rely on the critical analytic infrastructure hMetrix provides."

"This trust is a necessary dimension of our business model. Our clients, current, and future, have to know that we represent unique and deep expertise with healthcare data. Physicians and hospitals depend upon our data and reports to maintain and enhance the engagement they need to make gainsharing a success."

Takeaway

Partners with complex business models that strategically depend upon reliable, scalable, and flexible data management and analytics can depend upon hMetrix to provide such infrastructure. It has the proven deep data management expertise and partnership persistence to support the growth and evolution of such healthcare partners.