New Analytic Insights Improves Mortality O/E

Banner Health

⭐ In just one year,
**17 facilities
successfully improved**
the **mortality O/E.**

PRODUCTS

❯ Health Catalyst® Data Operating
System (DOS™)

EXECUTIVE SUMMARY

As part of its pursuit of "zero harm," Banner Health established a strategic initiative to improve the inpatient mortality observed versus expected (O/E) ratio. However, limited access to high-quality mortality data impeded improvement efforts. Banner Health utilized its data and analytics platform and Health Catalyst's Tech-Enabled Managed Services (TEMS) registered nurse clinical chart abstractors to develop and implement new processes to leverage the data behind a mortality index for all its locations. Banner Health improved the accuracy of its clinical documentation, mortality O/E ratio, and external benchmarks.

DATA ARE CRITICAL TO IMPROVING MORTALITY O/E

Accurate, reliable data are critical for mortality-reduction efforts. Without these data, organizations can't calculate a meaningful mortality O/E ratio, are unable to assess performance in relation to other organizations and can't identify the most impactful improvement opportunities to improve mortality O/E. Banner Health sought to utilize its data and analytics to uncover opportunities and reduce inpatient mortality.

PURSUING "ZERO HARM"

Banner Health established a strategic initiative to improve inpatient mortality as part of its pursuit of "zero harm." However, limited access to high-quality mortality data impeded improvement efforts. Furthermore, Banner Health had mortality O/E data for its academic medical centers but lacked the same data for its nonacademic facilities, and mortality O/E rates varied across the health system despite similar care processes. As a result, the organization could not drill into the risk-adjusted data to determine why mortality rates varied. Banner Health needed a solution that would allow it to accurately analyze mortality O/E across all facilities to effectively and efficiently identify opportunities for improvement.

IMPROVING INPATIENT MORTALITY

Banner Health elected to use the Health Catalyst® Data Operating System (DOS™) platform and the expertise of its TEMS registered nurse clinical chart abstractors to develop and implement new processes to leverage and revise existing software applications, enabling it to make use of a mortality index for all 28 of its hospitals. In just one month, the clinical abstraction team and Banner Health developed the processes refining applications, including analysis and drill-down capabilities, a risk calculator, and a chart review function.

For the first time, Banner Health can drill into the data and identify the specific clinical data contributing to the risk adjustment for each patient. The organization can also now compare clinical cohorts, compare performance internally, evaluate performance in relation to external benchmarks, and identify opportunities for improvement.

Using its applications, risk-adjusted mortality index, and detailed data, Banner Health identified opportunities to engage its clinicians and coding staff in reviewing, standardizing, and improving the:

- Specificity and accuracy of clinical documentation, such as malnutrition, coagulation defects, severe brain conditions, and metastatic cancer.
- Management and escalation of patients who are deteriorating outside of the intensive care unit.
- Documentation of continuous positive airway pressure and bilevel positive airway pressure ventilation.
- Effective management of palliative and end-of-life care.

ABOUT BANNER HEALTH

Banner Health is regarded and recognized as a top health system in the country for clinical quality care. The nonprofit organization is headquartered in Phoenix, Arizona, and operates 28 hospitals, including three academic medical centers and other related health entities and services in six states.

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> We believed we had the opportunity to improve our care processes and documentation, but we didn't have the specific data required to help us see the opportunities. We now have the data required to improve the care experience for our patients and clinicians.

Chris Forman-Goerke, MSM, CPHQ
Senior Director, QI, Patient Safety & Peer Review, Banner Health

RESULTS

The work to better understand what is driving the mortality index has supported Banner Health in effectively translating complex mortality data into actionable information that both clinical and coding teams understand, and leaders can use for ongoing improvement, improving the quality of care provided to its patients. Additionally:

- The organization has **improved the accuracy of its clinical documentation** and mortality O/E ratio.
- In just one year, **17 facilities successfully improved the mortality O/E**. One facility **decreased the mortality O/E by 0.93**.

WHAT'S NEXT

Banner Health is working to further reduce inpatient mortality and was recently awarded a grant to support the development and implementation of a risk model to identify patients at risk for severe events and mortality following transfer from the emergency department to an inpatient bed. The organization hopes to use telehealth to improve the timeliness of interventions provided to these patients to prevent deterioration and improve outcomes. 〰

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Improved data and analytics have helped us ensure that the story we tell about our patients through documentation matches the excellent care we provided.

Hanna Minehart
Director Quality Improvement, Banner Health

ABOUT HEALTH CATALYST

Health Catalyst is a leading provider of data and analytics technology and services to healthcare organizations, committed to being the catalyst for massive, measurable, data-informed healthcare improvement. Our customers leverage our cloud-based data platform—powered by data from more than 100 million patient records, and encompassing trillions of facts—as well as our analytics software and professional services expertise to make data-informed decisions and realize measurable clinical, financial, and operational improvements. We envision a future in which all healthcare decisions are data informed.

Learn more at **www.healthcatalyst.com**, and follow us on **Twitter**, **LinkedIn**, and **Facebook**.