

University of Pennsylvania Health System

Leverages Clinical Performance Analysis to Gain Insight into Inpatient Dialysis Treatment

At a Glance

Organization

University of Pennsylvania Health System
Philadelphia, Pa.

- Three hospitals
- Two professional practice organizations
- Total hospital beds: 1,782

Solution Spotlight

- McKesson Performance Analytics™

Critical Issues

- Identification of overbudget variance for outsourced inpatient dialysis service
- Clinical appropriateness of dialysis treatments

Results

- Analysis determined causes of budget variance
- Process changes resulted in decreased mortality rates by up to 27.5% for some patient groups

The University of Pennsylvania Health System (UPHS) is consistently ranked among the nation's "Honor Roll" hospitals by *U.S. News & World Report*. Throughout its long history, the organization has achieved excellence through creativity and innovation. This commitment to excellence prompted UPHS to use a performance analytics solution from McKesson to address a budget variance for its outsourced inpatient dialysis services. With actionable data on patient outcomes, the health system achieved and managed performance goals. Now, the health system uses its resources better, and mortality rates among some patient groups have dropped by more than 25%.

Challenges

Because maintaining an expert dialysis staff in-house is costly, UPHS outsourced this service to a third party. However, UPHS administrators began to notice an unfavorable budget variance for the service. The administrators asked the Clinical Effectiveness and Quality Improvement (CEQI) department to collect data to identify the cause of the budget variance – and most important – determine the clinical appropriateness of three types of inpatient dialysis treatments: unstable hemodialysis (treatment in the dialysis unit),

unstable acute hemodialysis (treatment at the bedside in the Intensive Care Unit), and continuous veno-venous hemodialysis (CVVHD).

The CEQI team was charged with gathering data from the past two fiscal years and analyzing the data to determine the volume change in patients, volume change in treatments per patient, change in severity of illness, change in actual mortality, change in patterns of initiation of treatment, and usage at end of life.

Answers

For its analysis project, the CEQI team used McKesson's performance management solution, McKesson Performance Analytics™, to provide detailed clinical analysis and to apply 3M™ APR-DRGs, which helped identify the proper patient groups to analyze. The CEQI team reviewed several sources of information that were aggregated in McKesson Performance Analytics, created worksheets to provide the detail needed to support the team's objectives, and presented the findings to physicians, the director of finance and the administration to establish credibility from several perspectives.

"McKesson Performance Analytics is powerful in that it provides key financial and clinical data that helps both hospital administration and physicians make informed

Case Study

“McKesson Performance Analytics has enabled us to achieve outstanding results ... The system’s ability to drill down to the detailed patient- and physician-level and its rapid turnaround of data were critical in the acceptance of the information by the clinicians.”

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decisions,” says Regina Truxell, director of decision support operations at UPHS. “With the data the CEQI team has access to, they are now ‘masters of their own destiny’ in looking for performance improvements. They are using the system to make a difference for our health system.”

Results

Comparing one fiscal year to another, the CEQI team noted a 7.1% increase in unstable hemodialysis patients, an 8.2% increase in unstable acute patients and a 38.7% increase in CVVHD patients. There was also a 3.4% increase in the number of treatments per unstable hemodialysis patient, a 3.3% increase for unstable acute patients and a 12% decrease in treatments for CVVHD patients. These changes in patient volume and treatments per patient caused the budget variance.

When examining clinical appropriateness of the treatments, the data further indicated that starting dialysis treatments earlier in a length of stay decreased mortality rates. In the past, the attending physician would determine the need for dialysis treatment and then bring the patient to nephrology for a consultation.

When processes were changed to allow the nephrologists to serve as consultants in the early stages

of treatment, the length of stay and mortality rates decreased. Specifically, there was no change in severity of illness among all patient types, and UPHS decreased mortality rates by 27.5% for unstable hemodialysis patients, 22.8% for unstable acute-care patients, and 13.5% for CVVHD patients.

“McKesson Performance Analytics has enabled us to achieve outstanding results in terms of clinical outcomes and resource utilization,” says P.J. Brennan, M.D., professor of medicine, chief of healthcare quality and patient safety at UPHS. “The system’s ability to drill down to the detailed patient- and physician-level and its rapid turnaround of data were critical in the acceptance of the information by the clinicians.”

UPHS continues to use data from McKesson Performance Analytics to analyze how the time of treatment initiation affects the length of stay and survival rate for dialysis patients. This particular analysis earned UPHS a 2004 Pathfinder Award, which recognizes those organizations that have used McKesson resource management systems in creative ways to bolster their clinical or financial outcomes. The organization has also used McKesson Performance Analytics to conduct several other analysis projects.

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