

IMPLEMENTING EVIDENCE-BASED MEDICINE

Case Study

Health Plan | Action Suite Solutions

Bacterial Pneumonia

Pneumonia is ranked third for Medicare discharges in this large Medicare managed care organization.

This organization needed a health plan which would combat not only the clinical implications of this highly infectious disease, but also have an impact on the financial side. To do this, administrators turned to evidence-based medicine as the means to improve outcomes and control costs. The theory was that if pneumonia could be caught early enough, admission rates and costs could be dramatically reduced.

COURSE OF ACTION

The clinical staff analyzed and evaluated the importance of early diagnosis and treatment of pneumonia on inpatient admission rates and overall costs. Using *Thomson Reuters Action Suite Standards and Guideline Engine (SAGE)* to compare the sequence and timing of services with the accepted clinical guidelines, the health plan was ultimately able to demonstrate that early treatment with antibiotics reduced admission rates by 55 percent. Clinical outcomes were not the only area to see improvement: early diagnosis and administration of antibiotics reduced the cost of an episode of pneumonia by 68 percent.

Using the *Symmetry Episode Treatment Groups*® (ETGs) measures within *SAGE*, this health plan was able to create a clinical context. Taking into account episodes of pneumonia with and without comorbidity, this health plan analyzed the sequence of care within each instance, and flagged cases treated with antibiotics in the first five days and/or admitted on the fifth day. Excluded from the analysis were episodes where the patient was admitted to the hospital within five days of the incident.

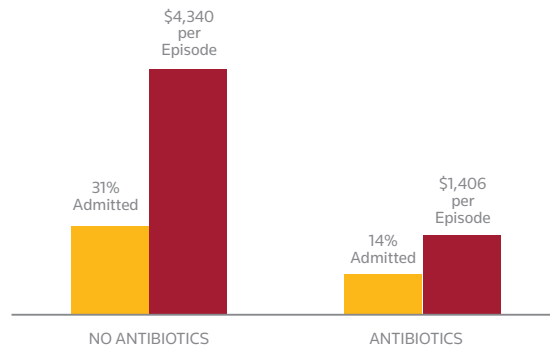
Comparisons for admission rates and overall costs were made between those treated with antibiotics early and those who were not.

RESULTS

The results of this health plan provided a clear link between quality of care and cost reduction. Identifying over 2,500 incidents of bacterial lung infection that were not treated early enough with antibiotics, the health plan was able to confidently conclude that targeted interventions promoting appropriate use of antibiotics would:

- Prevent 433 patients from being hospitalized
- Reduce overall treatment costs by \$7.5 million

In addition, the lists of episodes produced by *SAGE* may be summarized by physicians, as well as show the total number of incidents of bacterial pneumonia and how many were treated according to clinical guidelines. As such, physicians with lower compliance rates than their peers can be targeted with quantitative feedback and specific information related to managing this condition, improving quality conditions. This quality metric from *SAGE* can be added to cost-based provider report cards and pay-for-performance initiatives to reinforce evidence-based clinical guidelines.



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