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The Impact of an Electronic Clinical Decision Support for Hospital Admission and Continued Stay Appropriateness Determination on Healthcare Quality

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Abstract

Background: Provision of acute health care requires quality improvement interventions. Healthcare can take advantage of electronic clinical decision support to provide evidence based guidelines and impact quality.

Objective: To test the hypothesis that the use of and electronic decision support for determining acute care admission appropriateness and length of stay will impact on health care quality in a private acute care setting.

Methods: A retrospective quantitative study of the emergency admission data pre and post implementation of the Interqual electronic clinical decision support using a paired t test with the same sample. The variables of length of stay (LOS) and admission appropriateness were the quality indicators considered.

Results: From the population of *N* 897 emergency patients admitted in 2010 *N* 92 were readmitted in 2012. The identification of the individual patients that were admitted with the same category of medical complaint on both occasions yielded *n*= 31 patients for the sample. The mean LOS and appropriateness of admission were determined to be statistically significant, respectively ($p < .001$) and ($p < .03$) and therefore applicable to the population.

Conclusion: The Electronic Clinical Decision Support intervention Interqual was found to have a positive impact on the quality culture of the research setting; as demonstrated by the augmentation and introduction of concomitant quality interventions. Patient length of stay and admission appropriateness data post Interqual's implementation demonstrated a positive impact on the utilization of acute care beds within the research setting.