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Harnessing electronic health record data for improving delivery of acute renal replacement therapy in Alberta, Canada (Dialyzing Wisely)

Kristin Robertson¹, Sheena Morton¹, Lindsay Dasilva¹, Tara Whitten², Melissa Gardiner³, Sarah Seymour^{4,5}, Dawn Opgenorth⁶, and Oleksa Rewa⁶

¹Critical Care Strategic Clinical Network, Alberta Health Services

²Provincial Research Data Services, Alberta Health Services

³Critical Care and Data Quality/eCritical, Alberta Health Services

⁴University of Calgary

⁵Physician Learning Program

⁶University of Alberta

Objective

Acute renal replacement therapy (RRT) is an important life saving technology used in critical care. However, variation in clinical practice for initiation and maintenance of RRT can increase healthcare costs and worsen patient outcomes. In Alberta, Canada, a province-wide electronic health record provides a unique opportunity to measure and evaluate clinical practice. The present study aims to improve the quality of RRT delivery in Alberta critical care units by providing feedback on key performance indicators (KPIs) for RRT based on current evidence.

Approach

KPIs for RRT included an initiation pathway based on threshold lab values, and measures of RRT quality such as the time from order to treatment initiation, the average life of dialysis filters, and the actual vs. prescribed fluid removal. Clinical KPI definitions were mapped to data available in the electronic health record to evaluate current practice and track changes in KPIs over time.

Results

Mapping the clinical guidelines to the electronic health record took significant time and effort in a large team with expertise on both the data and clinical sides. Each KPI data definition went through several cycles of development, validation and refinement before being included in the dashboards and reports given to participating sites.

Implications

Electronic health records provide a powerful tool for evaluating clinical decisions and implementing best practice guidelines.



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