Collaborate to Validate: A Region-Led Statewide Data Validation Project
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Purpose: This project was conceived to improve data submitted to the state trauma registry. Validity of this data is key, as the state registry is used to advise state operations, develop the state annual report, and fill data requests from many different types of organizations. While a project like this can be challenging at the state level because of the large number of facilities providing data, approaching it from the regional level can be much more practicable task. Thus, six Regional Data Managers collaborated on this project, reporting data and discussing issues identified within their own regions.

Resources: The resources for this project were: 1) the time of the six Regional Data Managers across the state for data collection and collaborative calls, 2) access to the regional trauma registries, 3) a conference call line, and 4) free SurveyMonkey modalities for collecting data from each region. Because of the elementary resources involved, this project could be easily replicated.

Description: To test the validity of the data being submitted to the state trauma registry (STR), the Regional Data Managers (RDMs) identified seven data fields for testing over a 15-month period: 1) ventilator days, 2) ICU days, 3) AIS external region, 4) transfer in and associated transport mode, 5) discharge status and autopsy, 6) alcohol screen and results, and 7) work-related injury vs payment source. These fields were based on logic edits only and were identified prior to any project data collection. RDMs collected data from their regional registries based on correct and incorrect field values as defined by an agreed upon data dictionary for the project fields. Data collection was done quarterly via an anonymous online survey and responses were aggregated. Types of facilities included were trauma centers, non-trauma acute care facilities, and free-standing emergency departments. Regions differ in their participating facility types, so RDMs reported their data as relevant for their own region.

Effectiveness: At the beginning of the project, a data accuracy rate of 90% was set as the goal for each data field. At the start of the project, two of the seven fields were above this accuracy rate goal. At the end of the project, five of the seven fields were above the accuracy goal. One of these remaining two fields, ICU days, was determined to be a mapping issue with registry submission to the region. The other field, work-related injuries correlating with a payment source of workers compensation, was determined to be an unrealistic expectation, as not all work-related injuries will be paid out by workers compensation. Therefore, all data fields examined that could be reasonably improved during the project period did reach the accuracy goal.

Lessons Learned: Through this project it was determined that data quality can be greatly improved with a relatively simple data validation process. This process allowed Regional Data Managers to identify the issues causing incorrect data, and implement educational or software interventions. Through addressing these issues, data quality was improved at the trauma center, regional, and state level. This project is scalable and could be undertaken at any of these levels. The main limitation of this project is the restriction of possible data fields to only logic edits due to the RDMs not having access to the patient medical record. Therefore, accuracy of data relative to the medical record could not be assessed.

Conclusions: Across the course of the project, there was a marked improvement in data accuracy. Overall accuracy went from 81.7% in the first quarter collected to 94.9% in the final quarter collected. Further, through the collaboration between regions through the project, the Regional Data Managers were able to easily identify if low-accuracy fields were an educational issue or a registry mapping issue. Thus, this project offered a successful opportunity for collaboration across the six regional trauma systems to improve data submitted to the state trauma registry.