To Err is Human: A Quality Initiative Aimed at Reducing Human Error in Cardiac Data Management.

Mercedes Rios-Scott BS
Lehigh Valley Health Network, Mercedes.Scott@lvhn.org

Follow this and additional works at: http://scholarlyworks.lvhn.org/patient-care-services-nursing

Part of the Nursing Commons

Published In/Presented At

This Poster is brought to you for free and open access by LVHN Scholarly Works. It has been accepted for inclusion in LVHN Scholarly Works by an authorized administrator. For more information, please contact LibraryServices@lvhn.org.
To Err is Human: A Quality Initiative Aimed at Reducing Human Error in Cardiac Data Management

Mercedes Scott, BS
Lehigh Valley Health Network, Allentown, Pennsylvania

METHODS:
LVHN has operated with a homegrown Microsoft Access database for many years to track our STEMI patients. Upon our decision to enter into the ACTION Registry®-GWTG™, we decided to upgrade our Access database with the additional fields collected in the ACTION Registry®-GWTG™. When our MI Alert system is activated the case is manually abstracted onto a data abstraction tool (Fig. 1). From here the data collection tool is entered into the Database. While being entered, queries initiated through macros run, verifying the data against set parameters. These edit checks are then compiled into a report which is then used to manage several KPIs, but can be adjusted as thresholds are consistently met (Fig. 2). By adding the ACTION Registry®-GWTG™ data points to our existing database, we were also able to create a data collection form that was aligned with the ACTION Registry®-GWTG™ data collection form (Fig. 3). Upon validation, basic tests, but prints pre-filled, and ready for entry into ACTION Registry®-GWTG™. Once the data collection form is entered into ACTION Registry®-GWTG™, the case is run through the quality check, any additional corrections that needed to be made but that were not caught earlier in the process are tracked in a Microsoft Excel spreadsheet (Fig. 4). Formulas within the spreadsheet then show how many metrics were missed during abstraction and entry, and in turn the team’s accuracy rate. This process allows for a thorough quality review of the data before it is submitted for the quarterly Data Quality Report (DQR) and in turn ensure accurate and timely submissions to NCDR®. The quarterly DQRs are then compared to verify the process made with the tools.

RESULTS:
Customized and machine learnable reports allows for analysis of the data at a granular level (Chart 1), which enabled us to identify trends in data hotspots during abstraction and entry, and to improve documentation in patient care ahead of the quarterly report, and in turn began working on any deficits identified, faster. These results were communicated to the care team, the multi-disciplinary LVHN Acute Coronary Syndromes (ACS) Committee, and the data management team (abstraction, data entry, and data review). Through transparency of the data, we have been able to decrease our error rate from an average of 3 errors per patient to just 1 error per patient (Chart 2) while improving the speed of the data abstraction and entry from 40% of cases being abstracted and entered in one week to 66% of cases being abstracted and entered in one week (Chart 3). In addition to this we have also improved outcome metrics such as the Composite Performance Metric: Overall AMI performance composite, as reported in the DQR by 1.9% in one quarter.

BACKGROUND:
In alignment with the National Cardiovascular Data Registry (NCDR®) goal to refine and improve ST segment elevation myocardial infarction (STEMI) care through ACTION Registry®-GWTG™, LVHN Health Network (LVHN), a large multi-facility health network, decided, upon entering ACTION Registry®-GWTG™, that we would also refine, improve, and expedite our data management process. We believe that in doing this, we would improve data integrity and ultimately patient outcomes. To provide constructive feedback and validation for the data management team, we designed an easily accessible communication tool with the data and outcome metrics that are present in NCDR®. We then linked these aligned metrics to a series of algorithms developed in Microsoft Access that track key performance indicators (KPI), and composite performance measures, along with accuracy and completion rates. The final results outcomes were then used to validate the data before submission, and to provide the team real time feedback regarding data management.

REFERENCES:

ACKNOWLEDGMENTS:
Special thanks to Jon Minch and Chance for their hard work with editing and review of the draft.

DISCLOSURES:
Mercedes Scott, BS: No Disclosures

© 2017 Lehigh Valley Health Network
610-402-CARE
LVHN.org

SUMMARY
Data errors are common in clinical research databases. Little is known about their characteristics and optimal detection and prevention strategies. Awareness of the most common errors and omissions made during data abstraction and entry provides the team with a greater sense of value and ultimately, amplified data integrity. This resulted in a 1.9% increase in the average amount of time needed to enter cases by 12%, in just 1 quarter.

CONCLUSIONS:
Errors with data, if large enough to affect the investigators’ conclusions, can have an impact on clinical outcomes by swaying the standard of care thousands of patients’ (our homegrown database provides the luxury of instant feedback to our team, the care providers of our STEM program, and the members of our ACS Committee. We recommend running data validation reports on a daily basis in order to provide constructive feedback to all parties involved. This ultimately results in transparency and data stewardship, building a better data governance over the ACS program.

REFERENCES: