Secondary data usage - driving quality change at point of entry in acute care settings

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Abstract

Since 2002, infection prevention consultants (IPC's) in public hospitals in Victoria, Australia, have been collecting healthcare-associated infection (HAI) surveillance data on paper, and have been sending this into the VICNISS Coordinating centre (VCC) for collation, analysis and reporting. Some of these data are retrieved from existing electronic systems while other data has to be gleaned from the paper medical record. The VCC has developed a software application for the participating hospitals, known as SHIINe (Safer Hospitals Integrated Information Network) to facilitate HAI data collection, analysis and reporting. This software links to patient information systems, including the patient master index, theatre lists, and pathology systems. Through this, we hope to achieve more accurate and efficient data collection/input, to save IPC time, facilitate local report generation and achieve more timely, and hence more useful, data feedback. During integration of the SHIINe application into public hospitals, we found significant problems with data quality. These problems were not isolated to any one hospital or database. This finding prompted internal reviews of data entry / quality within these hospitals. Exposing the need for the electronic availability of quality data for secondary usage worked as an effective enabler for hospitals to improve their point of data entry practices. This made an important contribution to ensuring accurate and high quality patient data is recorded in these hospitals for purposes including and beyond HAI surveillance.

Keywords:

Hospital infections, Data sources, Data quality.

Methods

The VCC is fully funded by the Department of Health (DH), Victoria, Australia. The VICNISS program collects surveillance data from 36 large acute care hospitals (greater than 100 acute care beds) of which 27 are public and 9 are private hospitals as well as data from 87 smaller acute care hospitals.

The SHIINe software, developed to help the IPC's collect surveillance data, has been targeted at the larger acute care hospitals that undertake larger numbers of surgical procedures and also do ICU infection surveillance. The DH has provided funds for the installation and integration of the software into the 27 large public hospitals.

Results

During the verification process of installing SHIINe it has become evident that particular elements which are critical to the classification of infection risk, are often missing or of poor quality.

Data elements such as the ASA score (American Society of Anaesthesiologists) which is primarily used to assess preoperative physical fitness, and Wound Classifications are examples of data that are frequently inaccurate or missing.

These data are recorded at time of surgery and problems typical of the following were found:

- not recorded at all
- recorded on paper but not recorded into electronic theatre system (EMR)
- recorded incorrectly

This can be put down to doctors and other theatre staff not understanding the importance of recording this data.

Once these data issues have been identified, the VCC works with the hospitals to improve the quality. This is done through education as well as enforcement from hospital executive.

Some IPC's have good working relationships with the Theatre team and are able to utilise these contacts to improve the quality of data. At other hospitals these links are not as strong and IPC's at two hospitals have asked that the VCC write to the Chief Executive Officer (CEO) and Executive Sponsor of the VICNISS program in the hospital to outline the importance of data quality.

Conclusion

Through exposing the need for quality data this project is causing change to the collection of information that forms part of the patients' medical record.

For the most part it has been found that once staff understand that the data they have been required to collect has other uses and therefore has quality requirements the quality improves substantially.

Getting hospital executive involved to help drive changes from the top down is also very helpful where there is resistance to change in the data collection process.