Utilization of Electronic Documentation to Assess Patient Outcomes

Robert Leshko RRT
Lehigh Valley Health Network, Robert.Leshko@lvhn.org

Diane Horoski
Lehigh Valley Health Network, Diane.Horoski@lvhn.org

Kenneth Miller MEd, RRT-NPS
Lehigh Valley Health Network, Kenneth.Miller@lvhn.org

Angela Lutz RRT-NPS
Lehigh Valley Health Network, Angela.Lutz@lvhn.org

Matthew McCambridge MD
Lehigh Valley Health Network, Matthew.Mccambridge@lvhn.org

See next page for additional authors

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Authors
Robert Leshko RRT; Diane Horoski; Kenneth Miller MEd, RRT-NPS; Angela Lutz RRT-NPS; Matthew McCambridge MD; and Michael J. Weiss MBA
INTRODUCTION

Health information technology is increasingly being used in many intensive care units. The goal of this technology is to record patient data, improve outcomes and monitor staff performance.

METHODS

Implementation of an Intensive Care Unit Electronic Medical Record (ICU EMR) to serve as a bedside medical record and database.

Data can be self populated from a ventilator or manually entered by the bedside Respiratory Therapist.

Data can be queried in real time and on an ongoing basis.

A Clinical Information System Specialist (CISS) position was developed to be a combination of a Respiratory Therapist with extensive clinical background, coupled with experience in information services technology.

The CISS supervised implementation and data entry.

RESULTS

Patients were enrolled over an 18 month period from Jan. 1, 2008 to June 30, 2009.

There was a total of 4,569 episodes in which patients required mechanical ventilation.

Out of the 4,569 episodes, 4,020 (88.0%) had outcome data entered by the Respiratory Therapist; 549 (12.0%) episodes had no outcome data entered.

3,296 episodes (82.0%) were successfully extubated without the need for re-intubation.

392 episodes (8.6%) mechanical ventilation was withdrawn for the reason of palliative care.

129 episodes (3.2%) resulted in death.

88 episodes (2.2%) patients were transferred to long-term care facilities.

12 episodes (0.3%) were discharged to home on the ventilator.

There were 102 episodes (2.5%) of self extubation: 18 (17.6%) required re-intubation.

Of the 4,020 episodes of mechanical ventilation, 162 (4.0%) required re-intubation within 24 hours, and 146 (3.6%) required re-intubation after 24 hours.

CONCLUSION

ICU EMR accepts data both electronically and manually.

ICU EMR serves as both a bedside medical record and database.

The ICU EMR allows us to easily monitor our mechanical ventilatory outcomes and make appropriate interventions to optimize patient care.

The ICU EMR allows monitoring of staff's clinical documentation and compliance.