Building Electronic Access Line Documentation

Lauren Selvitella, RN, MSN, Brenda Griffin, RN, MBA
Jennifer Lynds, Linda Winfield, RN, MBA
Denise Goldsmith, RN, MS, MPH

Introduction: Brigham and Women's Hospital (BWH) and Massachusetts General Hospital (MGH) recently purchased the MetaVision (MV) documentation system from vendor iMDsoft. MV is a computer application that enables clinicians to electronically enter data on flow sheets and capture note content. All components of MV's data specific flow sheets were individually designed by teams from each institution. This abstract will describe the development of the Access Lines documentation within the MV application.

Methods: Each flow sheet tab was designed and built by a selected team consisting of a Clinical Lead Nurse, a Knowledge Management (KM) representative and an Information Technology analyst/builder. Each team was given access to Subject Matter Experts (SME's) comprised of expert clinicians from both institutions. Our design process began with the exploration of current state IV workflow at BWH and MGH. We conducted extensive design sessions, including SME input, to identify the majority of related content, documentation and work flow, including all lines in use and their associated data. Content collected from our design sessions was reviewed by the Clinical leads to determine how the content should be implemented and designed within the application, i.e., formatted as a single or multi-select checkbox, a drop-down list or free text. KM built these structured parameters into the MV database, allowing the team to create forms to capture the documentation of lines by the nurse. These forms were created in a test environment to ensure that the design will needs of the nurses based upon their current workflow. Using the communication tool eRoom, the build team would collaborate and communicate with the SME's to validate iterations of the build and post edits. SMEs would use eRoom to respond to questionnaires, comments and screen shots.

Results: One of MV's key features is the use of a Gantt line that auto-calculates duration of a line's placement once initiated by a clinician. This is an integral piece of data related to managing infection risk associated with central lines. To document a line assessment the nurse will right click off this Gantt line and a form containing specific assessment data will open. We fashioned two types of assessment forms (general and discontinuation), that will allow the users to quickly enter comprehensive assessment data related to their lines. Once data is entered on the forms, it will be visible on the same screen as the Gantt lines. We decided on a Tabular view that most resembled a paper flow sheet, providing the most expedient method of utilizing and visualizing current information against data entered earlier.

Discussion: Creating electronic access line documentation that captures large amounts of content, accurate nurse work flow, fast data entry and utilization of data for plan of care, proved to be a challenge. While we have not yet gone live, initial usability evaluations indicates that our Access Line build is comprehensive, usable and consistent with our hospital's commitment and initiatives to decrease central line infections.