

Wading Through the Complexity: Current State Dataflow Analysis of Maternal and Newborn Documentation Requirements

Mary Hudson RN, MS¹, Jennifer M. Gray RN, MSN², Michelle Stuler RN, MSN²,
¹Brigham and Women's Hospital, Boston, MA; ²Massachusetts General Hospital, Boston, MA

Introduction

Two academic flagship hospitals are collaborating to design one new multidisciplinary inpatient clinical documentation system. Overarching goals of this project are to move toward standardization in documentation with a focus on patient safety and use of evidence-based practice. In preparation for advancement of the pediatric and obstetric portion of this project, a major directive is to ensure compliance with Massachusetts Department of Public Health (DPH) requirements for data sharing between the maternal and newborn records; representing unique documentation needs of this population. This inquiry emphasizes a need to minimize duplication of clinician effort, reduce the chance for entry of conflicting or erroneous information, and maximize interdisciplinary communication.

Method

In gathering functional requirements for the perinatal area, the nursing informatics team collaborated to analyze current state workflow and dataflow in the perinatal areas at both hospitals. This included outpatient prenatal care and inpatient units: antepartum, labor and delivery, postpartum, newborn nursery and NICU. The team created a Visio representation of the data flow documentation of DPH requirements that must reside in both maternal and newborn records; this was used as a tool to describe these complexities to project leaders and brainstorm potential solutions.

Results

Each hospital uses a different hybrid system, which imports limited maternal information directly into the newborn record at birth. Physicians and nurses currently document primarily in separate systems. Of the twenty-four DPH regulations that are required to reside in both maternal and newborn records, fourteen were found to be recorded by multiple clinicians in multiple systems; opening the possibility for recording discrepant information. This realization of current suboptimal dataflow assisted the informatics team to envision and identify system requirements for this population

Discussion

Our results highlight challenges perinatal informatics professionals face in finding system solutions that optimize workflow, patient safety and provide interoperability with the enterprise electronic health record for this population. Potential solutions include manually entering the same data in both maternal and newborn records, or 'cutting' data from one record and 'pasting' into the other. The ideal solution includes an interface that imports structured data from one record into another linked record, currently a limitation of project software. Such an interface has complex design requirements including transfer and de-identification of data, which are out of scope for this documentation project. Niche obstetric systems include this versatility, but silo maternal and newborn data from other hospital units during the inpatient experience. After discharge the disconnect continues as perinatal records are not integrated with the patient's electronic health record.

References

1. MA DPH 130.627: Records. Retrieved from: <http://www.mass.gov/eohhs/docs/dph/regs/105cmr130.pdf>