Baby’s First Message: Next Steps and Lessons Learned after Achieving Statewide Implementation of an Electronic System

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A look back:
September 2014 to June 2017
Electronic Reporting

Demographics and contact information sent through HL7 ADT (via OZ NANI™)

Hearing screening results uploaded or streamed from screening device (via OZ Telepathy EHDI/CCHD™)

Newborn Screening and birth hospital staff view reported information in MNScreen web portal
Contract signed with vendor

Contacted hospitals and hosted first informational calls

Declared Meaningful Use

Today: 90/90 birth hospitals live!
Staff update demographics in EHR

Staff admit patient to EHR

Staff use EHR to write demographics on blood spot card

Staff type demographics into screening device

Staff screen patient

Staff type screening results into EHR

Staff mail blood spot card to Newborn Screening program

Staff write screening results on blood spot card

Staff type demographic information into database

Staff type screening results into database

Staff follow-up on patient if needed

Birth Hospital

Newborn Screening
Electronic Reporting

- Staff update demographics in EHR
- Staff admit patient to EHR
- Staff type demographics into screening device
- Staff screen patient
- Staff upload screening results from device to network folder
- MNScreen receives HL7 ADT message (via OZ NANI™) and record is created
- OZ Telepathy EHDIM™ matches screening results to record
- Staff follow-up on patient if needed
- Staff rescreen patient if needed
Electronic Reporting

Challenges

• Stakeholder engagement
• Obtaining certain data elements and device connectivity issues
• Critical access hospitals and out-of-hospital birth population
• Staff time, end user training, ongoing training, and maintenance

Successes

• All birth hospitals onboarded as of June 2017
• MNScreen declared as a specialized registry for Meaningful Use
• Timely and accurate reporting
• Integration of clinical decision support
Lessons Learned

• Always be ready for the unexpected...
  • Utilize project management tools and techniques and keep a problem log

• Each facility is different.

• Electronic Reporting Removes Some Issues, and Creates Others:
  • Post-production monitoring necessary when project involves workflow changes
  • Still see:
    • Serial screening
    • Algorithm adherence
    • Mis-entry into EMR
Looking forward: 2017 and beyond
What’s next?

Send hearing & CCHD screening results to hospitals’ EHRs for auto charting

Electronic reporting of outpatient hearing screening results and diagnostic assessments

Send demographic information to laboratory information system for newborn blood spot screening

NewSteps 360 Grant

Electronic Lab Ordering and Reporting via HL7 through Exchange Hub
Need versus Nice to Have

• Currently have 37 fields on Newborn Screening Card

• Program analyzed data quality and use of each field and decided to remove in order to simplify the order message:
  • Birth Defects: Y/N
  • Deceased Siblings: Y/N and Cause of Death:
  • Maternal Pregnancy Complications (AFLP/HELLP): Y/N
  • Family Hx of Disorder on Screening Panel: Y/N
  • Antibiotics: Y/N
  • Collected By
  • Breast vs. Milk vs. Soy formula (retained TPN (Y/N) only)
Utilizing the Existing Connection

This process will capture 22/30 fields on card
What about the remaining 8 fields?

1) Currently constraining HL7 Version 2.5.1 Implementation Guide: Laboratory Orders (LOI) from EHR

2) AOEs will be used to obtain fields not readily accessible in EHR:
   • TPN (Y/N)
   • Transfusion (Y/N)
   • Primary Physician/Clinic
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