Reducing Fetal and Infant Mortality through Improved Data Workflow Integration

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Project Description

Saint Mary's College partnered with MHIN to understand the different types of prenatal care provider data collection workflows and determine how they might be improved through continuity of care and improved data exchange

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Project Description

Team observed and interviewed staff at various prenatal provider clinics and hospitals serving at-risk pregnant women

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Project Description

The goal was to confirm the feasibility of utilizing one, centralized source for data repository, making data readily available to frontline prenatal care providers.

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Site Characteristics

- Have interviewed 11 sites total within St. Joseph and Elkhart Counties:
  - 3 Hospitals
  - 8 Prenatal Clinics
- Two of the sites are Federally Qualified Health Centers
- One of the sites uses MHIN's Electronic Health Record

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Findings:

Providers at every site repeatedly stressed their desire for connectivity among all EHRs so they would no longer need to manually enter data or print and fax records to other sites

Findings:

Many staff members did not know if they have access to MHIN, or, access is limited to a few select staff

At several sites, MHIN used sporadically

Findings:

MHIN accessed if there is specific information that is being sought out

Not a routine part of reviewing a patient record when the patient presents for care

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Findings:

Laboratory results were identified as being the information most often received electronically

- 2 of the 3 labs used by the sites fax results to practices and those results are then printed and scanned into the EHR
- At times, the staff at the prenatal clinics have to call the labs and ask for the results to be faxed

Findings:

Certain sections of each health record are printed and faxed to referral agencies or delivery sites from prenatal care providers

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Findings:

- 34-36 weeks gestation is the common mark at which prenatal information is forwarded to the L&D unit of the selected hospital (via fax)

- Patient's prenatal records continue to be incomplete or unavailable when she presents to L&D (esp. if her prenatal provider office is not open at the time)

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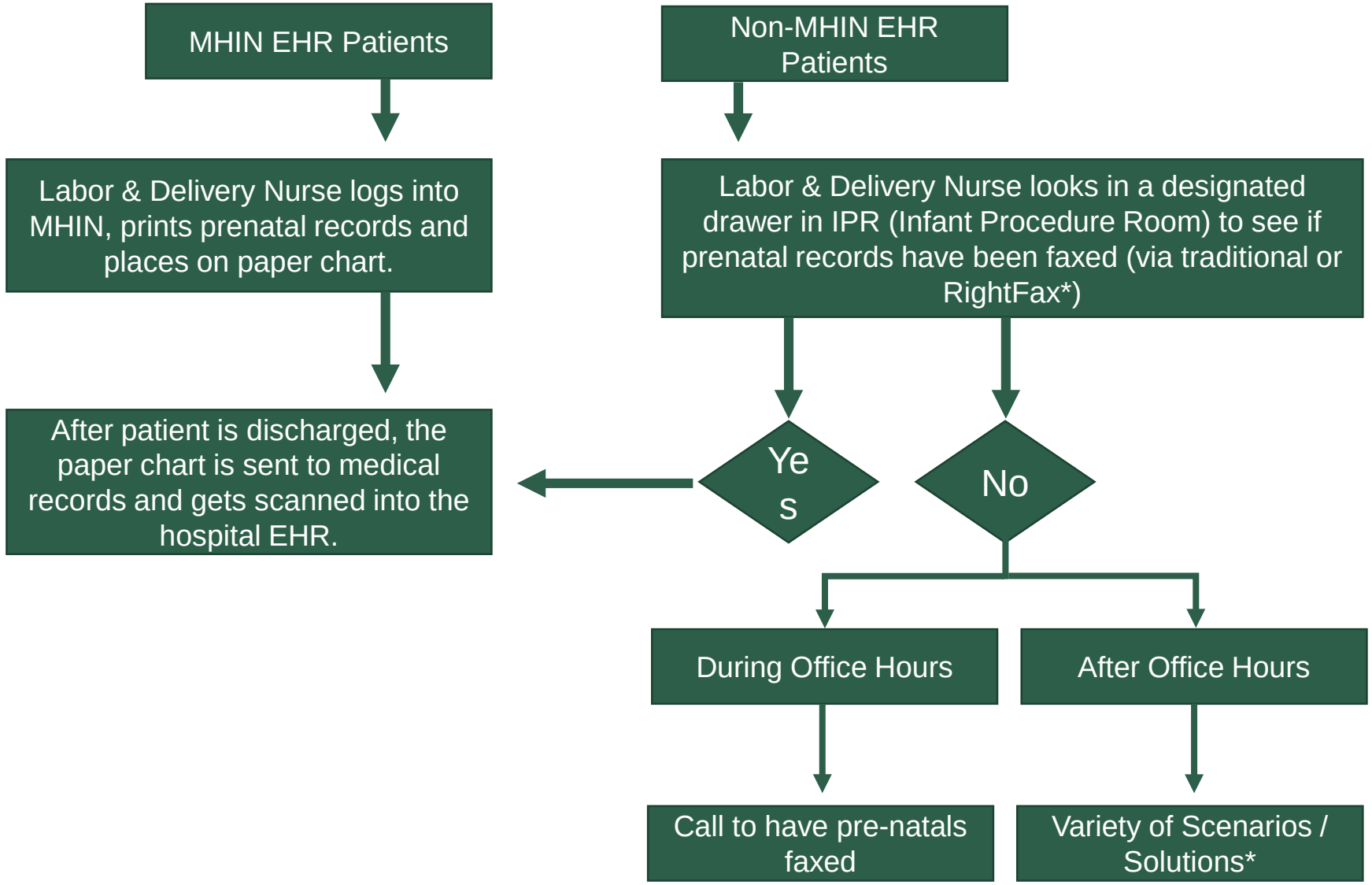
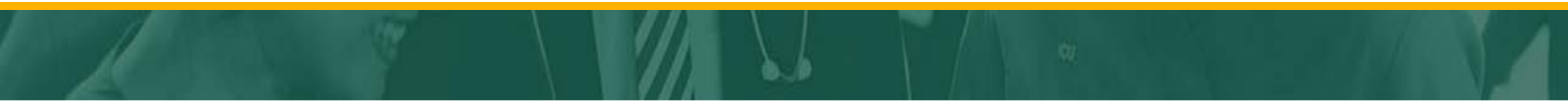
Current State Data Workflow



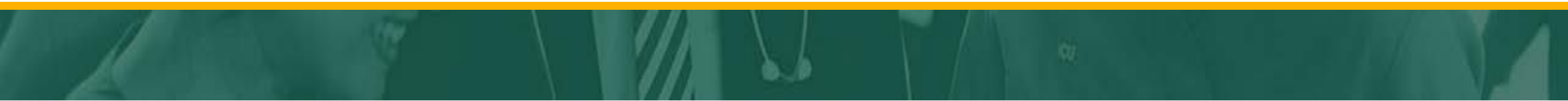
Call to Have Pre-natals Faxed*

- Delay in care waiting for records to be faxed.
- Time consuming- sitting on hold.
- Some practices usually too busy and it’s hard to get them to fax the records.
- RightFax has it’s own challenges.
  - we can only access RightFax from 2 computers on the unit
  - only certain staff have logins to access the RightFax documents



After Hours: a Variety of Scenarios / Solutions*

- “Often we don’t have pre-natals.”
- If one of the Doctors is at the hospital they sometimes go to the office and print the pre-natals.
- “Very frustrating.”
- If a patient arrives on the weekends, sometimes we have to wait until Monday to get the records.”
- If unable to get the records, we draw the following lab tests: blood type, syphilis and hepatitis B. In addition, since the GBS status of the mom is unknown, we treat the mom with antibiotics.



Labor & Delivery Time

- If baby is transferred to the NICU, another copy of pre-natals is made and placed on baby's chart.
  - NICU staff doesn't have access to MHIN, so they call L&D and ask them to make a copy.
- Only certain L&D staff have MHIN.
- Only certain L&D staff can log into RightFax.

Lessons Learned:

Both hospital and prenatal staff stated that providing care to patients is more difficult because their EHRs do not interface in a way that allows information from multiple providers to be integrated electronically into one record

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Lessons Learned:

Most sites use a combination of electronic and paper records

Leads to duplication of some services, labs, and tests

Lessons Learned:

Staff at both hospital and prenatal sites have varying degrees of understanding of how health information exchange works and what MHIN does

Future Recommendations

Connectedness:

MHIN is able and ready to assist providers in having EHRs more able to “talk to one another”.

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Future Recommendations

Education:

Further education to build an understanding of MHIN, best use, broader access.

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Future Recommendations

Identify

Additional labs, other than just The South Bend Medical Foundation

Diagnostic centers utilized by our region that are not currently contributing data to MHIN in order to enhance the information in the CDR

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Outcomes

OB practices and L&D Units are inquiring about the opportunity to be included in any further pilots that may address the

Outcomes

MHIN has begun work to architect solutions that could be implemented within a reasonable timeframe and would not require a huge investment of time or money for the practices or hospitals.

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Current State of Technology

- The Continuity of Care Document (CCD) is a joint effort of HL7 International and ASTM (American National Standards Institute).
    - Health Level-7 or HL7 refers to a set of international standards for transfer of clinical and administrative data between software applications used by various healthcare providers.

Current State of Technology

- CCD fosters interoperability of clinical data by allowing physicians to send templated electronic medical information to other providers without loss of meaning and enabling improvement of patient care.

- These same templates for vital signs, family history, plan of care, and so on can then be reused in other CDA document types, establishing interoperability across a wide range of clinical use cases.

Benefits of the CCD

- Allows physicians to send electronic medical information to other providers without loss of meaning
- Provides a "snapshot in time," constraining a summary of the pertinent clinical, demographic, and administrative data for a specific patient
- Supports the ability to represent professional society recommendations, national clinical practice guidelines, standardized data sets, etc.

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Future State of Technology

- A new version (V3) of the Care Provision Domain Model (CDPM) in HL7 has been under development based on use cases from several projects internationally.

- The HL7 V3 Care Provision Domain differs from the HL7 CDA regarding support of the dynamics of care (eg, for continuity of care) as provided through a series of interactions and queries, but is similar with respect to the data and their organization.

Goossen, W., & Langford, L. H. (2014). Exchanging care records using HL7 V3 care provision messages. *Journal of the American Medical Informatics Association : JAMIA*, *21*(e2), e363–e368. http://doi.org/10.1136/amiajnl-2013-002264

Future State of Technology

Work in the Netherlands found the perinatology domain was well suited for using HL7 V3 messaging for exchanging necessary information through the chain of care. Example use cases used in the perinatology project informing the CPDM are:

- Referral from a general practitioner to a midwife or specialist
- Transfer requests from a midwife to an obstetrician
- Discharge letter from a specialist back to the general practitioner or midwife
- Authorized querying of the sender's electronic health record (EHR) by the specialist.

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Interim Activities

(until there is a standard)

- Working from the findings of this study, MHIN is hoping to develop a provisional method to streamline the process for the hospital to retrieve the prenatal care data.
- As this work continues with Saint Mary's, the team will continue to reach out to practices for input regarding feasibility of options being developed.

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