Interoperability: Utah NBS

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Data Interoperability: What does it mean?

- Device Management: NBS Program – Provider Interactions

  Medical Device registration

  Inventory Management

  Device order and use

  Collection of Specimens (Device Logistics)

- Pre-analytical Phase

  Accurate demographic information

  Timely collection of NBS

  Timely transport to NBS Laboratory

  Registration at arrival

  Communication phase with providers regarding unsatisfactory specimens (recollection, training)

Data Interoperability: What does it mean?

- ## Analytical: Laboratory Environment
  - General LIMS functions
  - Cloud-functionality interoperability (Agile COOP solution)
  - Easily configurable LIMS (Internally, externally)
  - Easy connectivity with diagnostic reference laboratories and 3rd parties

- ## Post-analytical Phase
  - Follow-up (result dissemination)
  - Reference laboratory connectivity
  - EHR connectivity
  - Long-term follow-up: automated and ad-hoc solutions
  - KPI capabilities (internal, external)

Data Interoperability: Support Requirements

- Device Management Solution
- Cash/Revenue Cycle Support Solutions
- Laboratory Information Management System
    - Laboratory Interface Solutions
    - COOP capabilities
    - Scalability
- Chain-of-Custody Environment
- Customer Engagement
    - Results
    - *Training*
    - Long-term Follow-up Solutions
    - Data Sharing (data repositories, registries)

Data Interoperability: Support Requirements
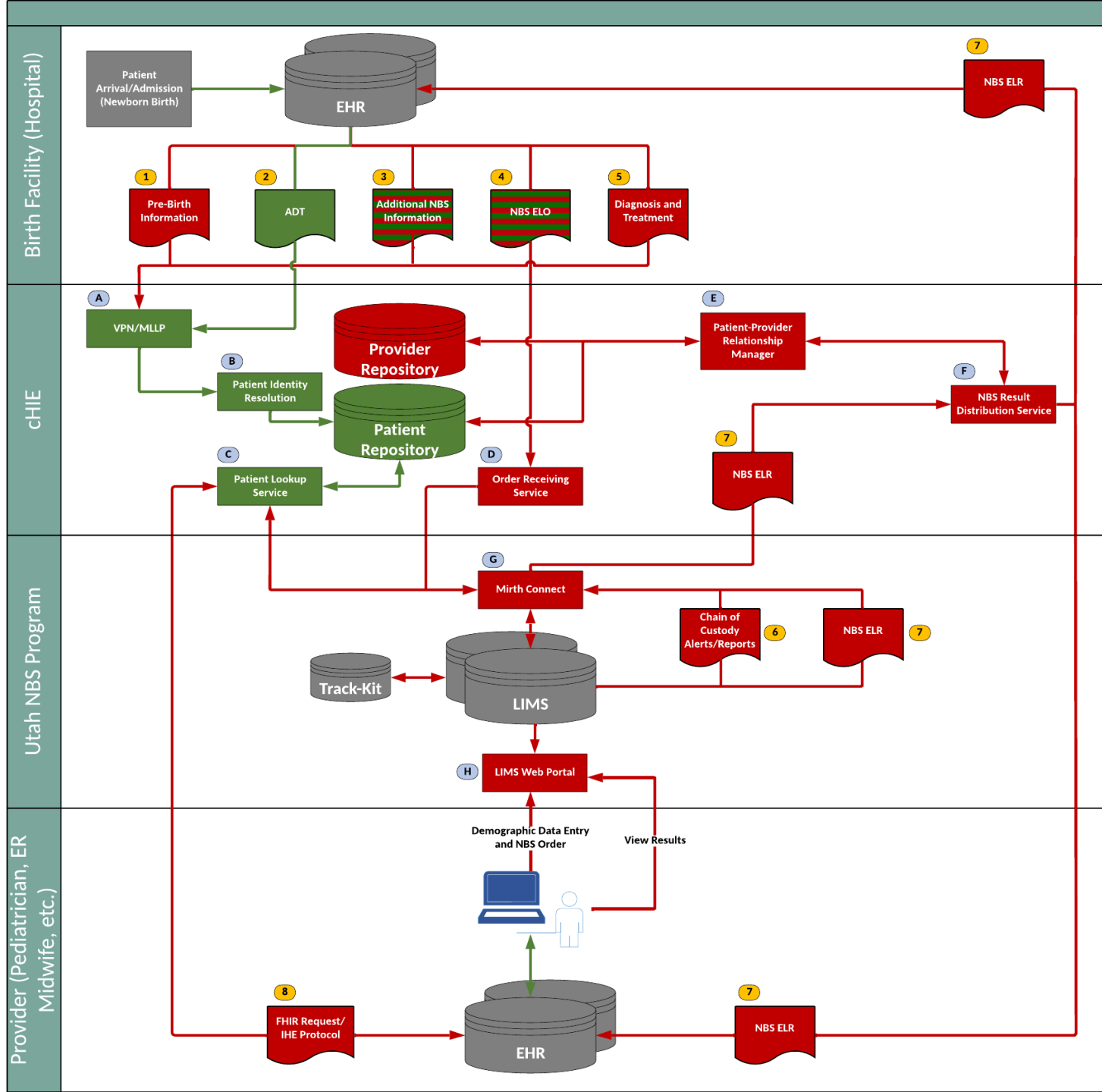
- Device Management Solution

- Cash/Revenue Cycle Support

- Laboratory Information Management System

- Chain-of-Custody Environment
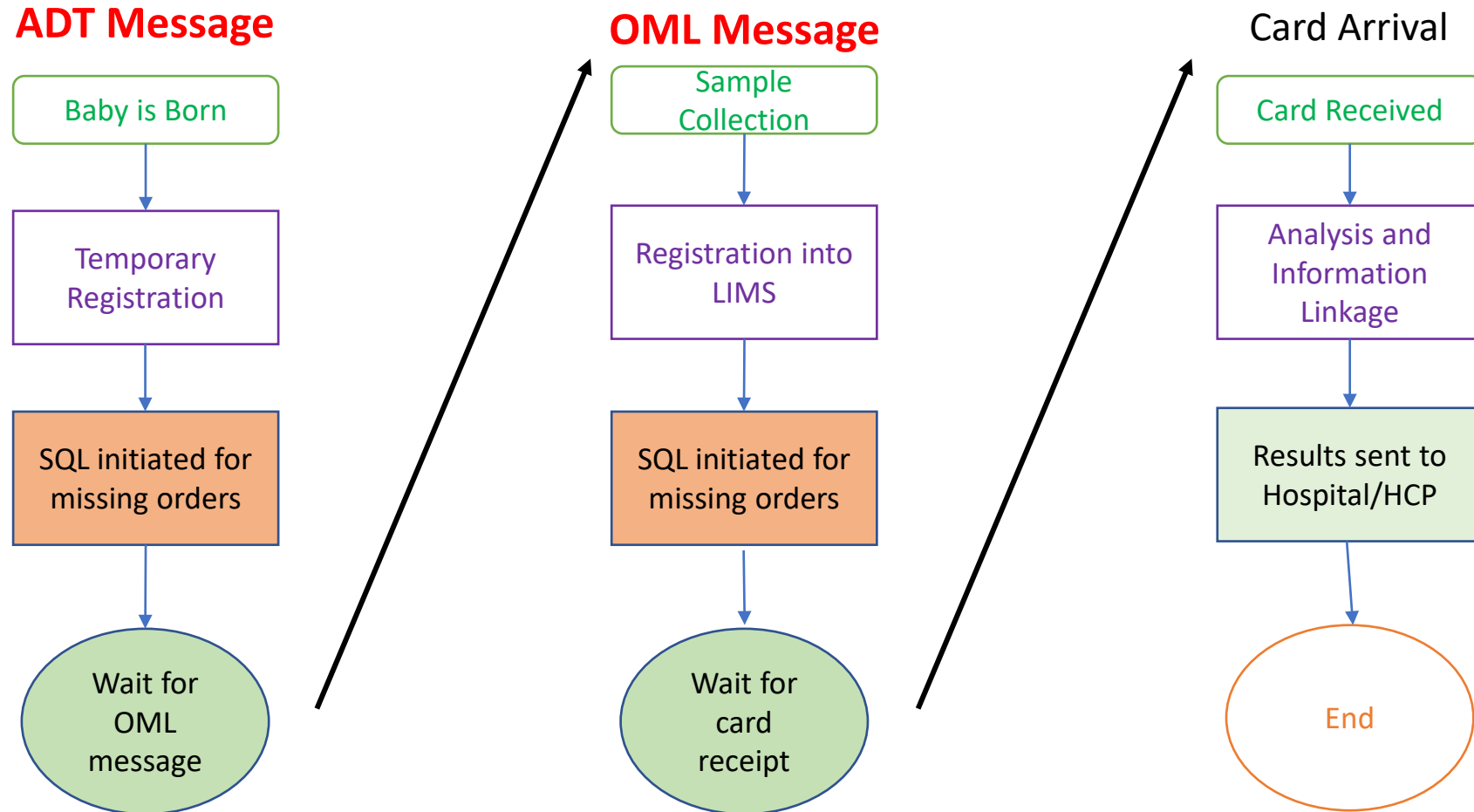
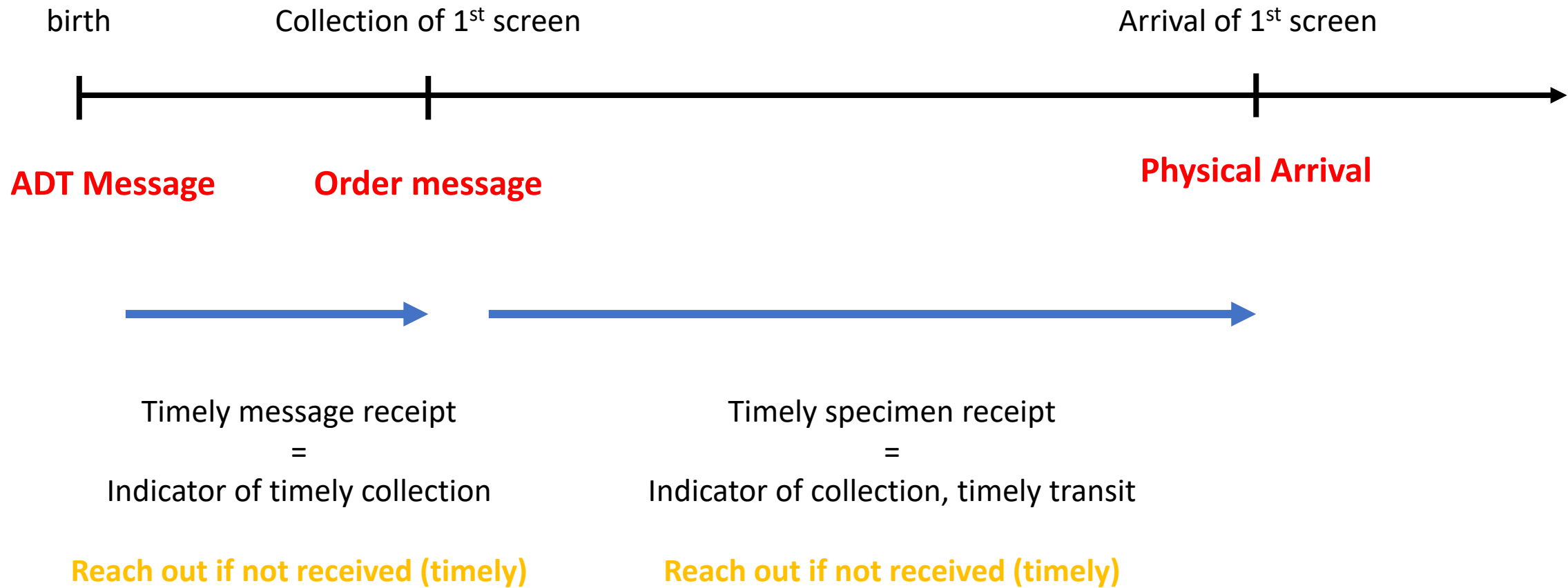- Customer Engagement

  Results

  Training
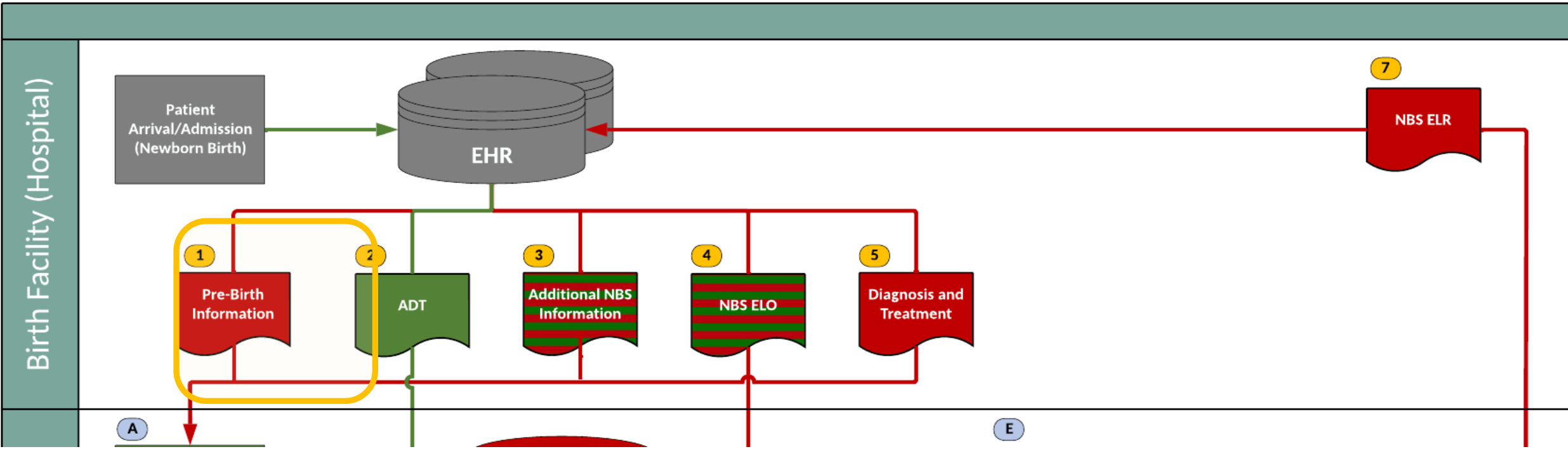
  Long-term Follow-up Solutions

  Data Sharing (data repositories, registries)

Chain-of-Custody Environment

ADT Message

- Baby is Born
- Temporary Registration
- SQL initiated for missing orders
- Wait for OML message

OML Message

- Sample Collection
- Registration into LIMS
- SQL initiated for missing orders
- Wait for card receipt

Card Arrival

- Card Received
- Analysis and Information Linkage
- Results sent to Hospital/HCP
- End

Birth Facility (Hospital)

Patient Arrival/Admission (Newborn Birth)

EHR

NBS ELR **7**

1 Pre-Birth Information

2 ADT

3 Additional NBS Information

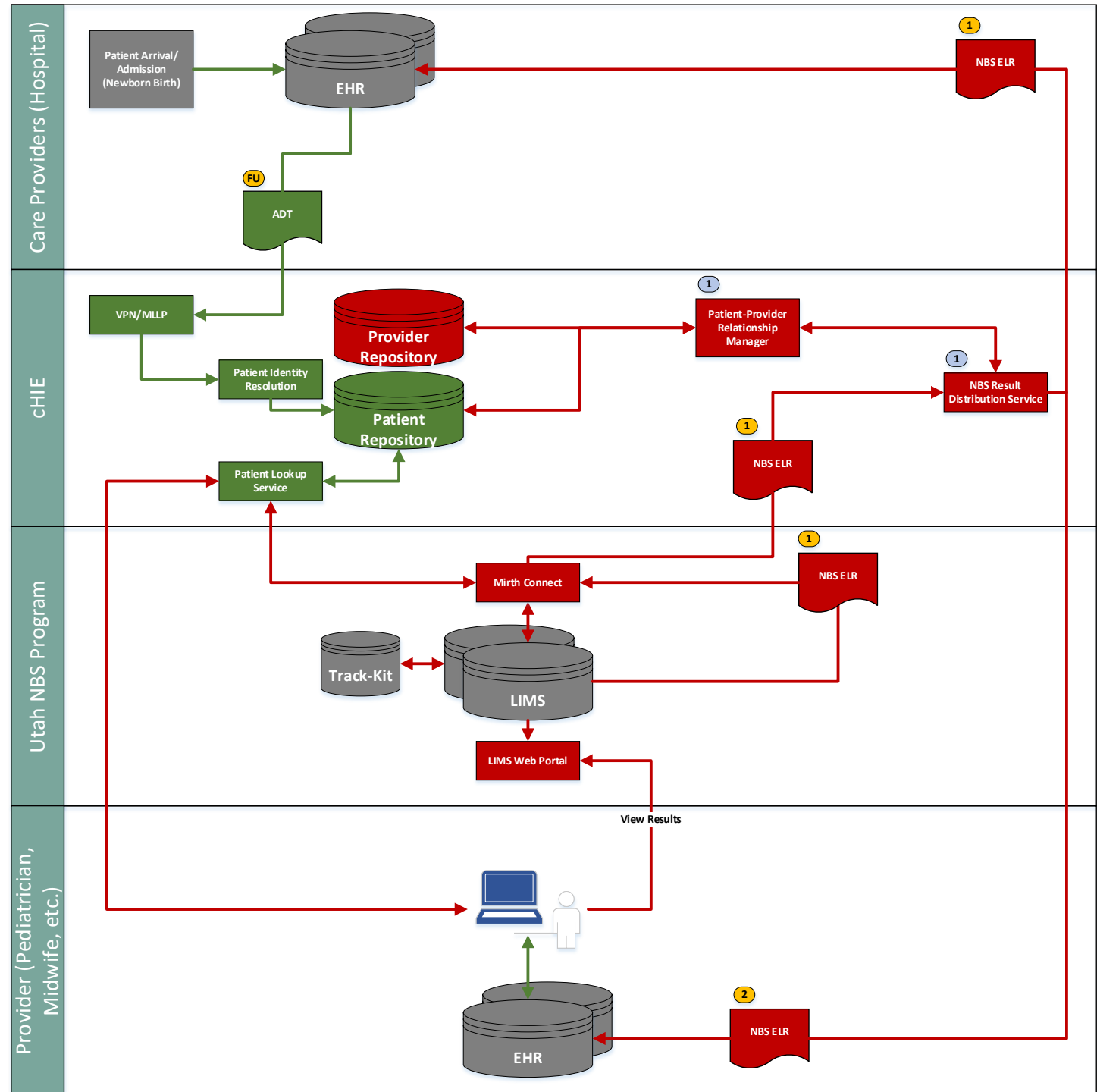**4** NBS ELO
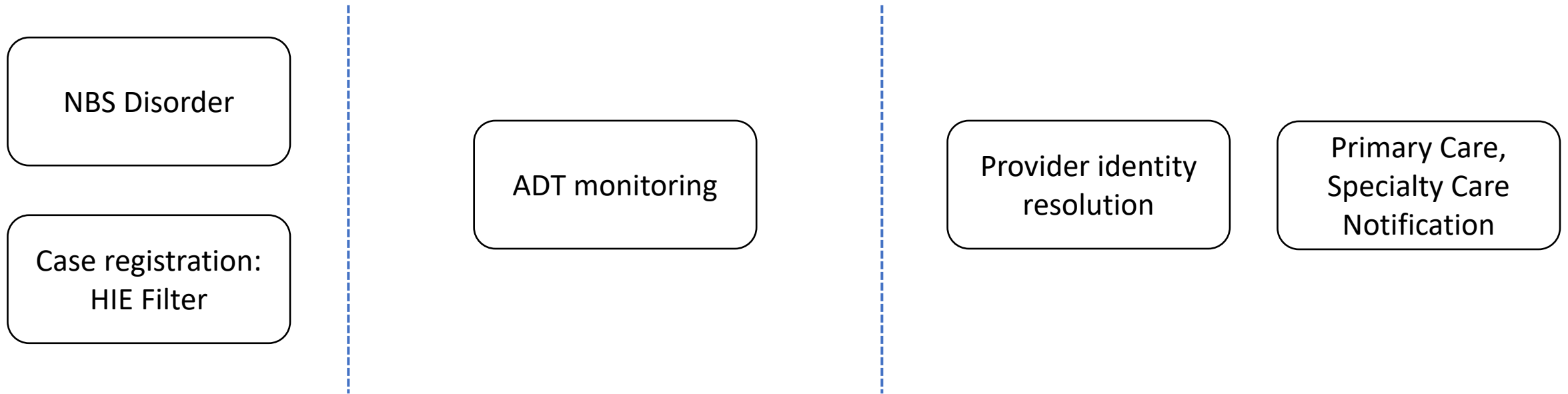
5 Diagnosis and Treatment

A

E

Towards a Sustainable LT-Follow-up Solution

- Scalable
- Central system or distributed solution
- Automated but also ad-hoc, acute
- Actionable
- Very limited models available to study or adopt

ADT Message: Foundation for LT-Follow-up

NBS Disorder

Case registration: HIE Filter

ADT monitoring

Provider identity resolution

Primary Care, Specialty Care Notification
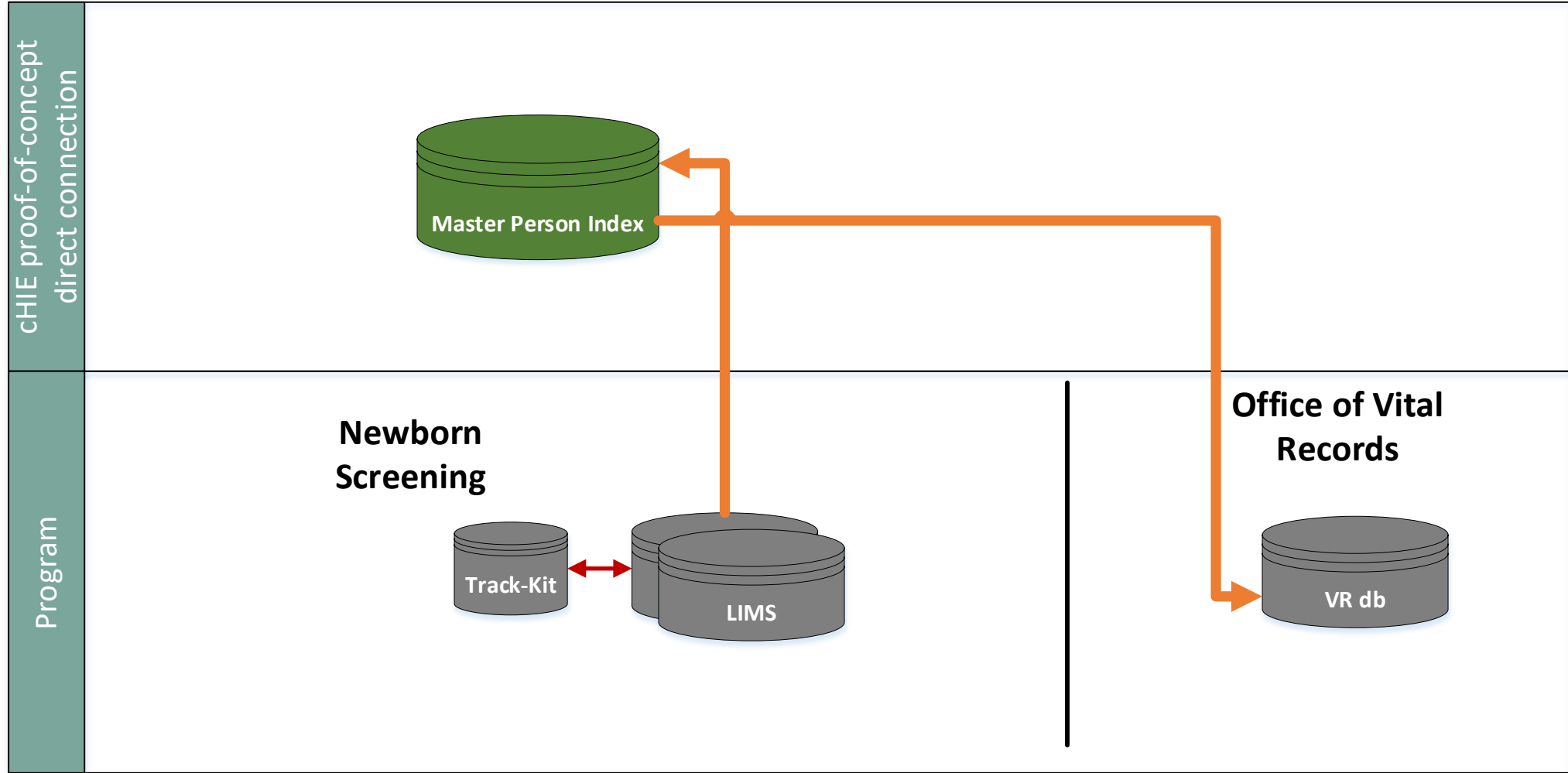
HRSA-Funded Utah Project

Goal:
Connecting Utah NBS program with the Office of Vital Records

Why:
Data cleaning, Record consolidation, Introduction of inter-OU efficiencies

Proof-of-Concept Study showing Feasibility

cHIE proof-of-concept direct connection

Program

Master Person Index

Newborn Screening

Office of Vital Records

Track-Kit

LIMS

VR db

Data Interoperability: HRSA Award

Proposed Interoperability Road Map