

PAST PRESENT FUTURE

Health Information Technologies in the Texas Newborn Screening Laboratory

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2015 SPECIMEN AND SUBMITTER VOLUME

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▣ 790,000 Specimens

- 404,000 Valid 1st screens
- 379,000 Valid 2nd screens
- 7000 Unsats



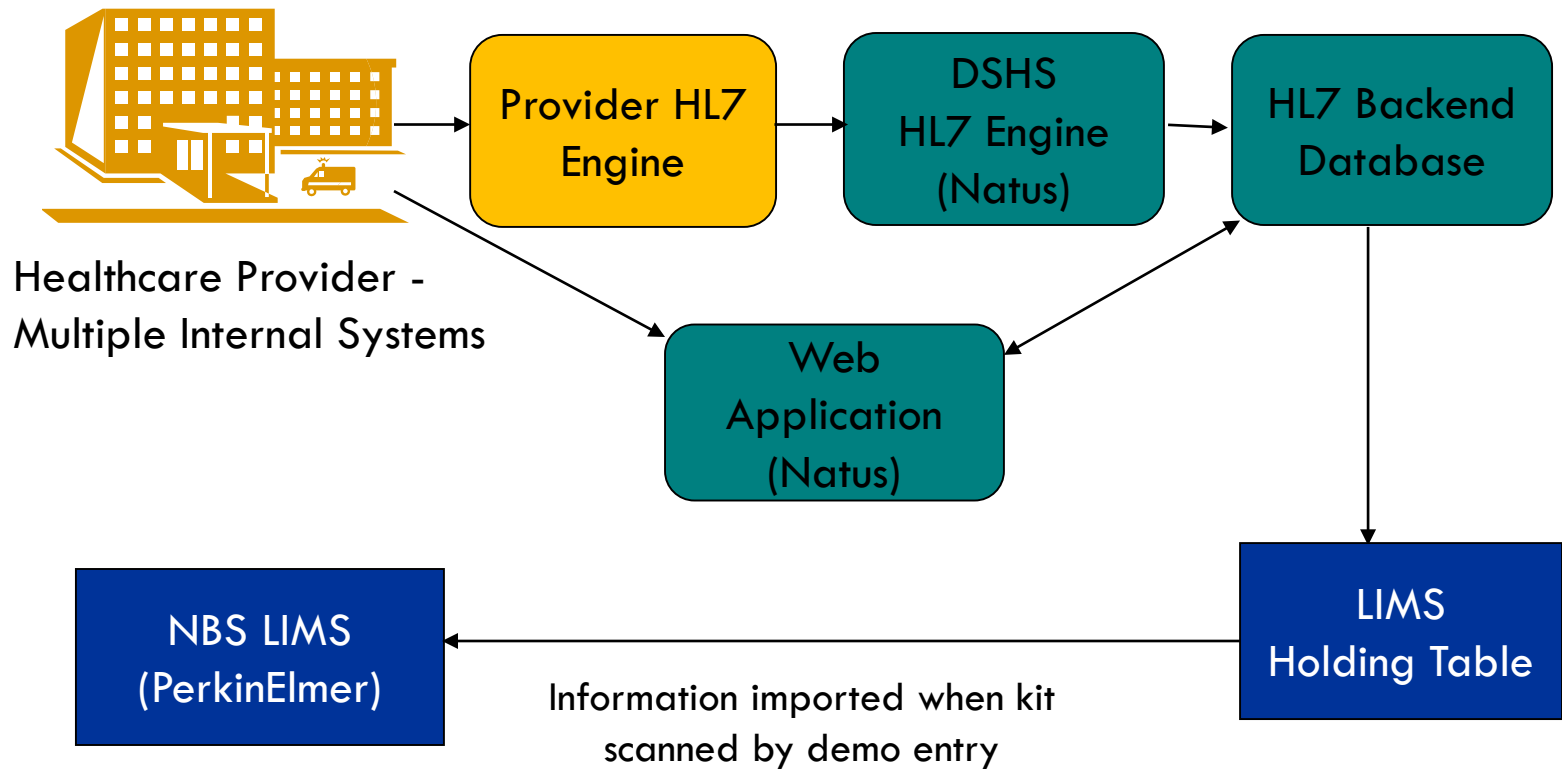
▣ > 2100 Submitters

- 300 Hospitals
60% of specimens
(100 to 12,000 specimens per year)
- 50 Birthing Centers
- 100 Independent Midwives
- 1650 Pediatric Clinics

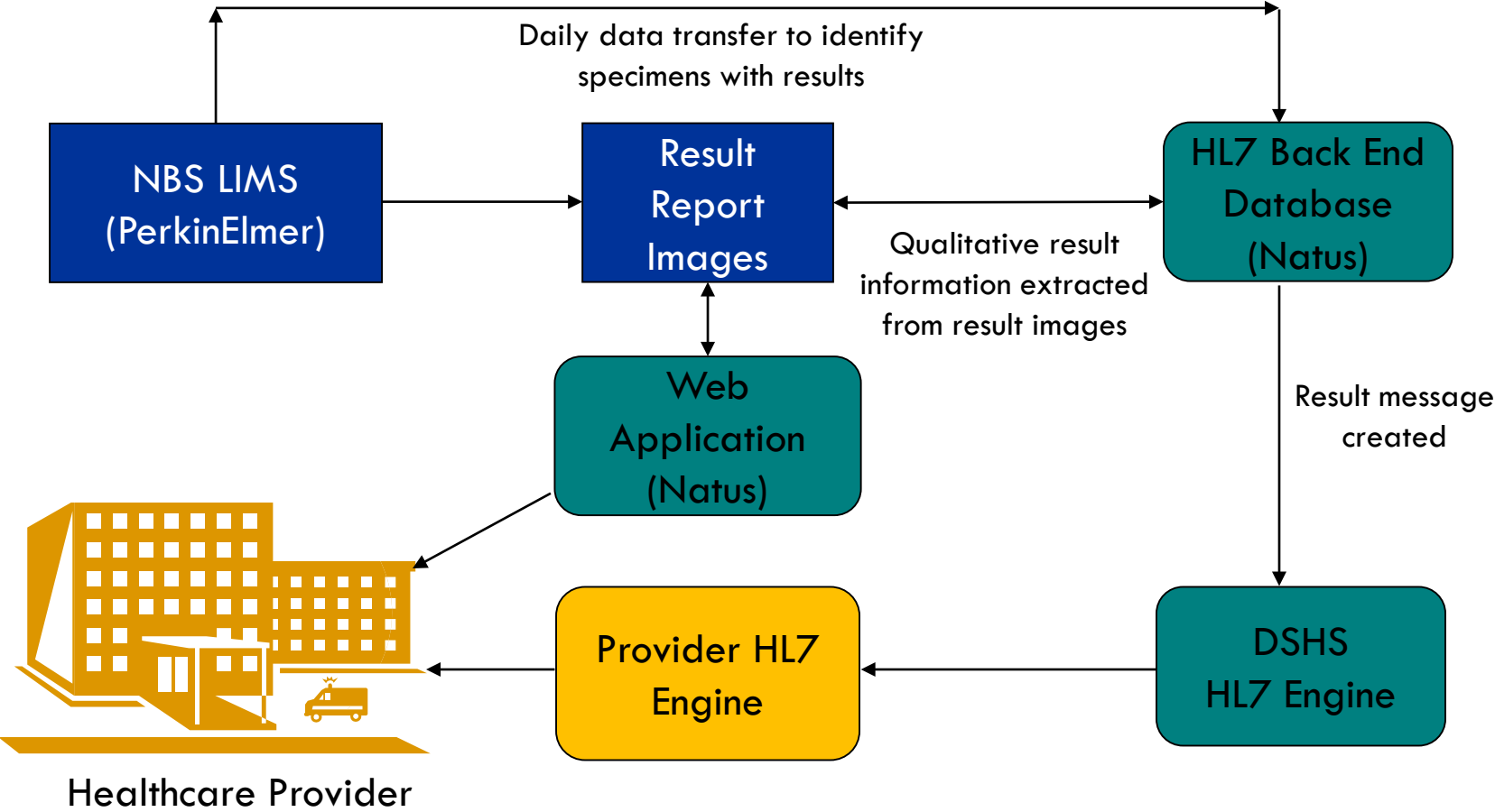


Order / Demographic Receipt

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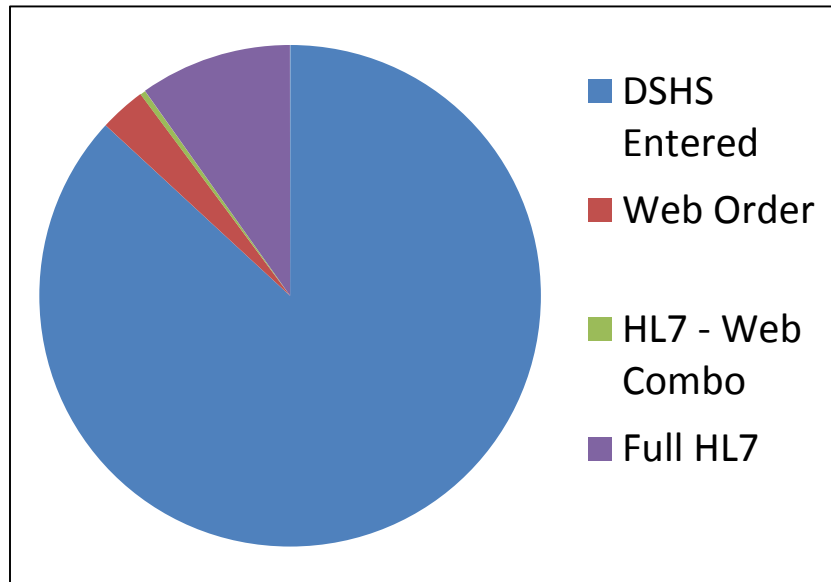
Result Reporting



CURRENT STATUS - OVERALL

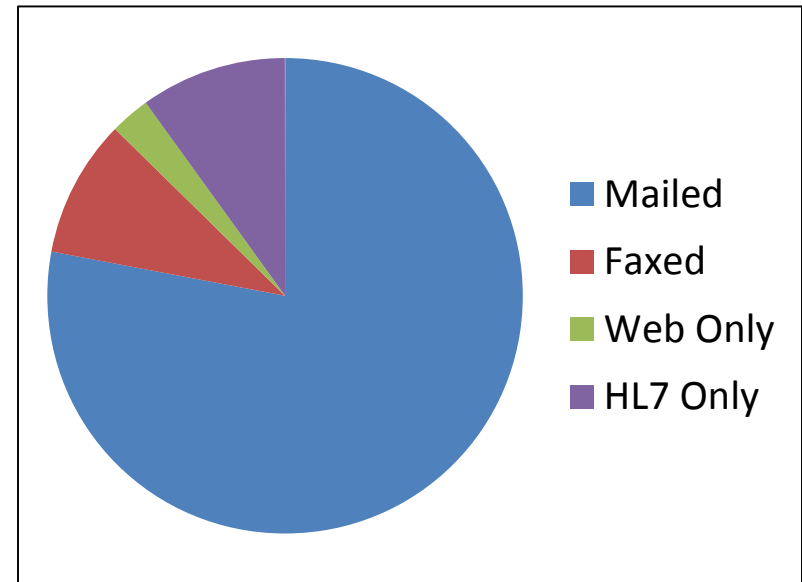
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Test Ordering



~105,000 per year (13.5% of NBS)
Remote Ordering

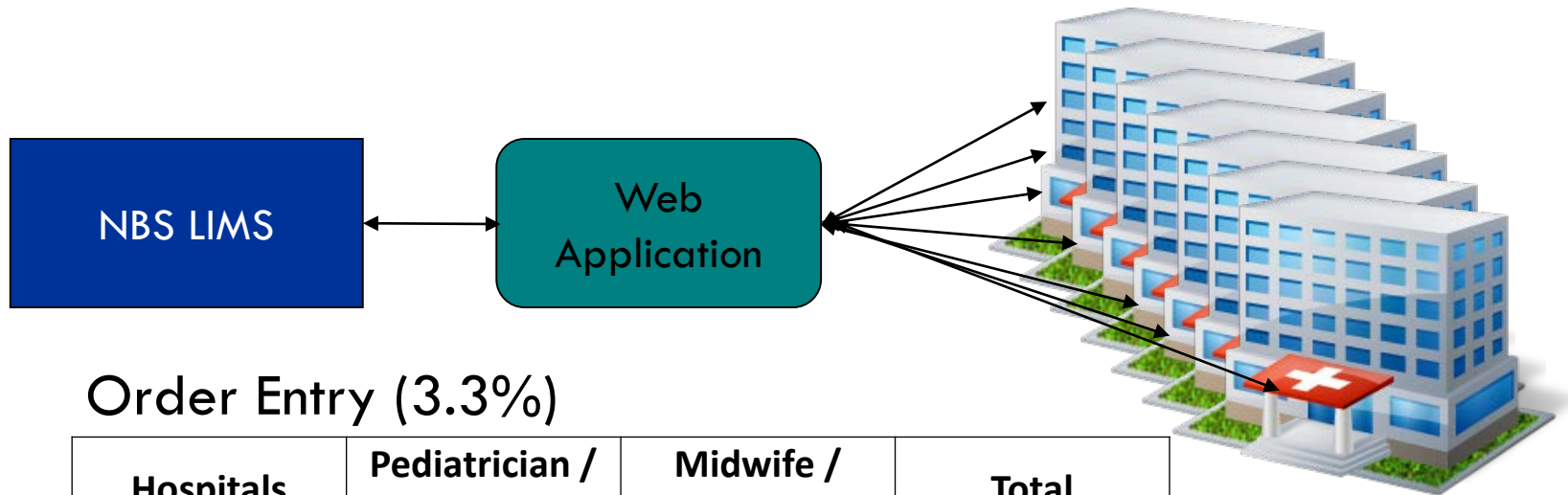
Reporting



~95,000 per year (~12.6% of NBS)
Electronic Reporting Only

Current Status – Web Application

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Order Entry (3.3%)

Hospitals	Pediatrician / Clinic	Midwife / Birthing Center	Total
13	9	2	24

Results Access

- ▣ All NBS results available
- ▣ ~1800 Facilities with accounts
- ▣ ~225,000 views / year

WEB APPLICATION – CHALLENGES

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- Limited funding / staffing to:
 - ▣ Promote use
 - ▣ Training
 - ▣ Set up / Support
- Order entry requires purchase and configuration of label printer.
- Providers still need to enter data (diminishing time savings).
- DOC required to print label and submit order.
- Security requirements limit ease of access to reports.

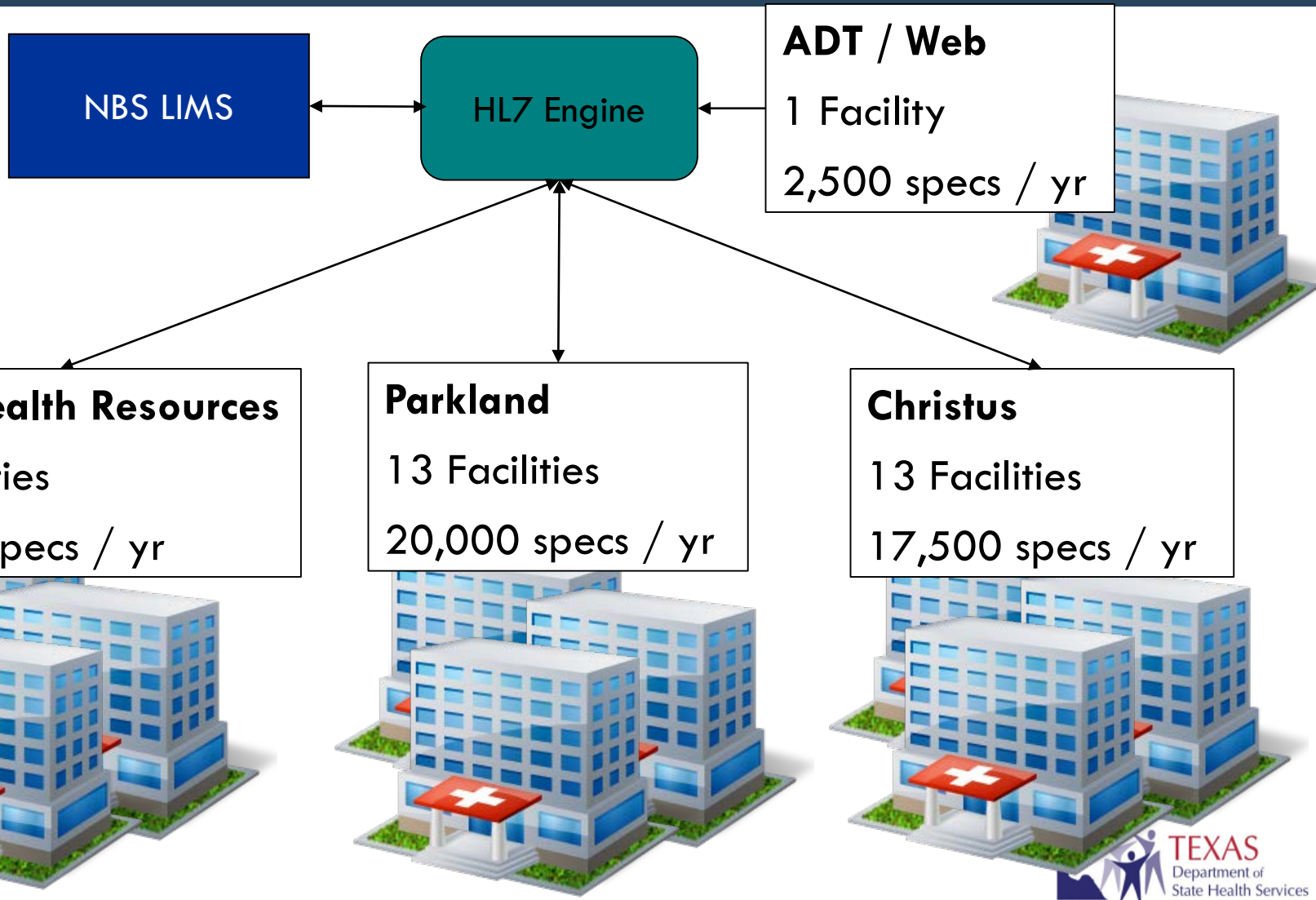
WEB APPLICATION – NewSteps 360 Grant

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- Fund travel to submitter facilities
 - ▣ Assist with set up
 - ▣ Train on use and process integration
- Provide label printers to promote order entry
- Investigate removal of DOC requirement
- Focus on sites where other HITs may not be appropriate or desired (cost)

Current Status – HL7

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HL7 – Challenges

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- ❑ **Staffing**
 - ❑ **Same resources for different projects**
- ❑ Current Message developed before PHII Guide
 - ❑ No LOINC codes
 - ❑ Custom built for our current system
 - ❑ Limits flexibility of NBS program
- ❑ Competing Projects
- ❑ Complexity of Result Validations
- ❑ Integrating into overall lab and agency HIT systems
- ❑ Coordinating expansion – Meeting Lab and Submitter Needs

HL7 – Challenges

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- Staffing
 - ▣ Same resources for different projects
- **Current Message developed before PHII Guide**
 - ▣ **No LOINC codes**
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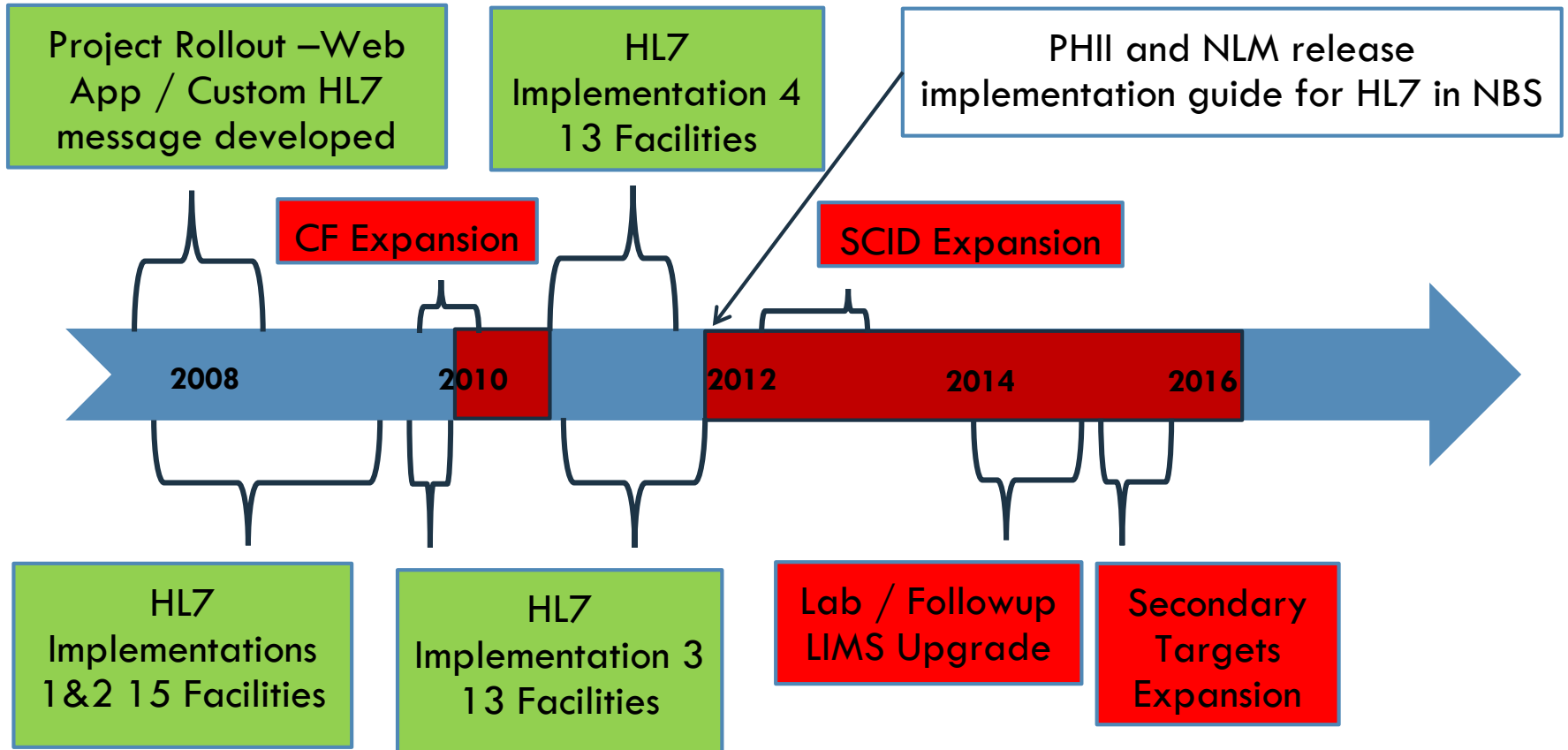
HL7 – Challenges

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- Staffing
- Pre – Implementation Guide Message
- **Competing Projects**
- Complexity of Result Validations
- Integrating into overall lab and agency HIT systems
- Coordinating it all – Lab and Submitter Needs

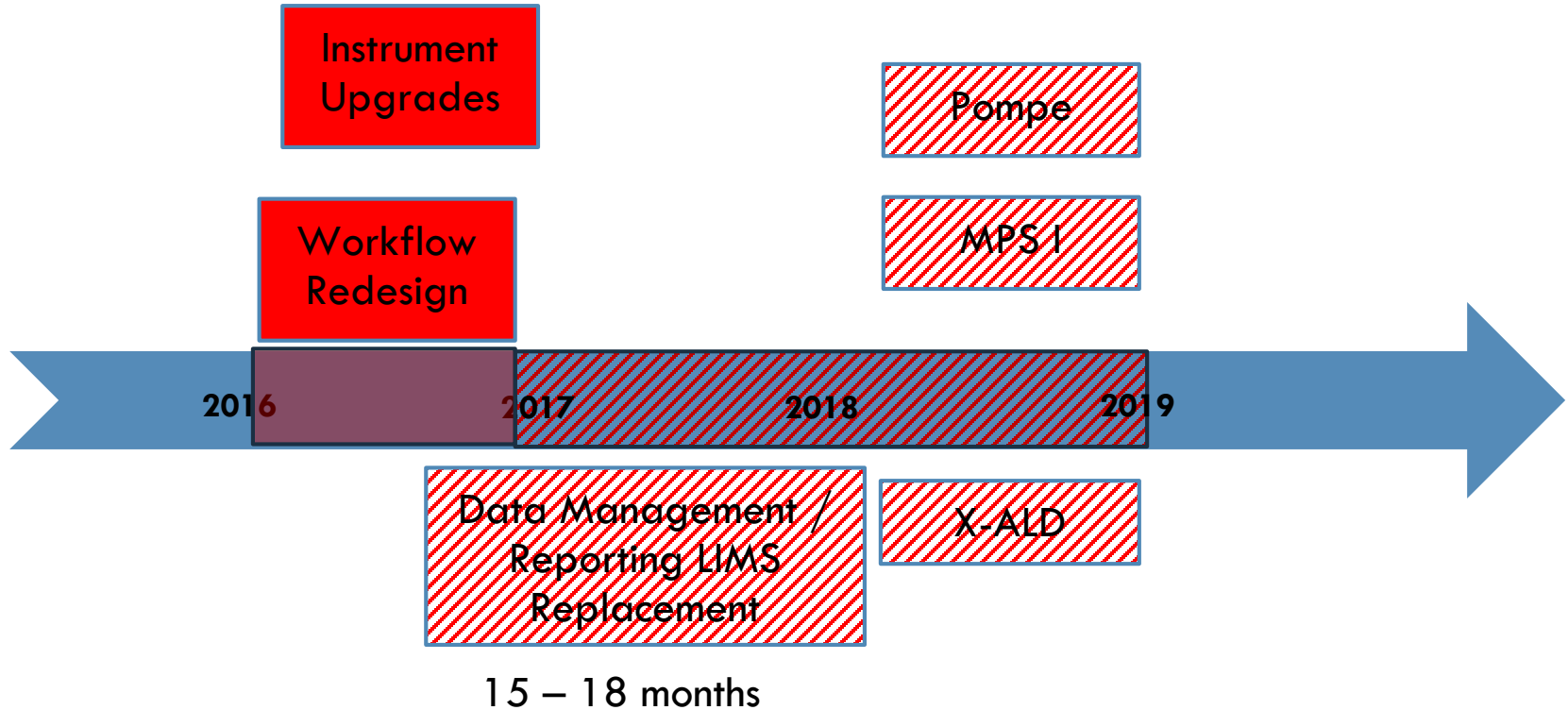
COMPETING PROJECTS

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MORE COMPETING PROJECTS

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HL7 – Challenges

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- Staffing
- Pre – Implementation Guide Message
- Competing Projects
- **Complexity of Result Validations**
- Integrating into overall lab and agency HIT systems
- Coordinating it all – Lab and Submitter Needs

Complexity of Result Validations - CAP

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- Verification must be performed by reviewing the first downstream system (screenshots) in which the ordering clinician/client may be expected to routinely access patient data.
- Where multiple sites use the same recipient system, validation need only occur at one of the sites.
- Validation should include
 - ▣ Abnormal flags
 - ▣ Comments/footnotes
 - ▣ Corrected Results
 - ▣ **Examples of individual results**

Minimizing Result Validations

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- What is sufficient # of examples?
- Do text only changes require testing?
- Minimum of:
 - ▣ ~100 for all possible results
 - ▣ ~20 for 1 example of each possible analyte and disorder

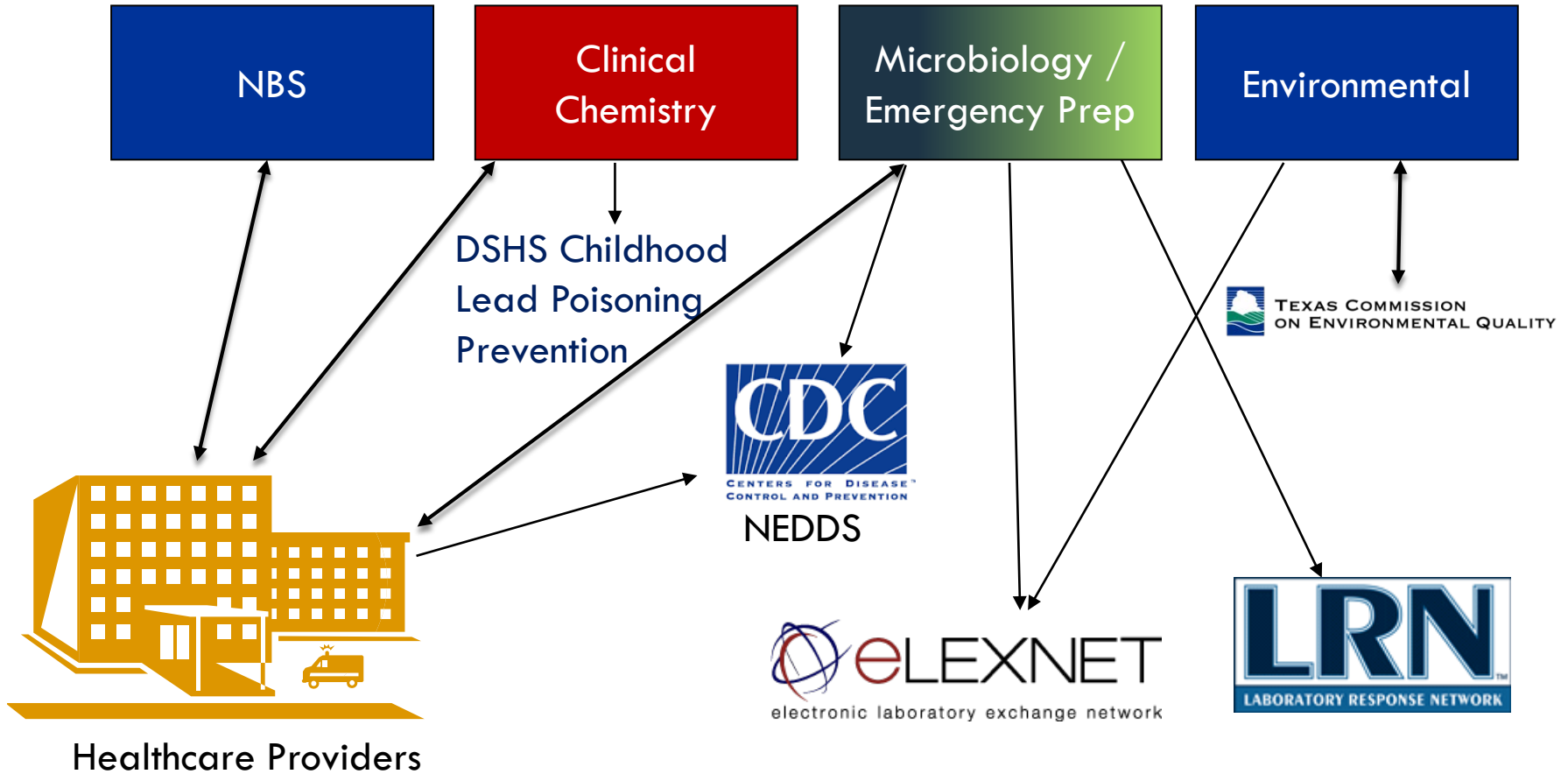
HL7 – Challenges

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- Staffing
- Pre – Implementation Guide Message
- Competing Projects
- Complexity of Result Validations
- **Integrating into overall lab and agency HIT systems**
- Coordinating it all – Lab and Submitter Needs

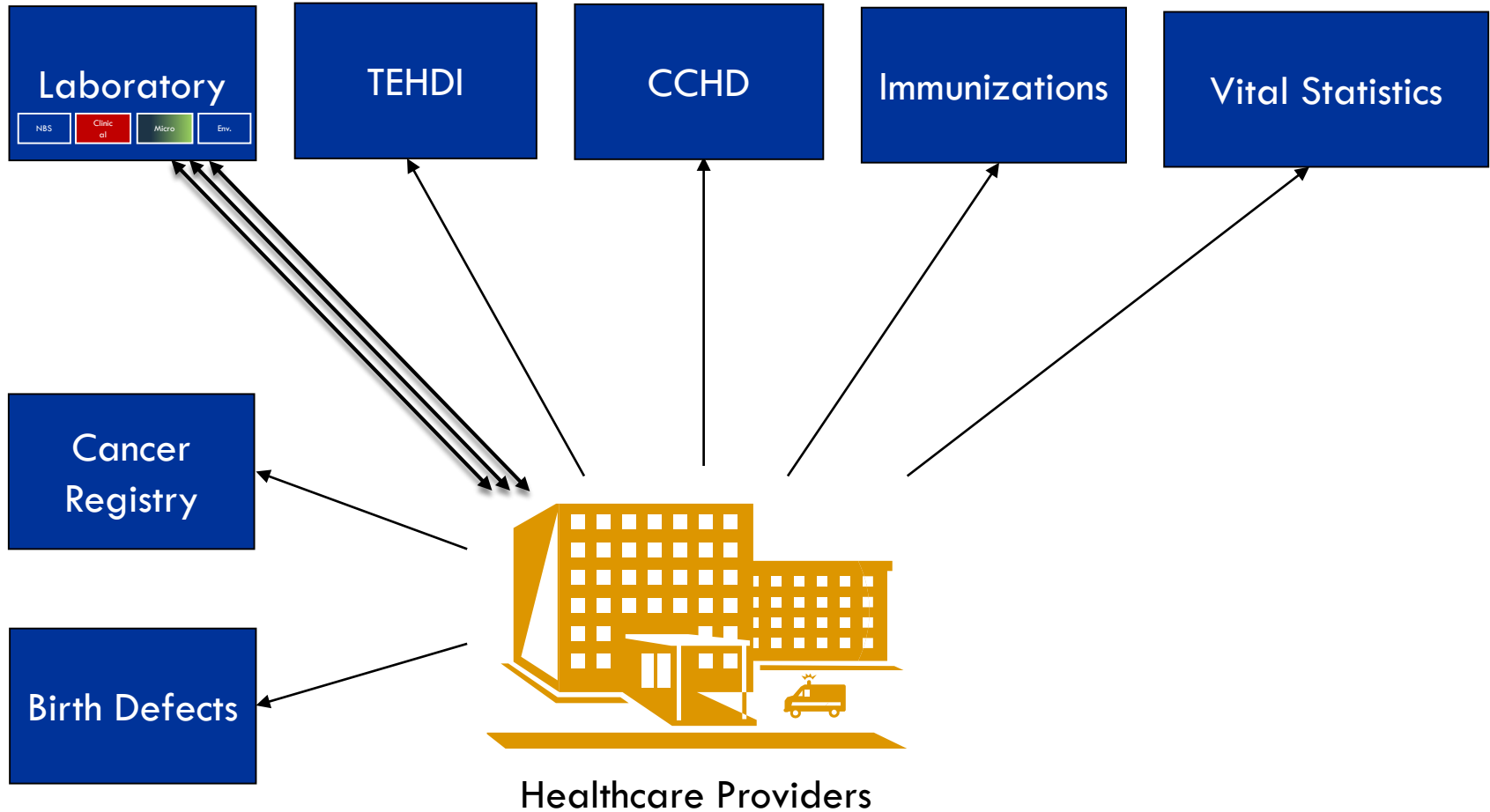
Integrating into Lab / Agency HIT

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Integrating into Lab / Agency HIT

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HL7 – Challenges

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- Staffing
- Pre – Implementation Guide Message
- Competing Projects
- Complexity of Result Validations
- Integrating into overall lab and agency HIT systems
- **Coordinating it all – Lab and Submitter Needs**

HL7 – Moving Forward

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- **New message**

 - NLM / PHII Implementation Guide**

- Health Services Gateway

- NewSTEPS 360 grant

- Investigate

 - ▣ Simplified result options

 - ▣ Minimizing necessary result validations

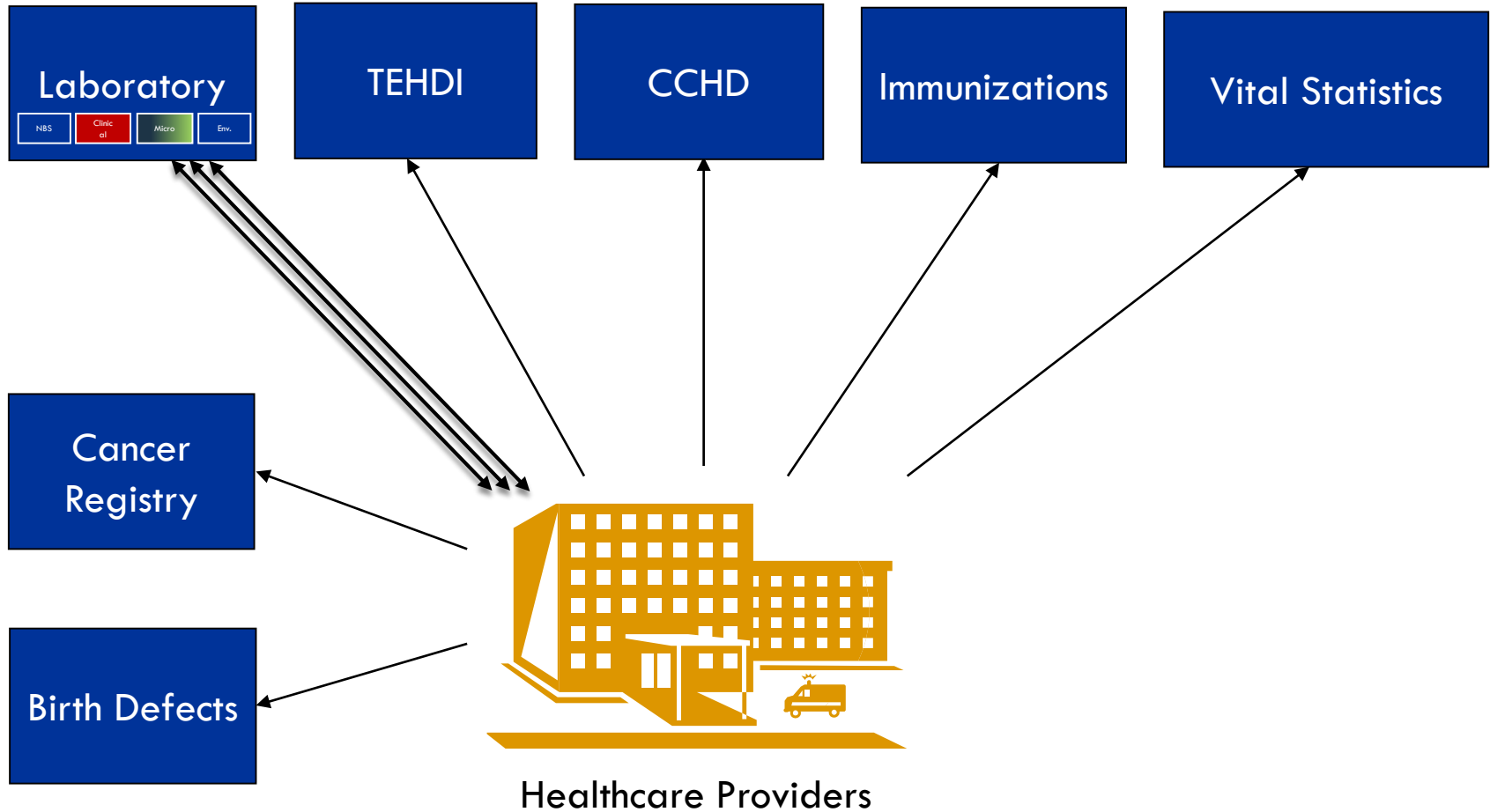
HL7 – Moving Forward

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- New message
 - NLM / PHII Implementation Guide
- **Health Services Gateway**
- NewSTEPS 360 grant
- Investigate
 - ▣ Simplified result options
 - ▣ Minimizing necessary result validations

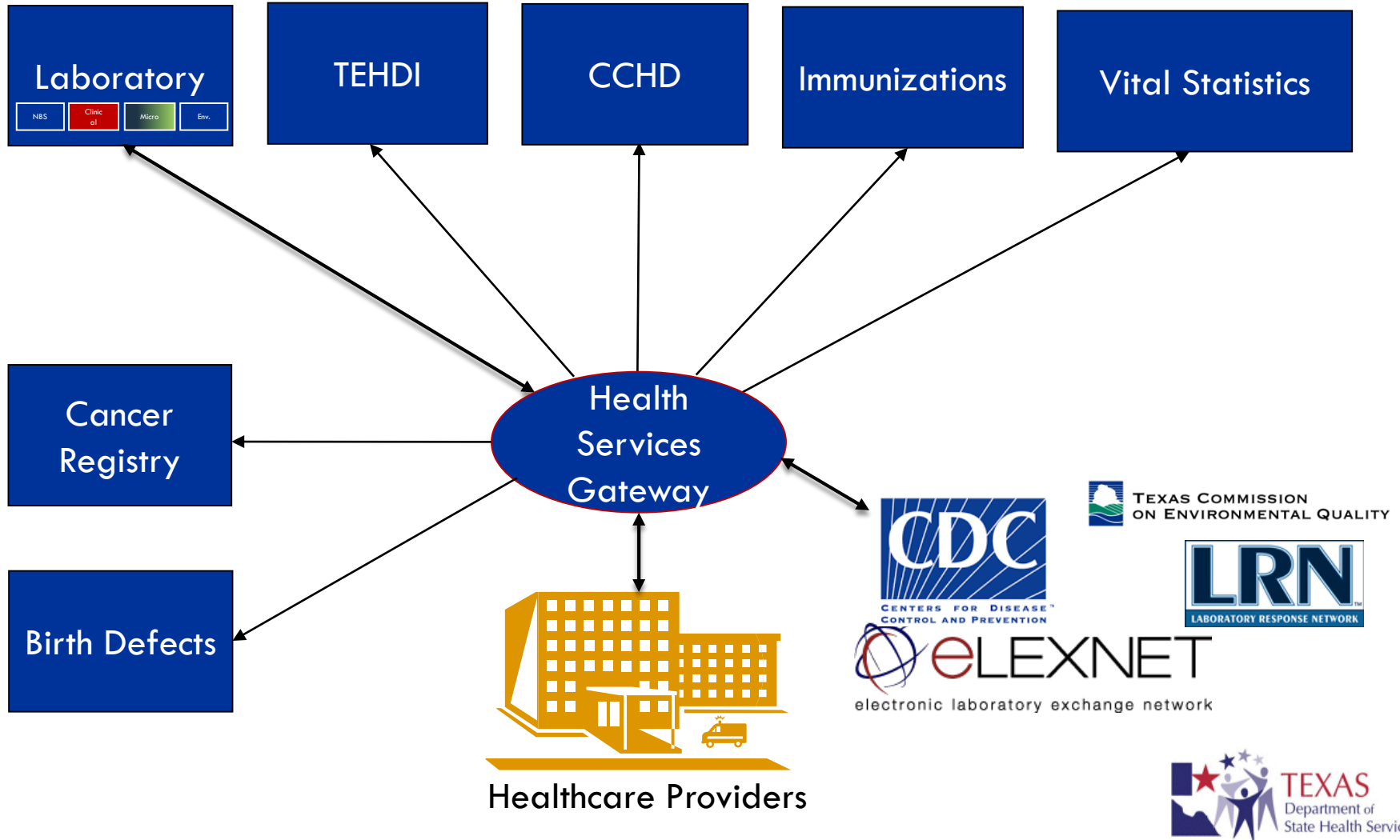
Integrating into Lab / Agency HIT

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Health Services Gateway

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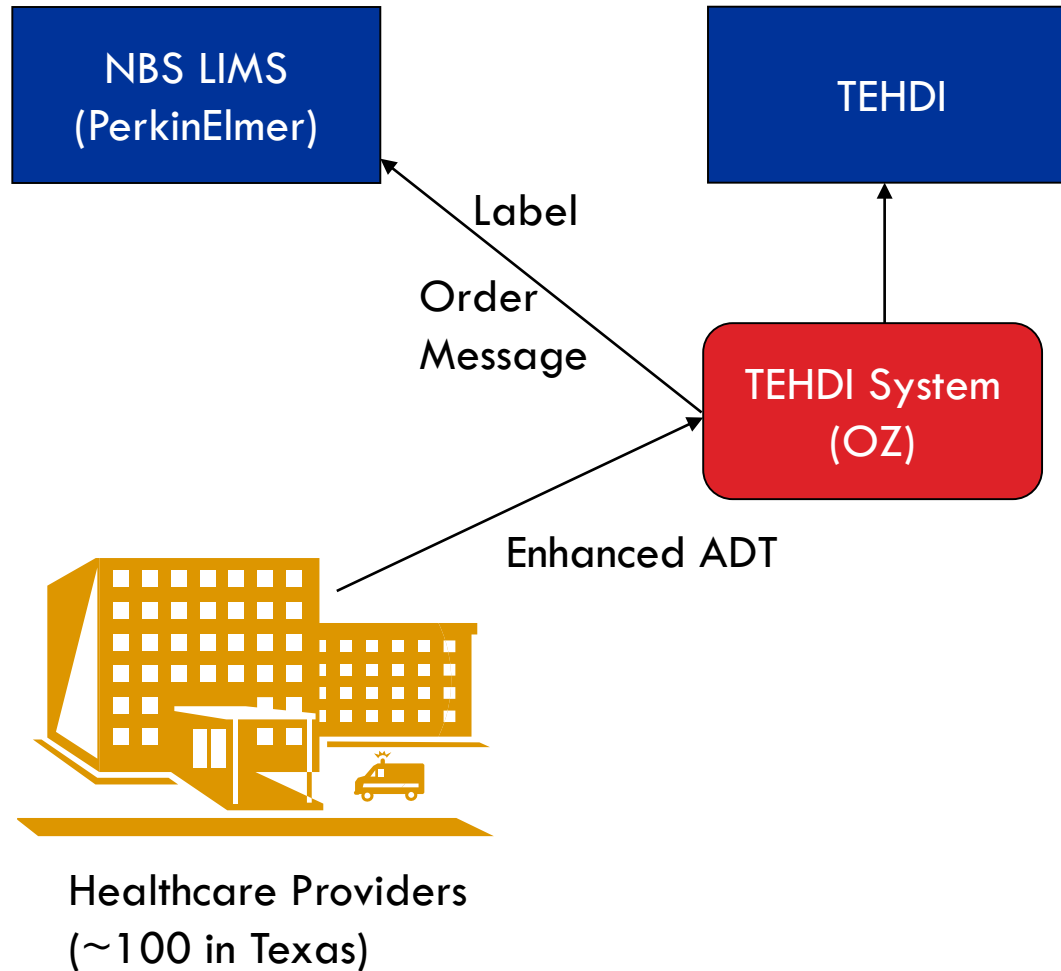
HL7 – Moving Forward

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- New message
 - NLM / PHII Implementation Guide
- Health Services Gateway
- **NewSTEPS 360 grant**
- Investigate
 - ▣ Simplified result options
 - ▣ Minimizing necessary result validations

NewSTEPS 360 Grant

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NewSTEPS 360 Grant

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- Provider Benefit
 - ▣ Saves time in completing demographic forms
 - ▣ Leverages existing message
 - ▣ Includes data validations to improve data quality
- DSHS Benefit
 - ▣ Automates data entry – electronic order
 - ▣ Resolves issues with configuring to receive ADTs
 - ▣ Allows electronic order entry to move forward during data system transition
- Currently does not include result message

HL7 – Moving Forward

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- New message
 - NLM / PHII Implementation Guide
- Health Services Gateway
- NewSTEPS 360 grant
- **Investigate**
 - ▣ **Simplified result options**
 - ▣ Minimizing necessary result validations

HL7 – Moving Forward

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- New message
 - NLM / PHII Implementation Guide
- Health Services Gateway
- NewSTEPS 360 grant - OZ
- **Investigate**
 - Simplified result options
 - **Minimizing necessary result validations**

THANK YOU

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