Interoperability between vital records and EHRs in Utah

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Timeline of events—UDOH-Intermountain Death Interface

- **2009**
  - **CDC Pan Flu Grant**
    - UDOH received funding to create a death reporting interface with Intermountain.

- **2010**
  - **Pilot testing**
    - Implemented at one Intermountain Clinic
  - **HL7 Version 2.3 Interface Planning and Development**
    - Interface development and testing

- **2011**
  - **Pilot test expanded to Salt Lake City Metro Area**

- **2012**
  - **Upgrade to DSTU Project begins**

- **2013**
  - **DSTU Implementation**
Death Registration in the US

• Death certificate is...
  • A legal document
  • A public health report

• A cooperation between funeral directors, physicians, coroners and medical examiners, and public health departments

• Electronic death registration
  • 38 states now have some form of EDR
  • Utah’s Electronic Death Entry Network (EDEN)

August 1, 2006
The Eden plateau

Percentage of all deaths signed in EDEN by physicians, 2006-2010
Reasons for low physician participation

- About 75% of physicians that certify a death do <1 death certificate per year.
- They account for about 35% of all DC’s
- Difficult to maintain EDEN skills
- Lack of incentive to complete death certificates
From Intermountain to EDEN
Intermountain’s EHR screen:
HL7 death message

• In 2009 UDOH and Intermountain created an HL7 v2.3.1 message using a lot of z-segments
• We used existing gateway for immunization records from Intermountain
• Began pilot testing in 2011 at a large family practice clinic
• In 2013, began work to implement a v2.5.1 draft standard death message
Death Certificates per Month

[Graph showing the number of death certificates per month from 2011 to 2014.]
Death Certification Process

Business Rules
- matching and merging
- update / delete messages
The System Architecture

1 - HL7 Over MLLP

2 - HL7 Over MLLP

External App Server HL7-Listener SubRoute

3 - DBOBJECTPayload

6 - Various message events

Internal App Server HL7-Forwarder SubRoute

4 - DBOBJECTPayload

5 - Various message events

Internal DB Server HL7-Inserter SubRoute

EDEN System

EDEN Loader

Cause of Death Table
Next Steps

1. DSTU implementation
2. Testing
3. Provide feedback to HL7
4. HL7 ballots and approves normative standard
5. Industry implements standard.
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