

Center for Health Statistics and Informatics (CHSI) Update

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CCLHO Spring 2016 Semiannual Meeting
April 14, 2016

CHSI Overview

- ▶ Vital Records
 - Registration of Vital Events
 - Issuance of Vital Records certificates
 - Creation, analysis, distribution of Vital Statistics data
- ▶ Cross-Departmental Data Initiatives
 - CMS EHR Incentive Program (“Meaningful Use”)
 - CHHS Open Data Portal
 - Let’s Get Healthy California (data portion)

California Integrated Vital Records System Project (Cal-IVRS)



State of the Current System

- ▶ Only EDRS and FDRS are primarily electronic registration systems, AVSS requires paper and ink signatures for registration
- ▶ Past distribution of data have been through data discs – transitioning to VRBIS
- ▶ Due to system silos
 - Data quality processes are not standardized
 - There can be a significant time lag between event registration and reporting
 - There are many inefficiencies associated with human and IT resources in running multiple systems performing the same essential functions

Cal-IVRS

- ▶ Will provide a single integrated platform for registering births, deaths, and fetal deaths
- ▶ Similar look and feel of user registration interface for all three types of registration functions
 - Reduces staff training time
 - Reduces data entry errors
 - Improves data quality by standardizing data fields for all registration functions
 - Allows real-time reporting of vital events data through VRBIS



Vital Records Business Intelligence System (VRBIS)

- ▶ Access through a secure web interface
 - ▶ Real time data availability (system is refreshed with updates every 30 minutes)
 - ▶ Dynamic data system replaces static data files
 - ▶ Post-registration value-added fields available immediately (e.g., residence geo-codes, calculated and recoded fields)
 - ▶ Local Health Departments
 - VRBIS Participation Agreement must be signed before VRBIS IDs and passwords are assigned
 - Webinar trainings
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Cal-IVRS: Systems Involved

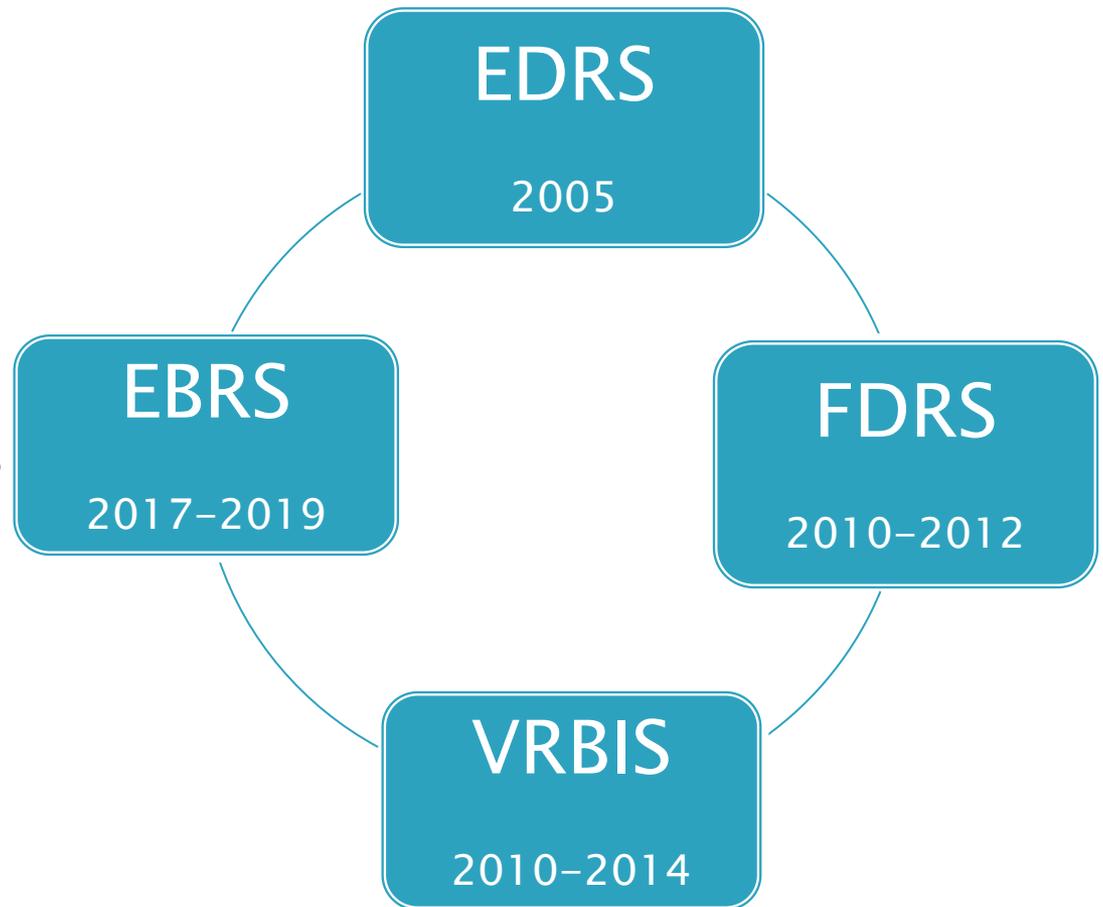
Legend:

EDRS: Electronic Death
Registration System

FDRS: Fetal Death
Registration System

VRBIS: Vital Record Business
Intelligence System

EBRS: Electronic Birth
Registration System



Vital Records Certificate Standardization Project (VRCSP)

VRCSP Overview

- ▶ Certificate Review Workgroup (CRW) to develop recommendations for making changes to California birth, death, and fetal death certificate data fields
- ▶ With the development of electronic registration systems, the paper registration layout is now inefficient and outdated
- ▶ Public health programs, researchers, and others have identified important gaps in the information collected
- ▶ Reduced time lag from electronic registration make it an excellent source of surveillance data

Workgroup Process

- ▶ Recommendations are being drafted in an internal workgroup
 - ▶ Recommendations will be circulated for comments from external groups like CCLHO (likely in June)
 - ▶ Final recommendations will be reviewed by PHIAC and VSAC
 - ▶ Final decision on what to move forward will be with the State Registrar
 - ▶ Then submitted as a Legislative Proposal
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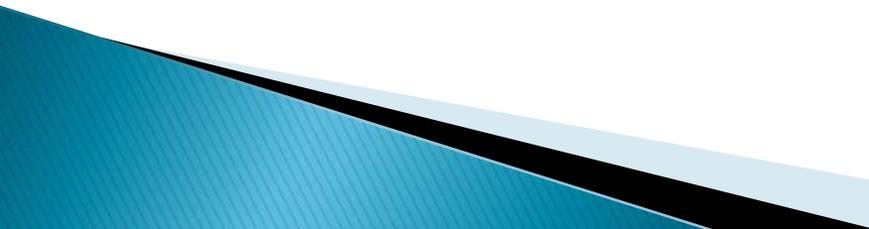
Patient-Centered Outcomes Research Institute (PCORI) Pilot Project:

Integrating vital records death registration (VRDR) with electronic health record systems

Why integrate EDRS and EHR?

- ▶ Improved latency
- ▶ Improved workflow for medical certifiers
- ▶ Opportunity for direct interaction with the medical certifier *at the point of data entry*
 - Optimize causes by minimizing problems such as “cardio-pulmonary arrest”
- ▶ Possibility of supplementation with additional clinical record data from EHRs for certain causes
 - Sepsis, Sudden Infant Death Syndrome, Violent Deaths, etc.

PCORI Pilot of VRDR

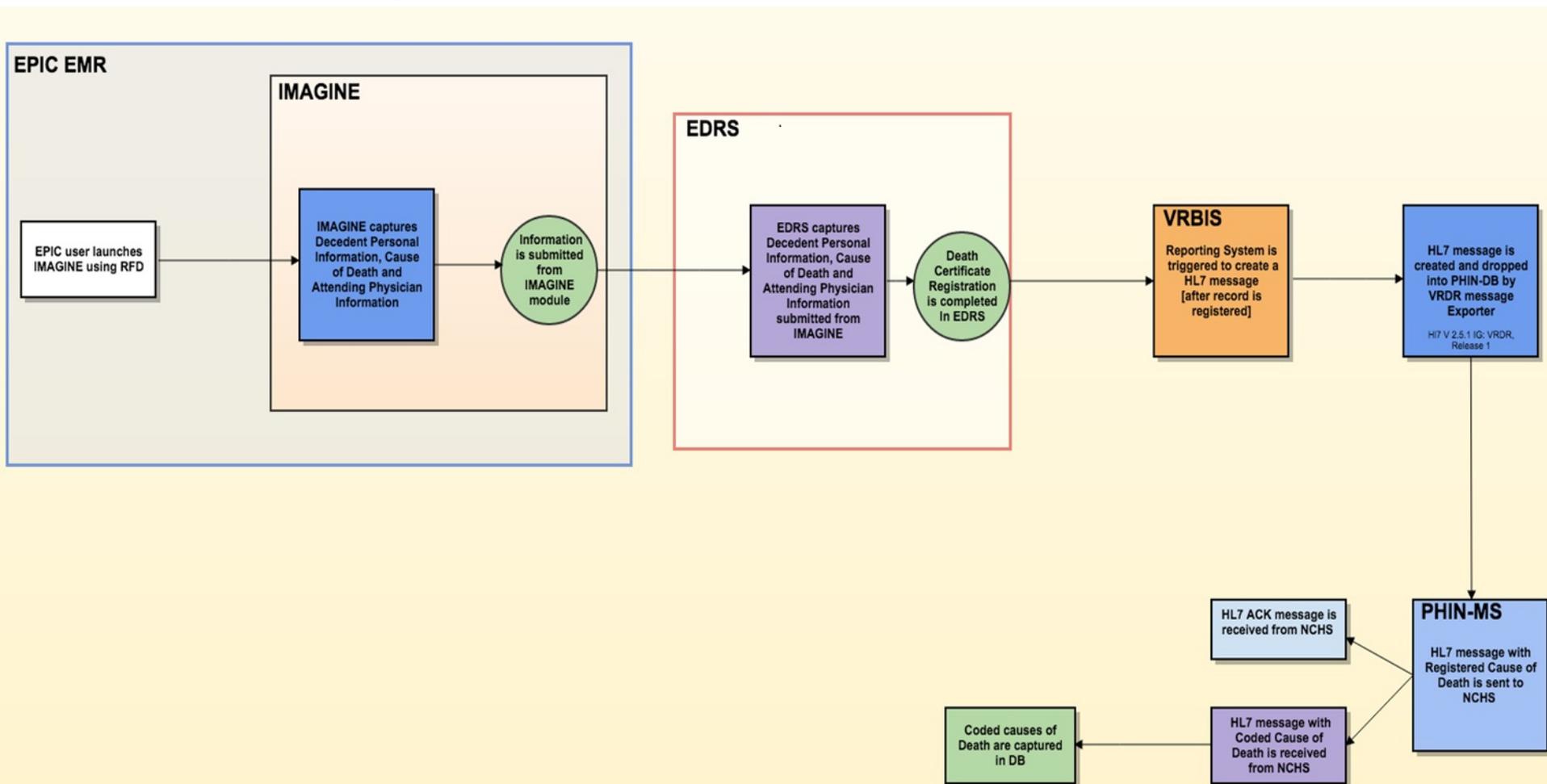
- ▶ Aug 2015: California was awarded a grant to pursue a VRDR pilot
 - ▶ UC Davis Health System agreed to be a pilot hospital/EHR (Epic)
 - ▶ Development: Sept 2016–Dec 2016
 - ▶ Demonstration with UCDHS Epic: IHE Connectathon Jan 2016
 - ▶ UCDHS Implementation: March 2016–April 2017
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Technical Approach

- ▶ Pilot covers in-hospital deaths only
- ▶ Created a standalone component (module) that can be easily integrated with existing EDRS systems
 - Allows for upgrading to new versions of EDRS
 - Able to be used by other states
- ▶ Implemented module using a broadly adopted, scalable, multi-platform language (Java)
- ▶ Uses HL-7 messaging standard and IHE VRDR data exchange workflow standard

IMAGINE Module: Component and Information Exchange



*EDRS: Electronic Death Registration System

*IMAGINE: Integrating Medical Information in EDRS

*VRBIS: Vital Records Business Intelligence System

*PHIN-MS: Public Health Informatics Network Messaging System

EDRS IMAGINE web application accessible within the EHR application

Epic | Review | Research Studies | Research Study Maintenance | Patient Lists | My Reports | Appts | Patient Station | Encounter | Print | Log Out

Zztransplant, Kidney Deceased | Ins: **Uninsured** | CSN: None | Allergies/Reactions: **No Known Drug All...** | Health Maintenance Due?: **Health M...** | Research: **Active** | No Advance Direct... | ePOLST: None

Female, 52 y.o., 09/02/1963 | MRN: 29813 | MyChart: Inactive | Registries: Diabetes Registry Wellne... | POLST: None

Data Capture Form

Integrating Medical Information in EDRS

Personal Information | **Cause of Death** | **Attending Physician**

Attending Physician:

First Name: ⓘ ?

Middle Name:

Last Name: **Suffix:**

Degree:

Mailing Address: **Address Type:** **State:**

Street Number: **Street Name:** **Apt/Suite/Unit:**

City: ?

Zip Code: - ?

- **MOCKUP** - - **MOCKUP** - - **MOCKUP** -

CA-EDRS 2015

Submission of HL-7 message to NCHS through PHIN MS

PHINMS Console: CDC PHIN-MS Version 2.8.03SP1 20150302 (Build 365)

File Tools Configure Help

+ New Message X Delete Message Ping Message Refresh

Messages

- CDC
 - Sent Messages
 - Table Name: TransportQ_out
 - CDCStagingReceiver (6)
 - RNR Messages
 - Table Name: mrworkerqueue
 - 2.16.840.1.114222.4.3.2.2.3
 - 2.16.840.1.114222.4.3.2.2.2
 - 2.16.840.1.114222.4.3.2.2.3
 - Table Name: MESSAGE_INQ
 - 2.16.840.1.114222.4.3.2.2.2
 - 2.16.840.1.114222.4.3.2.2.3

Messages: CDCStagingReceiver Filter Messages: View All

Last Updated - Tue Jan 12 13:48:15 PST 2016

Transport Status	Process Status	Service	Record ID	Recipient	Action	File Name	RouteInfo
success	done	...NCHS	... 42		send	... HL7_UCDcase1.bt...	CDCStagingRecei...
success	done	...test	... 30		send	... test.bt.145218333...	CDCStagingRecei...
not-set	... queued	...test	... 47		send	... test_nullname.bt ...	CDCStagingRecei...
	queued	...test	... 192		send		CDCStagingRecei...
	queued	...test	... 191		send		CDCStagingRecei...

To: CDCStagingReceiver
Attachment: HL7_UCDcase1.bt.1452206371919

ReSend

42
CDCStagingReceiver
HL7_UCDcase1.bt.1452206371919
NCHS
send
done
success
42
FOLDERPOLLING-72621e603f73f6923ebfec79f6903ebdc692f34145220637191...
CDCStagingReceiver
yes
no
directory.verisign.com:389
O = Centers for Disease Control and Prevention
cn=cdc.phinms
done

```
MSH|^~\&#|12345|UC_Davis|678910|NCHS|20151222091330-0600||AD|^A04^AD1_A01|12233344
P|2.5.1|||AL|NE|USA|||||PSDI_v1.0^PHIN VS
SFT|Level Seven Healthcare Software,
Inc.^^^^^&2.16.840.1.113883.19.4.6&ISO^XX^^1234|1.2|VRBIS our reporting system|
12345||
EVN||201512221200-0600|
PID|1||111111111^^^SS||Smith^Sarah^L||19270312|F|||3700 Business
Drive^Sacramento^CA^98250^US |||||||||||||||201512221125-0400|Y|
PV1||N
OBX|1|XAD|69435-6^Address of location where death occurred^LN||
^^Annapolis^MD^21401^US^^067^003|||||F
OBX|2|CE|69436-4^Autopsy Results Available^LN||N^No^HL70136|||||F
OBX|3|ST|69453-9^Cause of Death^LN|1|Blunt Head Trauma|||||F
OBX|4|ST|69440-6^Disease Onset to Death Interval^LN|1|15 hours|||||F
OBX|5|ST|69453-9^Cause of Death^LN|2|Automobile accident|||||F
OBX|6|ST|69440-6^Disease Onset to Death Interval^LN|2|15 hours|||||F
OBX|7|ST|69453-9^Cause of Death^LN|2|Epilepsy|||||F
OBX|8|ST|69440-6^Disease Onset to Death Interval ^LN|3|30 years|||||F
OBX|9|ST|69453-9^Cause of Death^LN|2|Epilepsy|||||F
OBX|10|ST|69440-6^Disease Onset to Death Interval ^LN|3|30 years|||||F
OBX|11|ST|69441-4^Death Cause Other Significant Conditions ^LN||Cerebrovascular
Accident|||||F
OBX|12|XAD|69439-8^Death Certifier (Address)^LN||2121 Main St^^Plainville^
ME^12345^US|||||F
OBX|13|CWE|69437-2^Certifier Type^LN||434641000124105^Physician certified death
certificate^SCT|||||F
OBX|14|CE|69443-0^ Did Tobacco Use Contribute to Death^LN||UNK^Unknown^NULLFL||||
OBX|15|CE|71481-6^Did the death of this person involve injury of any kind^LN||
N^No^HL70136|||||F
OBX|16|CE|69444-8^Did death result from injury at work^LN||N^No^HL70136|||||F
```

Alarms Normal Item View

Questions?

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