# Indiana's EHDI Alert Response System (EARS)



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#### Overview

 > Background
 > Indiana Operational Data Store (ODS)
 > EHDI Program in Indiana
 > EHDI Alert Response System (EARS)

### Historic Background of Data Integration in Indiana

In 1974, the Regenstrief Institute began working on data integration.

In the mid-1980s, ISDH started moving forward with data integration.

### Recent Background of Data Integration in Indiana

In 1993, the Indiana Legislature passed a law mandating the creation of the State Health Data Center.

The Data Center was charged with "improving data quality and collecting, using, and sharing data about the health status of Indiana residents." Recent Background of Data Integration in Indiana

Mid-to-late 1990s

Lack of data standards were a national problem.

### ISDH Operational Data Store (ODS)

#### 2000 to 2002

The Operational Data Store was developed to meet PHIN requirements and to allow other program areas to include their data in the Data Store.

The process of collecting and utilizing realtime data was piloted by the Indiana Birth Defects and Problems Registry.

#### **ODS Data Sources**

- IU Lab Data Newborn Screening/Hearing
- Hospital (Reportable Birth Defects UB92)
- Vital Records Birth
- Vital Records Death
- Vital Records Fetal Death
- Electronic Lab Reports (Regenstrief)



#### **ODS** Users

- Newborn Screening
- Vital Records
- Data & Statistics
- > IBDPR
- > Epi Resource Center



### EHDI Program in Indiana

#### EHDI in Indiana

In 1999, the State Legislature passed PL91-1999 which mandates screening of babies in Indiana for hearing loss

16-41-17-10 states that ISDH is responsible for "A centralized program that provides tracking, followup, diagnosis, management, and family counseling and support."



#### EHDI in Indiana

> Approximately 88,000 live births per year

> 103 Hospitals & 3 Birthing Facilities

Approximately 800 Home Births Annually



#### Indiana EHDI Data 2006

97.8% received UNHS > 1.9% did not pass n=1665 Normal hearing 73% Hearing loss 7% In process 2% Died/moved/refused 3% LTF/LTD 15% Prevalence of Hearing Loss 1.3 per 1000 screened

### EHDI Alert Response System (EARS)

### What is EARS?



EARS is a web-based application that:

- allows hospitals and audiologists to quickly and accurately enter information directly into a data store;
- allows Indiana NBS staff to view these entries almost instantaneously; and
- generates alerts and informs the appropriate staff member that the next follow-up action should be taken.

#### Current Data Management System

- Developed in 2003
- Time-consuming data entry by ISDH staff from handwritten hospital and audiologist reports
- Access-based, "stand alone" program
- Generation of letters
- Reporting capability
- Passive system-User "acts" upon the system

#### The Case for EARS



- Improve accuracy and reporting by hospitals and audiologists (direct data entry)
- Increase timeliness of data sharing
- Improve communication between EHDI partners
- Interact with larger database (ODS)
- Reduce loss to follow-up and documentation of children
- Easy to access, paperless, "active" system that "works" for the user
- System acts as platform for other applications

### **History of EARS**



#### 2005 to Present

- > 2005 received grant from the CDC to fund the development of EARS
- > 2006 began development of EARS
- > 2007 began pilot testing EARS with the help of 4 central Indiana hospitals

Early 2008 – EARS moved to production and scheduled training of additional hospitals



> Health Data Center Gateway Log on to system Step by step-Hospital Data Entry Checking an EARS Alert Processing an EARS Alert Communicating by secure E-mail Step by step-DAE entry Backdoor Information

### Working EARS Health Data Center



# Working EARS Log-in Screen





# Working EARS Home Page



# Working EARS Data Entry



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### Working EARS Data Entry Holdovers







### Working EARS Statistical Data Sheet



## Working EARS Summary Data Sheet

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# Working EARS Alert Response Center

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### Working EARS Secured Email Center



### Working EARS Secured Email



# Working EARS Email Notice



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### Working EARS Letter Screen



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#### Working EARS Security Access for EHDI Administrator



### (H)EARS a Conclusion



- Improves accuracy and reporting by hospitals and audiologists (direct data entry)
- Increases timeliness of data sharing
- Improves communication between EHDI partners
- Interacts with larger database (ODS)
- Reduces loss to follow-up and documentation of children
- Easy to access, paperless, "active" system that "works" for the user
- System acts as platform for other applications

### (H)EARS the Real Conclusion

