# One Year Later: Findings from the Electronic Registration of Arkansas Vital Events (ERAVE) Infant Hearing Screening Module (EHDI-IS) Project

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## Introduction

In 2013, a database was developed to track Newborn Screening results called Electronic Registration of Arkansas Vital Events (ERAVE). ERAVE facilitates electronic communication from the time of the event (birth or death) through the registration of the record. A variety of stakeholder groups, hospitals, birthing facilities, hospice facilities, funeral homes, coroners, medical examiners, medical certifiers, local health units, and Department of Health central office staff use ERAVE to complete their work electronically. The Electronic Infant Hearing System (EIHS) allows specified users involved in Early Hearing Detection and Intervention (EHDI) in Arkansas online access for reporting newborn hearing screening and follow-up hearing test results. After one year of collecting data we will discuss our experiences with the EIHS project and data collection, challenges encountered, and outcomes from the first year.

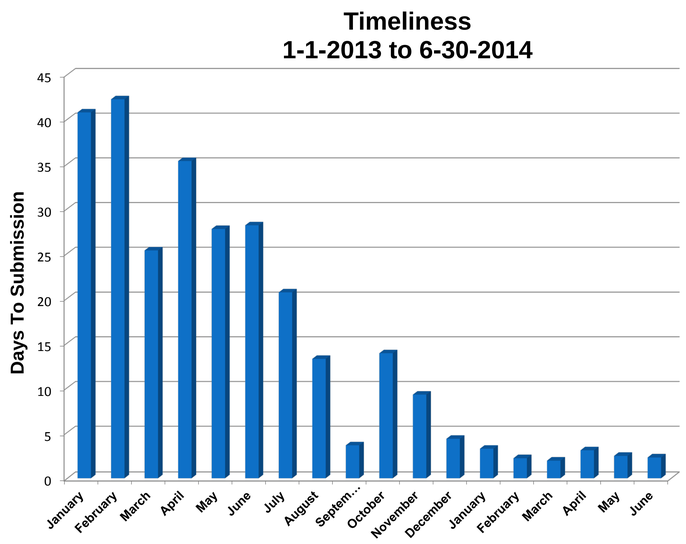
## Arkansas State Law

Arkansas Act 1559 of 1999 mandates newborn hearing screens at birthing hospitals. Additionally, the Act requires stakeholder reports on initial hearing screens and follow-up screening by the 15th day of the following month.

## Program Goals

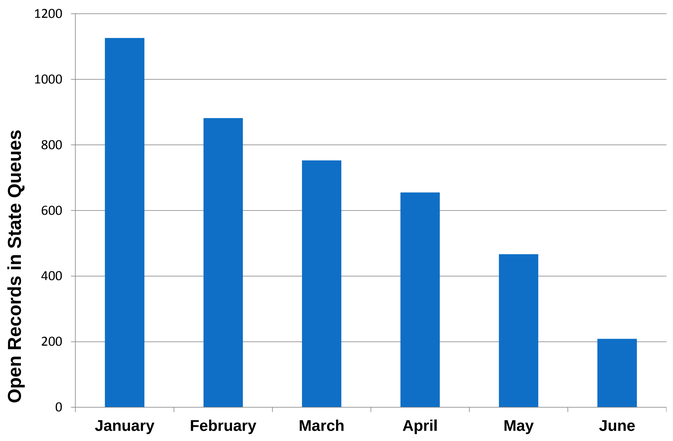
- All newborns will be screened for hearing loss before 1 month of age, preferably before hospital discharge.
- All infants who screen positive will have diagnostic audiology evaluation before 3 months of age.
- All infants identified with hearing loss will receive appropriate early intervention services before 6 months of age (medical, audiology, and early intervention).
- All infants and children with late onset, progressive, or acquired hearing loss will have diagnosis at the earliest possible time.

## Results



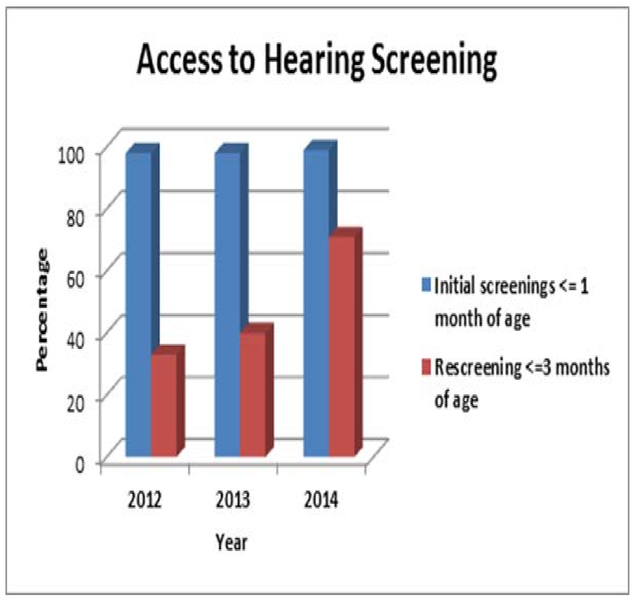

Improved TIMELINESS - Prior to June 2013 time to submission of hearing record to the state averaged >40 days. Our current average is **2 days**.

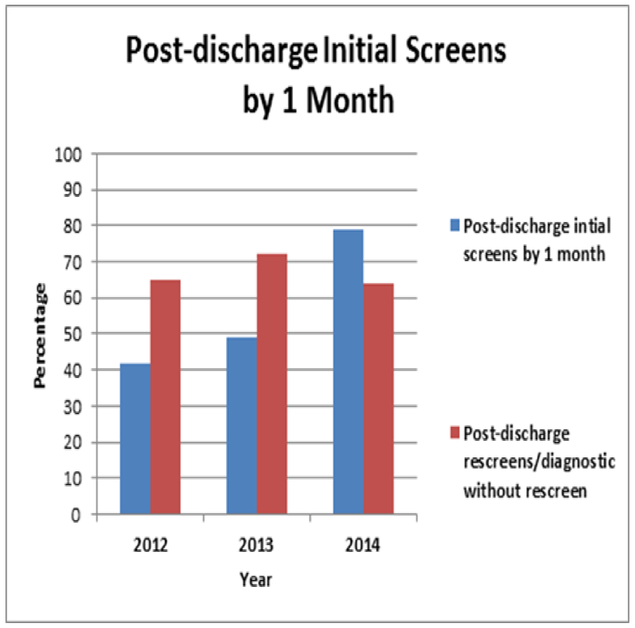
## Effectiveness

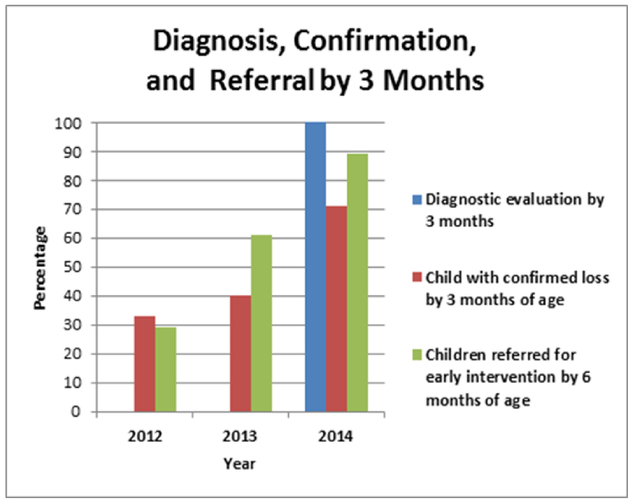



Improved Effectiveness- Arkansas has approximately 38,000 births each year. After July 2013 the number of records in state queues have decreased to ~ 200.

Improved Communication- Notes provided and passed between Stakeholders through ERAVE




- The quality of data has greatly improved with ERAVE implementation. Missing and incomplete data was a problem before implementation with almost 90% of all records having missing information. Due to system edits in ERAVE, the percentage of missing elements such as: PCP, medical record number, patient name, language spoken, tester name, second contact information, etc. has decreased to approximately 10% or less each month. When these fields are available there is greater success with follow-up.
- Provider acceptability is measured by the number of providers entering their own data, presently averaging 98%. Representativeness is measured by the number of birthing facilities participating in the program, currently 100%. The implementation of ERAVE has increased communication providing a constant dialogue while updating patient records among stakeholders: EHDI, audiologist, and PCP's. These measures have led to improved effectiveness as the number of active records in the states monitoring queues has dropped to under 200 for the current year.
- 2014 shows the combined effort of all stakeholders has culminated a 31% increase in getting a confirmed hearing loss diagnosis before the age of 3 months and a 28% increase in getting a child with hearing loss to early intervention by 6 months of age. This progress will allow the Arkansas EHDI to have an increased compliance with the 1-3-6 recommendation.

## Recommendations/ Future Plans

- Re-educate ERAVE users on 1-3-6 goals and monitoring their QA responsibilities.
- Encourage communication, sharing of data, and note fields usage on the ERAVE database.
- Encourage written and verbal test results to parents.
- Refine linkage process with death and birth modules.