

## Project Achievements

- Benchmarks were met for hearing screening performed on newborns at the civilian birthing sites before 1 month of age.
- There were no infants lost to follow up (LFU) at the Early Intervention (EI) enrollment level.
- There was a reduction on the percentage of infants lost to follow-up who needed an outpatient rescreen or high risk rescreen.
- Successful strategies used to reduce lost to follow-up of infants needing rescreen included:
  - Offering alternate hearing screening appointment dates and sites;
  - Making reminder calls about appointment date/time;
  - Providing incentives for kept appointments;
  - Giving hearing screening outpatient appointments from the birthing sites before discharge.
- Public awareness on the importance of early detection of hearing loss through the screening and evaluation processes was greatly enhanced by the Project's participation in numerous community outreach activities.
- Hearing screeners, physicians, parents and early intervention providers were surveyed to assess the Project's strengths and needs for

quality improvement purposes. The findings of these surveys will identify future training and technical assistance needs that will be addressed.

- Guam EHDl and the University of Hawaii, Telecommunications and Social Informatics (TASI) Research Program, continue to collaborate on the plan for interoperability between the Electronic Health Record (EHR) at the Department of Public Health and Social Services (DPHSS) and Guam ChildLink - EHDl. Timelines were developed and key staff were designated to specific roles to pilot the interoperability plan by June 30, 2016. Interoperability of data systems is a key milestone for achieving system sustainability.
- The Guam Regional Medical City, Guam's newest birthing facility, joined the Guam EHDl Collaborative Partnership System.



For more information, visit

[www.guamehdi.org](http://www.guamehdi.org)

### Guam EHDl

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*The Guam EHDl Advisory Council meets quarterly to review and provide input on project policies, procedures, and activities. Members include, front row, seated, left to right: Glenda Leon Guerrero, Guam Regional Medical City (GRMC) Maternal Child Nurse Manager; Avelina "Bing" Opeña, Guam Memorial Hospital Authority (GMHA) Head Nurse, Nursery; Joseph Flores; Joyce Flores, Guam EHDl Co-Chair; and Terry Naputi, Research Associate, Guam CEDDERS. Standing, left to right: Ruth Sabangan, GMHA Head Nurse, NICU; Brigitte Flores-Lobo, United States Naval Hospital Educational & Developmental Intervention Services (USNH EDIS) Consultant; Maria Victoria Guiao, GMHA Head Nurse, OB Ward; LeeAnn QB Santos, Ph.D., USNH EDIS, Speech Language Pathologist; Terrie Fejarang, Guam EHDl Project Coordinator, Guam CEDDERS; Brittany Rosario, Sheena Dela Cruz, Brittney Babauta, Camille Glory, Nursing Staff, GRMC Nursery; Dawn Guerrero, Grant Assistant, Guam CEDDERS; Margaret Blaz, Ph.D., Follow Up Coordinator, Guam EHDl; Maggie Murphy-Bell, representing Margarita Gay, Maternal Child Health Administrator, Department of Public Health & Social Services, and Guam EHDl Advisory Council Chairperson; Heidi San Nicolas, Ph.D., Director, Guam CEDDERS & Principal Investigator, Guam EHDl; and Pat Mantanona, Guam Early Intervention System (GEIS) Guam, Division of Special Education, Department of Education, Program Coordinator.*

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## Guam Early Hearing Detection & Intervention Project (Guam EHDl) Annual Report

Project Period: July 1, 2015 - June 30, 2016





# About Guam EHDl

The Guam EHDl Project was established in 2002 through a federal grant awarded to the University of Guam Center for Excellence in Developmental Disabilities Education, Research, & Service (Guam CEDDERS). The grant was awarded by the U.S. Health and Human Services (HHS), Health Resources and Services Administration (HRSA) to establish Guam’s Newborn Hearing Screening and Intervention Program. In 2003, Guam CEDDERS also received funding to establish an integrated data tracking & surveillance system, through a Cooperative Agreement with the U.S. HHS, Centers for Disease Control and Prevention (CDC), to support the Guam EHDl Project.

Universal Newborn Hearing Screening and Intervention is mandated by Public Law 27-150, “The Universal Newborn Hearing Screening and Intervention Act,” which was enacted in December 2004. Guam’s local legislation aligns with national goals and assures an upgraded standard of care for all babies born on Guam.

Early identification of hearing loss is important because:

- Hearing loss is the most frequent birth defect.\*
- Undetected hearing loss has serious negative consequences
- There are dramatic benefits associated with early identification of hearing loss.

The goals of the current Guam EHDl Project are to assure that:

- All babies born on Guam are screened for hearing loss by 1 month of age;
- Babies with hearing loss are diagnosed by 3 months of age;
- Quality early intervention services they need are initiated by 6 months of age (known as the EHDl “1-3-6 Plan”).

\*Source: National Center on Hearing Assessment & Management (NCHAM), Utah State University.

## Types of Hearing Loss Identified from November 2002-Present

**Conductive<sup>1</sup>** **58**

**Sensorineural<sup>2</sup>** **24**

**Mixed<sup>3</sup>** **7**

**Total:** **89**

There were 89 infants identified with a hearing loss since the Guam EHDl project began in 2002. These infants were all identified and offered early intervention services through the Guam Department of Education, Guam Early Intervention System (DOE-GEIS).

<sup>1</sup>Conductive Hearing Loss - Type of hearing loss where sound is not conducted efficiently through the outer ear canal to the eardrum and can often be medically or surgically corrected.

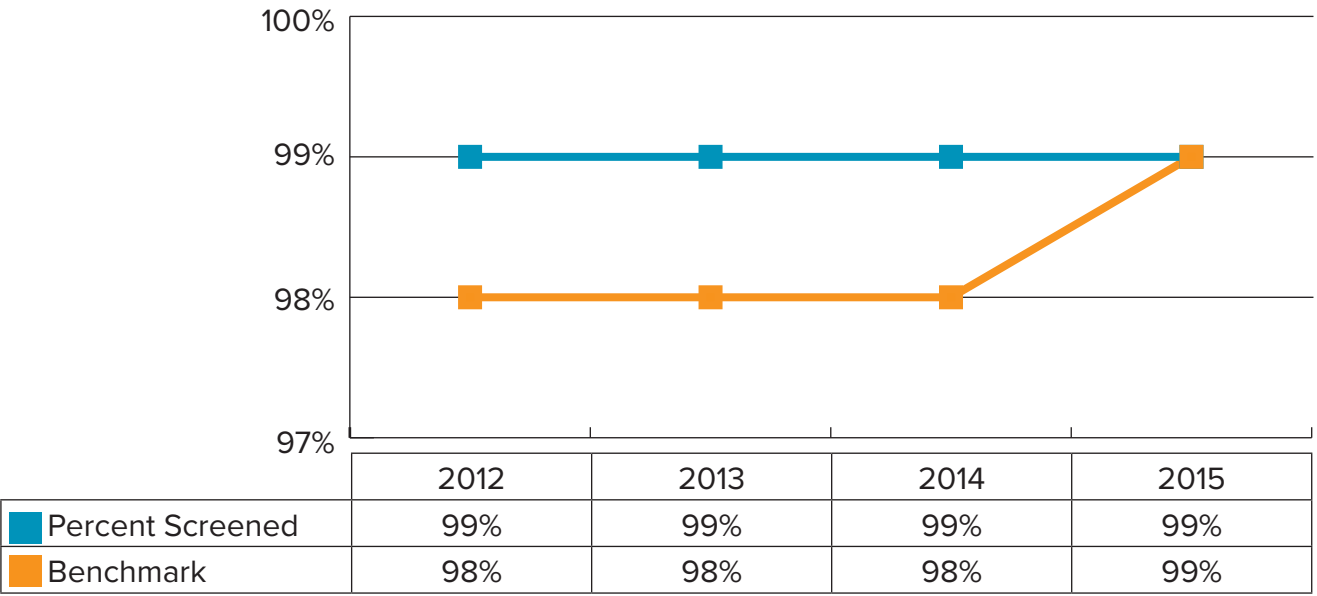
<sup>2</sup>Sensorineural Hearing Loss - Type of hearing loss when there is damage to the inner ear or to the nerve pathways from the inner ear to the brain.

<sup>3</sup>Mixed Hearing Loss - Type of hearing loss that is a combination of conductive hearing loss and sensorineural hearing loss.

Note: Data is from 2 of 3 birthing sites: Guam Memorial Hospital Authority (GMHA) and Sagua Mañagu Birthing Center.

## Initial Screening\*

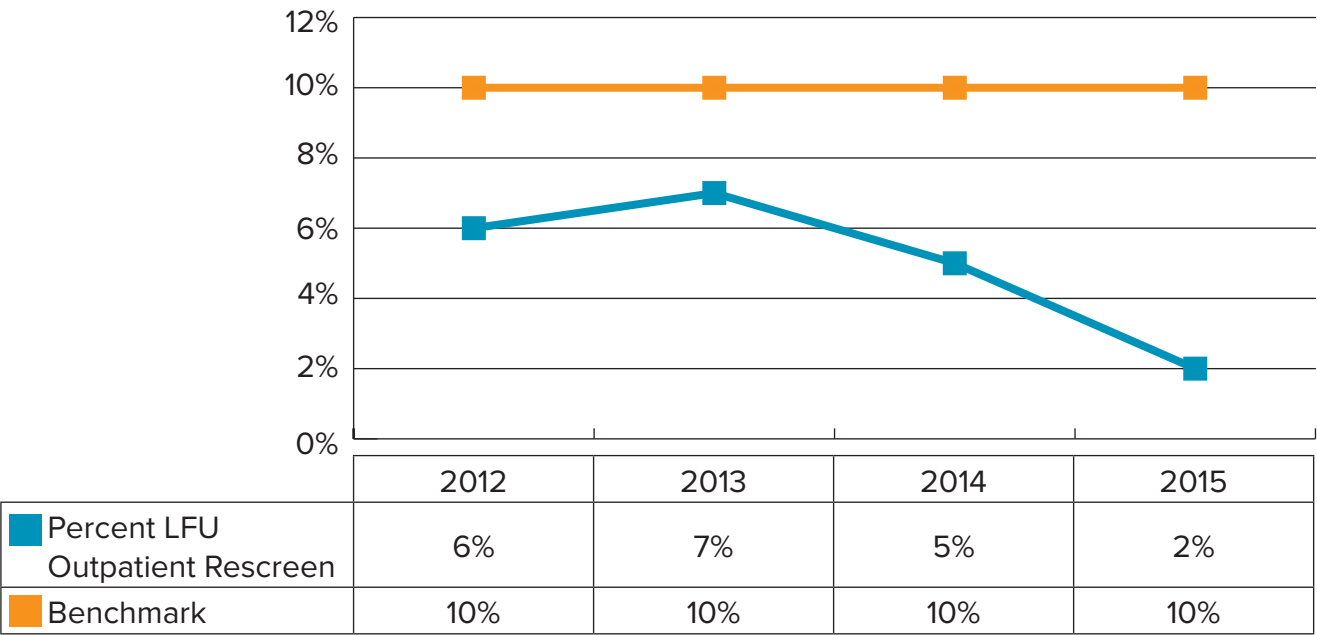
\* Initial Screening - Screening of infants for potential hearing loss prior to discharge from the birthing site.



The Guam EHDl project has maintained a 99% initial hearing screening rate at Guam Memorial Hospital Authority (GMHA), and Sagua Mañagu Birthing Facility. Guam Regional Medical City (GRMC) data is included in the 2015 screening rate.

## Percent Lost to Follow Up (LFU) Outpatient Rescreen\*

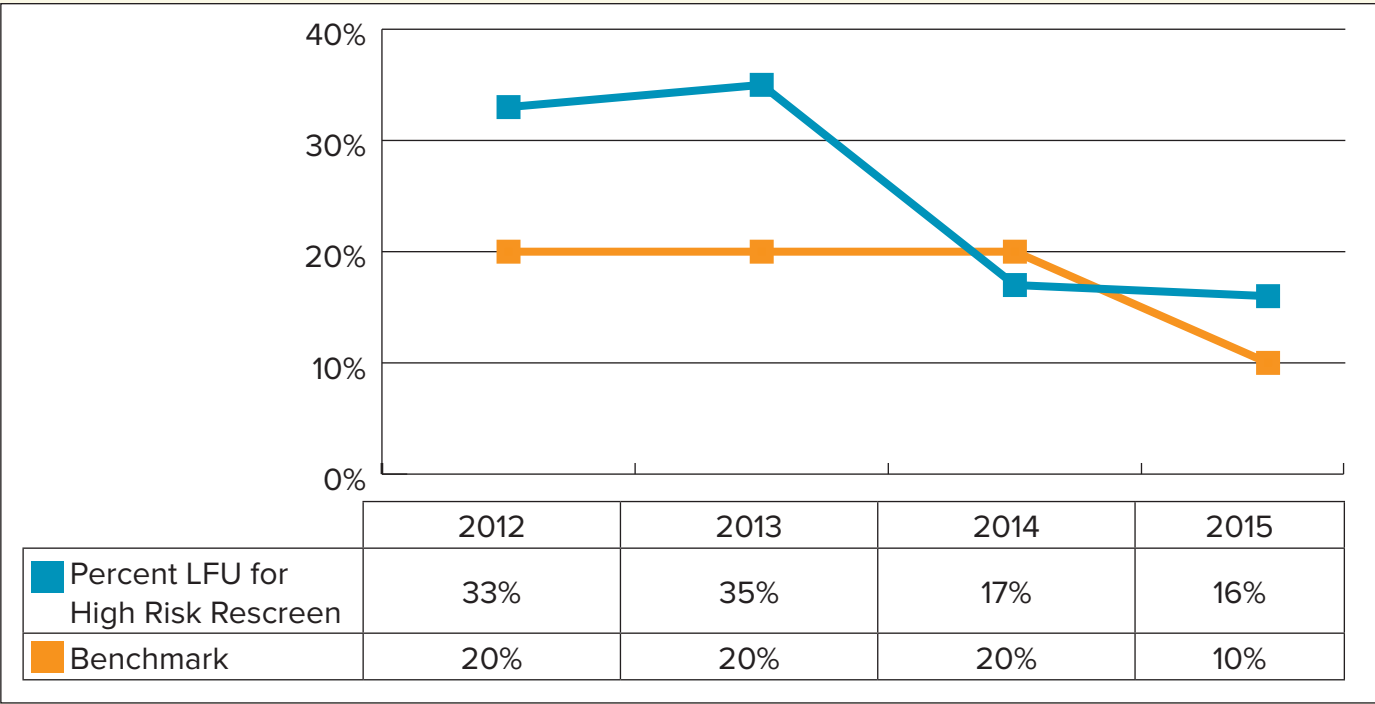
\*Outpatient rescreen - Follow-up rescreen of infants who did not pass their initial hearing screening.



The Lost to Follow Up (LFU) rate for outpatient rescreens decreased to 6% in 2012, and increased to 7% in 2013. However, the rate decreased to 5% in 2014, and further decreased to 2% in 2015, exceeding the established Guam EHDl benchmark.

## High Risk Rescreen\*

\* High Risk Rescreen - Follow-up rescreen of infants who passed their initial hearing screening but have risk factors for potential late onset hearing loss



The Lost to Follow Up (LFU) rate for High Risk Rescreens increased to 33% in 2012, and 35% in 2013. The rate decreased to 17% in 2014, exceeding the benchmark for that year. In 2015, the rate decreased to 16%, but was over 6% over the established 10% benchmark for the year.

## Diagnostic Audiological Evaluation (DAE)\*

\* Infants who do not pass a follow-up rescreen, receive a DAE to determine whether or not a hearing loss is present and if so, the type and severity of the hearing loss.

|      | Total Referred for DAE | Total with Normal Hearing | Total with Hearing Loss | Total with DAE by 3 months | Total DAE via Teleaudiology | Total Receiving Early Intervention (EI) Services | Total Receiving EI Services before 6 moths | Total Pending DAE | Total Deceased | Total Relocating/ Refusing Services | Total LFU      |
|------|------------------------|---------------------------|-------------------------|----------------------------|-----------------------------|--|--|-------------------|----------------|-------------------------------------|----------------|
| 2012 | 40                     | 13                        | 4                       | 13                         | 11                          | 12   | 10   | 3                 | 1              | 10                                  | 0 <sup>1</sup> |
| 2013 | 26                     | 3                         | 14                      | 11                         | 2                           | 10   | 4  | 7                 | 1              | 3                                   | 0 <sup>1</sup> |
| 2014 | 50                     | 10                        | 8                       | 13                         | 0                           | 5  | 4  | 6                 | 1              | 7                                   | 5              |
| 2015 | 38                     | 14                        | 2                       | 4                          | 0                           | 1  | 1  | 13                | 0              | 3                                   | 2              |

<sup>1</sup> In 2012 and 2013, there were no infants LFU for a Diagnostic Audiological Evaluation. This was due primarily to the implementation of the Teleaudiology project that began in November 2011 and ended in August 2013. This project involved the successful collaboration between Guam EHDl, The Childrens Hospital – Colorado, GEIS, and the DOE Audiology department.

