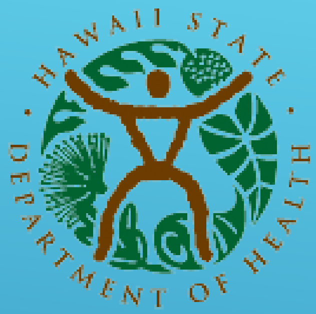


Quality Improvement Strategies for a State Newborn Hearing Screening Program

Sylvia Mann, M.S., C.G.C.
Supervisor, Genomics Section
Hawaii Department of Health
Sylvia@hawaiigenetics.org

Newborn Blood
Spot
Screening

Newborn Hearing
Screening

Newborn Blood Spot Screening

Newborn Hearing Screening

Newborn Blood Spot Screening and Newborn Hearing Screening

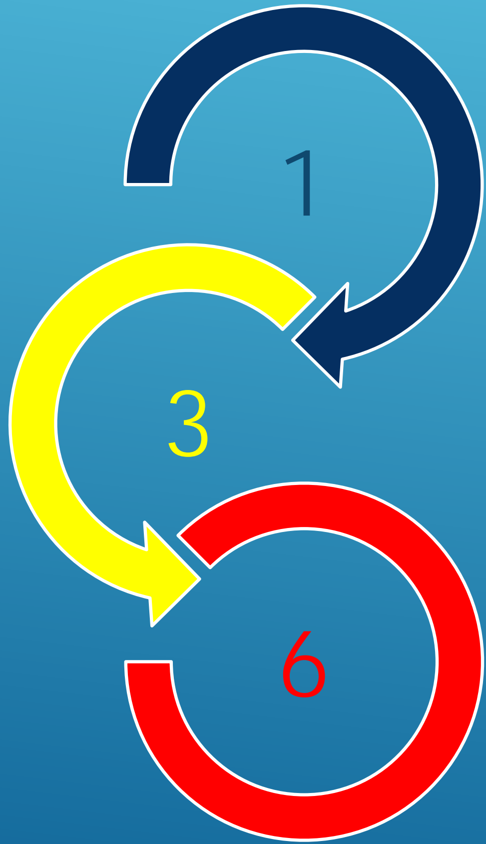
Overview

- Background
- Goals of newborn hearing screening
- Newborn hearing versus bloodspot screening
- Quality improvement methods
- Examples of quality improvement activities
- Lessons learned and opportunities

Background

- Hawaii Department of Health reorganization
- Created Genomics Section in November 2012
  - Newborn Metabolic Screening Program
  - Newborn Hearing Screening Program
  - Birth Defects Program
  - Genetics Program
- Hawaii has one of the highest rates of congenital hearing loss in the country (3.2/1,000 vs 1.4/1,000 nationally)

Goals of Newborn Hearing Screening



All infants should receive hearing screening by **1 month** of age.

All infants who do not pass the initial hearing screening and the subsequent rescreening should have appropriate audiological and medical evaluations to confirm the presence of hearing loss at no later than **3 months** of age.

All infants with confirmed permanent hearing loss should receive early intervention services by **6 months** of age.

Newborn Hearing vs Blood Spot Screening

- Point of Care versus Heelstick and Lab
  - Equipment
  - Staff and training
  - Additional screening/diagnostic as outpatient
  - Sleeping baby

Newborn Hearing vs Blood Spot Screening

- Perceived Urgency

Months

1. Presumptive positive results for time-critical conditions should immediately be reported to the child's healthcare provider and no later than 5 days of life.
2. All presumptive positive results for time sensitive conditions should be reported to the healthcare provider as soon as possible but no later than 7 days of life.
3. All NBS results should be reported within 7 days of life (the "normal" screening results).
4. In order to achieve these goals (and reduce delays in newborn screening):
    1. Initial NBS specimens should be collected in the appropriate time frame for the baby's condition but no later than 48 hours after birth.
    2. NBS specimens should be received at the Laboratory as soon as possible; ideally within 24 hours of collection.

Newborn Hearing vs Blood Spot Screening

- Self testing

Quality Improvement Initiative

- Project funded by Health Resources and Services Administration
- Major aims are to

1) decrease the loss-to-follow-up/documentation (LFU/D) rate of infants who do not pass newborn hearing screening from 24.6% (2011 data) to 10%;
2) decrease the proportion of children LFU/D for evaluation from 24.6% (2011) to 10%;
3) decrease the proportion of children LFU/D for EI services from 11.5% (2011) to 9.9%; and
4) increase the knowledge of physicians in meeting the needs of infants with hearing loss.

Quality Improvement Methodology

Quality Improvement Activities

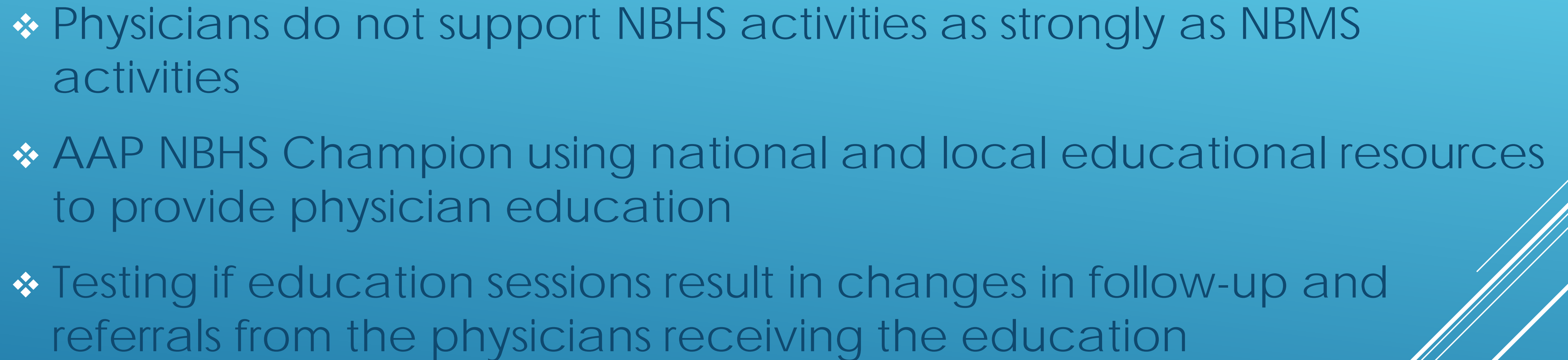
- **Midwife talking points**
  - Baseline: **18.5%** of homebirths on Maui elected to have NBHS
  - Developed talking points about NBHS for midwives with midwives
  - Tested talking points
  - Implemented talking points
  - Homebirths on Maui electing to have NBHS increased to **55.6%**
  - Testing and implementing on other neighbor islands

Quality Improvement Activities

- **Secondary Point of Contact**
  - Often the primary contact information for the family does not work
  - Developed education for birthing facility staff to obtain a secondary point of contact
  - Tested activity with one birthing facility
  - Implemented activity
  - Already has resulted in stopping one child from being lost to follow-up because the secondary point of contact was able to be used to reach the interpreter for the family

Quality Improvement Activities

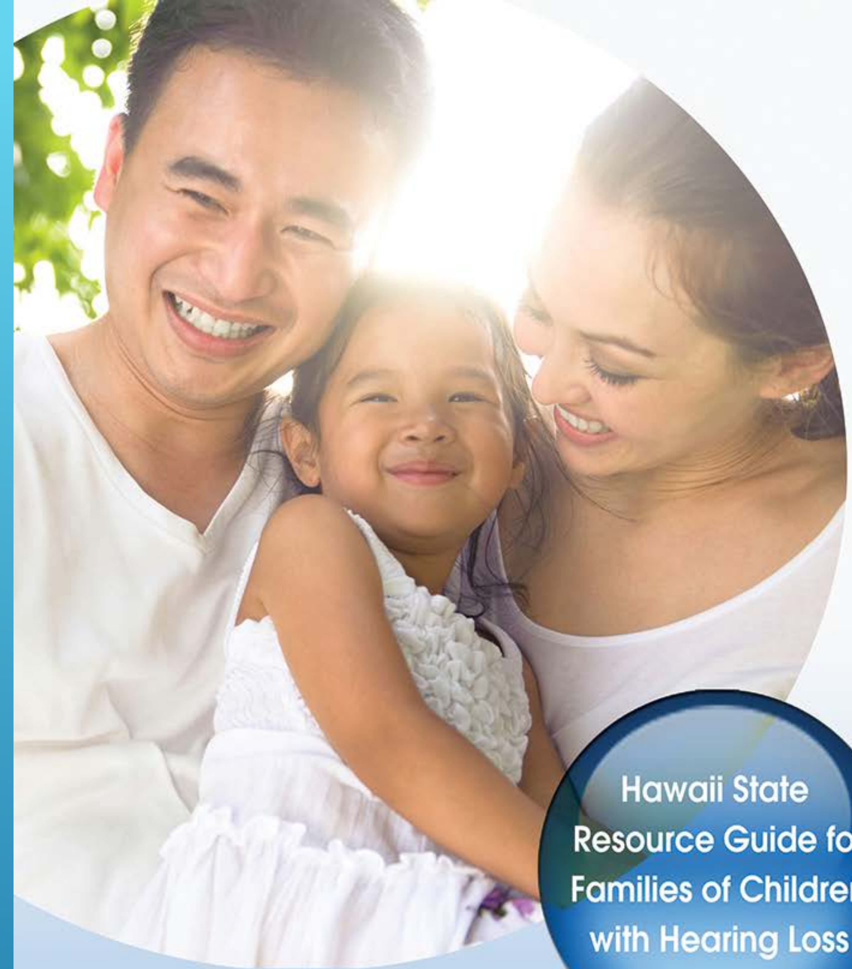
- **Physician Education**



  - Physicians do not support NBHS activities as strongly as NBMS activities
  - AAP NBHS Champion using national and local educational resources to provide physician education
  - Testing if education sessions result in changes in follow-up and referrals from the physicians receiving the education

Quality Improvement Activities

- **Family Resource Guide**
  - Used for Early Intervention Program
  - Helps guide families through child's life course
  - Testing to see how use of guide helps families improve care for their child with hearing loss



Hawaii State Department of Health
Genomics Section
Baby HEARS-Hawaii Project

Quality Improvement Activities

- Provider manual

health.hawaii.gov/genetics/programs/nhsp/providers/

GENOMICS SECTION

- HOME PAGE FOR GENOMICS SECTION
- ▶ PROGRAMS
- GUIDE TO SERVICES
- PROJECTS
- GENETIC EDUCATION
- LINKS
- CONTACT US
- GLOSSARY

HAWAII NEWBORN HEARING SCREENING: PROVIDER'S GUIDE

The purpose of this guide is to provide an overview of the medical provider's role in newborn hearing screening and resources for carrying out this role.

WHAT IS THE PRACTITIONER'S ROLE IN EARLY HEARING DETECTION AND INTERVENTION (EHDI)?

Click here for PDF version of flowchart.

Ensure that all patients are on track with the EHDI 1-3-6 plan:

- Screening before age 1 month
  - Ensure all newborns in your care have their hearing screened
- Diagnosis before age 3 months
  - Ensure all children who did not pass hearing screening receive a diagnostic audiology evaluation
- Intervention before age 6 months

Quality Improvement Activities in the Future

- contacting homebirth families directly to schedule screening appointments
- contracting midwives to provide hearing screening to homebirths in rural areas and Neighbor Islands
- increasing the reimbursement rate for homebirth screening

Quality Improvement Activities in the Future

- contracting providers to complete diagnostic evaluations in rural areas and Neighbor Islands
- working with audiologists to ensure consistent EI referral recommendations on evaluation reports

Quality Improvement Activities in the Future

- assessing institutional screener competencies
- exploring tele-audiology to the Neighbor Islands
- developing standardized protocols for the NHSP to follow up on referrals

Quality Improvement Activities in the Future

- developing talking points for EI care coordinators
- launching a public awareness campaign about the 1-3-6 timeline during the Better Speech and Hearing month (May).

Lessons Learned & Opportunities

- The system for newborn hearing screening is overall more challenging than newborn blood spot testing.
- There are many quality improvement activities that overlap between the two systems.
- Both systems can be improved by working closely together to ensure timely screening and appropriate follow-up.

Mahalo to:

Kirsty McWalter, MS, CGC
Jennifer Boomsma, MS, CGC
Michelle Takemoto, MS, CGC
Pauline Mui
Po Kwan Wong
Jasmine Jones

Eddie would Go!!

Mahalo to:

Kirsty McWalter, MS, CGC
Jennifer Boomsma, MS, CGC
Michelle Takemoto, MS, CGC
Pauline Mui
Po Kwan Wong
Jasmine Jones

EDHI would Go!!