Newborn Hearing Screening and Follow-Up

CSHCS
June 29, 2009

Michelle Garcia, Follow-Up Consultant
517-335-8878 garciam@michigan.gov

Michigan Department of Community Health
MDCH

EHDI
Early Hearing, Detection and Intervention Program

Early Hearing Detection and Intervention

- The goal of Early Hearing Detection and Intervention (EHDI) is to maximize linguistic competence and literacy development for children who are deaf or hard of hearing.

(Year 2007 Position Statement: Principles and Guidelines fro Early Hearing Detection and Intervention Programs.

Michigan Department of Community Health
MDCH

EHDI
Early Hearing, Detection and Intervention Program

It has long been recognized that unidentified hearing loss has adverse affects on:

- Speech and language
- Developmental skills
- Academic achievement
- Social-emotional development

Michigan Department of Community Health
MDCH

EHDI
Early Hearing, Detection and Intervention Program

Because it is the law……

- Screening:
  - Began with a Medicaid policy in March, 2000
    - Hospitals>15 Medicaid births must provide hearing screening
  - Today has become the standard of care
- Reporting:
  - Mandated reporting as of February 23, 2006
- Legislators approved newborn hearing screening on the panel of required newborn tests in April 2008

Michigan Department of Community Health
MDCH

EHDI
Early Hearing, Detection and Intervention Program

Background

- 1988: Maternal Child Health Bureau tests feasibility of universal newborn hearing screening
- 2000: JCIH endorses universal screening of all infants, MCHB to develop newborn screening and follow up services and CDC to develop data and tracking systems
- By 2005: every State has implemented a newborn screening program and nationally 95% of babies screened before hospital discharge

Michigan Department of Community Health
MDCH

EHDI
Early Hearing, Detection and Intervention Program

EHDI GOAL # 1.

All newborns will be screened for hearing loss no later than **1 month** of age, preferably before hospital discharge.

Michigan Department of Community Health
MDCH

EHDI
Early Hearing, Detection and Intervention Program

EHDI Goal #2

Those not passing screening should have a comprehensive audiologic evaluation no later than **3 months** of age.

Michigan Department of Community Health
MDCH

EHDI
Early Hearing, Detection and Intervention Program

EHDI Goal #3

Goal 3: All infants identified with hearing loss will receive appropriate early intervention services no later than 6 months of age.

Michigan Department of Community Health
MDCH

EHDI
Early Hearing, Detection and Intervention Program

Screening Methods

- Otoacoustic emissions (OAE)
- Auditory brainstem response (ABR)
- Two stage screening (OAE + ABR)

Michigan Department of Community Health
MDCH

EHDI
Early Hearing, Detection and Intervention Program

How Are We Doing in Michigan?

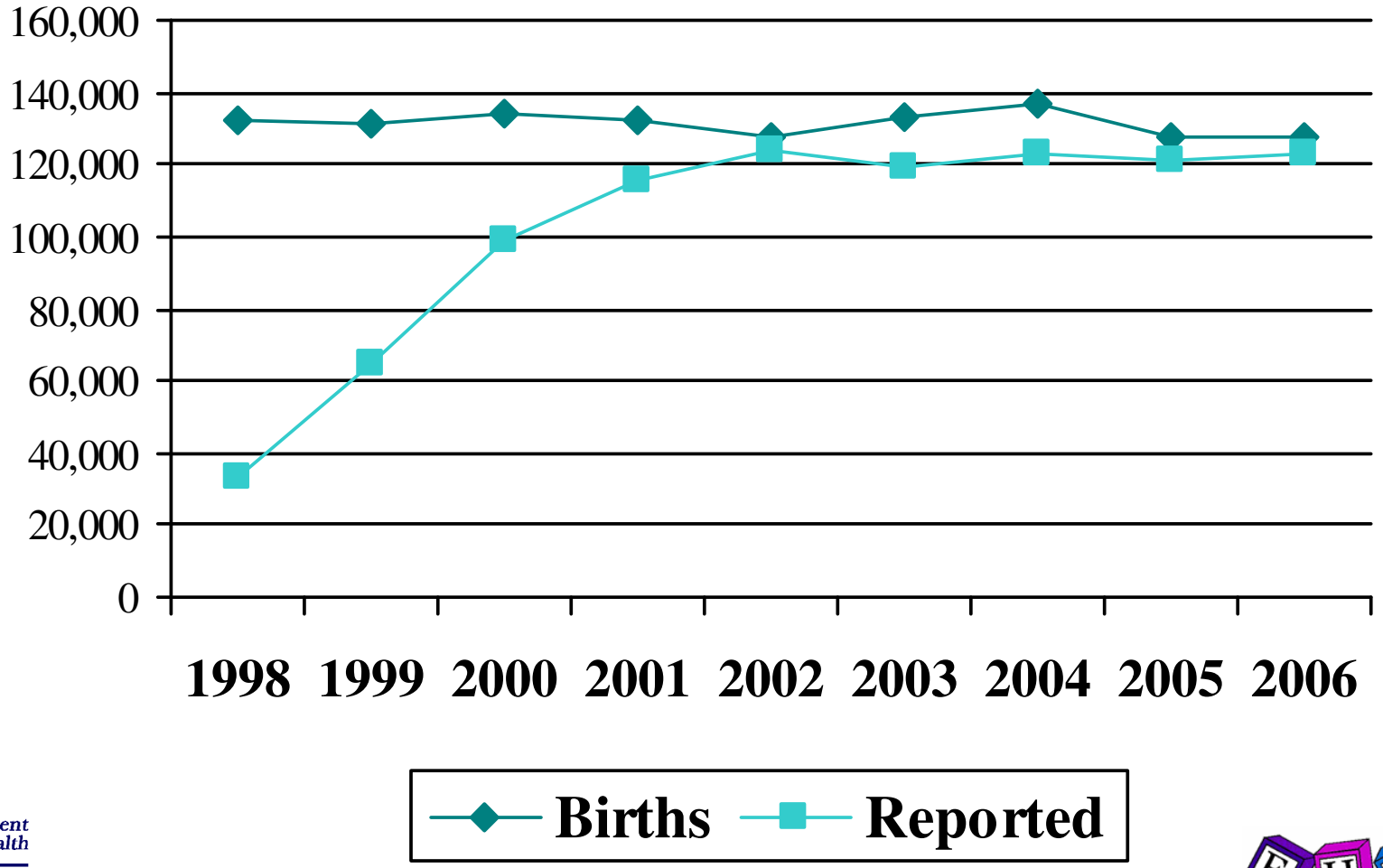
Michigan Department of Community Health

MDCH

EHDI

Early Hearing, Detection and Intervention Program

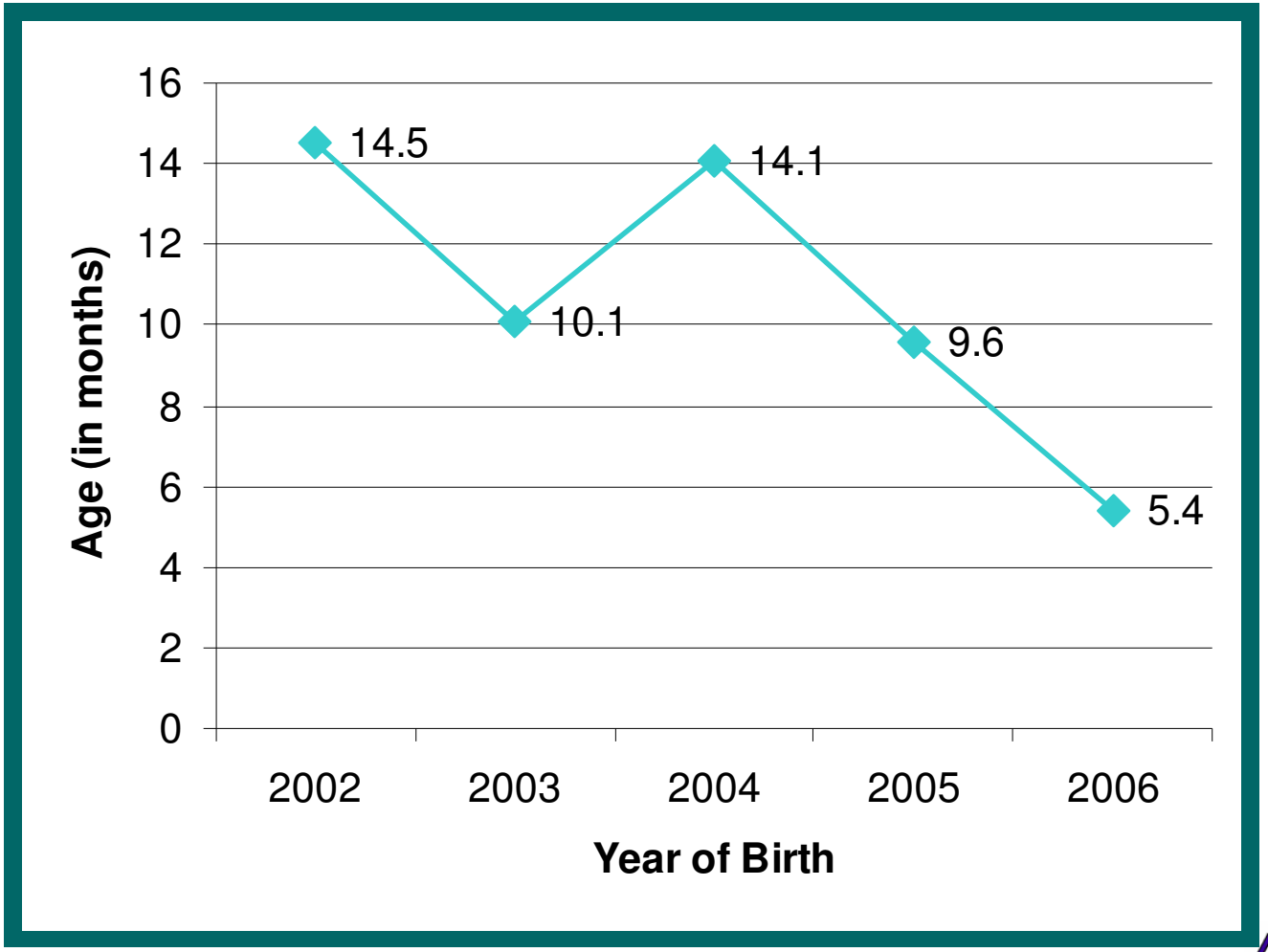
Number of Births and Number of Reported Hearing Screens, Michigan 1998-2006



Michigan Department of Community Health
MDCH

EHDI
Early Hearing, Detection and Intervention Program

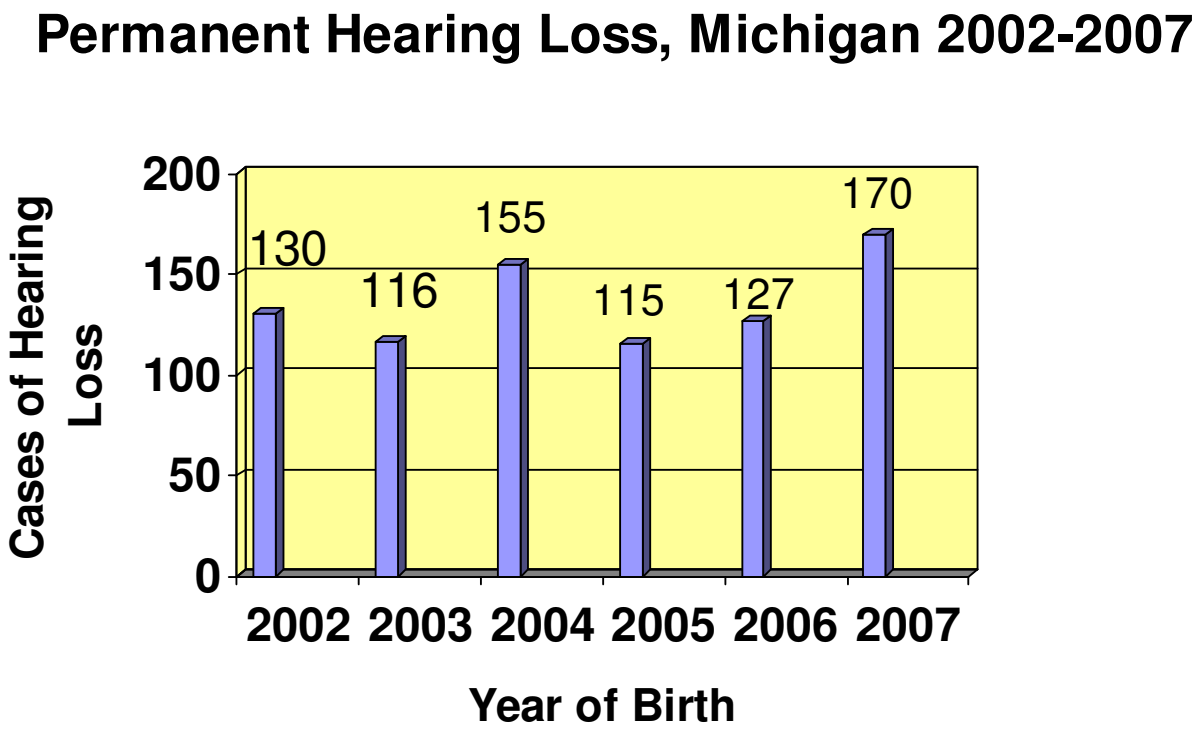
Average age at diagnosis, Michigan 2002-2006



Michigan Department of Community Health
MDCH

EHDI
Early Hearing, Detection and Intervention Program

Michigan 2002-2007



Michigan Department of Community Health
MDCH

EHDI
Early Hearing, Detection and Intervention Program

FACT:

While over 95% of US newborns are now screened for hearing loss at birth, national data suggest that up to **50%** of screening referrals are **lost to follow up**.

Michigan Department of Community Health
MDCH

EHDI
Early Hearing, Detection and Intervention Program

Loss to follow up Data: Michigan

Year	Michigan
2005:	1,282
2006:	1,156
2007:	1,330

Michigan Department of Community Health
MDCH

EHDI
Early Hearing, Detection and Intervention Program

What is EHDI Doing to Improve Loss to Follow Up?

Automated database faxes to:

- Hospitals
- Physicians
- Audiologists
- Public Health

Michigan Department of Community Health
MDCH

EHDI
Early Hearing, Detection and Intervention Program

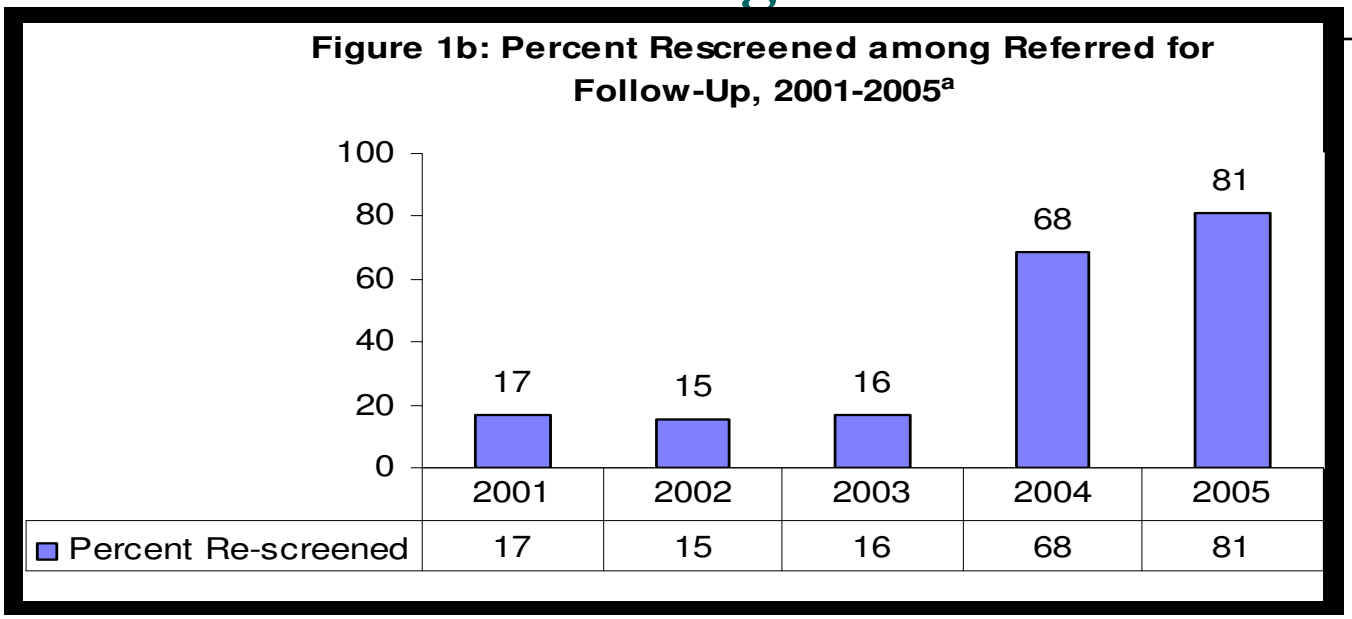
Newborn Hearing Screening

- Automated Follow-Up System
  - Follow-up database allows tracking of all referrals (missed, incomplete, unilateral and bilateral referrals)
  - Action tree allowing to contact primary care provider, re-screen site, and if needed public health nurse to help with follow-up

Michigan Department of Community Health
MDCH

EHDI
Early Hearing, Detection and Intervention Program

How Well is it Working?



No. Re-Screened	608	492	582	2,975	3,598
No. Referred	3,597	3,248	3,536	4,356	4,442

Michigan Department of Community Health

MDCH

EHDI

Early Hearing, Detection and Intervention Program

New Follow-Up Actions

- Adding contact with parents
- Increasing letters to physicians

Michigan Department of Community Health
MDCH

EHDI
Early Hearing, Detection and Intervention Program

Integration with Other State databases

- Newborn Screening
- Vital Records
  - Electronic Birth Certificate (EBC)
  - Birth Defects Registry (BDR)
- Children's Special Health Care Services (CSHCS)
- Michigan Care Improvement Registry (MCIR)

Michigan Department of Community Health
MDCH

EHDI
Early Hearing, Detection and Intervention Program

Newborn Screening

- Share Database
- Benefits
  - Demographic Information
  - Primary Care Physician
  - Hearing Results
  - Automated Follow-Up System
  - Improve Metabolic Quality Assurance

Michigan Department of Community Health
MDCH

EHDI
Early Hearing, Detection and Intervention Program

Advantages of linking with EBC

- Gather New Demographic Data
  - Infant First and Last Name
  - Maternal and Paternal Race and Ethnicity
  - Maternal and Paternal Education
  - Pay Source
  - Mother's Maiden Name
  - Attendant Physician First and Last Name
- Hearing Screen Results (initial and re-screen)

Michigan Department of Community Health
MDCH

EHDI
Early Hearing, Detection and Intervention Program

Advantages of linking with EBC Risk Indicators

- 30 Risk Indicators
- Includes
  - NICU Admission
  - Seizures or Serious Neurological Dysfunction
  - Birthweight <1500 grams
  - 5 Minute APGAR Score <6
  - Congenital Heart Condition
  - Cleft Palate/Cleft Lip
  - Down Syndrome
  - Cytomegalovirus

Michigan Department of Community Health
MDCH

EHDI
Early Hearing, Detection and Intervention Program

Collaboration with the BDR

- Matches have been completed between EHDI/BDR databases
  - Use Hearing Loss Codes
    - ICD 389
    - Notify BDR if EHDI has confirmed hearing loss
      - Helps validate information
      - Complete follow-up for babies we don't have confirmed hearing loss but BD has hearing loss

Michigan Department of Community Health
MDCH

EHDI
Early Hearing, Detection and Intervention Program

CSHCS: Biannual Matching

- December 2007
  - CSHCS Query, DOB of 2006 only 389 codes
  - 64 hearing loss cases in CSHCS
  - EHDI had 54 cases
    - Need to complete on a quarterly/annual basis

CSHCS

- Document intervention information
  - Enrolled into CSHCS
  - Hearing Aid
  - Cochlear Implant

Michigan Department of Community Health
MDCH

EHDI
Early Hearing, Detection and Intervention Program

Michigan Care Improvement Registry (MCIR)

- Advantages
  - Medical home information after 90 days
- Reaching primary care providers for babies to reduce loss to follow-up
  - Real name after 7 days
  - Verification of deceased information and moved out of state
  - Demographic information

Michigan Department of Community Health
MDCH

EHDI
Early Hearing, Detection and Intervention Program

MCIR

- In the future
  - Red Alert tabs
  - Red Alert on Batch/Roster

Michigan Department of Community Health
MDCH

EHDI
Early Hearing, Detection and Intervention Program

Michigan Department of Education

- Early Intervention Data
  - Study to match data on annual basis and receive aggregate data

Michigan Department of Community Health
MDCH

EHDI
Early Hearing, Detection and Intervention Program