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Summer 2018

# Early Hearing Detection Intervention (EHDI) Program: What is the Data Telling Us?

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## Recommended Citation

Specker, Bonny and Fossen, Lucy, "Early Hearing Detection Intervention (EHDI) Program: What is the Data Telling Us?" (2018).  
*Ethel Austin Martin Program Publications*. 106.  
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# PUBLIC HEALTH BULLETIN

VOLUME 30 NUMBER 1

Summer 2018

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## Early Hearing Detection Intervention (EHDI) Program:

### What is the Data Telling Us?

Hearing impairments in infants can negatively impact speech and language development, academic achievement, and social and emotional development if left undetected. These negative impacts can be reduced through early intervention. There are three goals of the EHDI Program:

- All newborns will be screened for hearing loss before 1 month of age, preferably before hospital discharge.
- All infants who screen positive will have a diagnostic audiologic evaluation before three months of age.
- All infants diagnosed with a hearing loss will receive appropriate early intervention services before 6 months of age.

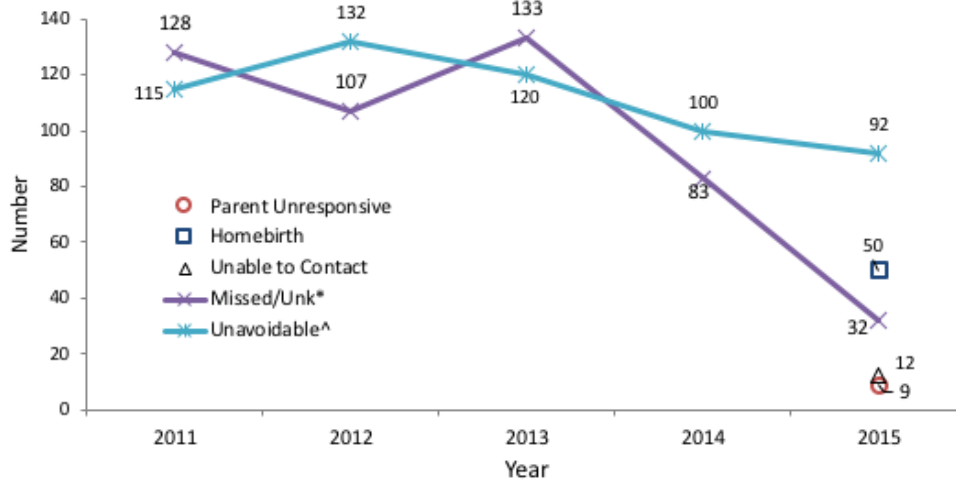
The South Dakota Department of Health recently evaluated 2010-2015 EHDI data to identify weaknesses in the surveillance program in order to identify where to focus efforts for program improvement.

### Screening Data

Between 2010 and 2015, the percent of South Dakota births that have been screened has been stable at about 98%. Of the infants who have been screened, the percent screened before one month of age has ranged from a low of 97.9% in 2015 to a high of 98.4% in 2013. In order to improve the percent screened, it is important to know the reasons for not being screened.

The main reason for not being screened was ‘unavoidable’ (infant death, infant transferred and no documentation of screening, non-resident, unable to be screened due to medical reasons, and parents/family declined services). The figure on the following page summarizes the reasons for not being screened over time and shows that the number of infants in the missed or unknown category have decreased over time. In 2015, additional categories were added, and home birth is the second largest category with missing screening data.

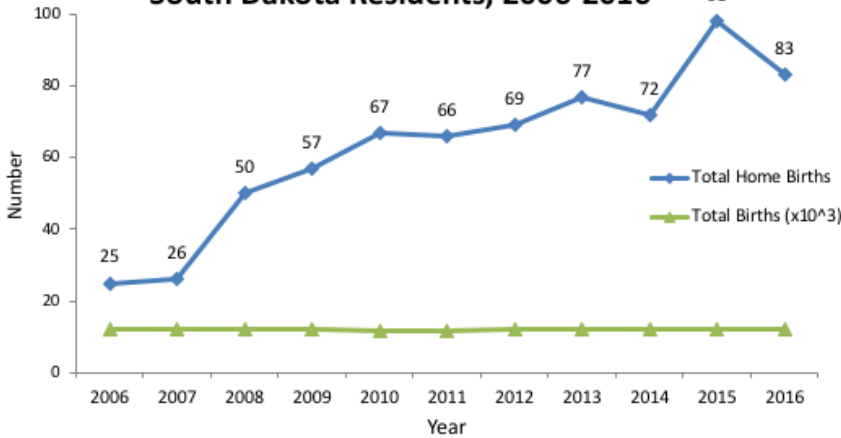
### Reasons for Not Being Screened



\* Beginning in 2015 there is no longer a 'missed' category. Additional categories were added (home birth, parent unresponsive, unable to contact), including an 'unknown' category.

^ Unavoidable reasons include deaths, transfers, non-residents, medically unable, and parents declined.

### Numbers of Home Births, South Dakota Residents, 2006-2016

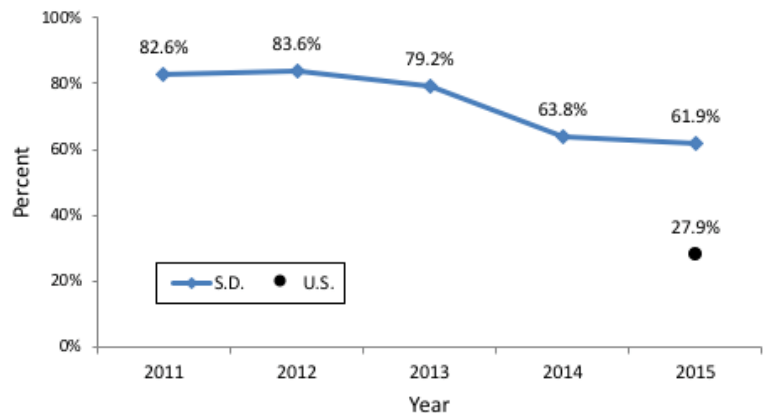


Due to the relatively large number of home births that were not screened in 2015, the number of home births historically was determined. As shown in the graph to the left, there has been an increase home births from a low of 25 in 2006 to a high of 98 in 2015. These data indicate that one way to improve the percent of infants screened is to increase screening, or collection of screening data, among home births.

### Diagnostic Data

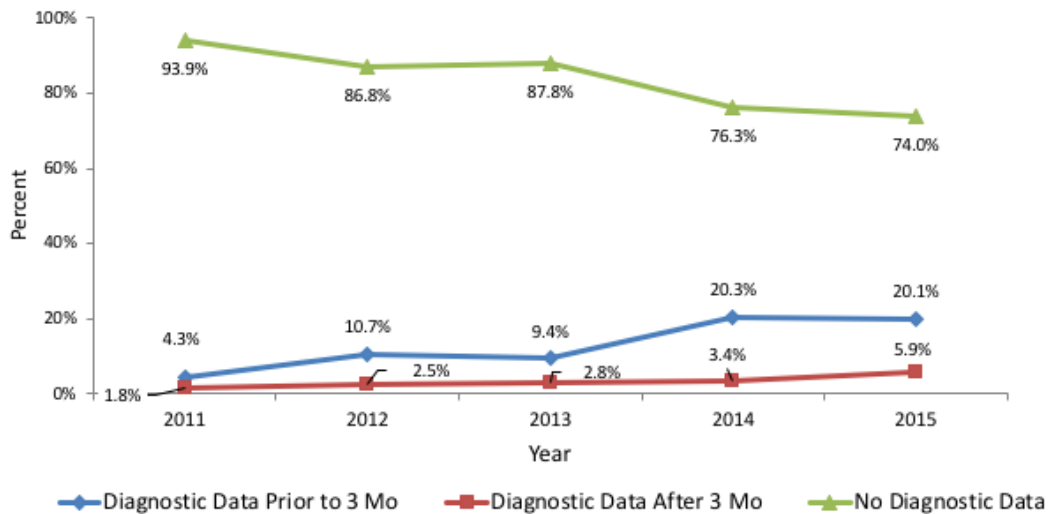
Infants are considered as 'lost to follow-up' if the parents were contacted but unresponsive, families were unable to be contacted, or if their status was considered unknown. Although the percent of infants who failed the screening and were lost to follow-up has decreased since 2011, it is still high with 61.9% of infants who failed screening being considered as lost to follow-up in 2015. This compares to a national lost to follow-up rate of 27.9%.

### Percent of Infants Who Did Not Pass Screening that were Lost to Follow-up\*



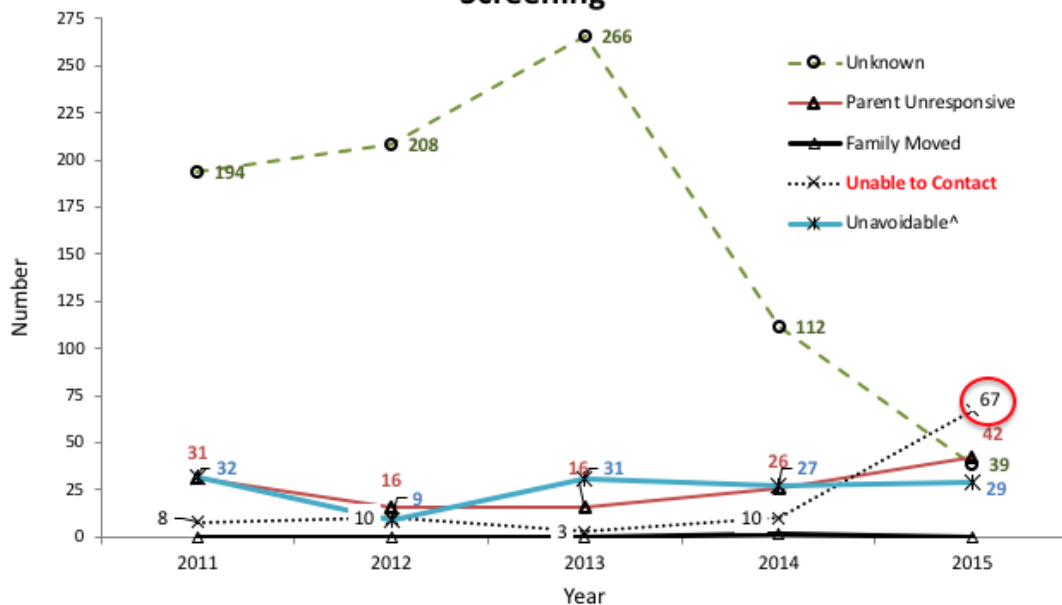
If an infant fails the screening, the goal is to have a diagnostic evaluation prior to three months of age. As shown below, the percent of infants with no diagnostic data has decreased from 93.9% in 2011 to 74.0% in 2015, but it is still *high*. The percent of infants who are screened after three months of age has been increasing from 1.8% in 2011 to 5.9% in 2015. Means to reduce the percent of infants with no diagnostic data need to be identified and there needs to be an increased effort to complete the diagnostic evaluation prior to three months of age.

### Diagnostic Status of Those Who Did Not Pass Screening



In order to reduce the number of infants with no diagnostic data, it is important to know reasons for the lack of data. In 2015, the top reasons why infants were lost to follow-up included parents that were unable to be contacted and parents that were unresponsive. Decreasing these numbers will improve the coverage of EHDI.

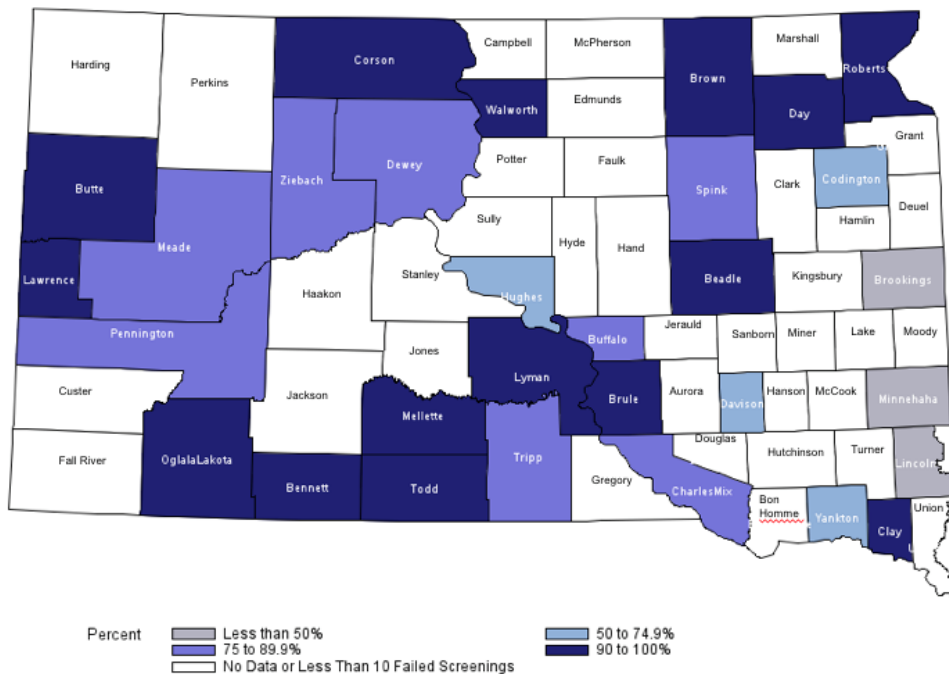
### Reasons for No Diagnostic Data Among Infants Who Failed Screening



^ Unavoidable reasons include deaths, non-resident, parents declined, healthcare provider did not refer, unable due to medical reasons or in process.

Knowing where the infants who fail a screening but have no diagnostic data reside will help when determining which counties to focus on to insure that these infants are receiving diagnostic evaluations. It will be important to determine whether the infants in these counties are not receiving a diagnostic evaluation or whether the evaluations are not being reported.

Percent of Infants Who Failed Screening That Did Not Receive Diagnostic Evaluation by County of Residence, South Dakota, 2011-2015  
**Only Counties with At Least 10 Infants Who Failed Screening are Shown**



**Intervention Data**

The majority of infants have no intervention data. Because the intervention program is administered through the Department of Education, this information cannot be released without the parent’s consent due to Family Educational Rights and Privacy Act of 1974. Increasing the number of consents obtained from parents of infants either at the time of screening or at the audiology exam should improve the surveillance of early intervention.

**Summary**

Based on 2010-2015 EHDI data, the following approaches should improve the surveillance data of the EHDI Program.

***Screening:***

Identify methods to improve screening and submission of screening data of home births.

***Diagnostic Data:***

Decrease the number of infants who are lost to follow-up.

Improve the percentage of infants who have diagnostic evaluations completed prior to 3 months of age.

Improve the reporting of diagnostic evaluations.

***Intervention:***

Increase the percentage of infants for whom parental consent is obtained at the time of screening or diagnostic evaluation.

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