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# Data on Iowa Students Who Are Deaf or Hard of Hearing



FFY 2006 (2006 – 2007)

September 2008, **Amended November 2008**

State of Iowa  
Iowa Department of Education  
Bureau of Student and Family Support Services  
Grimes State Office Building  
Des Moines, Iowa 50319-0146

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State of Iowa  
**Department of Education**  
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## **Introduction**

The purpose of the Hearing Coordinating Council is to examine services for children and youths who are deaf or hard of hearing and to make recommendations designed to coordinate services to the State Board of Education and the Iowa Board of Regents.

The Hearing Coordinating Council will review all state-wide services to students who are deaf or hard of hearing to determine if services to students who are deaf or hard of hearing are available across Iowa. As part of their comprehensive study of state-wide services, the Hearing Coordinating Council asked the Iowa Department of Education for information about (a) numbers of students, and degree of hearing loss, (b) number and type of service providers, (c) location of service provision, and (d) academic performance.

## Data Sources Used

For the purposes of this report, several information management systems were used to extract the data. The State Identification number was used to match students. Achievement data at the Iowa Department of Education are available on a “one-year behind” schedule. Hence, for data summary purposes in 2007-2008, achievement data were available for the 2006-2007 school year. To ensure that inferences were being made about the same cohort of students at the same period in time, other data were also gathered to reflect status during the 2006-2007 school year.

### *Method*

Audiologists employed by Iowa’s Area Education Agencies (AEAs) identify children who have a significant hearing loss. Significant hearing loss is not defined by the degree of loss. A significant hearing loss is defined as hearing loss that has the potential to negatively impact education, including:

- *A unilateral permanent hearing loss, moderate or greater (45dB Pure Tone Average – PTA at 500, 1000, 2000 Hz)*  
***or***
- *A bilateral permanent hearing loss, mild or greater (25dB PTA at 500, 1000, 2000 Hz)*  
***or***
- *A bilateral permanent high frequency hearing loss (35dB PTA at 2 or more of the following frequencies- 2000, 3000, 4000 Hz in the better ear)*  
***or***
- *A hearing loss that, based on the professional discretion of the audiologist, may affect a student academically (e.g.- chronic conductive, fluctuating)*

Iowa’s Information Management System (IMS) contains a Hearing Module specifically designed to house data on students with a significant hearing loss. Students with a significant hearing loss whose data are in IMS may or may not have IFSPs or IEPs.

For students with IFSPs and IEPs, IMS contains data on state student identification number, type of services provided, and setting/least restrictive environment.

The Adequate Yearly Progress (AYP) database contains student achievement data for Reading and Mathematics, for all students in Iowa in Grades 3-8 and 11. The state student identifier was used to match students with significant hearing loss to student achievement.

The reliability of the data entered in the hearing module was not established. To find all students with significant hearing loss, several data sorts were performed. Data were aggregated so that each student was in the final dataset only one time, even if the student was found on multiple data sorts/data pulls.

The data sorts were designed to find (a) all students with a significant hearing loss even if not served on an IFSP or IEP, (b) students with IFSPs or IEPs who receiving special education from an audiologist or teacher of students who are deaf or hard of hearing, and (c) students with IFSPs or IEPs who received special education from someone other than an audiologist or teacher of students who are deaf or hard of hearing.

The specific sorts were:

- Had a record in the hearing module
- Were active on an IFSP anytime from July 1, 2006-June 30, 2007 and had a record in the hearing module and support service code was representative of audiology or teacher of students who are deaf or hard of hearing
- Were active on an IEP anytime from July 1, 2006-June 30, 2007 and had a record in the hearing module and support service code was representative of audiology or teacher of students who are deaf or hard of hearing
- Were active on an IFSP anytime from July 1, 2006-June 30, 2007 and had a record in the hearing module and special education was provided by someone other than an audiologist or teacher of students who are deaf or hard of hearing
- Were active on an IEP anytime from July 1, 2006-June 30, 2007 and had a record in the hearing module and special education was provided by someone other than an audiologist or teacher of students who are deaf or hard of hearing

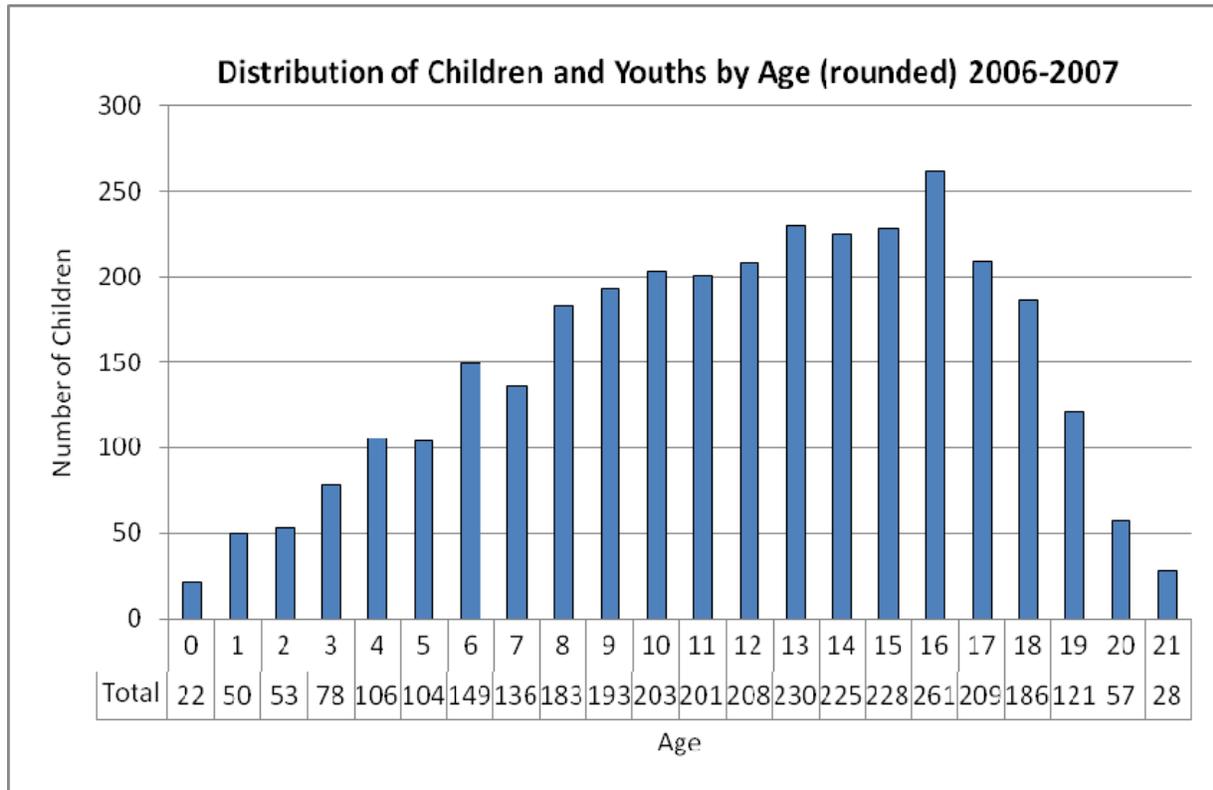
## Section I. Who are the Students?

In this section, data will be presented on: (a) numbers of students who are deaf or hard of hearing by age, (b) numbers of students who are deaf or hard of hearing by gender, (c) proportion of students with differing degrees of hearing loss, and (d) extent to which hearing loss is unilateral or bilateral.

### *Distribution of Students who are Deaf or Hard of Hearing by Age*

#### Data Highlights:

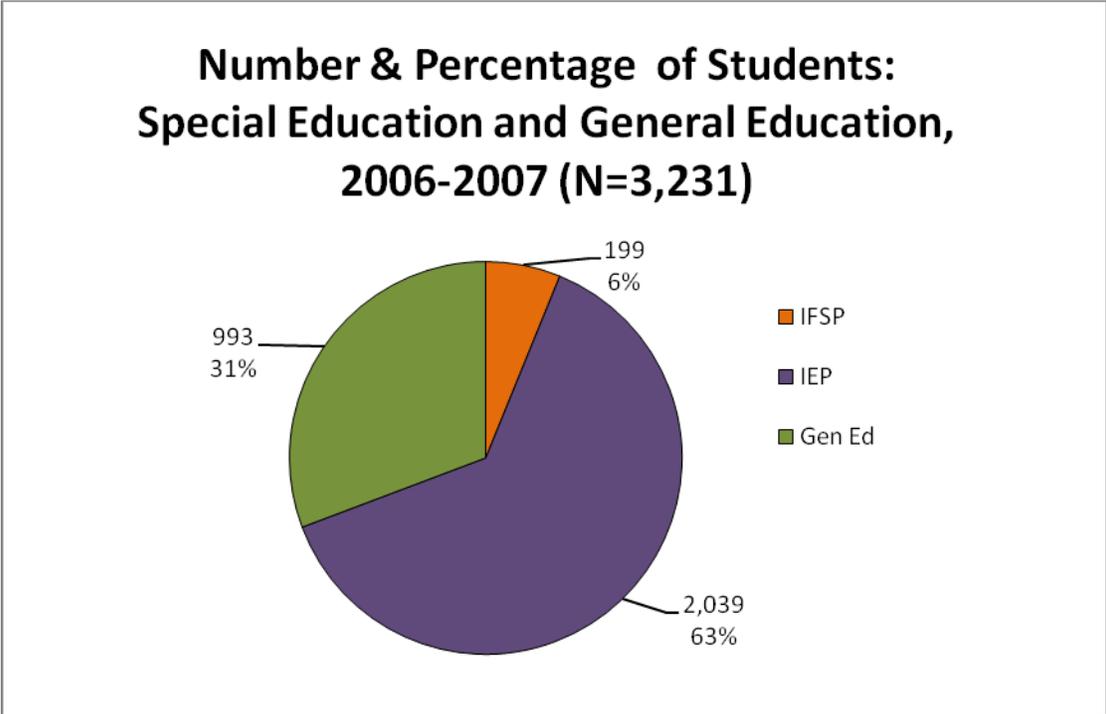
- In 2006-2007, there were 3,231 students identified with a hearing loss
- 75% of students with hearing loss (as defined above) are between ages 6 and 17
  - Nationally, 76.8% of students with hearing loss are between 6 and 17 (Gallaudet Research Institute, 2006)
- The number of students with hearing loss is not evenly distributed across all ages



*Number and Percentage of Children and Youth with Hearing Loss by IFSP, IEP, and General Education*

Data Highlights:

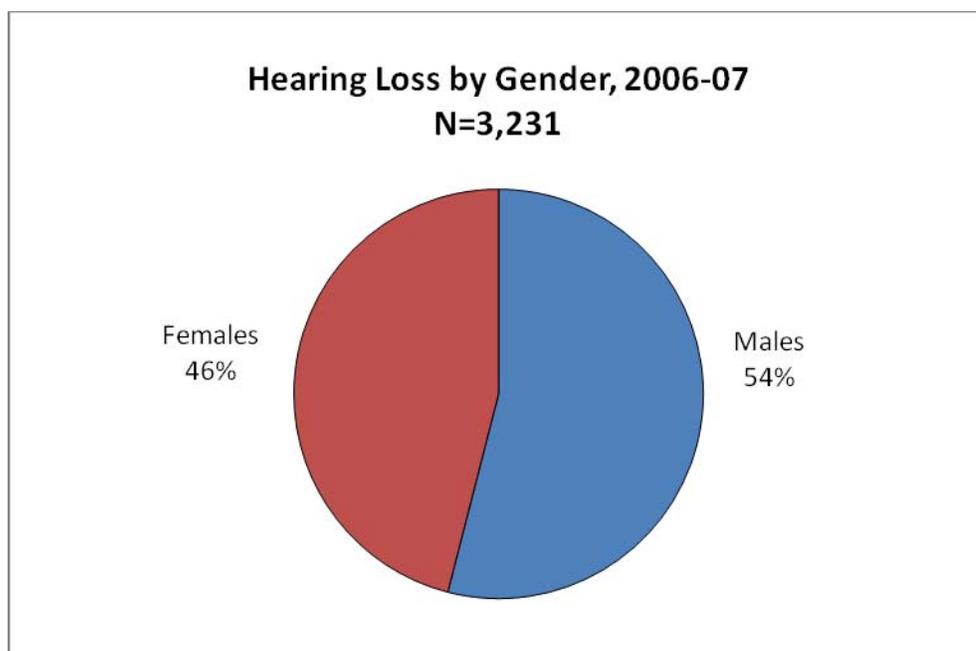
- In 2006-07, six percent (6%) of students identified with a hearing loss had an IFSP
- 63% of the students had an IEP
  - Of the 2,238 students with an IFSP or IEP, 8.89% had IFSPs while 91.10% had IEPs
- 31% of the students did not have an IFSP or IEP



## *Percentage of Students who are Deaf or Hard of Hearing by Gender*

### Data Highlight:

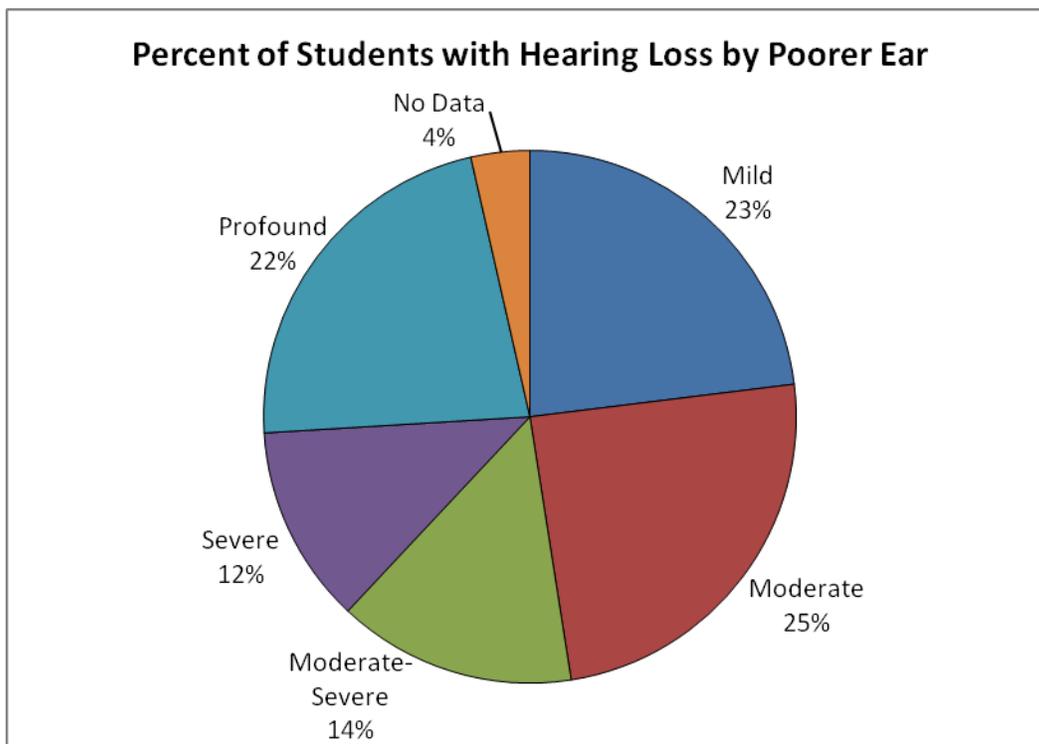
- In 2006-2007, of the 3,231 students identified with a hearing loss, 54% were male, 46% were female
  - The national ratio of male:female students is 54.1%:45.9% (Gallaudet Research Institute, 2006)



*Percentage of Students who are Deaf or Hard of Hearing by Degree of Hearing Loss in the Poorer Ear*

Data Highlights:

- In 2006-2007, the percentage of students whose poorer ear had a “mild” loss was 23%. Nationally, students with mild hearing loss was 13.2% (Gallaudet Research Institute, 2006)
- In 2006-2007, the percentage of students whose poorer ear had a “moderate” loss was 25%. Nationally, students with moderate hearing loss was 13.8% (Gallaudet Research Institute, 2006)
- In 2006-2007, the percentage of students whose poorer ear had a “moderate-severe” loss was 14%. Nationally, students with moderate-severe hearing loss was 12.1% (Gallaudet Research Institute, 2006)
- In 2006-2007, the percentage of students whose poorer ear had a “severe” loss was 12%. Nationally, students with severe hearing loss was 14.0% (Gallaudet Research Institute, 2006)
- In 2006-2007, the percentage of students whose poorer ear had a “profound” loss was 22%. Nationally, students with profound hearing loss was 28.0% (Gallaudet Research Institute, 2006)
- No data was reported for 4%

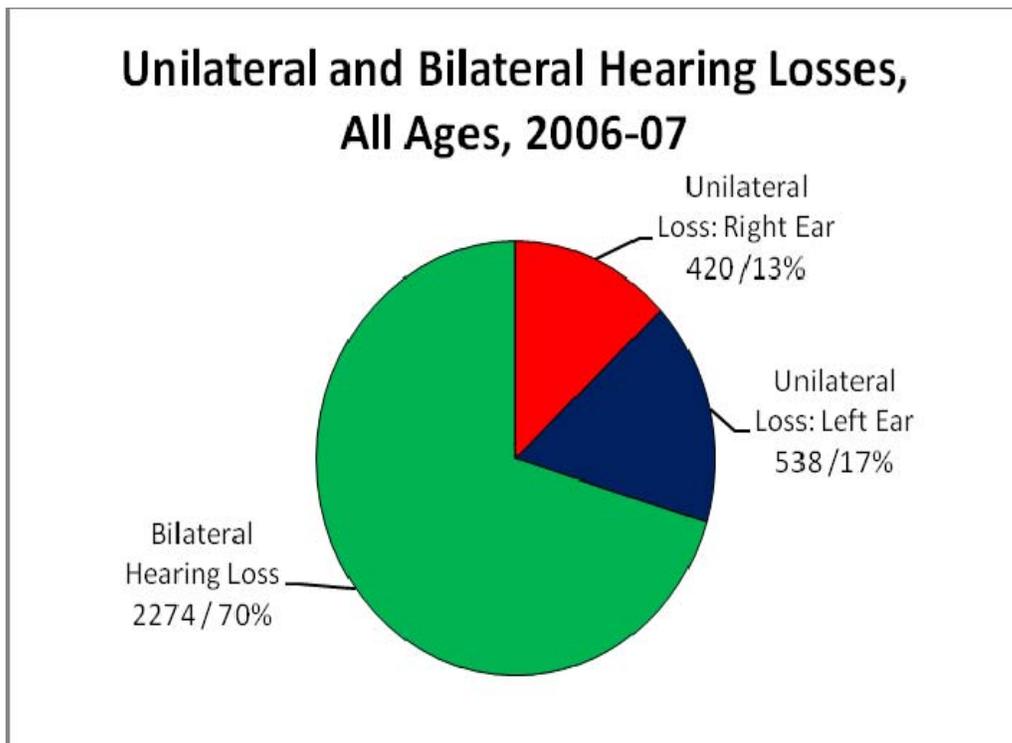


## Number and Percent of Students with Unilateral or Bilateral Hearing Loss

### Data Highlights:

- In 2006-2007, 958 students has a unilateral hearing loss
  - 420 students had unilateral hearing loss in the right ear (13%)
  - 538 students had unilateral hearing loss in the left ear (17%)
- In 2006-2007, 2274 students had a bilateral hearing loss (70%)

There are no corresponding national data available from the Gallaudet Research Institute. Other sources for national data were not explored.



*Percent of DHH Population in the Area Education Agencies (AEAs) – corrected 11/08*

The original table on Page 9 had errors. The corrected table is included in the addendum and the corrected table is now page 9 of the version posted on the DE website as of November 2008.

*Percent of DHH Population in the Area Education Agencies (AEAs)*

Data Highlights:

- The percent of DHH students to the students with disabilities ranged from 2.34% to 5.74%
- The percent of DHH students to the total AEA enrollment ranged from 0.31% to 0.90%

<b>Percent of DHH Population by AEAs</b>					
	Total Enrollment	SWD*	DHH Students	Percent of SWD	Percent of Total Enrollment
Keystone 1	36,382	5,031	212	4.21%	0.58%
AEA 7	68,592	10,866	624	5.74%	0.90%
Prairie Lakes 8	34,598	4,686	110	2.34%	0.31%
Mississippi Bend 9	51,911	7,002	374	5.34%	0.72%
Grant Wood 10	70,580	10,221	439	4.29%	0.62%
Heartland 11	128,802	17,750	690	3.88%	0.53%
Northwest AEA	44,341	5,739	287	5.00%	0.64%
Loess Hills 13	31,345	4,740	249	5.25%	0.79%
Green Valley 14	10,495	1,884	56	2.97%	0.53%
Great Prairie 15	39,816	6,407	179	2.79%	0.44%
Total	516,862	74,326	3220	4.18%	0.60%

\* Students with Disabilities

Source: The Annual Condition of Education Report 2007  
Certified Annual Report, 2006-07

Note: DHH Students are included by Resident District, not by Attending District. Students enrolled at the Iowa School for the Deaf are included in the count of their Resident District.

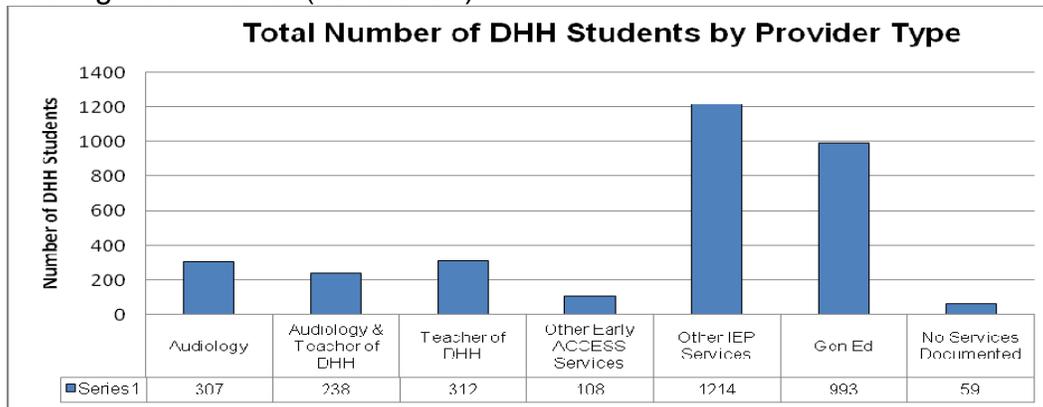
## Section II. Service Providers

In this section, the 2006-2007 distribution of service providers for students who are deaf or hard of hearing will be reported. We asked for the data to include service provider codes for audiologist and teacher of the deaf and hard of hearing. We did not ask for the Speech-Language Pathologist code to be pulled.

### *Total Number of DHH Students by Provider Type*

#### Data Highlights:

- In 2006-2007, of the total 3231 students, 857 (26.52%) received IFSP or IEP services from audiologists and/or teachers of students who are deaf or hard of hearing
- The percentage of students on IFSPs or IEPs served by someone other than an audiologist or teacher of the deaf and hard of hearing was 40.91% (1322/3231)
- The percentage of students with significant hearing loss not on an IFSP or IEP was 30.73% (993/3231)
- The percentage of students (1) not on an IFSP or IEP or (2) on an IFSP or IEP and not receiving services from an audiologist or teacher of the deaf and hard of hearing was 71.64% (2315/3231)



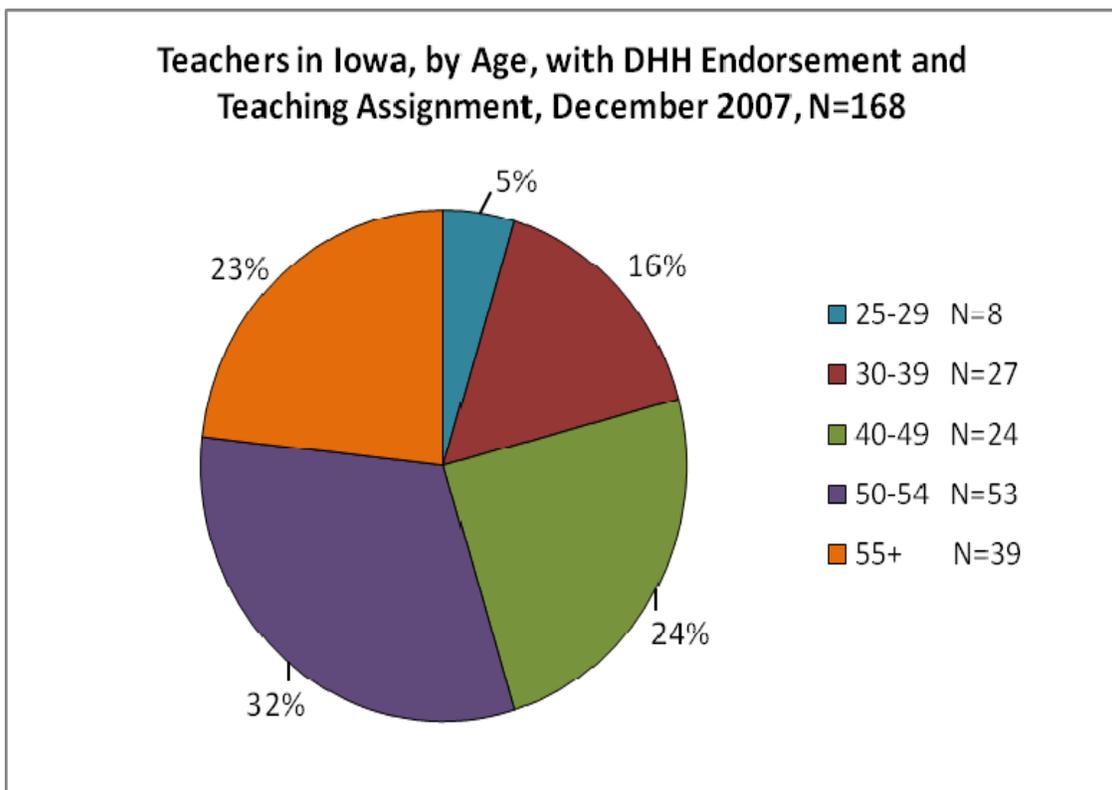
Audiology	Only educational audiologists provide support service, as listed on the IEP. Note: Some AEAs only add Audiology as a Service Provider if a goal is written.
Audiology and Teacher of DHH	Educational audiologists and teachers of students who are deaf or hard of hearing both provide support service, as listed on the IEP. Note: Some AEAs only add Audiology as a Service Provider if a goal is written.
Teacher of DHH	Only teachers of students who are deaf or hard of hearing provide support service, as listed on the IEP.
Other IEP Services	Students have an IEP and do not receive support services from either educational audiologists or teachers of students who are deaf or hard of hearing. Students receive support services from other personnel, as listed on the IEP.
Other Early ACCESS	Students with a record in the hearing module and are on an IFSP. They do not receive services by an audiologist and/or a teacher of students who are deaf or hard of hearing.
General Education	Students have a record in the IMS hearing module, do not have an IEP and are served in General Education.
No Services Documented	Files of children under the age of 4 years in the Early Hearing Detection and Intervention program (EHDI) without an IFSP or IEP and with no services documented.

In addition, data are summarized for: (a) the age range of teachers who have at least one endorsement of deaf or hard of hearing and who had a teaching assignment for the 2006-2007 school year (although the teaching assignment may not be for students who are deaf or hard of hearing), (b) number of licensed interpreters, number of educational interpreters, and percentage of educational interpreters licensed by examination, for 2006-2007 and 2007-2008 and (c) 2008 distribution of licensed interpreters by county.

*Age Range of Teachers with DHH Endorsement and Teaching Assignment in 2006-2007*

Data Highlights:

- Of 168 teachers, (a) 8 teachers (5%) were under the age of 30, (b) 39 teachers (23%) were 55 or older
- Ninety-two teachers (55%) were over the age of 50



Note: Teachers with a DHH endorsement and a teaching assignment may or may not be currently teaching students who are deaf or hard of hearing.

*Number of Licensed Interpreters in 2006-2007 and 2007-2008*

Data Highlights:

- From 2006-2007 to 2007-2008, the number of total licensed interpreters decreased by 20, from 358 to 338
- During the same time period, the total number of educational interpreters increased from 151 to 160
- The number of educational interpreters with a temporary license increased by three, while the percentage decreased from 84.10% to 81.20%
- The number of education interpreters with a permanent license increased by four, while the percentage increased from 17.20% to 18.70%

**Licensed Interpreters, 2006-2007 & 2007-2008**

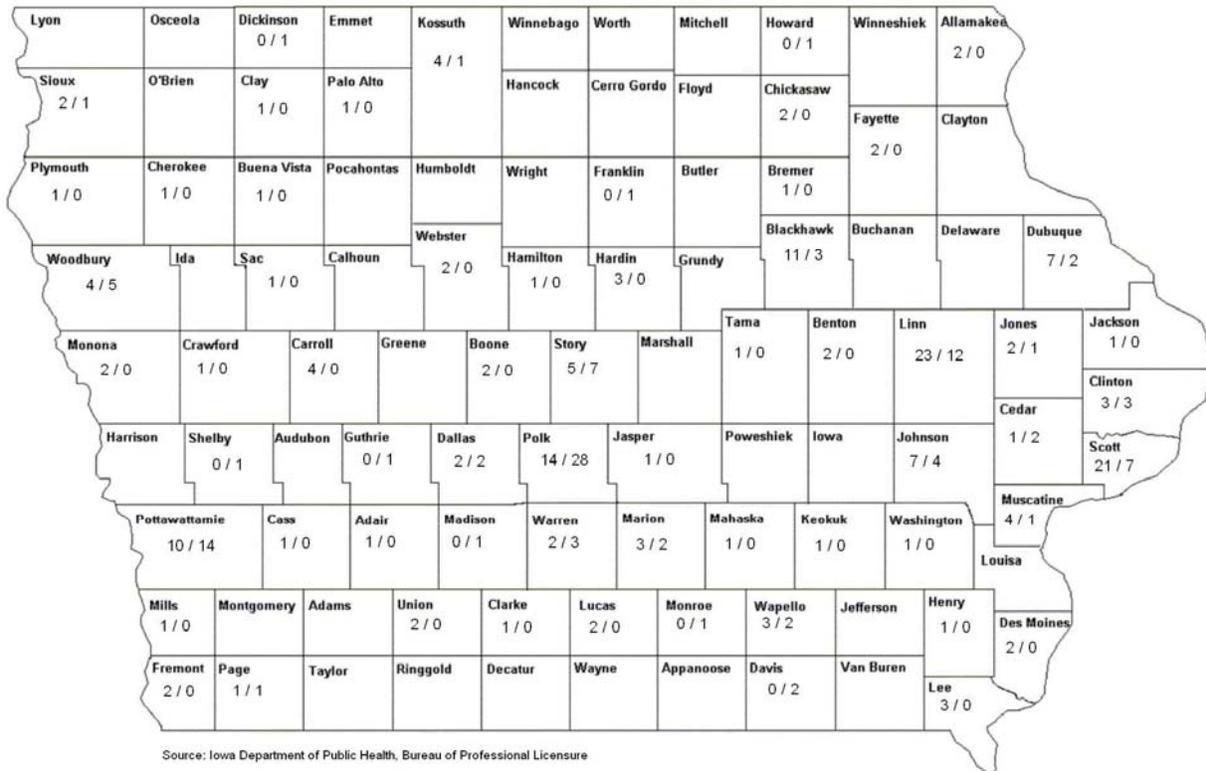
	2006-2007		2007-2008	
	Number	Percent	Number	Percent
Total Number of Licensed Interpreters	358		338	
Licensed by Examination	104	29.00%	126	37.27%
Number of Educational Interpreters	151		160	
Educational Interpreters with Temporary License	127	84.10%	130	81.20%
Educational Interpreters with Permanent License	26	17.20%	30	18.70%

## Distribution of Licensed Interpreters by County

Data Highlight:

- The distribution of licensed interpreters corresponds with the more densely populated counties.

### Licensed Interpreters by County April 22, 2008 N=338, 47 of whom live out of state # temporary licensed / # licensed by examination



Source: Iowa Department of Public Health, Bureau of Professional Licensure

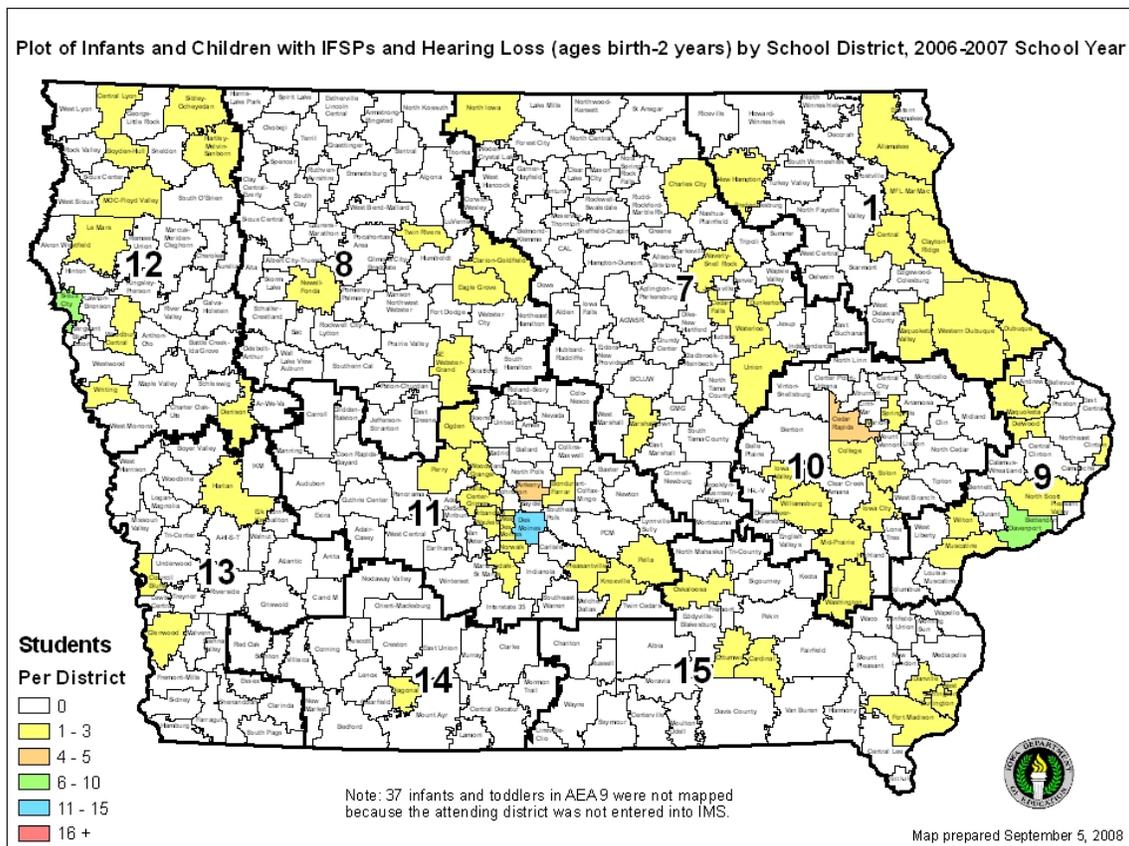
### Section III. Location of Service for Students

Location of services for students will be analyzed in two ways. First, by plots of school districts where students attend school within the State of Iowa. Second, Least Restrictive Environment (LRE) for percent of time educated with non-disabled peers will be summarized.

#### *Plot of Infants and Children with IFSPs and Hearing Loss by School District*

##### Data Highlights:

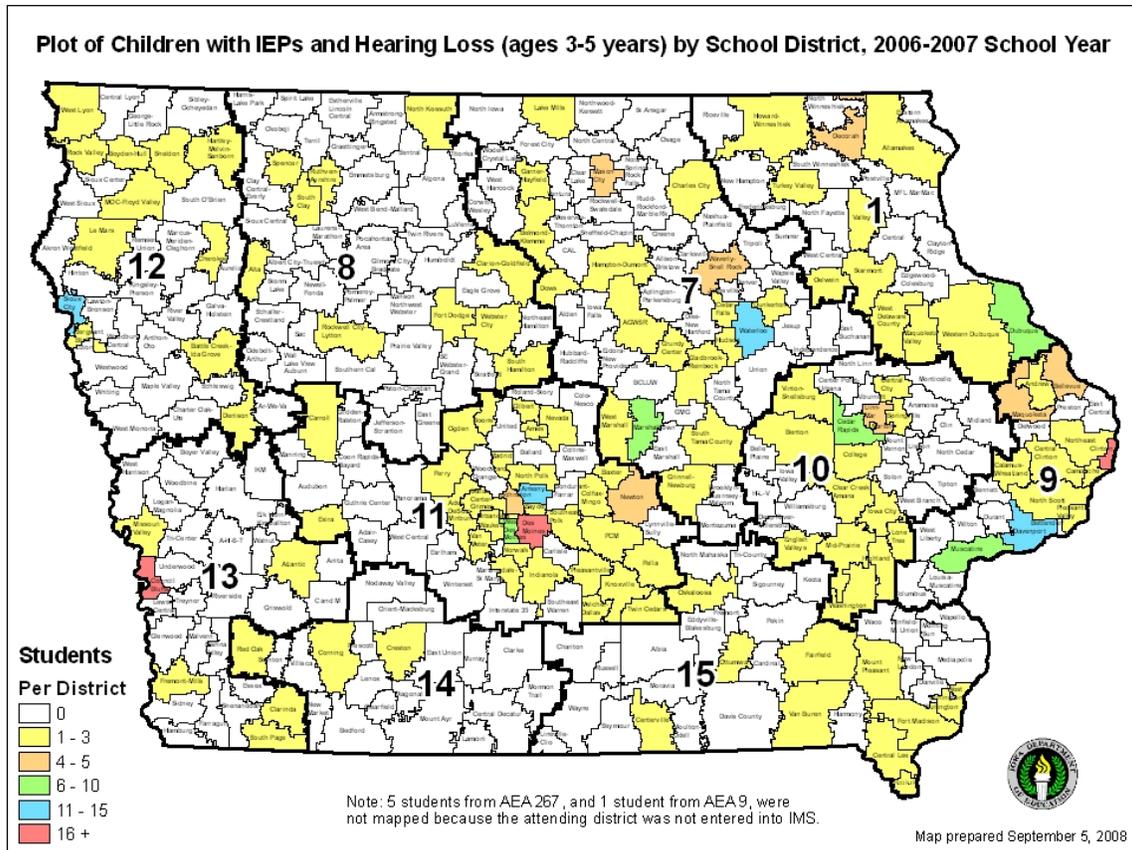
- The majority of districts do not have any infants or toddlers with hearing loss
- The density seems greater in AEAs 12, 11, 1, 9 and 10



*Plot of Children with IEPs and Hearing Loss, Ages 3-5 Years, by School District*

Data Highlights:

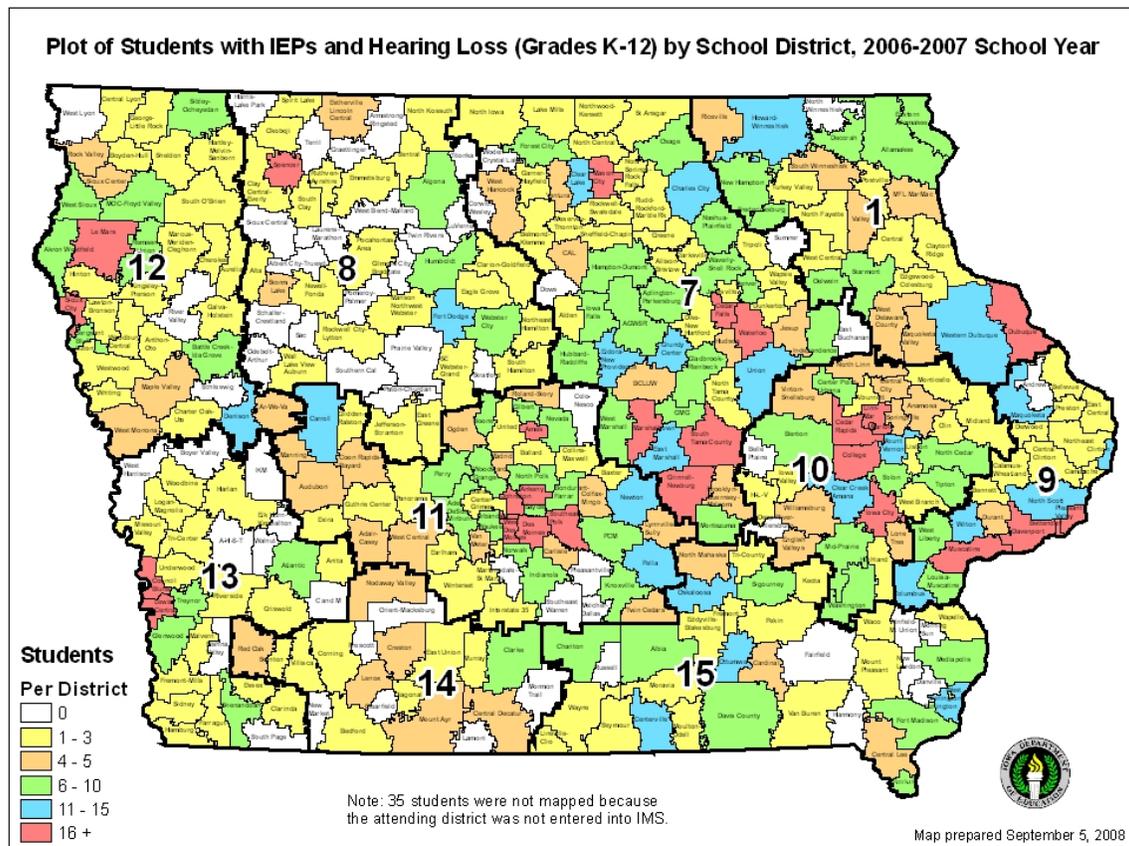
- Most districts do not have 3-5 year old students with hearing loss
- The majority of districts have between one to three, 3-5 year olds with hearing loss
- Seven districts have more than 10 children ages 3-5 identified with hearing loss



## Plot of Children with IEPs and Hearing Loss, Grades K-12, by School District

### Data Highlights:

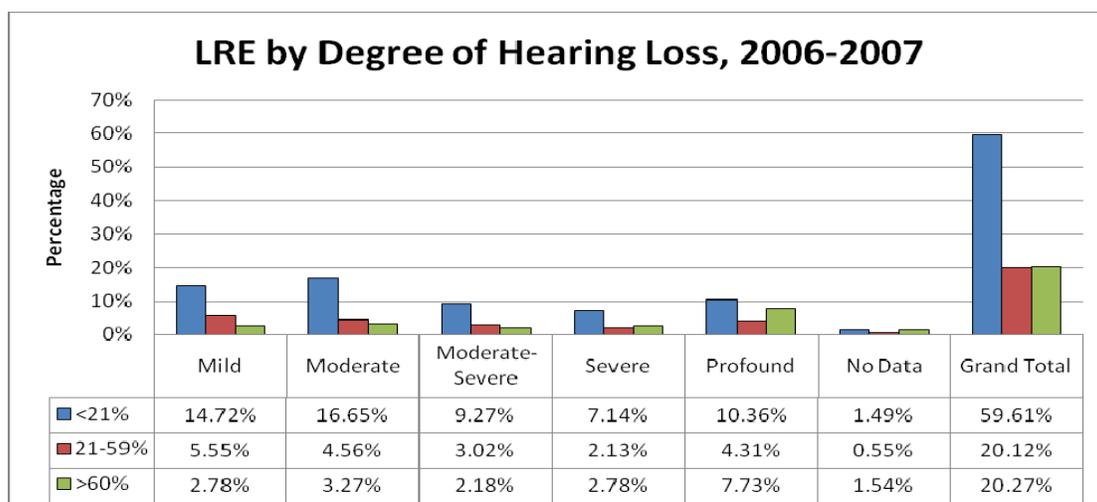
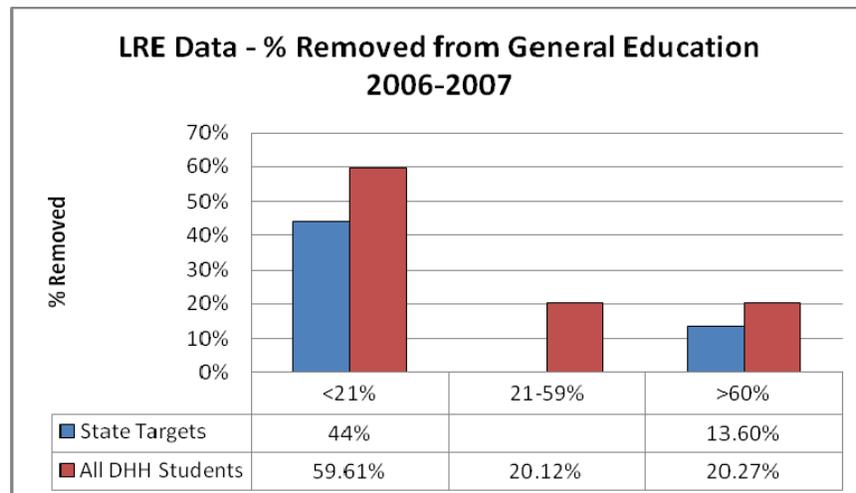
- The majority of school districts have students with hearing loss
- The density appears greater on the Eastern part of the state which correlates with the state population
- AEA 14 is the only AEA with no districts with more than 10 students identified
- It appears that the districts with 16 or more students are in or surrounding larger population centers



## Least Restrictive Environment (LRE)

### Data Highlights

- Students who are deaf or hard of hearing are included in general education more than 80% of the day at a higher percentage than the State target.
- Students who are deaf or hard of hearing are removed from general education more than 60% of the school day at a higher percentage than the State target (exceeding the target by about 6%).
- When degree of hearing loss is examined, students with moderate-severe, severe, and profound loss are included in general education at least 80% of the day at a lower percentage than students with mild and moderate losses. In addition, students with profound hearing loss receive services in special education >60% of the school day at a higher percentage than other students with hearing loss.



Note: The Y axis was truncated because 6 of 7 categories (18 of 21 bars) had percentages of less than 20. The truncation allows for better visual analyses of the data.

## Section IV. Performance

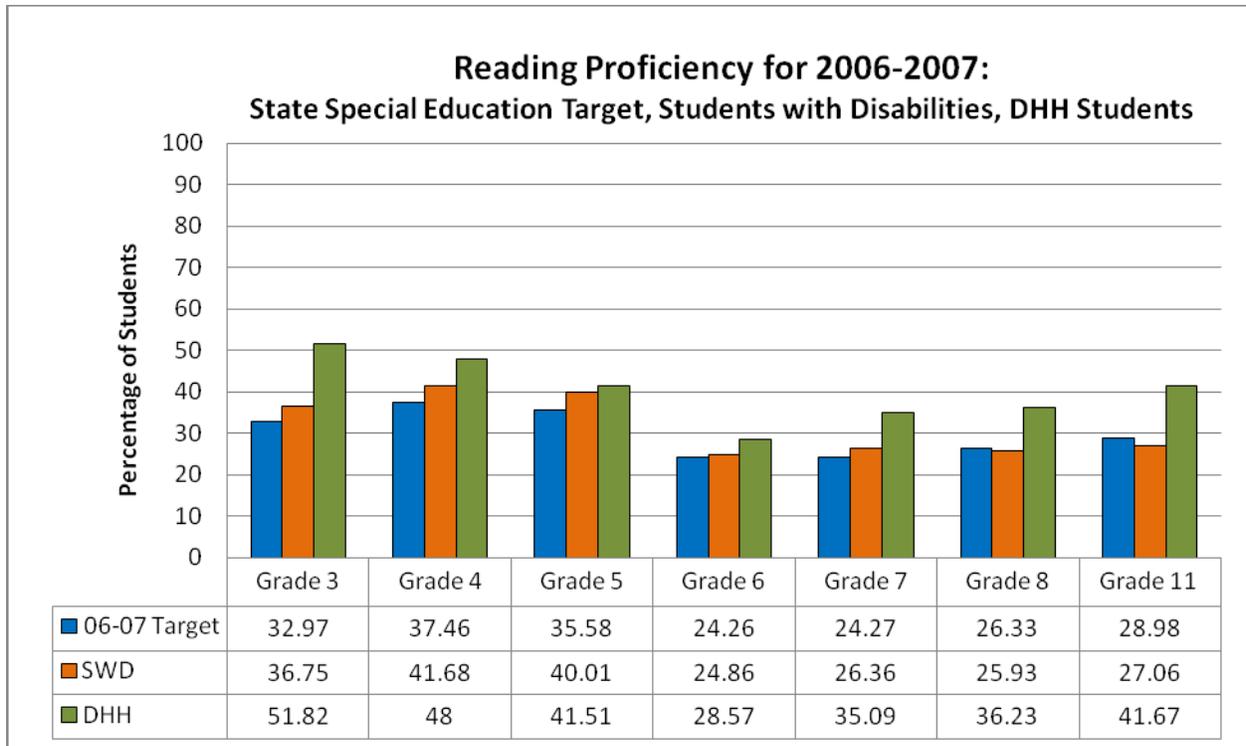
### Academic Proficiency

In Iowa, academic proficiency has three performance categories, basic, proficient, and advanced. In general, students at the basic level are performing below the 41<sup>st</sup> percentile on the Iowa Tests, and would have limited application of the skills being assessed. Students in the proficient level are performing between the 41<sup>st</sup> and 89<sup>th</sup> percentile. Proficient students demonstrate consistent application of the skills being assessed. Students in the advanced level are scoring at the 90<sup>th</sup> percentile or higher, and demonstrate consistent and advanced application of the skills being assessed. A more in-depth discussion of proficiency levels can be found on the Iowa Department of Education website under the link for *No Child Left Behind*.

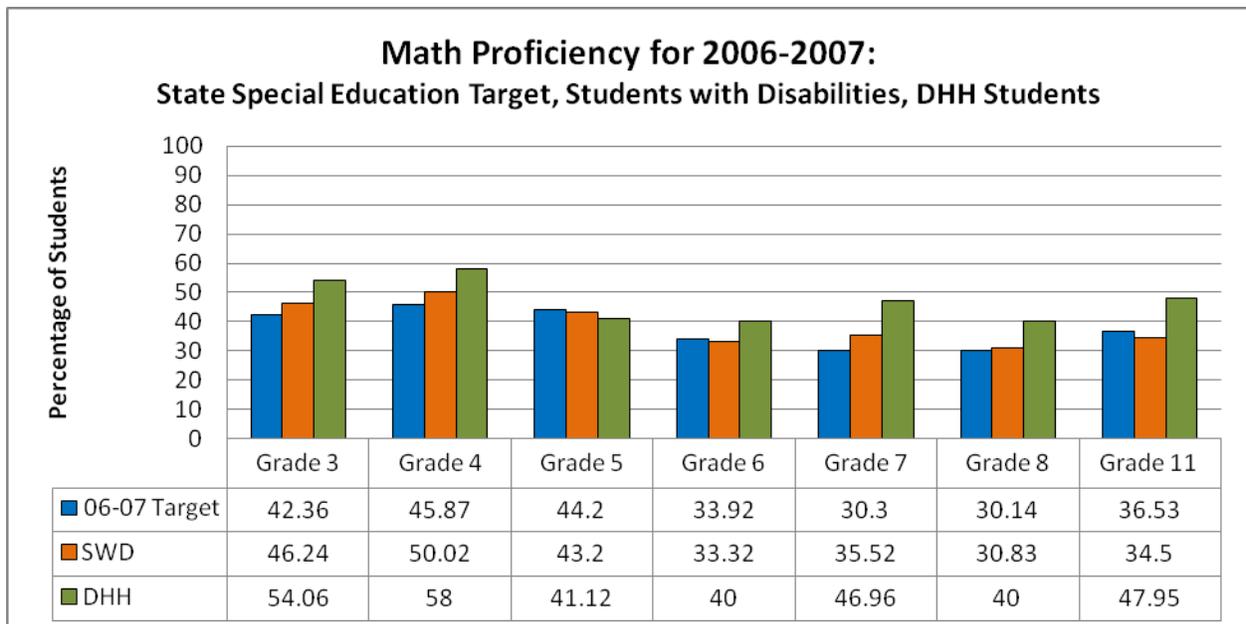
Some students have data in which their test is given using alternate conditions and whose performance was judged against alternate achievement standards. The cut scores for the alternate assessment are raw scores, differ depending on the grade level and content area assessed, but also represent basic, proficient, and advanced performance.

The following questions will be addressed:

1. What percentage of students with hearing loss is proficient in reading and in math as compared to the State Performance Plan target and all students with disabilities?
2. For each of Grades 3-8 and 11, in reading and in math, what are the percentages of students with hearing loss who score basic, proficient, or advanced?
3. What percentage of students who have unilateral loss is proficient on either the Iowa Tests or Alternate Assessment?
4. Collectively for Grades 3-8 and 11, in reading and in math, what are the percentages of students with hearing loss (basic, proficient, or advanced) according when examined by service provider?



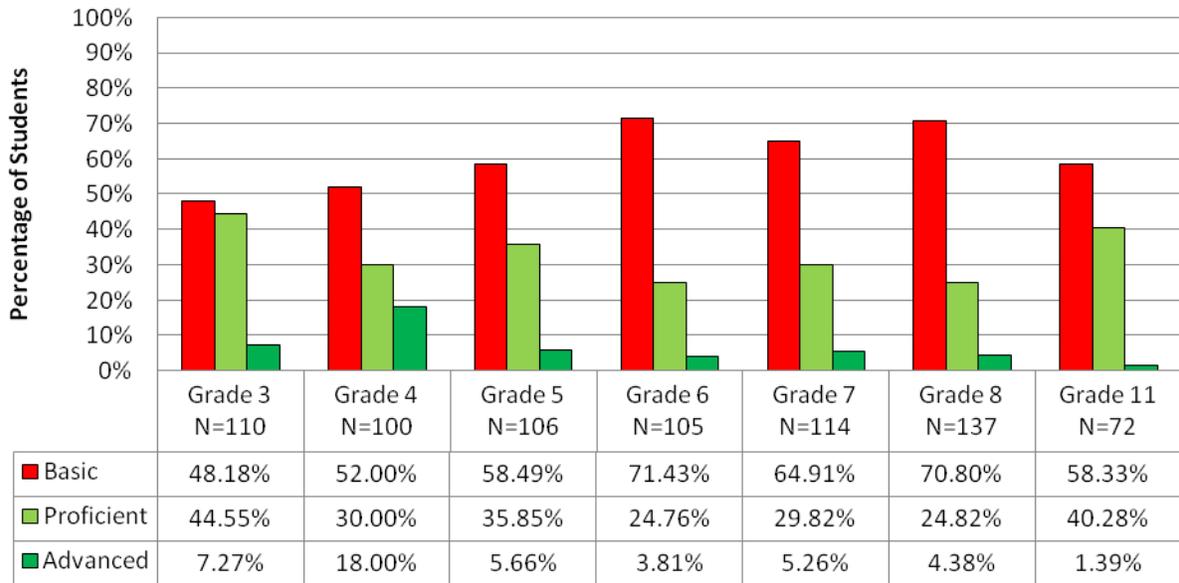
Students who are deaf or hard of hearing exceed the state Reading targets in all grades.



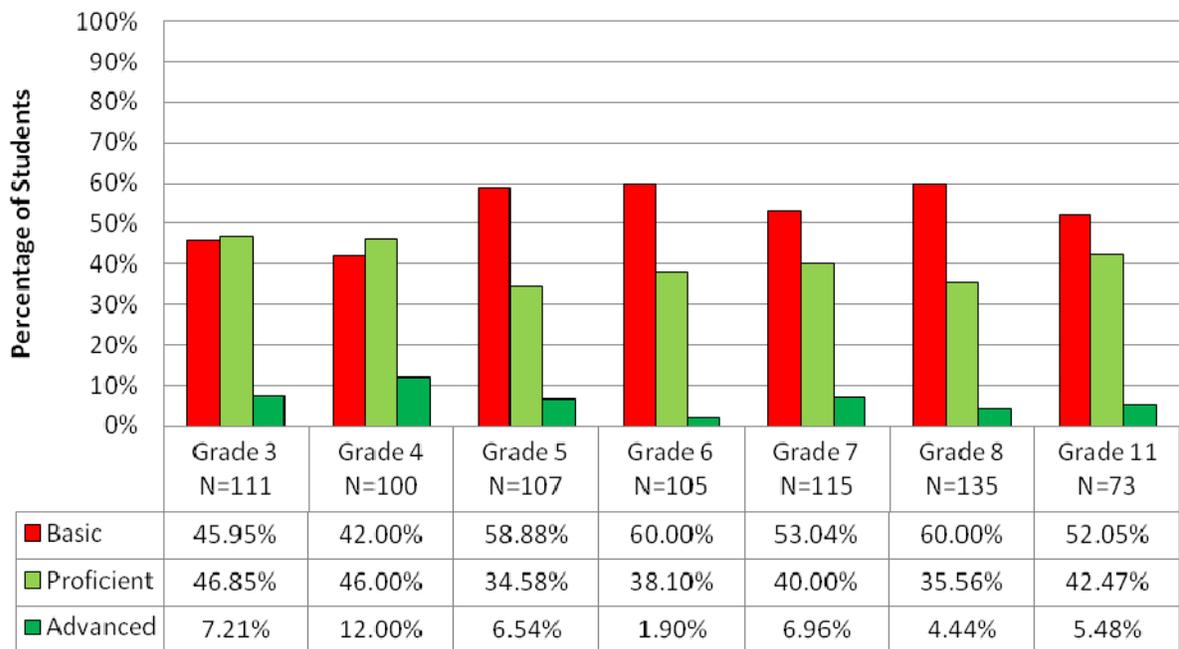
Students who are deaf or hard of hearing exceed the Math state targets in all grades except 5<sup>th</sup> grade.

The following two charts shows the students proficient in Reading and Math (above in green) and adds the students who were not proficient.

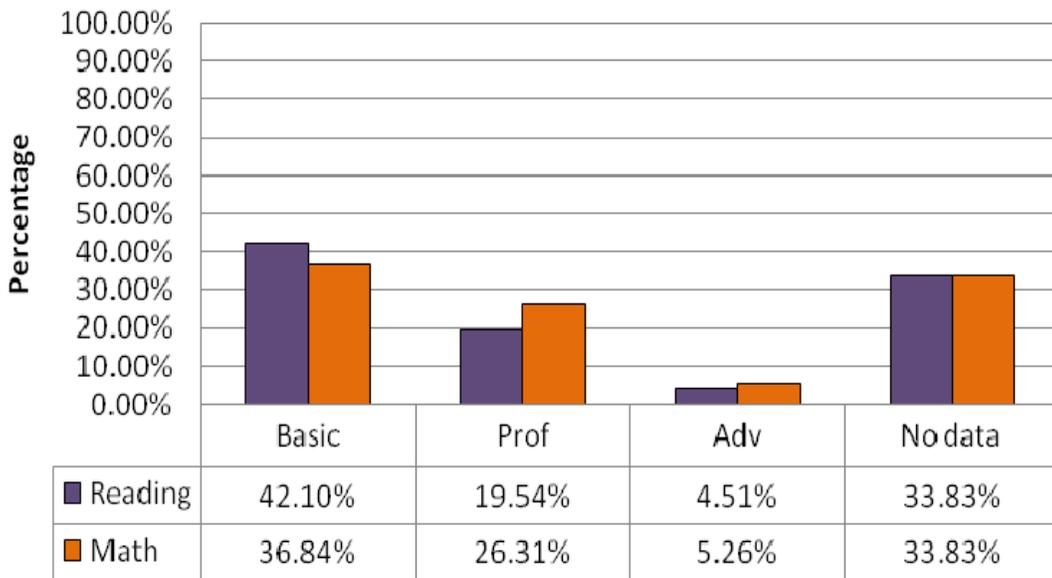
### Reading Proficiency, DHH Students, 2006-2007



### Math Proficiency, DHH Students, 2006-2007

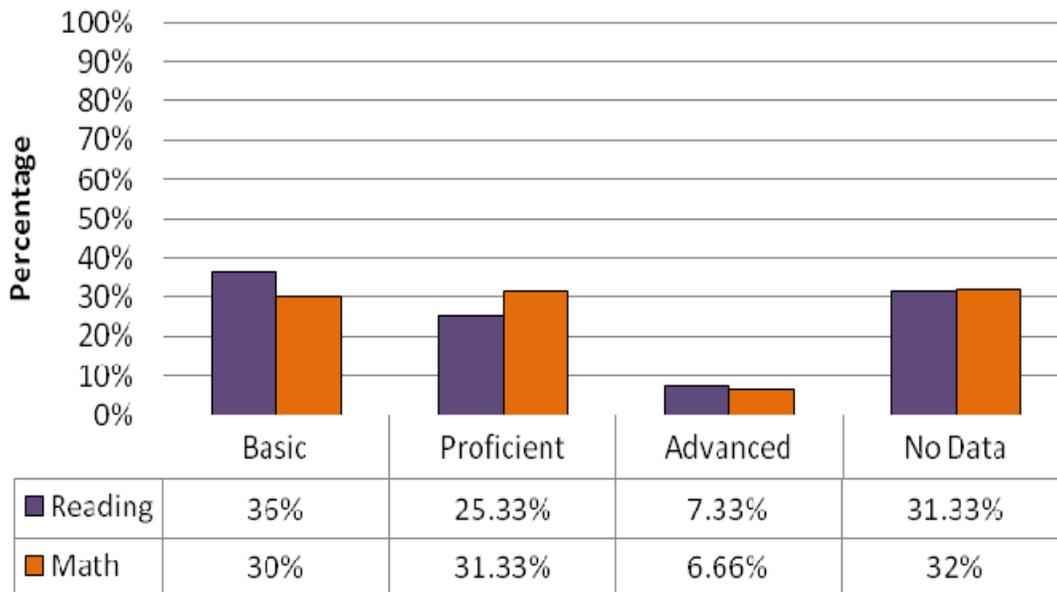


### Unilateral Loss, Right Ear on IEPs, 2006-2007 N=133



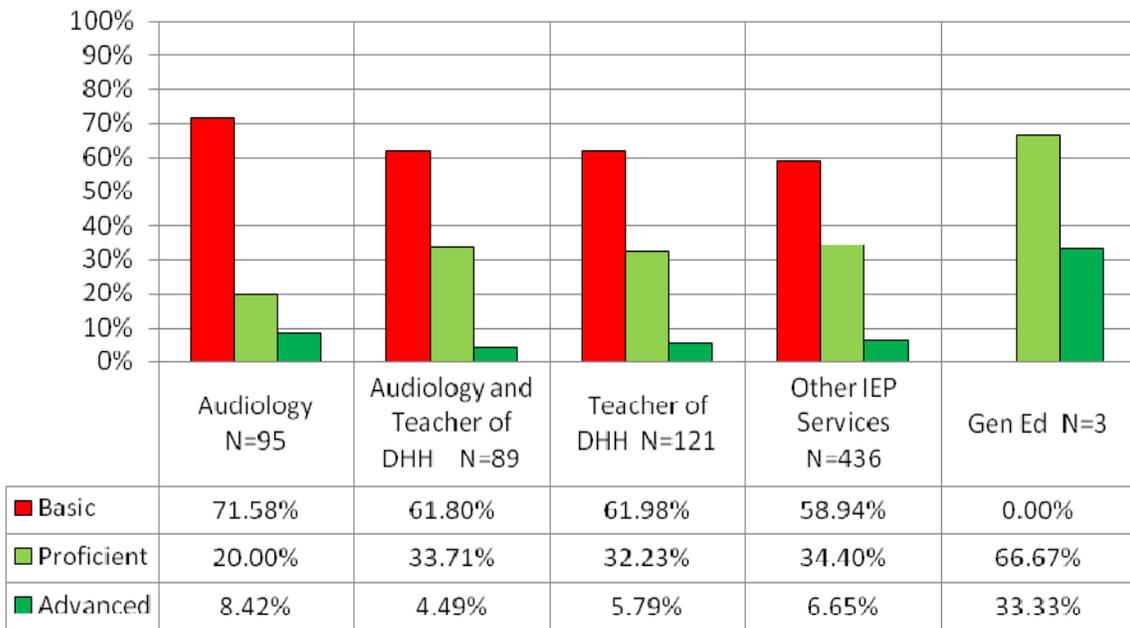
All students are on IEPs.

### Proficiency: Unilateral Loss, Left Ear, 2006-2007 Grades 3-8 and 11, N=150



All students are on IEPs.

### Reading Proficiency by Service Provider, 2006-2007 Grades 3-8 & 11



### Math Proficiency by Service Provider, 2006-2007 Grades 3-8 & 11

