



Ohio

Department  
of Health

Ohio Department of Health  
Children's Hearing Program  
Annual Report  
2019-2020

## Hearing Screening Overview

The Ohio Department of Health (ODH) Children's Hearing Program sets hearing screening requirements and guidelines for school-based preschool and K-12 schools. In partnership with the AD HOC Hearing Advisory Committee, the Ohio Department of Health (ODH) sets the requirements for what grades are routinely screened each year; what equipment is acceptable to use; what specific hearing and vision tests are needed to perform the screenings; and the referral criteria. Schools providing medical services are required to screen hearing for school-aged students.

Children who do not pass school hearing screenings should be referred for follow-up care. ODH stresses that hearing screening, while a valuable public health procedure, are not a substitute for a complete audiological/medical examination; however, to further ensure children with hearing disorders are detected early, programs utilizing regulated and supervised screening procedures have become essential.

The Children's Hearing Program is a program of early detection, diagnosis, and treatment of children with hearing difficulties. Children who are hard of hearing will find it much more difficult than children who have normal hearing to learn vocabulary, grammar, word order, idiomatic expressions, and other aspects of verbal communication. Within Ohio, 1.3% of children have deafness or difficulties with hearing, which is equivalent to the national average. Early detection and treatment of hearing disorders provide children with the best opportunity to develop academically, emotionally, and socially.

Hearing loss in school children may interfere with normal speech and language development and with the ability to learn. Even mild or unilateral hearing losses may be educationally significant. Regular school hearing screenings are an important method of identifying children who are at risk for hearing loss. Hearing loss caused by exposure to recreational and occupational noise results in a significant hearing loss that is preventable. With the increased use of personal listening devices (cell phones, tablets, and gaming systems), there are incidental reports from audiologists and school nurses that younger children seem to be showing signs of having noise-induced hearing loss (NIHL) that are not being detected by school hearing screenings. The incidence of NIHL and tinnitus can be reduced by changing the knowledge, attitudes, and behaviors about sound exposures.



The goals of the Children's Hearing Program include the early detection and identification of hearing loss in children, access to professional care for all children suspected of having a hearing loss, regardless of financial limitations, education for children and their parents/caregivers about the sources and consequences of dangerous sounds, as well as how to protect children from dangerous sounds.

The activities of a school hearing screening program that are necessary to accomplish are to perform hearing screenings according to ODH's requirements and guidelines, notify parent/caregiver prior to child's hearing screening, notify parent/caregiver of the child's hearing screening results and the need for further medical/ audiological examination; if necessary, provide referral assistance to hearing professionals, follow-up with parent/caregiver to make sure child has received medical/audiological examination, inform educational staff of the student's hearing screening results and report hearing screening data annually to ODH by June 1.

ODH is given the authority by the Ohio Revised Code (ORC) to set the hearing screening requirements for school-aged children and to track the data (ORC Sections 3313.50 and 3313.69). ODH works in partnership with AD HOC committees to develop the requirements. These requirements determine the grade levels routinely screened each year, approved hearing screening tests and equipment and referral criteria. In addition to establishing school screening requirements, the program conducts a biennial statewide survey of school hearing screening programs. ODH uses data from this survey in multiple ways:

- Determine compliance with screening requirements.
- Plan statewide hearing screening trainings.
- Establish and revise Ohio hearing screening guidelines.
- Provide resources for Ohio's schools.

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## Professionals Conducting Hearing Screenings

The purpose of a screening program is to identify risk of hearing problems and to increase the percentage of children who receive early diagnosis and treatment of hearing problems. Hearing screenings in Ohio may be conducted by a variety of professionals:

- Physicians.
- Audiologists.
- Audiology aides only under the supervision of an audiologist (Licensing Law 4753.072 of the Ohio Board of Speech-Language Pathology and Audiology).
- Speech language pathologists.
- Speech language pathology aides only under the supervision of a speech language pathologist (Licensing Law 4753.072 of the Ohio Board of Speech- Language Pathology and Audiology).
- Registered Nurses (RNs).
- Nurses may delegate hearing screening to trained unlicensed personnel in accordance with the Standards of Delegation defined in the Ohio Administrative Code (OAC) 4723-13.

According to the 2019-2020 Annual Hearing Report, hearing screenings were predominantly performed by registered nurses (74.9 %) followed by licensed health care provider (7.7 %). Speech language pathologists (7.0%) and health aides were at 6.9%. Audiologists (2.3%) and other school personnel (.9%) conducted hearing screenings. A volunteer is less likely to be used to conduct hearing screenings in a school setting with just 0.4 percent. **(Table 1.0)**

**Table 1.0 Professionals Conducting Hearing Screenings**

Position	Total	Percentage
Registered Nurse	2287	74.9%
Other Licensed Healthcare Provider	235	7.7%
Speech Language Pathologist	214	7.0%
Health Aide	210	6.9%
Audiologist	70	2.3%
Other School Personnel	28	0.9%
Volunteer	11	0.4%

## Hearing Screening Training

Those conducting hearing screenings in Ohio in accordance with the ODH Hearing Screening Requirements and Guidelines must have adequate instruction.

The Children's Hearing Program provides free hearing training to those conducting hearing screenings in the school setting. The wide variety of people who provide hearing screenings demonstrates the need for outreach and consistent training for many different professionals in a variety of platforms.

The hearing screening training currently is available in person as well as online through OhioTrain as a web-based module. Both training platforms provide information regarding anatomy and physiology of the ear, common pediatric ear problems and an overview of ODH hearing screening requirements. The in person training also provides hands-on training with pure-tone audiometer. Tympanometry and otoacoustic emission training are available upon request.

During the 2019-2020 school year, 405 individuals were trained in person. Of those trained in person, 188 individuals were registered nurses. In person hearing screening trainings were conducted in 15 counties during the 2019-2020 school year. A total of 785 Individuals received training through the web-based training. Of those trained during the 2019-2020 school year, the number of students screened for hearing was 715,957 children.

## Annual Hearing Report Methodology

The purpose of the 2019-2020 Annual Hearing Report was to collect data on hearing screening practices in Ohio schools, Kindergarten through 12<sup>th</sup> grade and school-based preschools. Schools that provide nursing services are required to conduct hearing screenings and report the hearing screening results annually. All schools providing nursing services are required to conduct hearing screenings and report hearing screening data to ODH. Schools were notified via email to report 2019-2020 data through the survey link provided within the email. Email addresses were collected in partnership with the Ohio Department of Education's and a list serve that the Ohio Department of Health (ODH) Children's Hearing Program collects for those interested in hearing updates.

## Hearing Screenings in Ohio's Schools

According to the ODH Hearing Screening Requirements and Guidelines, preschoolers attending a school-based program shall be screened each year they are enrolled in preschool. Children who cannot be screened using approved and/or optional methods shall be referred for a complete medical/audiological evaluation. School-aged children are required to be screened if enrolled in kindergarten, first, third, fifth, ninth and eleventh grades. The inclusion of eleventh grade students was a new required grade beginning in the 2016-2017 school year.

In addition to the required grade levels, school children shall be screened annually or upon occurrence if students are new to a school (and not tested within the past 12 months), students are referred by a teacher or other school personnel to have a hearing screening, students who were referred within the past year and did not have documented follow-up (referral report returned and signed with physicians/audiologists signature), students who were absent during the previous hearing screening, students at risk for noise exposure (e.g., band, vocational education, industrial education, automotive mechanics), students who request a hearing screening and students whose parent/caregiver request a hearing screening.

Data from the 2019-2020 Annual Screening Survey below depicts the aggregate number of schools reported, number of students screened, rescreened, referred, and received follow up by grade, by the state of Ohio.

Based on screening data below, the highest percentage of those referred, in required screening grades, who received follow-up was 1<sup>st</sup> grade (22.8%) followed by kindergarten (22.1%), followed by preschool (16.4%), followed by 3<sup>rd</sup> (15.6%, followed by 5<sup>th</sup> grade (16.3%, then 9<sup>th</sup> grade (13.2%) and 11<sup>th</sup> grade (9.1%). **(Table 2.0)**

\*\*\*\*Notable result, Grade 12 had 90.8%.



Table 2.0 Statewide Total Screenings, Rescreenings, Referrals, and Completed Referrals by Grade

Grade	Schools that Reported Screenings	Children Enrolled Statewide	Children Screened	% Screened	% Rescreened	% Referred of Screened	% Referred of Rescreened	% Completed of Referrals	% Referrals Not Completed
<b>Preschool</b>	<b>666</b>	<b>55,178</b>	<b>32,260</b>	<b>58.5%</b>	<b>5.1%</b>	<b>8.7%</b>	<b>99.3%</b>	<b>16.4%</b>	<b>83.60%</b>
<b>Kindergarten</b>	<b>1,638</b>	<b>139,393</b>	<b>106,284</b>	<b>76.2%</b>	<b>5.5%</b>	<b>3.5%</b>	<b>48.8%</b>	<b>22.1%</b>	<b>77.90%</b>
<b>Grade 1</b>	<b>1,636</b>	<b>137,615</b>	<b>110,047</b>	<b>80.0%</b>	<b>4.5%</b>	<b>2.8%</b>	<b>49.2%</b>	<b>22.8%</b>	<b>77.20%</b>
Grade 2	967	135,437	9,184	6.8%	0.3%	4.6%	91.2%	17.3%	82.70%
<b>Grade 3</b>	<b>1,633</b>	<b>137,661</b>	<b>104,211</b>	<b>75.7%</b>	<b>3.7%</b>	<b>2.6%</b>	<b>52.8%</b>	<b>15.6%</b>	<b>84.40%</b>
Grade 4	917	136,440	8,158	6.0%	0.3%	3.5%	82.8%	16.3%	83.70%
<b>Grade 5</b>	<b>1,527</b>	<b>141,663</b>	<b>103,965</b>	<b>73.4%</b>	<b>3.2%</b>	<b>2.4%</b>	<b>55.8%</b>	<b>14.7%</b>	<b>85.30%</b>
Grade 6	714	145,951	9,198	6.3%	0.3%	4.3%	87.1%	20.7%	79.30%
Grade 7	790	153,623	34,521	22.5%	0.9%	3.3%	78.7%	12.2%	87.80%
Grade 8	692	151,914	10,784	7.1%	0.3%	3.4%	89.6%	10.5%	89.50%
<b>Grade 9</b>	<b>688</b>	<b>160,646</b>	<b>96,773</b>	<b>60.2%</b>	<b>2.6%</b>	<b>2.5%</b>	<b>59.0%</b>	<b>13.2%</b>	<b>86.80%</b>
Grade 10	411	155,539	6,404	4.1%	0.2%	3.6%	88.5%	8.7%	91.30%
<b>Grade 11</b>	<b>714</b>	<b>154,269</b>	<b>81,076</b>	<b>52.6%</b>	<b>1.8%</b>	<b>2.3%</b>	<b>67.5%</b>	<b>9.1%</b>	<b>90.90%</b>
Grade 12	344	148,534	3,092	2.1%	0.1%	3.9%	108.1%	90.8%	9.20%
<b>Total</b>	<b>3,092</b>	<b>1,953,863</b>	<b>715,957</b>	<b>36.6%</b>	<b>5.1%</b>	<b>3.1%</b>	<b>60.2%</b>	<b>17.1%</b>	<b>82.90%</b>

(Required screening grades are in bold.)

## Barriers to Conducting Hearing Screenings

According to section 3313.69 of the Ohio Revised Code, if the board of education or the board of health offers services by a physician or a nurse in the school, the school must provide hearing screenings for students in accordance with the requirements set forth by the ODH Hearing Screening Requirements and Guidelines.

Although it is required by law to conduct hearing screenings in a school setting, some schools face barriers to conducting hearing screenings either entirely or just in general. According to the 2019-2020 Annual Hearing Report, the percentage of schools that indicated barriers to screening by barrier type. Absent students missed day of screening is largest barrier reported (30.2%), followed by: not enough time to do screenings or inadequate or lack of a proper screening space (19.7%), not enough staff for screenings (10.2%), students are only at the school for a limited number of hours/day throughout the week (7.0%), teachers reluctant to release students from class for testing (7.0%), other barriers (5.3%), language barriers (4.6%) lack of proper equipment or equipment is broken or outdated (2.2%), no delegating RN on staff (1.4%), lack of training for screenings (0.7%). (Table 3.0)

**Table 3.0 Barriers to Conducting Screenings**

Barrier	Number	% of Schools (n=3,090)
Students are absent	1,333	43.1%
None	933	30.2%
Students have limited hours at school	610	19.7%
Other	314	10.2%
Inadequate or lack of proper screening space, or not enough time to do screenings	304	9.8%
Not enough staff for screenings	217	7.0%
School personnel reluctant to release students from class for testing	164	5.3%
Language barriers	142	4.6%
Lack of proper equipment, equipment is broken or outdated	67	2.2%
No delegating RN on staff	42	1.4%
Lack of training for screeners	23	0.7%

**Table 4. 0 Student Absence and Lack of Space Screening Barriers in grade groups reported by individual schools**

Grades	Space*	Absent**	Both
Pre-K	61	107	79
K-4	161	335	198
5-8	148	361	217
9-12	58	176	92

\*Space" refers to the screening barrier. Inadequate or lack of proper screening space, or not enough time to do screenings.

\*\*Absent" refers to the screening barrier. "Absent students missed days of testing .



**Table 4.0**, on page 8, shows the lack of screening space and absence of students was a barrier seen by mostly 5-8. Second was grades K-4, followed by grades 9-12. Lastly, Pre-K surveys showed only a few schools seeing absence and lack of screening space to be a barrier.

The Children's Hearing Program assists in reducing barriers that include lack of proper equipment and equipment being broken or outdated (3.7%) through the free equipment loan program. Limited screening equipment is available through loan from the ODH Children's Hearing Program. Equipment may only to be loaned to early learning centers, health departments and schools. The equipment must be picked up by the early learning center, health department or school and dropped off by the early learning center, health department or school at ODH or the local State Support Team within the two-month lending time period. Requests will be completed online at <https://www.surveymonkey.com/r/hvequip>. During the 2018-2019 school year, the total number of fulfilled equipment loan requests for school year was 25. The equipment loans include use of, mainly, audiometers, but requesters may also use tympanometers and otoacoustic emission (OAE) screeners. Tympanometers and OAEs are generally most used by schools that have harder to test populations and/or preschool. A tympanometer is not a screening tool, but can be a quick refer tool, as it can give status of the middle ear, which would thus lead to a failed OAE or pure tone screening. Tympanometers and OAEs work well with the preschool and harder to test populations to give more information to pediatric audiologist upon a referral.

The Children's Hearing Program is also able to assist in reducing the barrier for lack of training for screeners (0.7%) and not enough staff to do the screenings (10.2 %). As previously discussed, the Children's Hearing Program provides free regional training throughout Ohio. In addition to regional trainings, a Train the Trainer program is available for participating colleges in universities. Students who have been trained under the Train the Trainer program can assist schools with conducting their hearing screenings. To request information or to participate in the Train the Trainer program, additional information can be found at <https://www.surveymonkey.com/r/DHNGTLC>.

## 2020-2021 Maps

**Number of Schools Reporting Map-Indicated** how many schools in each county that completed the 2019-2020 Annual Report Survey for Hearing.

**Referral Rate Map**-provides the number of students referred out for a follow-up physician visit.

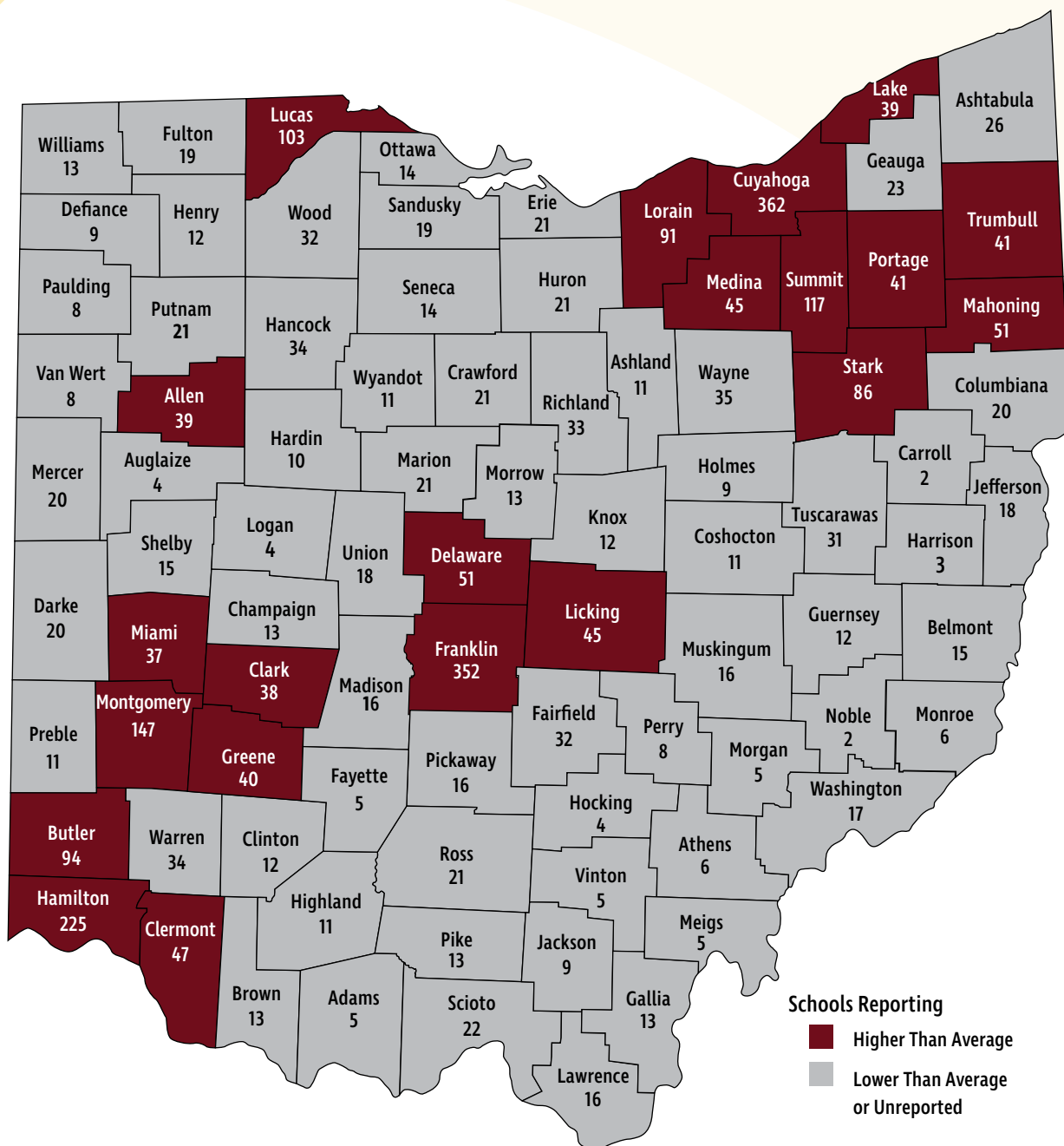
**Treatment Rate**-provided the percent of students who completed their follow-up physician visit and returned the necessary paperwork back to their school.

**Number of Trainees Map**-provides the number of individuals trained in-person or via Ohio Train per county.

## Appendix A: Number of Schools Reporting by County

Number of Schools Reporting

Average Schools Reporting per County = xx



## Appendix B: Referral Rate by County

Referral Rate

Ohio Referral Rate = x.x

