

Preschool Hearing and Speech Education – University of Pittsburgh (PHASE-UP)

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What is PHASE-UP?

The Preschool Hearing and Speech Education – University of Pittsburgh (PHASE-UP) program collaborates with local preschools in the Pittsburgh community to offer no-cost, evidence-based hearing and speech-language screenings to preschoolers from a broad diversity of backgrounds. Over 50% of the preschools participating in PHASE-UP have certified PreK Counts and/or Early Head Start programs. On average, 800-1,000 preschool children are seen through PHASE-UP every year.

Under the supervision of a certified clinical audiologist and speech-language pathologist, 1st-year graduate students in the Doctor of Audiology (AuD) and Master of Arts/Master of Sciences in Speech-Language Pathology (SLP) programs perform the hearing and speech-language screenings.

The Importance of PHASE-UP

Universal newborn hearing screening (UNHS) has significantly lowered the age at which children are identified as congenitally deaf/hard-of-hearing (D/HH). As a result, children who are D/HH can now receive early intervention within their first year of life. However, UNHS does not ensure that all D/HH children are identified and receive early intervention due to factors such as false-negative screening results; fluctuating, late-onset, mild, and/or progressive hearing loss; and loss to follow-up and/or documentation.

The prevalence of childhood hearing loss rises from 1-3 cases per 1,000 at birth to 9-10 cases per 1,000 at school-age (CDC, 2020). Children may experience unidentified hearing loss during the time between UNHS and school entry.

PHASE-UP seeks to identify childhood hearing loss during crucial periods of development. This benefits children and families of local communities and in turn provides students with a unique academic and personal experience that enhances clinical skillsets across disciplines.

Equipment & Supplies

Handheld screener: otoacoustic emissions (OAEs), pure-tone audiometry



Desktop screener: OAEs, tympanometry, pure-tone audiometry



Otoscope



Preschool Language Scales- Edition 5 (PLS-5)



Personal Protective Equipment (PPE)



Headphone covers, stickers, clipboards, & pens



Additional Items

- Paperwork (cover letter, parent letter, data collection sheets)
- Toys that target age-appropriate fine motor tasks

Coordination & Training

Coordination

- Preschools are scheduled for screenings by the PHASE-UP Coordinator every summer
- Confirmation emails are sent to schools in June/July
- Two rounds of reminder emails are sent to schools
 - Each reminder includes parent consent form and flyer
- Confirmation call and/or email occurs one week prior to the screening

Student Training

- Training for 1st-year AuD and SLP students occurs over 1.5 days prior to the start of fall semester
- Training consists of didactic sessions and hands-on learning
- A peer teaching model involving 2nd- & 3rd-year AuD students is implemented for hearing screening training
- Training topics include:
 - Rationale for screenings
 - Hearing and speech-language screening protocols
 - Accessing the screening schedule
 - Site location directory and transit options
 - Process of checking-in and out screening equipment



A Typical Screening Day

Preparation

- Graduate students and clinical instructor arrive 30 minutes prior to the start of the screenings
- Screening stations are set up to minimize visual distractions and the influence of external noise
- Graduate students conduct:
 - biologic listening checks on screening equipment
 - ambient noise-level readings on the National Institute for Occupational Safety & Health (NIOSH) smartphone app
- Clinical instructor coordinates logistics of screening flow with school staff
- Graduate students and clinical instructors discuss screening and clinical education goals for the day

Screenings

- Everyone adheres to appropriate PPE, sanitization, and hygiene protocols
- School staff and/or graduate students transport children to the screening room
- Graduate students establish rapport with each child
- Screening begins with a task that is comfortable to the child
- Clinical instructor assists with any screening needs
- Each child receives a sticker when screening is complete



Screening	Protocol
Hearing	<ul style="list-style-type: none"> • Tympanometry and/or otoscopy • OAEs at 2, 3, 4, 5, & 6 kHz, • Pure-tone sweep at 20 dB HL at 1, 2, & 4 kHz
Speech-Language	<ul style="list-style-type: none"> • PLS-5 • Brief screening (<10 min) of language, articulation, fluency, voice, & social/interpersonal communication skills



Results

- Screen results are documented on the following:
 - Discipline-specific data collection sheet
 - Cover letter explaining the screening procedures in plain language
 - Parent letter indicating child's screening results and recommendations in plain language

Follow-up

- Graduate students return equipment, finish documentation, enter clinical contact hours, and complete reflections

Reference: 2020 CDC Early Hearing Detection and Intervention (EHDI) Hearing Screening & Follow-up Survey (HSFS). (2023, August 4). 2020 type and severity summary of identified cases of hearing loss (by ear): ASHA classification. Centers for Disease Control and Prevention.