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Johns Hopkins Makes It Easy and Free to Know Your Hearing Numbers With New Hearing Test App

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The Johns Hopkins Bloomberg School of Public Health has released an app that makes it free, fast, and easy to test one's hearing in each ear. The app is part of a public health campaign to raise awareness about the importance of monitoring, protecting, and optimizing hearing at all ages.

The app is now available in English and Spanish for <u>iOS</u> and <u>Android</u> in 28 countries, including the U.S., and will soon be available to users around the world in Chinese, French, German, and Japanese. The Hearing Number app was created by the Johns Hopkins Bloomberg School of Public Health and developed under contract by <u>Mimi Hearing Technologies GmbH</u>. The app is the first hearing test available of its kind on Android.

Many people know their vision or resting heart rate, and track physical activity and other measures of health and wellness. Researchers hope the Hearing Number app will help add Hearing Numbers to that list. The Hearing Number app introduces the most widely used clinical measure for hearing as a wellness metric that can be tracked over time. Hearing Numbers tell someone, in decibels, the softest speech sound they can hear in each ear. Children and young adults with healthy hearing can have Hearing Numbers as low as -10 dB, and this number increases as we get older.

"The Hearing Number gives everyone a way to easily understand and think about their hearing over their lifetimes beginning as a teenager," says <u>Frank Lin</u>, MD, PhD, lead creator of the app, and director of the Johns Hopkins <u>Cochlear Center for Hearing and Public Health</u> at the Bloomberg School. "Many of us track simple metrics about ourselves like our blood pressure and our step count, but people have never had a way to measure their hearing in the same way. By knowing their Hearing Numbers, people can understand this important aspect of their health, track the changes to their hearing that occur naturally over time, and know when to use technologies to protect their hearing and hear better."

The higher someone's Hearing Numbers are, the harder it is for them to hear and communicate in noisy places. This Hearing Number—known clinically as the 4-frequency pure tone averages—is one of many ways that audiologists and other hearing care professionals measure hearing and is the basis of the broad categories that the World Health Organization uses to define hearing loss.

The WHO estimates that 700 million—or 1 in 10—people worldwide will have hearing loss by 2050, with over one billion young people currently at risk of preventable hearing loss due to unsafe listening practices. Risk of hearing loss increases with age, with more than 25% of people over 60 affected by hearing loss globally, according to the WHO. In the U.S., about one in three people between the ages of 65 and 74 has hearing loss, according to the National Institutes of Health.



Hearing is foundational to social and cognitive health. A 2023 study led by Bloomberg School researchers found that treating hearing loss in older adults at increased risk for cognitive decline slows down loss of thinking and memory abilities. Research has also linked hearing loss to increased risk of depression, falls, fatigue, loss of thinking and memory abilities, and social isolation.

In the U.S., the Food and Drug Administration's approval of over-the-counter hearing aids in 2022 makes hearing technologies more accessible and affordable. Metrics like the Hearing Number will help individuals assess whether they might benefit from these technologies.

"Connecting people with their hearing through a simple metric has the potential to drive a shift in how people think about and prioritize their hearing throughout their lives," says Lin.

The Hearing Number app is free and easy to use. Users download the app on their iOS or Android smartphone. The test requires headphones or earbuds and takes about five minutes to complete in a quiet setting. The app does not collect user personal data and users can share the app without sharing personal data.

The Know Your Hearing public health campaign, launched in 2022 by the Bloomberg School, will work with health care associations, non-profit organizations, and consumer and hearing technology companies to create broad acceptance of the Hearing Number as a tool for understanding and communicating about hearing. More information about the Hearing Number public health campaign is available on the Bloomberg School's Hearing Number website, www.HearingNumber.org.

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