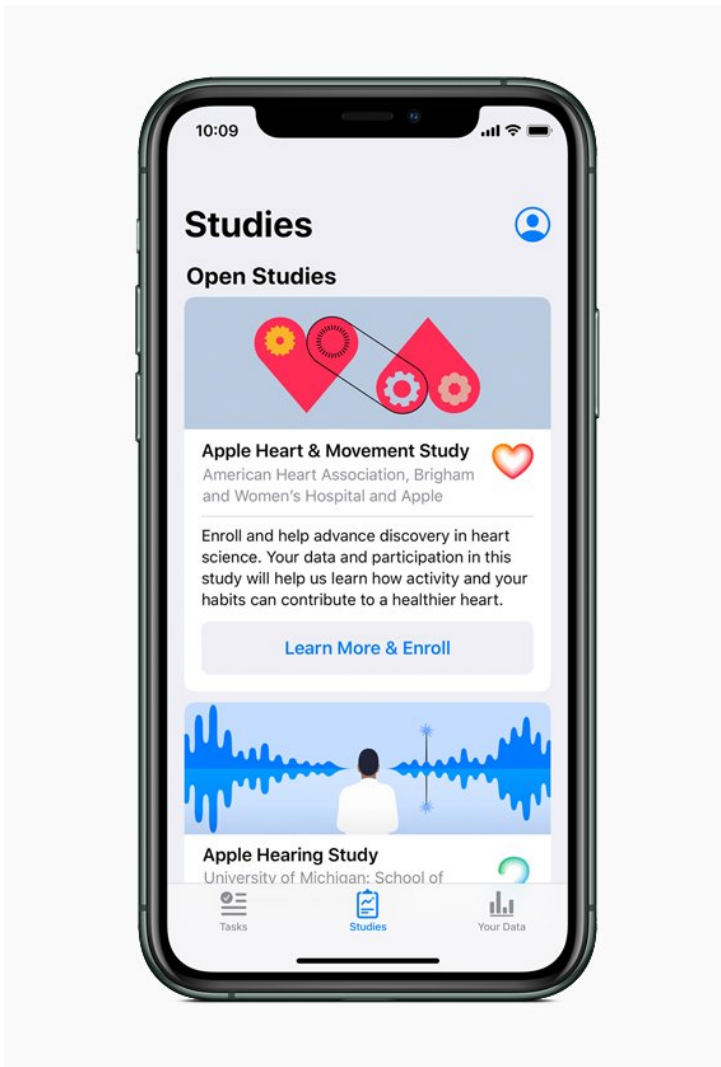


## Apple announces three groundbreaking health studies

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**In Collaboration with Leading Medical Institutions, Apple to Examine Hearing, Women's, Mobility and Heart Health**



Apple has announced three unprecedented medical studies, in partnership with leading academic and research institutions that will reach more participants than has ever been possible. The studies will be available on the new Research app which democratizes how medical research is conducted by bringing together academic medical institutions, healthcare organisations and the Apple products customers already make a part of their everyday life. Participants will contribute to potential medical discoveries and help create the next generation of innovative health products. The Research app will be available as a free download in the App Store later this year.

Jeff Williams, Apple's chief operating officer said, "With the Apple Heart Study, we found that we could positively impact medical research in ways that help patients today and that make contributions that will benefit future generations."

#### **The studies include:**

**Apple Women's Health Study:** In partnership with Harvard T.H. Chan School of Public Health and the NIH's National Institute of Environmental Health Sciences (NIEHS), Apple has created the first long-term study of this scale focused on menstrual cycles and gynecological conditions. This study will inform screening and risk assessment of conditions like polycystic ovary syndrome (PCOS), infertility, osteoporosis, pregnancy and menopausal transition.

**Apple Heart and Movement Study:** Apple is partnering with Brigham and Women's Hospital and the American Heart Association on a comprehensive study of how heart rate and mobility signals — like walking pace and flights of stairs climbed — relate to hospitalizations, falls, heart health and quality of life in order to promote healthy movement and improved cardiovascular health.

**Apple Hearing Study:** Alongside the University of Michigan, Apple is examining factors that impact hearing health. The Apple Hearing Health Study is the first of its kind to collect data over time in order to understand how everyday sound exposure can impact hearing. The study data will also be shared with the World Health Organisation (WHO) as a contribution toward its Make Listening Safe initiative.

Apple's support of the medical research community began with the introduction of ResearchKit and CareKit, which expanded the pace and scale at which healthcare could be studied and provided. Apple used ResearchKit to create the Apple Heart Study, which was the largest study of its kind and illustrated the impact virtual, large-scale studies can have on medical research by examining atrial fibrillation to provide validation for the irregular rhythm notification feature on Apple Watch.

Michelle A. Williams, a reproductive epidemiologist and dean of the faculty at the Harvard T.H. Chan School said, "Women make up half of the world's population, yet even today there has been limited investment in studying their unique health needs. This study, unprecedented in scope, will greatly advance our understanding of the biological and social determinants of women's health, and lead to better health outcomes."

Dale Sandler, Ph.D., chief of the NIEHS Epidemiology Branch said, "This is an exciting opportunity for NIEHS researchers to contribute to the study design and use the resulting data to answer novel questions, not only important to women of reproductive age, but to women of all ages."

Calum MacRae, the vice chair of Scientific Innovation for the Department of Medicine at Brigham and Women's Hospital and associate professor of Medicine at Harvard Medical School said, "We are excited to be working with all the study participants and with Apple to identify the features of complex human physiology that lead to different outcomes in wellness or chronic disease, and to use this information to empower individuals to maximise their own health."

Nancy Brown, CEO of the American Heart Association said, "At the American Heart Association, we are a relentless force for a world of longer, healthier lives, and we are committed to educating and empowering people to be proactive in all areas of their heart health and general well-being. We believe that emerging technology solutions that seek to provide deeper health insights offer great potential in getting us there. We are collaborating with Apple and Brigham and Women's Hospital on the Apple Heart and Movement Study to explore the correlation between a broad range of physical activities and a person's overall heart health to ultimately understand risks and interventions to improve health."

DuBois Bowman, dean of the University Of Michigan School Of Public Health said, "We are excited about this unique opportunity to partner with Apple to determine how everyday activities affect our hearing. The information gleaned from this partnership will be critical for us to address the public health impact of various noise exposures on hearing loss in the United States."

Dr. Shelly Chadha, technical officer of Prevention of Deafness and Hearing Loss at the World Health Organisation said, "The World Health Organisation is pleased to note the announcement of the Apple Hearing Study which will contribute toward our Make Listening Safe initiative by improving our understanding of users' listening behaviours. With over a billion young people

who could be at risk of hearing loss due to unsafe listening, WHO is addressing this challenge through raising awareness and setting new standards for safe listening. The knowledge gained through this study will contribute to future public health action in this field.”