

Check lung capacity with any phone, anywhere



Personalizing healthcare with apps and smart devices, such as [medication reminders](#) and [Bluetooth-linked toothbrushes](#), help make the industry more sustainable, but not always more accessible. Engineering and computer science researchers from the University of Washington created [SpiroCall](#), which enables anyone to remotely analyze their respiratory health from any phone, anywhere.

The tool builds on technology developed in 2012, which measured lung health via an app and the smartphone's microphone. Scientists adjusted the machine learning algorithms to provide equivalent checks via standard phone audio, rather than sound files transferred over the internet. Users of SpiroCall dial a 1-800 number and when prompted, exhale as fast and hard as possible and the phone transmits the sound and pressure results to a central server for data conversion and review.

SpiroCall's accuracy is within the industry requirements of five to ten percent variation from the results of commercial spirometers used in hospitals and by doctors. The team will focus future development on increasing the accuracy of readings and finding the best ways to communicate results to patients.

Millions of people around the world who have access to a phone use an old flip phone or a village landline, not the latest smartphone technology. Where else could technology be used to retrofit pre-digital devices?

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