OPENING STATEMENT

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House Committee on Science, Space, and Technology
Research and Technology Subcommittee
"Smart Health: Empowering the Future of Mobile Apps"
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Thank you Chairwoman Comstock for holding this hearing and to the witnesses for being here today. With well over 100,000 health-related apps available through the Google and Apple app stores, and hundreds of millions of downloads, mobile health apps are increasingly becoming part of our daily lives. The phrase, "there's an app for that," is very applicable to the mobile health environment and the number of apps is growing daily.

Most of us are familiar with, and may even use, one of the popular fitness apps to track our steps and help us with fitness goals. But some people rely on mobile health apps to monitor serious health conditions. The CDC reports that, as of 2012, over half of all adults had one or more chronic diseases. The treatment of chronic conditions accounts for 86 percent of the nation's health costs. As people are taking a more active role in the management of their health, they are turning to electronic and digital media platforms for help. Diabetics can find apps that track their blood sugar levels, cardiac patients can find apps to track their blood pressure, and people that suffer from depression can find apps to monitor their mood.

The great promise of these apps is that they have the potential to contribute to better health outcomes for their users. But whether this potential can be realized depends on the quality and reliability of the apps and the information they contain. For mobile health apps not regulated by the FDA, there is much greater uncertainty. We don't want to stifle innovation, but there are major concerns that must be considered, including the potential for an app to lead to harm. Inaccurate readings, for example, could lead to a life-threatening situation. We also need to consider how to address ownership of data given that information flows between patients and their app providers. Some of these regulatory questions fall outside of our Committee's jurisdiction. However, there are parts of this discussion that do fall within our purview, and in fact are very common themes before this Committee, including human factors research, privacy, and cybersecurity.

The goal for users of many mobile health apps is to live a healthier life. They may be looking to increase their fitness, to eat healthier, or to quit smoking. Some users, as I discussed previously, are using apps to

monitor and respond to potentially serious chronic health conditions. In all of these cases, there is an implicit assumption that the app will influence behavior in a predictable way, and in some cases assist users in long-term behavioral changes. But as an engineer, I know that if we do not incorporate human factors into the design and evaluation of these apps, they may not function as intended or may even cause harm. This is a very important area of research, one where the National Science Foundation has a role, possibly in collaboration with the NIH.

In addition, privacy and the security of a user's personal information must be a part of today's conversation. Many mobile health app users trust that the information within the app is secure. However, a recent study by a research team at the University of Illinois at Urbana-Champaign found that many free apps use ad libraries as revenue sources, which may expose users' data to these ad libraries. This is clearly a privacy issue. But it could also be a security issue if the app requires the user to enter personally-identifying information and/or sensitive health data. Furthermore, in the case of high-quality apps that healthcare providers incorporate into their patient care, we may also want to give the physicians and nurses access to the data being recorded by the apps. This brings up more questions about how to keep the data secure.

We all share the goals of promoting better healthcare outcomes and reducing healthcare costs. Mobile health apps have the potential to contribute to these ends. Nonetheless, there are many important questions that need to be addressed as this technology continues to grow. I look forward to a good discussion with our witnesses. Thank you, and I yield back the balance of my time.