

# Internet connectivity during the novel coronavirus pandemic

May 21 2020

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Credit: Wikipedia

The novel coronavirus pandemic is requiring many people to work or study from home, which means that internet connectivity has become a paramount issue in the daily lives of millions of people around the world. John H. Chestnut Professor of Law, Communication, and Computer & Information Science Christopher Yoo explains how the current pandemic brought issues of internet connectivity to the forefront.

## **Office of Communications: How has the current pandemic brought issues of internet connectivity to the forefront?**

Professor Yoo: The coronavirus pandemic is forcing all countries—rich and poor, developed and developing—to prepare for the challenges that lie ahead. As workplaces close and governments encourage people to stay at home, access to the internet can make a life-or-death difference, simultaneously providing opportunities and challenges.

With half of the world online and tremendous growth in the use of mobile phones, countries can use the potential of the global communications infrastructure to respond to this crisis. At the same time, the spread of COVID-19 has made crystal clear the importance of finding the most effective ways to extend the benefits of the internet to the half of the world that is still unconnected.

## **Office of Communications: How can we get more people online across the world?**

Professor Yoo: Empirical studies can inform how best to bring people online in an inclusive and safe manner. Over the last three years, the University of Pennsylvania has hosted a research project called [1 World Connected](#) that has studied more than 100 innovative efforts in 50 countries to bring the internet to underserved communities.

Overwhelmingly, these efforts have demonstrated how internet connectivity can transform lives in areas with limited resources by improving health care, education, and financial inclusion.

Consider the [Vanuatu Inter-island Telemedicine and Learning Project](#). This community-based project sought to provide basic internet connectivity to a community with none. The population in Vanuatu is scattered across 64 islands, with residents having to take flights that often leave only once a week followed by rides that cost hundreds of dollars to reach one of three major hospitals. The difficulties in reaching healthcare services led community leaders to devote their limited connectivity to remote diagnosis.

In the first three and a half years of the network's operation, doctors and nurses have already shared over 9,000 messages with each other, involving 105 of the communities' 900 inhabitants. Internet connectivity enabled doctors to evacuate 17 critical cases in a timelier manner. And it's saving lives. To cite one particularly telling example, timely communication between doctors and the ministry of health [saved a pregnant mother's](#) life after she was airlifted to a hospital when her condition got critical. When we interviewed a community tribal chief, he remarked, "Earlier, we were burying our sick. Now, with this network, we can save them."

The exponential spread of COVID-19 is overwhelming hospitals around the world. When resources are limited, internet infrastructure can help monitor less critical cases, prepare frontline health workers, and provide accurate information on caseloads and surges. Vanuatu's project uses a simple system of greetings—twice a day, morning and evening—to check on the status of the system and to serve as an essential link during times of crisis. Setting up a functioning system for the duration of this pandemic is not hard, but it does require planning and work to establish and test these systems.

## **Office of Communications: How has the shift to online learning further exposed gaps in internet connectivity?**

Professor Yoo: [Nearly 90% of the world's children are out of school](#). Even in developed countries, educators are struggling to shift to online education. For example, in Italy, one of the epicenters of the coronavirus crisis, many students lack basic internet connectivity, and others have connections that are insufficient to allow them to receive and submit their assignments. Still others have devices that are not well designed to support online learning. Teachers also lack the training and experience to adapt to this new way of conducting classes.

The pandemic has underscored the need for widespread connectivity to schools and homes. The [GIGA initiative](#), a partnership for which I serve as an adviser, aspires to [connect](#) every school in the world to the Internet to give children the skills to use and learn both online and within the classroom. A better understanding of the constraints that exist, greater investment in connectivity, and better planning for distance learning can help address current needs and improve education in the future.

## **Office of Communications: Can you talk about other potential after-effects of the pandemic?**

Professor Yoo: COVID-19 is also likely to cause immense economic hardship in its wake. Governments around the world are preparing to distribute cash to ease the burdens faced by their most vulnerable citizens. In several sub-Saharan countries, mobile money payment systems can support these transactions even when social distancing measures are still in place and when mobile phone usage far exceeds access to traditional financial institutions. Mobile money transactions account for [10 percent of GDP in Africa, compared to only 2 percent](#) of

GDP in other regions. Solutions like [Smart Money International](#) in Tanzania and Uganda can allow monetary payments to reach even individuals who lack [internet](#) connectivity.

Not all countries will be able to capitalize on all these solutions. Some have already become overwhelmed by the devastation that this pandemic can leave in its wake. Countries that still have time to prepare must have hard data on what works and what doesn't if they are to combat the impact of the coronavirus in the short run and benefit from the long-run improvements to healthcare, education, and financial inclusion that [internet connectivity](#) can provide in the future.

Provided by University of Pennsylvania

Citation: Internet connectivity during the novel coronavirus pandemic (2020, May 21) retrieved 26 April 2024 from <https://techxplore.com/news/2020-05-internet-coronavirus-pandemic.html>

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