

# Leapfrog Technology and Improved Healthcare Access to Underserved Communities

## OVERVIEW

The reliance on telehealth solutions was never more evident than during the COVID-19 pandemic, with clinicians in urban areas relying on it [more than their rural counterparts](#). Despite the [proven benefits](#) of using technology to treat patients virtually, however, many communities remain underserved. As technology continues to evolve in underdeveloped regions, the concept of [leapfrogging](#) to bypass stages of development will allow more communities to rapidly adapt their medical services and improve the diagnostic approach of healthcare providers.

# The Rural and International Benefits of Medical Technology

[Research](#) shows that African Americans, Latinos, and American Indians/Alaska Natives are the most commonly underserved populations for healthcare. With [limited access to primary care providers](#), individuals in these groups also demonstrate the worst health outcomes and death rates. [Federal estimates for 2025](#) reveal a continued shortage in such populations within the United States, particularly in subspecialty and emergency fields. Although federal grants from the U.S. Department of Health and Human Services are driving more medical professionals to serve in underserved areas, the need for adequate technology to provide patients with comprehensive healthcare treatment remains.

As of January 2023, approximately [5.16 billion people](#) worldwide use the internet. Of these users, however, only 26 percent are from low-income areas, which are [more likely](#) to experience barriers to care. The internet has become a staple for many populations and services, but there is much work to be done. While improvements continue to be made for mobile connectivity, and international initiatives like [Project Hope](#) and the [Envision Global Health Initiative](#) call attention to the issue, a stronger reliance on [telehealth](#) applications and remote diagnostics is an important part of ensuring that the medical services delivery needs of underserved populations are also met. Using a leapfrog technology approach, these communities can build out their established networks and create a more viable infrastructure for medical services.

## Building on Existing Systems

To eliminate health disparities, healthcare professionals must find a way to aid underserved communities worldwide, not just those within the United States. Regions like those on the [African](#) continent are especially hard hit by a lack of quality healthcare. Many of these areas do not currently have a universal healthcare infrastructure, nor do they have access to care using the latest diagnostic technologies. Until recently, even peer-reviewed journals [failed to address the unique needs of these underserved areas](#), including the gaps between these areas and the science and technology innovations of developed countries, because there was not enough data to draw conclusions and formulate recommendations.

The COVID-19 pandemic drew attention to the limitations of [virtual healthcare management](#) in underserved areas and populations, reaffirming the need to increase digital solutions for these community networks and modernize healthcare services. For underserved areas, in particular, the use of existing networks is a [critical](#) part of ensuring integration with the latest medical technology. In areas where a mobile phone network has already been established, like the African continent for example, [building on the existing](#) system bypasses traditional infrastructure requirements. This can lead to more rapid deployment of telehealth, mobile diagnostic testing, and other medical services.

# Promoting Healthcare to the Underserved

From addressing chronic illness to generalized care, the benefits of using existing technology to institute new forms of digital treatment for patients in rural and underserved areas are clear. Personalized telehealth services allow for remote diagnosis and treatment, reliable communication between patients and medical staff, and the monitoring of chronic illness and other health concerns. But this is often not an option in communities where access to comprehensive healthcare services is needed the most.

Using technology that taps into existing networks and systems offers healthcare professionals an innovative solution for addressing the health and wellness needs of people in communities currently lacking a medical presence. In regions where there is a shortage of [medical professionals](#), the implementation of digital treatments vastly expands patient access to care. As technology continues to reach underserved and remote areas, and more populations gain access to mobile networks and the internet, the potential to gather data and diagnose medical issues will only improve. The use of leapfrog technology ensures that the ability to reach patients and provide access to care is not confined to proximity. We can pursue a broader patient base as well as provide more [rapid health care delivery](#) with tremendous benefits to population health.