Now, More than Ever……
Rural Areas Must have Fiber To Meet Challenges of
Distance Learning and Telehealth During the Pandemic

The need for high speed bandwidth to the home has never been so clear and so urgent as now as we try to juggle the demands for distance learning and telehealth created by Covid 19.

As of the end of March, 45 states had declared some sort of school closures from a few weeks until the end of the school year. This equates to 118,000 K-12 schools and 54 million kids and we are not even discussing higher education which brings in hundreds of other institutions and 1000s more students. What has the impact been on the educational system of the US and for the students themselves? Are students continuing to learn? What fault lines in learning have emerged as we have attempted to go online?

There are three principle areas of need with respect to successful distance learning:

1. Internet Access – the area where you as builders and providers of broadband services can have impact;

2. Device access – usually managed by school administrations through school funding and direct corporate grants;

3. Training access or digital literacy for both teachers and students.

The Quello Center at the Michigan State University has been heavily involved in researching the impact of internet access on student performance. A recent study by the Center, working with

the Merit Network, surveyed approximately 3000 students across 21 intermediate schools located primarily in rural areas.

The findings were astounding and a real call to arms for increasing access to <u>high speed broadband i</u>n rural areas.

Quoting, the study specifically found:

- *The "homework gap" is only one small indicator of the differences in student performance related to inequalities in home Internet access.*

- *Students with high-speed home Internet access do more educational activities online when away from school.*

- *The <u>gap in digital skills</u> between students with no home access or cell phone only and those with fast or slow home Internet access <u>is equivalent to the gap in digital skills between 8th and 11th grade students</u>.*

- *Students with high-speed, home Internet access have higher overall grade point averages (half a letter grade higher, the difference between a B and a B- average).*

- *Digital skills predict higher scores on pen-and-paper versions of standardized tests, such as the SAT and PSAT.*

- *Students who do not have high-speed Internet access at home are less likely to plan to attend college or university.*

- *Students with higher digital skills are more likely to plan to enter a career in a STEM- or STEAM-related profession.*

The complete study and additional information can be found at broadbandgap.net and

https://doi.org/10.25335/BZGY-3V91

While educational institutions can and do utilize various funding resources through the Schools, Libraries and Healthcare funds, the real need is to connect the students in their homes to the distance learning centers, often teachers' homes. For this purpose, a community needs a comprehensive fiber to the home build out. This kind of analysis has such strong additional ramifications for any community considering broadband deployment and further augments the argument that this is as a necessity for all, not a luxury.

Telehealth encompasses many applications from low usage email communications between you and your physician to ultrahigh bandwidth usage such as reading xrays and very advanced applications such as Case Western's Virtual Surgical Training.

Telehealth faces many of the same challenges as distance learning but the issues are slightly more complex as there are a myriad of privacy and reimbursement regulations that qualify how and when telehealth can be utilized.

Telehealth is particularly needed in rural areas as they continue to lose access to health care due to a lack of doctors and the closing of hospitals. And this need was critical before the onset of the Covid 19 pandemic. With the pandemic, patients and doctors everywhere, including normally well served urban areas, have had to find alternatives to the traditional office visit model. Technical assistance requested by the Middle Atlantic Telehealth Resource Center (a

quasigovernment entity serving the Middle Atlantic states) rose from 27 inquiries per month in February 2020 to 282 in March 2020, an almost 1000 fold increase!

A recent analysis by Frost & Sullivan, **Telehealth—A Technology-Based Weapon in the War Against the Coronavirus, 2020**, estimates that the demand for telehealth technology will increase the telehealth market in the United States seven-fold growth by 2025, resulting in a five-year compound annual growth rate (CAGR) of 38.2%. In 2020, alone fueled by Covid 19, the telehealth market is likely to experience a single year-over-year increase of 64.3%.

But for many rural areas, access to this advanced technology remains scarce, limited by the availability of bandwidth needed for its use. For example, according to the FCC's 2020 Broadband Deployment Report, 22.3% of Americans in rural areas and 27.7% of Americans in Tribal lands lack coverage from fixed terrestrial 25/3 Mbps broadband, (the FCC's minimum) standard) as compared to only 1.5% of Americans in urban areas. The good news is that this availability gap continues to decrease, and it appears that even more resources are on the way.

The Federal government has implemented a special program worth $200 million under the CARES Act. This program will allow health care providers to purchase telecommunication services, information services, and devices to provide connected care services for the treatment of COVID-19 or other conditions during the pandemic in order to free up resources to allow health care providers to treat COVID-19 patients or prevent the spread of COVID-19.

And we are about to enter the largest auction of Broadband Funding in the FCC's history, the Rural Digital Opportunity Fund, which could bring $20B to rural areas over the ten years, with fiber receiving more favorable weight in the auction.

Finally we anticipate that Congress will pass an infrastructure bill at some point this year, currently estimated at $1Trillon, in which Broadband and fiber are expected to receive some portion.