

INTRODUCTION

- Equity, diversity, and inclusion (EDI) are fundamental values and long-term goals of library services. Public libraries in rural areas play a critical role in providing access to information. Library computing service to the public, including public computers, the Internet, and Wi-Fi service, tends to reduce digital divide.
- COVID-19 pandemic compounded the digital divide in rural communities.
- Research Q1: What are the workforce and physical resources available for rural libraries to provide computing services during the pandemic?
- Research Q2: What is the pattern of rural libraries' public computer uses during the pandemic?

METHOD

- Data from Texas Public Library Statistics, which is available online at <https://www.tsl.texas.gov/ldn/statistics>
- 151 libraries serving a population of 5,000 or less, 25 miles away from a major metroplex, were in the data set for 2020.
- There are 10 library regions: Alamo Area Library System (AALS), Big Country Library System (BCLS), Central Texas Library System (CTL), Houston Area Library System (HALS), Northeast Texas Library System (NETLS), North Texas Regional Library System (NTRLS), South Texas Library System (STLS), 10 in Texas Panhandle Library System (TPLS), Texas Trans-Pecos Library System (TTPLS), and West Texas Library System (WTLS)
- IBM SPSS Statistics to generate bar charts, mean plots, GGraphs, and to conduct paired sample t-tests results. Tableau Prebuilder 2019.2 to visualize library computer uses on a Texas map.

RESULTS

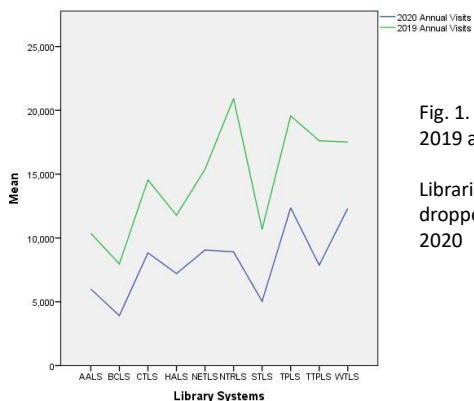


Fig. 1. Library Annual Visit in 2019 and 2020

Libraries visit numbers dropped nearly 100% in 2020

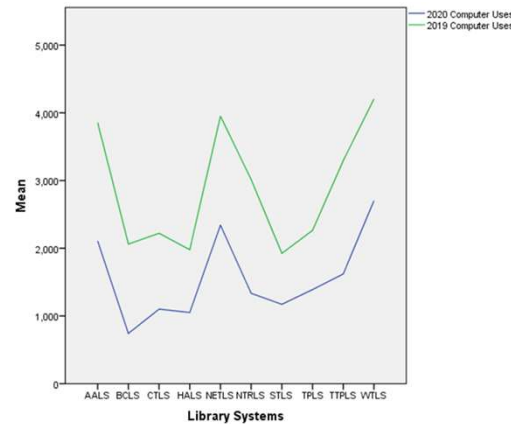


Fig. 2. Public Computer Uses in 2019 and 2020

Public computer uses also dropped nearly 100% in 2020.

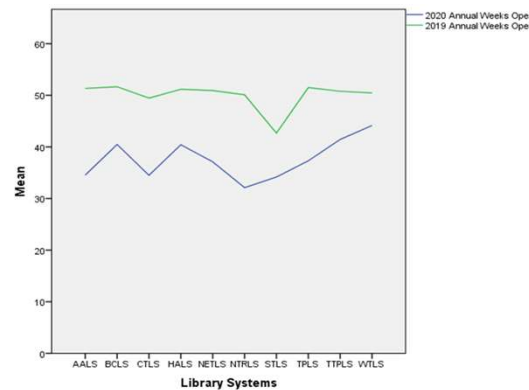


Fig. 3. Annual Weeks Opened in 2019 and 2020

In 2020, libraries opened about 75% weeks comparing to 2019.

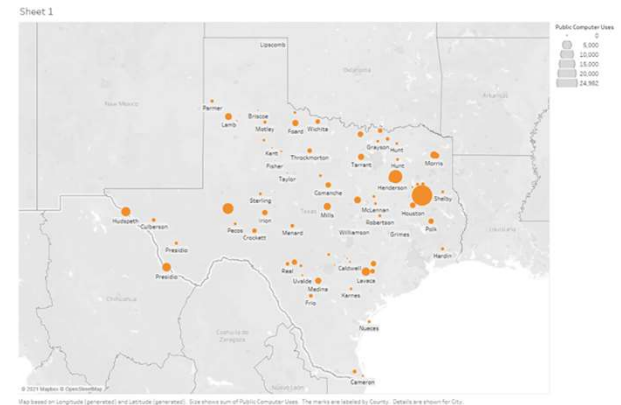


Fig. 4. A Map of Computer Use by Cities

Paired sample t-tests suggested statistically significant differences on library annual visits, opening hours, and computer use, indicating a much-needed support on computing resources in rural areas as the result of the pandemic.

IMPLICATIONS AND CONCLUSIONS

Rural library services were heavily impacted by the pandemic. Libraries opened only 76% of weeks in 2020 comparing to 2019, and their public computer uses dropped around 50%, suggesting even more challenge for rural residents to utilize computing services.

Even with limited resources and local resources, libraries provided valuable computing access for rural residents. Libraries are natural partners for U.S. government's infrastructure bill to build rural broadband and enhance computing services.