

COVID Proposal – Jonathan Williams (Economics)

Research Question:

Closures of schools and workplaces due to the coronavirus pandemic has forced households to bring both tasks home. This has created unprecedented demand for telecommunication services, and concerns that many households will struggle to balance work and home-schooling responsibilities. These concerns are exacerbated for certain populations with circumstances that make this balance more difficult (e.g., single-parent households with rigid work schedules).

We have acquired novel data from a North American Internet Service Provider (ISP) to study this question. The data include household-level demographics and detailed information on internet usage from mid-February to the present, covering the time before and after school closures, business closures, and stay-at-home orders. The demographic data are from Experian credit reports and include numerous household characteristics like employment, income, age, race, and number of residents/children. The internet usage data is at an hourly frequency and gives traffic byte counts for each type of application (e.g., real-time communication applications like zoom).

Together, these data allow for us to carefully examine how household internet traffic levels and composition changed during the various stages of closures. Further, we can analyze how these changes vary by demographic factors. These empirical insights can help develop policies that increase the effectiveness of online schooling, and help target particularly vulnerable populations and avoid exacerbating existing inequality issues.

Budget:

Two hourly PhD research assistants

EHRA Salary	
SHRA Salary	
Grad Student	\$13,761
Temps	
Fringe Pool	\$1,239
Non-Personnel Expenses	
Total	\$15,000

Tasks for research assistants include:

- Processing and cleaning of raw data files
- Data visualization and descriptive analysis
- Programming for regression analysis