

Thesis Project Portfolio

Improving Patient Flow in a Healthcare Clinic Post COVID-19: A Data Validation and Exploratory Analysis Approach

(Technical Report)

The Implications of the COVID-19 Pandemic on Telehealth Usage Within Rural Areas

(STS Research Paper)

An Undergraduate Thesis

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Sociotechnical Synthesis

Due to the COVID-19 pandemic, healthcare providers had to make major adjustments to their overall process to ensure the safety and well-being of their patients and stakeholders within their system. For the project, work will be done with the University Physicians Primary Care Clinic (UPC) within the UVA health system to understand and make improvements in the patient flow process within the system. Initially, the healthcare providers will be shadowed within the clinic to determine and verify how the time stamps are recorded within the system, and then this information will be used to conduct data analysis to make data driven recommendations to the clinic for future improvements.

The effect of the coronavirus pandemic on health systems has been substantial from both a human and societal level. Three of the main ways this can be seen is through the mass loss of lives and human suffering, psychosocial impact on society, and the continued economic slowdown felt. The pandemic has served as a reality check for all health systems specifically regarding their readiness in dealing with an extreme influx of patients. Many hospitals and clinics have reported serious concerns regarding staff shortages and high turnover rates which raises alarms about the quality of care given out. The recruitment pool for health care workers has also continued to shrink. The lasting impact of COVID-19 has shown us that infectious diseases are among the most important potential worldwide hazards and must be taken more seriously in the future.

The STS research will be focused on allowing further implementation of telemedicine in rural America to be successful post pandemic. The STS framework of technical momentum will be used to analyze telemedicine implementation within rural areas of the United States. Telemedicine implementation in rural America can be broadly seen and connected to a large technological system. The specific properties of growth, development, and limits of control within the technological system of healthcare will be used to connect to telemedicine implementation within rural areas. For methods, a substantive literature review as well as a review of secondary sources such as scholarly research journals will be conducted to provide a broad overview into the background of telemedicine in rural America and how the COVID-19 pandemic has impacted it. The expected results from the findings of the research should concur that each outpatient clinic in these rural areas needs to consider telemedicine as a viable alternative to implement whenever possible. As both the technical project and research shows, healthcare clinics in the United States face inefficiencies that must be addressed whether through optimizing patient throughput or creating solutions to allow for equitable access to telemedicine for all United States citizens.