

Thesis Project Portfolio

Analyzing Efficacy of Home Electronic Incarceration on Return-to-Custody Rates for Inmates During the COVID-19 Pandemic

(Technical Report)

The Inequitable Past of Clinical Trials and a Look Towards a Representative Future

(STS Research Paper)

An Undergraduate Thesis

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Sociotechnical Synthesis

The COVID-19 Pandemic brought issues of public health to light that many in the general public were inexperienced with. Clinical trials, vaccine development, and vaccine distribution were all at the forefront of public discourse. Questions suddenly arose regarding the delicate balance between the speed and safety of vaccine development, who gets access to vaccines first, the technology that goes into mRNA vaccines, etc. The public was unfamiliar with dealing with these types of questions. However, these issues have been prominent for decades throughout the history of scientific research and clinical trials. My STS Research Paper dives into the dark history of clinical trials and discusses modern, equitable solutions for recruitment and retention barriers, especially among underprivileged or marginalized communities. Utilizing an ethics of care STS framework, I argue that the underrepresentation of underprivileged groups and minorities in clinical trials is the result of decades of misinformation and distrust between these groups and the medical community. A greater ethics of care is required from trial organizers and the healthcare world as a whole to rebuild bonds with marginalized communities. Modern, empathetic solutions are needed to ease trial recruitment and retention barriers.

Another public health issue front and center during the COVID-19 Pandemic was the mental health pandemic. People's daily lives were altered drastically, and many experienced intense social isolation and depression. For inmates, many of whom suffer from severe mental illness, this meant a pause of in-person visits and strict isolation protocols within the jail. In response, Albemarle-Charlottesville Regional Jail (ACRJ) greatly expanded the use of home electronic incarceration (HEI), or house arrest, to limit the spread of the virus. HEI is a tech-enabled alternative to custodial incarceration of which the benefits are well documented, but the risks are uncertain, especially when applied large-scale within a local community. HEI is also

significantly cheaper than holding an inmate in jail. The technical report gives my capstone team's findings of how HEI usage at ACRJ changed pre- and post-COVID and how post-release outcomes differed among individuals who served their sentence on HEI compared to individuals who served their sentence in jail. We find that HEI inmates returned to custody at a lower rate than those who served their sentence in the jail, despite having a slightly higher risk profile on average. This trend holds true even when controlling the population for different variables, such as isolating misdemeanor offenders, felony offenders, and individuals who committed the same charge type (e.g., Misdemeanor DWI) to compare HEI vs non-HEI outcomes. We conclude that HEI is a punitive and effective alternative to custodial incarceration which provides substantial benefits to both inmates and the jail itself. HEI causes less disruption to people's lives, allows for heightened access to mental health resources, and saves ACRJ resources.

Underrepresentation in clinical trials, mass incarceration, and mental health are enormous issues that affect everyday Americans daily, knowingly or not. The COVID-19 Pandemic introduced millions to these issues for the first time, including myself. I grew passionate and educated about both projects and am proud to have had a positive impact with my work. We presented our technical report findings to two local criminal justice planning boards, consisting of judges, commonwealth attorneys, district attorneys, probation officers, jail superintendents, etc. Both presentations sparked productive, yet difficult, conversations among criminal justice stakeholders regarding the successes of HEI, further adoption of HEI, and what our findings indicate for criminal justice as a whole. At my healthcare consulting firm next year, I am excited to work hands on in improving representation in clinical trials and throughout the medical world.