

Covid-19 Drive-Through Testing Facilities: What Have We Learned and What Can Be Improved?

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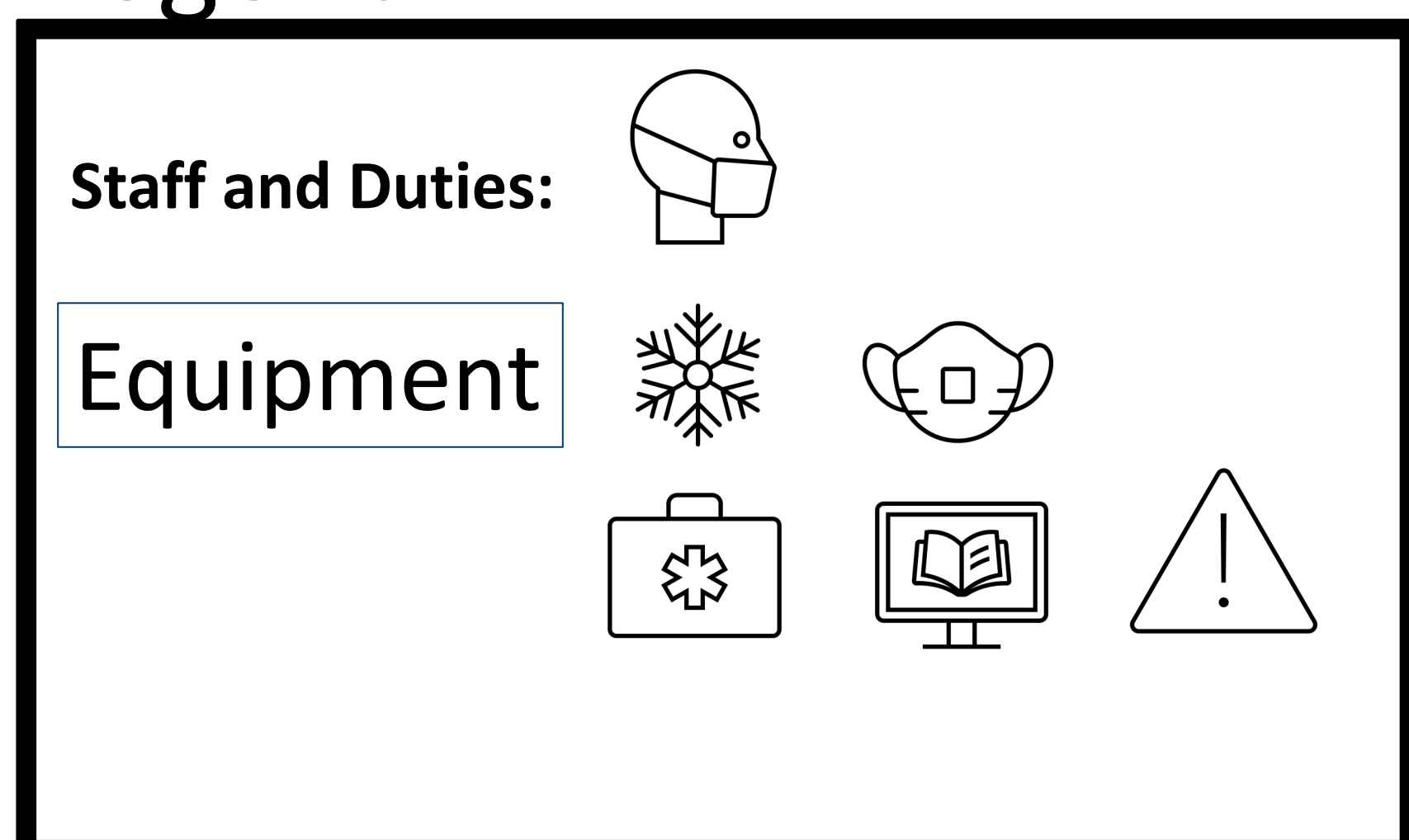
Introduction

After COVID-19 was declared a global pandemic in March of 2020, emergency public health operations aimed at mitigating, testing, treating this virus were activated. During the initial stages of the pandemic, countries that implemented proactive screening were able to control the spread of Covid-19 more effectively. In the United States of America, numerous strategies for mass testing of Covid-19 were implemented, but the drive-through model proved to be both a popular and effective method.

Study Design

We reviewed the scholarly literature as well as news articles and public and private websites for information regarding the layout and operating protocol of drive through testing facilities. From these sources, we explored how other entities established and conducted their drive through testing operations and highlight areas for improvement.

Legend



Greeter: 
-Checks patient in
-Directs traffic

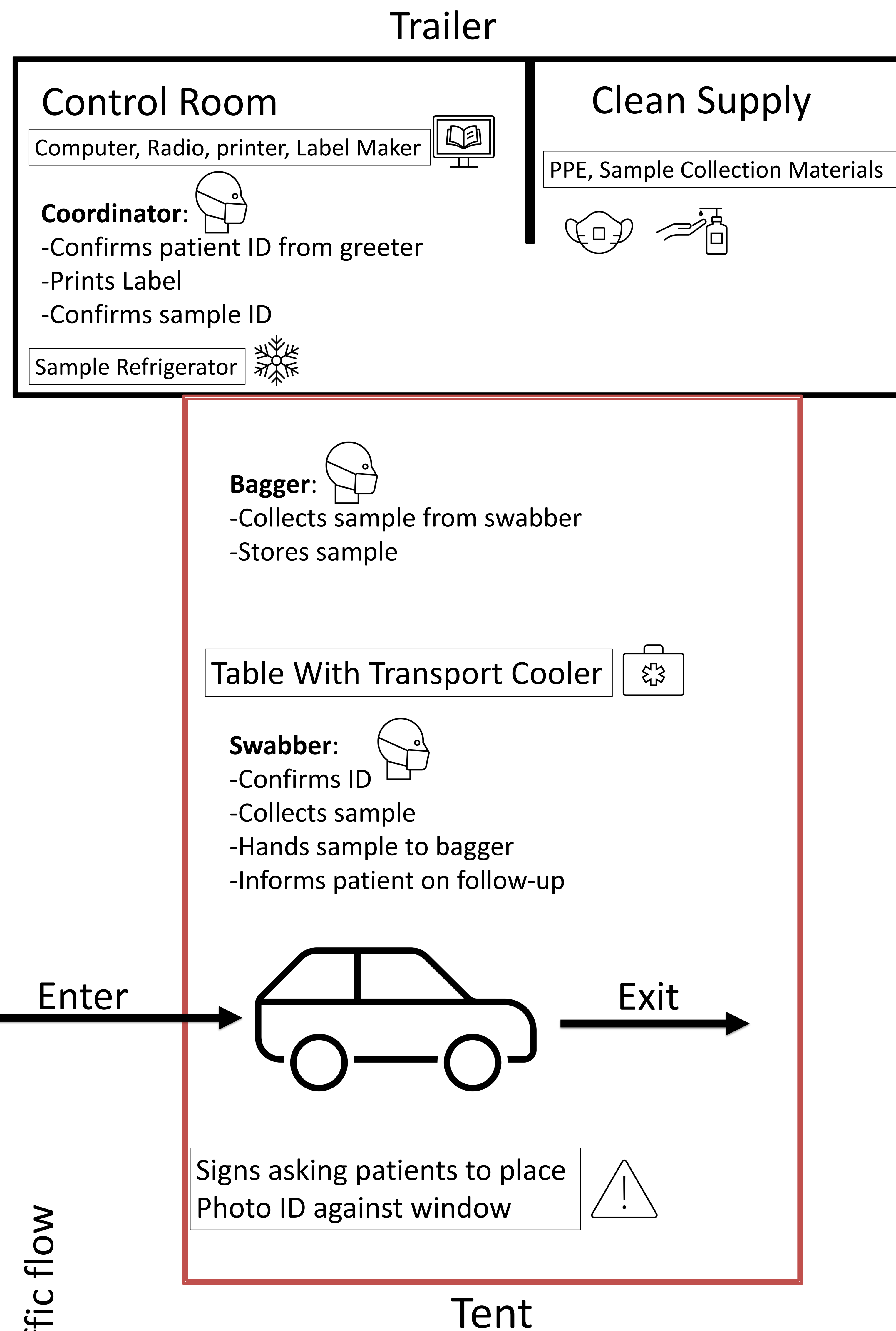
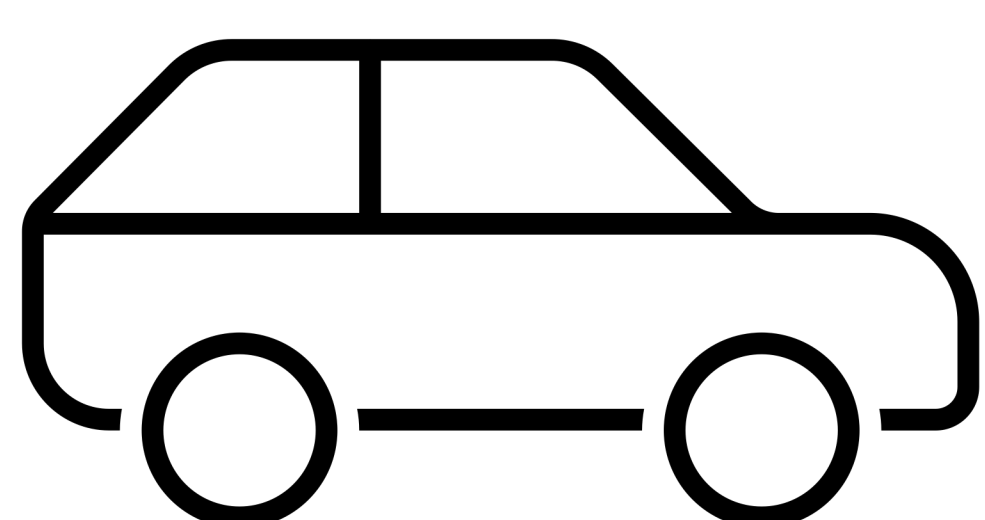


Figure 1. Commonly used model of a drive through viral testing facility. This model can be expanded in an iterative fashion with multiple lanes allowing for numerous patients to be seen simultaneously. Additionally, this model can be utilized for mass vaccination or prophylaxis distribution.

Results

We identified public health planning documents and test cases from operations taking place both before and during the Covid-19 pandemic which demonstrated how drive through facilities can be used for viral testing, mass vaccination and prophylaxis distribution. These cases show a proof of concept that drive through facilities are effective in improving both the quantity of patients seen as well as the rate at which they were able to receive care.^{1,2,3}

- Drive-through testing operations require minimal staffing, allows for self-isolation of patients presenting for testing, and reduced the time needed to prepare by facility staff between patient interactions.
- Issues that became apparent include vehicle flow through the testing facilities, and equipment shortages due to chokepoints in the supply chain.
- Areas of improvement include planning of traffic flow, developing user-friendly online screening forms with virtual check-in and follow-up as well as maintaining the perception of professionalism that is lost when moving the delivery of healthcare from the hospital or clinic to the field.

Discussion

Drive through testing is employed in cases when there is an emergent need for large numbers of people to be screened. Stemming from this acute need, issues regarding supply availability and traffic flow logistics emerged. The epidemiological principles utilized in the drive through model of mass testing have shown its utility as a high-throughput tool and a critical public health measure. With proper preparation and disaster planning utilizing lessons learned from the Covid-19 pandemic, an effective mass testing strategy can be rapidly and successfully implemented for the next public health crisis.

References

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2. ASPR TRACIE. ASPR TRACIE TA Drive-Through Testing for Infectious Disease. Published March 16, 2020. Accessed July 25, 2022. <https://files.asprtracie.hhs.gov/documents/aspr-tracie-ta-drive-through-testing-3-16-2020.pdf>
3. Gupta A, Evans GW, Heragu SS. Simulation and optimization modeling for drive-through mass vaccination – A generalized approach. *Simul Model Pract Theory*. 2013;37:99-106. doi:10.1016/J.SIMPAT.2013.06.004