

Drive-thru clinics: a new model of healthcare delivery and future directions – a Lubbock, Texas experience



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Abstract

The SARS-CoV-2 pandemic infected hundreds of millions of people worldwide and had important ramifications for the way we deliver healthcare. In order to minimize the spread of disease, drive-thru testing lines became commonplace. Out of the drive-thru testing lines, the concept of a fully operational family medicine drive-thru clinic was created. Drive-thru clinics increase patient accessibility and minimize disease transmission among the acutely ill. It also opens the possibility of expanding healthcare access to surrounding rural communities and underserved communities. However, accessibility should be conducted responsibly to avoid jeopardizing patient safety. Public health implications and future directions are discussed.

Introduction

When the COVID-19 pandemic began, daily life was profoundly affected for everyone. Lockdowns were put into place, one could not leave their home without a mask, and even when the lockdowns ended, most people remained working from home. One of the most extreme effects of COVID-19 was the effect it had on the healthcare system. Hospitals all over the country were at full capacity, personal protective equipment was scarce, and lifesaving medical equipment like ventilators and hospital beds were rationed. Further, this meant that healthcare relating to other diseases apart from COVID-19 was also affected, as resources had to be reallocated for pandemic response. Unfortunately, the disease burden disproportionately affected the elderly, minorities, and low-income communities [1].

Before COVID-19 tests became readily available to the public, one had to go to a retail clinic (i.e., CVS MinuteClinic, Walmart Pharmacy, etc.), doctor's office, urgent care, or emergency department for a test [2]. This quickly became a problem as lines to get a COVID-19 test grew more than facilities could reasonably handle. People would wait hours for tests and lines of cars stretched miles, all hoping to get tested before supplies run out [6]. Makeshift drive-through centers were set up with the hopes of getting more people tested in a shorter amount of time. With the burden of COVID-19 tests on the healthcare system, there was an urgent need for facilities with greater abilities to test all those who needed it [7]. University Medical Center (UMC) located in Lubbock, Texas, saw this need and attempted to fill it. While opening a new family medicine and pediatric clinic, UMC also added a

drive-through clinic annex where individuals could get COVID-19, influenza, and Streptococcus tests, as well as care for simple infections without leaving their car. As the pandemic has disproportionately affected the elderly, marginalized, and vulnerable populations, the goal was to increase accessibility to health care by making it an easier, faster, and more convenient process to get tested. The drive-through clinic opened in June of 2022 and is currently seeing patients during traditional clinic hours. As medical and public health students at UMC, the authors of this paper requested to tour the facilities to write an article about the public health implications of this new healthcare delivery method and discuss some of the potential risks associated with it.

Clinic Layout and Operations

The clinic is open on weekdays from eight in the morning to five in the afternoon and does not open on the weekends. From the outside, the family medicine area of the clinic takes over a person's field of view. Upon further inspection on the side of the building, a familiar aspect of fast-food architecture comes into view: there is a two-lane passageway that leads up to a garage-like structure, with gates that open and slide upwards like a garage door.

Upon entering the garage, the space opens to a larger room outfitted with items you would find in an emergency department triage room with one significant difference: there is ample room for a car and space to move around the car for providers. There is an exit on the end farthest away from the entrance and a doorway that leads to the provider

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area on the side. There is also a mobile cart with triage tools and a computer on wheels.

Once a patient drives into the space, they are within the clinical area. There is no further exertion required on the part of the patient and exiting the vehicle is not required. The space is staffed with a nurse practitioner, a receptionist, and a medical assistant during all operating hours. The nurse practitioner comes out to the car bay and assesses the patient. All measurements are taken in this manner, and any further examination will be done with the patient still inside their vehicle. In some cases, the patient may be asked to recline their seat all the way back for an abdominal exam. In that same space is a mobile cart with equipment to take vital signs.

Patients who present with complex medical diagnoses are referred to the main clinic inside the building so they may be properly evaluated. These patients may also be referred to the main UMC hospital as appropriate. Blood can be drawn in the drive-through, but this is not typically done. Monday and Friday afternoons are typically the busiest for the clinic, often causing the line to reach five to six cars at a time. As the day moves toward closing hours, the entrance is closed off ahead of time to prevent excess patients from waiting and not getting treatment. Those in the lane are seen and treated before clinic staff go home for the day, while the family medicine side of the clinic may remain open.

Discussion

Accessibility and Patient Safety

Anyone that has ever been to a pediatric office has observed busy parents struggling to carry their sick children to the examination room. Furthermore, overbooked pediatric and family medicine clinics make it difficult for people to seek care when dealing with an acute infectious illness. One thing that became clear during our visit to the drive-through clinic is that history taking, physical examination, and point-of-care testing for infectious conditions can be done with the patient still in the vehicle. Like urgent care clinics, this drive-through clinic operates without the need to schedule appointments, thereby facilitating greater access to medical care. Drive-through clinics can also improve accessibility for elderly with mobility impairments, wheelchair users, and patients with physical disabilities.

Drive-through clinics could also allow patients suffering from infectious illnesses to be assessed, examined, and treated within the confines of their car, thus reducing the risk of disease transmission in a waiting area. At the height of the COVID-19 pandemic, emergency rooms struggled to isolate those infected with the virus from other vulnerable patients sitting in the same waiting room. Hospitals tried putting as much distance between patients as possible by sending them to different areas of the waiting rooms, building separate waiting rooms, and offering drive-through testing for the virus [3]. A drive-through clinic for infections also means reduced disease transmission in primary care office waiting rooms. This protects children, pregnant people, the elderly, and immunocompromised individuals from inadvertently getting ill while waiting for care.

Assessment

Innovative ideas can often carry unintended consequences. Accessibility is undoubtedly a benefit but should be done carefully so as to not jeopardize patient safety. Take for instance a driver that pulls into the drive-through because their child recently started complaining of abdominal pain and nausea. In a traditional clinic, it may be easier to adequately assess a patient for acute abdomen concerns by doing a thorough abdominal examination. However, in this case, the child is still strapped into the car seat, making it more difficult for a thorough assessment. Therefore, clear limitations need to be established for the proper use of the drive-through clinics as compared to alternatives like telehealth or traditional clinics.

Except for conditions requiring more privacy to diagnose, like urinary tract infections, the drive-through clinic is well-equipped to handle minor infectious illnesses and point-of-care testing, such as respiratory, ear, eye, and sinus infections, and vaccinations. Routine annual visits including well-child checks that require significant time for education and counseling are better done in the traditional clinic setting. Clinic visits that require the use of imaging, laboratory blood draws, or electrocardiograms are also better done in the traditional clinic setting. As the business model for drive-through clinics continues to expand in the healthcare industry, a word of caution is needed. Greater accessibility should not be confused with convenience. Corporations will undoubtedly be driven by competition and capitalism to expand drive-through services for convenience. Expanding services to provide a drive-through bay dedicated for annual visits,

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electrocardiogram stations, or other medical complaints that require a significantly higher level of care is dangerous. Therefore, we caution against the “McDonaldization” of the healthcare industry for

convenience at the expense of patient safety [4]. Table 1 summarizes our recommendations for good and poor candidates for drive-through clinics.

Table 1: Summary of good and poor candidates for drive-through clinic use and the recommended alternatives. This table is not an exhaustive list of potential reasons for patient visits.

Good Candidates	Poor Candidates	Clinic Alternative for Poor Candidate
Minor infections (respiratory, eye, sinus, ear)	Urinary Tract Infection, Sexually Transmitted Infections	Primary Care Clinic, Retail Clinic, Urgent Care
Vaccinations	Well Child Exam, Adult annual visits	Primary Care Clinic
COVID-19 testing	Mental health screening	Primary Care Clinic, Telemedicine visit
Small injuries	Head and neck injuries Laceration repairs, major injuries requiring imaging	Primary Care Clinic, Urgent Care, Emergency Center

Future Directions and Public Health

Currently, we foresee the idea of a drive-through clinic annex spreading into other regions. Drive-through testing and treatment of common minor ailments and vaccinations without needing to set up an appointment is appealing to consumers, and the business model is promising. We also believe that drive-through clinics can potentially provide another step-down option to emergency rooms and urgent care clinics and can treat conditions that telehealth services cannot. This could possibly reduce the oversaturation of emergency centers, urgent care clinics, and primary care clinics. Primary care clinics could then use the additional time and resources for higher acuity cases, routine annual visits, and management of chronic conditions. Another interesting application of this innovative model is its

implications for improving accessibility to medically underserved areas and rural communities.

During our time at the UMC Family Medicine clinic, we were surprised to discover that many of the patients drove from surrounding rural communities. Many of them suffering from acute infectious illnesses were turned away from fully booked primary care offices and decided to seek care at the drive-through clinic. Lubbock is a medium-sized city surrounded by small rural communities throughout West Texas, and from a public health standpoint, a drive-through clinic could improve access to healthcare services for surrounding rural communities. One of the most successful methods for improving healthcare delivery to medically underserved rural communities has been through telemedicine, specifically, for mental health complaints [5]. However, this too

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requires the patient to have access to a computer or tablet, have reliable high-speed internet and bandwidth, and have some degree of computer knowledge. Drive-through clinics could expand services to those who rely on telehealth by treating infectious illnesses that may otherwise require in-person point-of-care testing, such as Streptococcus, ear infections, and influenza testing. Therefore, we believe that drive-through clinics placed in strategic locations in suburban areas close to major highways could improve accessibility to surrounding rural communities. Expanding services to self-pay, uninsured, and Medicaid patients could further allow patients in disadvantaged communities to receive the care they need

without the long wait times and insurance obstacles. The larger hospital systems in the area, such as the UMC main hospital and the other urgent care clinics, are often busy throughout the day with few open spots for walk-ins. This drive-through clinic in Lubbock can help alleviate that issue provided that it can cater to those with other forms of insurance or no insurance. Expanded business hours outside of traditional clinic hours could also improve accessibility to those traveling from surrounding rural communities. Figure 1 summarizes our recommendations for improved access to medically underserved populations and areas.

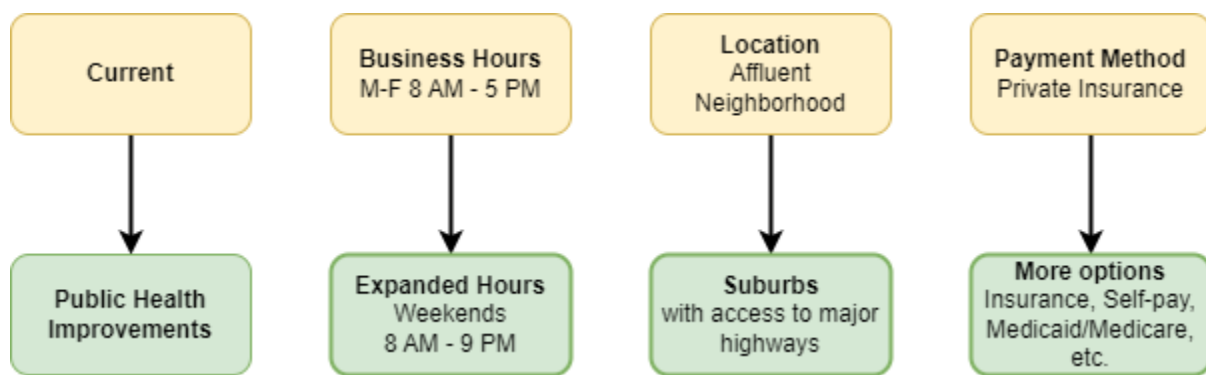


Figure 1: Summary of recommended changes to clinic location, hours, and payment options to improve access to medically underserved populations and areas.

With increased accessibility to medically underserved areas comes the added benefit of allowing these patients to know when a higher level of care is needed. Urgent care is most often the first point of contact for patients who have the initial symptoms of something more serious. In affluent areas with easy access to clinics, this is not an issue. For those living in disadvantaged areas, it is difficult to get to a clinic and be referred if something more serious is found. The UMC drive-through clinic fills this gap in care. Patients can be examined by this clinic and referred to the main UMC hospital for imaging and further treatment, providing a stronger connection between underserved areas and the main campus. As drive-through clinics expand beyond the Lubbock area, this is an added potential benefit for patients located in surrounding rural communities. Preliminary numbers show the clinic model is sustainable and clinic management predicts expansion, but they will not release data until the clinic's first anniversary.

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