

## Blood pressure drive-through: An innovative way to meet patient care needs during a pandemic

During the 2020 global pandemic of coronavirus disease 2019 (COVID-19), increased barriers to care due to temporary clinic closures for the mitigation of the spread of COVID-19 resulted in reduced in-person care for patients who self-manage chronic diseases.<sup>1</sup> Additionally, patients with chronic disease states are at greater risk for poor outcomes and mortality when infected with the COVID-19 virus.<sup>2-4</sup> Specifically, patients with hypertension (HTN) are 2.5 times more likely to have severe disease and/or mortality.<sup>5</sup> In the United States, HTN has been a well-known modifiable risk factor for cardiovascular disease and a preventable cause of death that primary care providers aim to manage proactively.<sup>6</sup> Currently, as many as 75% of US patients with HTN use medications to lower blood pressure and reduce cardiovascular risk.<sup>7</sup>

Within our health system, a large academic medical center in southeast Michigan, we have 14 primary care sites across the region, with embedded pharmacists at each site. These pharmacists provide chronic disease state management for patients with diabetes, hypertension, and hyperlipidemia.<sup>8</sup> In an effort to provide the highest level of access for our patients, we partnered with a regional chain community pharmacy for hypertension management, allowing for patients to have blood pressure (BP) follow-up closer to home.<sup>9</sup> A team of 5 pharmacists from 4 sites within the aforementioned community chain were provided with training that covered clinical hypertension, our electronic medical record system, documentation of visit, and provider communication workflows. After seeing their primary care provider (PCP) and if HTN follow-up was warranted, patients could be referred for follow-up with the local community pharmacist or an embedded pharmacist within one of our primary care sites.

In response to the COVID-19 pandemic, our health system consolidated its primary care clinics from 14 to 5 regional sites for in-person, predominantly urgent visits. The remaining 9 primary care sites shifted to a completely virtual care model and conducted both video and telephone visits for routine patient care. Additionally, all embedded clinical pharmacists began working remotely, providing only video or telephone visits for patients. Given limited personal protective equipment shortages, we also had to close in-person

access to our community pharmacy partner for HTN follow-up. Thus, managing HTN became a challenge, as there were limited opportunities for in-person follow-up for our patients.

This article describes an innovative model created by clinical pharmacists for a drive-through BP testing site. This provided a safe and convenient way for patients to access care during a pandemic while maintaining social distancing and limiting physical contact with others.

**Drive-through BP check process.** With many clinic sites being closed to patients, our team needed to think innovatively to accommodate patients who needed an in-person service for chronic disease management. Realizing that our patients with HTN would be more susceptible to poor outcomes if they were to be exposed to COVID-19, we knew that safety was the top priority. To ensure the success of the service, many processes and workflows had to be developed. Given that so many of our sites had been consolidated, we were able to identify a clinic site and staff to help run a drive-through service for our patients. The service was supported by 2 medical assistants (MAs), who performed BP checks with automated Omron machines (Omron Healthcare Inc., Lake Forest, IL) and validated home BP cuffs (when needed), and 1 clinical pharmacist. Additionally, there was a physician on-site who was available for any urgent matters, if necessary. Behind the scenes, a scheduling grid was created within the medical record system to easily schedule patients to be seen at the drive-through site. This allowed us to have automatic appointment reminders and specific appointment directions sent to the patient via text, phone call, patient portal, or letter. We originally started with 1.5 clinic days, but after assessing the demand, we expanded to 3 full clinic days. Our clinic hours were Monday, Tuesday, and Thursday from 8 AM to 5 PM, and 20-minute visits were slotted throughout the day.

Outside of the clinical staff needs outlined, we also identified centralized staff to assist with incoming referrals and scheduling to the drive-through. Patients were referred to the service if they had been seen virtually or had a recent outreach to a PCP or embedded pharmacist concerning HTN. The central scheduling team was critical to ensure patients felt comfortable and safe coming to the drive-through to have their BP checked. Since the process and concept was unfamiliar to many patients, having a team member explain the process of the visit, conduct previsit COVID-19 symptom screening, and serve as a contact for patients with questions was vital.

To minimize any contact with patients once they arrived, we instructed patients to call upon arrival (signs were

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displayed with the phone number to call). An MA answered an arriving patient's phone call, conducted an additional COVID-19 symptom screening, and told the patient to remove any jackets and/or roll up their sleeve on the side closest to the car window. The MA also instructed the patient to relax, with minimal distraction, for 5 minutes. Once 5 minutes since the arrival phone call had elapsed, the MA put on all personal protection equipment (gown, safety glasses, mask, face shield, and gloves) and wheeled out a cart with the automated BP cuff to the patient's car. Once the patient's identity was verified, the MA measured the patient's BP. If the patient's BP was elevated ( $\geq 140/90$  mm Hg), the MA instructed the patient to relax for 5 more minutes to allow a repeat BP measurement. If a patient brought a home BP machine with them, the MA also validated the home cuff against our clinic cuff to verify its accuracy. Home cuff validation allowed for virtual follow-up with the PCP or embedded pharmacist after the initial drive-through appointment. Upon completion of the BP check by the MA, the patient was instructed to pull into a parking spot along the side of the building and wait for the pharmacist's phone call. The MA then went back into the building and sent a message to the pharmacist reporting the patient's vital signs. The pharmacist then called the patient while the patient was still parked outside to discuss the results.

During this call, the pharmacist reviewed home BP monitoring results and the medication regimen and assessed adherence and lifestyle factors. Patient education was provided and, if needed, the pharmacist made medication adjustments. An executive order established in Michigan in response to the COVID-19 pandemic (order 2020-30) extended authorization for specified clinicians to provide medical services without supervision from a licensed physician without regard to a written practice agreement (if within the clinician's scope of practice).<sup>10</sup> This allowed a clinical pharmacist to provide care, including making medication adjustments to help treat chronic diseases such as hypertension and diabetes, to a large volume of patients without a signed collaborative practice agreement. Prior to the executive order, our institution required a signed collaborative practice agreement with the referring provider for a pharmacist to provide chronic disease state management. Upon completion of the pharmacist telephone visit, an appointment for virtual follow-up was set with the referring provider or embedded primary care pharmacist to occur within 2 to 4 weeks if the patient was at the BP goal or had a validated home BP cuff. If the patient had uncontrolled BP and did not have a BP cuff that was validated, a follow-up appointment with the drive through team for further BP monitoring was scheduled.

As we moved through the process of developing the HTN intervention in a pandemic setting, we faced many challenges. The speed with which we wanted to get the intervention up and running to see patients who needed BP follow-up was a challenge. Logistics of identifying a parking

lot, ordering directional signs, and creating a semipermanent tent set-up were all things that we worked closely with our facilities team to complete. We had a fair amount of clinic staff to dedicate to this intervention, since many clinics had been consolidated and different types of clinic staff were available to dedicate to the service. Developing the referring and scheduling processes were likely our biggest challenges, especially given the fast-moving timeline. Since this was not a type of visit that was familiar to our patients, we identified a small central scheduling team to dedicate to the service. That way, we could explain the process and what to expect to each patient scheduled and quickly identify areas of confusion. It was also helpful to have only a few different medical assistants and 1 dedicated pharmacist so that we could all easily communicate barriers in an efficient way. We utilized group instant messaging, which allowed for immediate communication between the MAs and pharmacist throughout the day. The most common day-to-day barrier was weather. We experienced severe weather events that required us to call patients to cancel upcoming appointments and reschedule. Overall, a dedicated team and close communication helped us quickly overcome challenges.

**Experience with the program.** From April 20 through June 25, 2020, there were 471 referrals to the drive-through service. Referrals to the service came from all 14 of our primary care sites and 2 specialty services (cardiology and geriatrics). Patients were also referred by the embedded clinical pharmacists within the primary care sites, who were all working remotely at the time. A total of 61 patients (13%) declined a referral for drive-through BP assessment. If the patient declined the initial referral, additional attempts to reach them were not made. Outreach attempts were documented in the medical record, and documentation was forwarded to referring providers to make them aware of the attempted outreach. Of the 471 patients, the team was unable to reach 45 (9.6%) for scheduling, and a total of 29 patients (6.2%) failed to show for their appointment. In all, there were 336 completed visits.

The "mean BP prior," defined as the last BP documented before the drive-through visit, was 141/77 mm Hg (standard deviation [SD], 20.8/12), with 152 patients (45.2%) deemed as being at goal ( $< 140/90$  mm Hg) per Healthcare Effectiveness Data and Information Set (HEDIS) criteria. During the drive-through visits, BP values were significantly lower, with a mean of 129/66 mm Hg (SD, 17.3/8.0), and 330 patients (98.2%) were at goal per HEDIS criteria. HEDIS measures were used to evaluate the service in terms of at-goal values, as these measures are used by payers for assessing value-based care. When looking at patient-specific goals based on risk factors, we found that only 222 patients (66%) were at the therapeutic goal during their drive-through appointment. While the improvement in average BP values seen at the drive-through was not due to an intervention in that setting, the service allowed us to follow up on changes made

through virtual visits with providers, thereby contributing to increasing the overall percentage of patients who were at goal per HEDIS measures. This service provided a mechanism for follow-up and assessment of therapy changes for our providers and embedded pharmacists, which otherwise would not have been available. Additionally, we were able to identify patients with worsening BP control and optimize therapy to help gain better control.

With regards to interventions made by the clinical pharmacist, 44 patients required changes to their HTN regimen during the telephone visit immediately after a BP check. Three of these patients (7%) were switched from one medication to another during their visit due to adverse effects. Of the total of 336 patients served, 22 patients (6.5%) had their antihypertensive dose increased, 19 patients (5.7%) had a new medication started, and 6 (1.8%) had reductions in their dose. Lastly, the majority of the patients ( $n = 254$ ; 75.6%) had a follow-up scheduled with their PCP at the completion of their drive-through visit. Forty-four patients (13.1%) had a follow-up appointment scheduled with the drive-through clinic due to changes in therapy, and 29 patients (8.6%) had a follow-up scheduled with their embedded clinical pharmacist. One patient was sent to the emergency room with hypertensive urgency, and 8 (2.4%) had no follow-up.

Patients were also surveyed regarding their drive-through experience. A total of 97 patients completed the survey. Overall, the majority of patients (98%) described their drive-through experience as “good” or “very good.” Additionally, 75% of patients said that they felt safer during a drive-through visit as opposed to a visit inside of the clinic, and 33% stated that they would have delayed or not received care if the drive-through clinic was not offered. All respondents rated their care from the pharmacist as good or very good.

**Summary.** Mitigation strategies to reduce the spread of COVID-19 created challenges for patients with chronic diseases in terms of receiving in-person care. The creation of a drive-through BP testing site was an innovative response to these challenges. Within weeks of its launch, the service was utilized by all of the primary care clinics within our health system. This drive-through service was found to be a beneficial way to effectively monitor patients with HTN when many primary care clinic sites were consolidated and care was being transitioned to a virtual platform. Through the telehealth portion of the drive-through service, the pharmacist provided a significant amount of education and counseling for our patients. Additionally, there were a total of 44 patients who required changes to their medication regimen based on their BP during a visit. These visits were found to be especially helpful for patients who brought their home BP cuff to the visit so that it could be validated in comparison to the clinic BP cuff. This made virtual follow-up for hypertension more effective, as the PCP or clinical pharmacist could trust the accuracy of the home BP readings reported.

Patients who received care from this service had a positive response to the care provided by the team and the clinical pharmacist. A majority of patients felt safer receiving care from the drive-through service versus inside of a clinic. Many may have delayed or not received care if the drive-through service had not been offered. As the first wave of COVID-19 settled down in our region, our primary care sites and community pharmacy partners opened up to allow for follow-up and our drive-through service was closed. Additionally, executive orders regarding COVID-19 were temporary and we resumed normal clinical practice with our collaborative practice agreements. Given the overall success and acceptance of this drive-through service, our team operationalized a walk-in BP check service in a large open center with 2 BP check bays, allowing for significant social distancing. This service continues to be utilized and will be evaluated in the future.

The keys to success of the program included streamlined communication to primary care providers regarding the process of making referrals to the service, offering drive-through appointment times at early and late hours, and a flexible multidisciplinary team that quickly adapted to provide the drive-through service. Additionally, centralized scheduling of staff for appointments was vital to the success of the service.

Overall, development of a drive-through service for monitoring of BP resulted in a valuable service that provided care to patients who may not have received care otherwise during the COVID-19 pandemic.

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