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## Drive-thru pharmacy services: A way forward to combat COVID-19 pandemic

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### ABSTRACT

Countries around the globe have responded to pandemic preparedness and developed strategies to cope with the COVID-19 crisis. In this context, the role of healthcare professionals is of paramount importance. Pharmacists are playing a vital role in dealing, preparedness, prevention, protection, promoting access to medicines and to improve health outcomes during this crisis. In this context, “Drive-thru” pharmacy services improve access to medicines while ensuring the preventive measures suggested by the World Health Organization. This commentary provides an overview of opportunities and challenges related to the implementation of “drive-thru pharmacy services” and their role in improving public health during this crisis.

### Introduction

The World Health Organization (WHO) declared Coronavirus disease (COVID-19) a “Global Health Emergency of International Concern” on March 12, 2020. As of July 11, 2020, 213 countries have been affected by this disease, with a total of 12, 322, 395 confirmed COVID-19 cases and 556,335 deaths worldwide.<sup>1</sup>

Many countries have been navigating different stages of lockdowns.<sup>2</sup> As this lockdown continues, the healthcare facilities offer new ways to deal with the patients. This includes telehealth, restricting patient visiting times as well as remotely seeing the patients.<sup>3</sup> In response to the rapidly evolving situation, WHO has also published interim guidance on public health and social measures.<sup>4</sup>

### Value-added pharmacy services during COVID-19

In the last decade or so, community pharmacies have adopted several new services. These services are especially viable for high-risk populations such as patients with multiple comorbidities, patients with low health literacy, and people with diminished access to care.<sup>5</sup> The service-based changes vary according to the role and challenges faced by the pharmacist and are meant to facilitate the convenient access of medication pick up as well as to ease the burden on the pharmacy staff.

These services are commonly known as value-added services (VAS) or extended pharmacy services.<sup>6,7</sup>

In the United States of America (USA), many medicines are dispensed through mail order or as “drive-thru service” to the patients.<sup>8,9</sup> Australia has introduced several value-added services (VAS) including forward dispensing, prescription reminder system, One-stop-Shops, Rolls Royce service, chronic illness card, drive-thru pharmacy services as well as home delivery services.<sup>10–12</sup> In the United Kingdom, the click-and-collect technology with a “human” service allows collection of medicine order and receiving of advice at a suitable time from the designated pharmacy.<sup>13</sup> Similarly, other value-added services (VAS) include the Hub and Spoke dispensing models, the ATM-style prescription collection point, supplementary prescribing, and independent prescribing models.<sup>7,14,15</sup>

Regardless of the lockdown situation in different countries, healthcare centers, medical clinics, and pharmacies are among those facilities which are operational during the COVID-19 and are continuously operating by adapting innovative ways to cater to the needs of the population.<sup>16,17</sup> Community pharmacy is not only meeting the general needs of the patients, but dealing with the pandemic control as well as providing advice to the patients on prevention.<sup>18</sup>

In order to respond to the pandemic preparedness, many community pharmacies have taken measures for prevention. This includes placing

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physical barriers in doorways or at pharmacy counters, cordoning off areas, marking the floor with the tape to guide the patients, or placing the acrylic glass barriers in front of the pharmacy counters.<sup>19</sup> Other protective measures are the use of personal protective equipment (PPEs) and to reduce the interaction between the pharmacy staff and the patients by encouraging the patients to use e-payment or placing money in the baskets. The communication is also improved through a notice display or via sending a text message.<sup>19</sup>

### Drive-thru pharmacy-a value added service

“Drive-thru pharmacy” or “drive-through pharmacy” is one such value-added or extended pharmacy service. This was inaugurated as a means to cope up with the increased demands of facilitated prescription processing.<sup>20</sup> “Drive-thru pharmacy service” was first introduced in the United States of America (USA) by the second-largest pharmacy chain, Walgreens pharmacy, in the 1990s.<sup>9</sup> The aim was to introduce this service for faster dispensing of medicines and to improve the patients’ satisfaction and convenience. This perhaps allowed customers to refill their prescriptions by driving up to the dispensing window, just like the typical fast-food drive-thru outlets.<sup>21</sup> Though drive-thru pharmacies were started in the early 90s, previous studies have shown that both consumers and pharmacists preferred to receive in-person pharmaceutical care.<sup>21, 22</sup> However, despite these reservations, drive-thru pharmacy services seem to grow.

In the United Kingdom, in 2008, Boots launched the service for the ease of medicine access for elderly patients with chronic diseases.<sup>23</sup> “Drive-thru pharmacies” also opened in Malaysia (2008), Australia (2010), Taiwan (2011), Jordan (2016) and Croatia (2017).<sup>6,7,11,24,25</sup> The “Drive-thru pharmacy services” were adopted in line with the principles to save time as well as to facilitate the faster delivery of

medicines to the patients.<sup>6,24</sup>

In Malaysia, drive-thru pharmacy service was considered as one of the key performance indicators during COVID-19.<sup>25</sup> Malaysian based studies have also identified this innovation as a way to reduce patients’ waiting time, and to ease access of medicines’ delivery for disabled or special needs category patients while resolving car-parking problems during peak hours.<sup>7,26</sup> A recent study by Queen Elizabeth Hospital (QEH) in Malaysia showed that a vast majority of the patients were satisfied with this service.<sup>27</sup> In Taiwan, a study has found that “drive-thru pharmacy service” has provided patients with convenient access to prescription refilling during a short period.<sup>24</sup> A study from Jordan has highlighted the need to introduce the drive-thru concept and emphasized that regulatory bodies take an interest in this very idea to improve patient’s access to medicines.<sup>6</sup> Another Jordanian study had also demonstrated positive outcomes regarding customers’ awareness and perceptions towards drive-thru pharmacy service when the quality of service was evaluated.<sup>28</sup> Table 1 (below) provides an overview of drive-thru pharmacy services” in different parts of the world.

### Drive-thru pharmacy services during COVID-19

In the face of COVID-19, the introduction of drive-thru pharmacy service is among measures that could improve protection and safety both for the pharmacy staff and patients. In a “drive-thru pharmacy,” a patient receives pre-ordered medicines from a drive-thru window. The medicine is pre-checked, labeled, and packed in advance, and then the patient receives the medicine without having to exit the vehicle, and in this whole operation, little human interaction is involved.<sup>7</sup>

In order to ensure the overall safety of pharmacy staff and consumers during COVID-19, many pharmacies have initiated the drive-thru service for the first time as a single point of service.<sup>29</sup> In the United Arab

**Table 1**

A glance at drive-thru pharmacy services in different countries.

Country	Year when drive-thru pharmacy services were started	Objectives and impact of the drive thru pharmacies	Reference source
Australia	2010	<ul style="list-style-type: none"> <li>• Patients felt self-dependent</li> <li>• Time saving</li> </ul>	Drive Thru Pharmacy. 2020; <a href="https://www.drivethrupharmacy.com.au/">https://www.drivethrupharmacy.com.au/</a> . Accessed May 19, 2020. <sup>11</sup>
Croatia	2017	To improve availability and the provision of health care services to less mobile senior citizens and parents with the small children	Thomas M. First drive-through pharmacy opens in Zagreb. 2017; <a href="https://www.thedubrovniktimes.com/news/croatia/item/1879-first-drive-through-pharmacy-opens-in-zagreb">https://www.thedubrovniktimes.com/news/croatia/item/1879-first-drive-through-pharmacy-opens-in-zagreb</a> . Accessed May 19, 2020. <sup>25</sup>
Jordan	2016	Time saving	Farha RA, Hammour KA, Alefishat E, Alsaied H, Alma'aiah S. Drive-thru pharmacy service: Assessments of awareness, perception and barriers among pharmacists in Jordan. Saudi pharmaceutical journal. 2017;25 (8):1231-1236. <sup>9</sup>
Malaysia	2008	<ul style="list-style-type: none"> <li>• To reduce waiting time in the pharmacies</li> <li>• To solve parking issue in the hospital setting</li> </ul>	Che Noriah O, Mohamad Izani O, Roza D, Suraya S, Nordini H, Roz Azinur C. Customer's satisfaction on the implementation of drive-through pharmacy in Penang General Hospital, Penang, Malaysia—pilot study. Eur J Pub Health. 2010;20:245-287. <sup>21</sup>
Qatar	2020	To ensure and improve safety during COVID-19	Sidra Medicine introduces drive-through pharmacy. 2020; <a href="https://www.thepeninsulaqatar.com/article/25/03/2020/Sidra-Medicine-introduces-drive-through-pharmacy">https://www.thepeninsulaqatar.com/article/25/03/2020/Sidra-Medicine-introduces-drive-through-pharmacy</a> . Accessed May 19, 2020. <sup>31</sup>
Taiwan	2011	<ul style="list-style-type: none"> <li>• To reduce waiting time</li> <li>• Parking convenience</li> </ul>	Lin Y-F, Lin Y-M, Sheng L-H, et al. First drive-through pharmacy services in Taiwan. Journal of the Chinese Medical Association. 2013;76(1):37-41. <sup>24</sup>
United Kingdom	2008	To facilitate elderly and busy customers	Tozer J. Boots opens Britain's first drive-through chemist... in an old McDonald's. 2008; <a href="https://www.dailymail.co.uk/health/article-1047196/Boots-opens-Britains-drive-chemist-old-McDonalds.html">https://www.dailymail.co.uk/health/article-1047196/Boots-opens-Britains-drive-chemist-old-McDonalds.html</a> . Accessed 18th May, 2020. <sup>23</sup>
United States of America	1990	To improve the availability and provision of healthcare services to less mobile senior citizens	Myers A. Drive-through businesses. American Business History and Civil Liberties. 2011. <sup>9</sup>

Emirates (UAE), Thumbay University hospital has launched 24 hours of drive-thru pharmacy service at hospital premises. In this hospital, patients receive the prescription filled, keep the stipulated social distance, and minimize the spread of infection.<sup>30</sup> Similarly, Qatar has also introduced a drive-thru pharmacy service in its capital city, Doha. This is being done while following the social distancing measures and ensuring public safety, as suggested by the WHO.<sup>31</sup> In Australia, there is also a surge in drive-thru pharmacy services. Australian pharmacy chain, Discount Drug Stores (DDS), has started operating 'drive-through' and car park collection services. Customers can call their local participating pharmacy and place an order for pick-up. They can either wait in the car to collect their medication or go through the drive-thru.<sup>32</sup> Similarly, in the USA, Madigan Army Medical Center, one of the largest military hospitals has launched the drive-thru service to facilitate the beneficiaries.<sup>29</sup>

During challenging and stressful situations, including pandemics, the use of unbiased, informative standardized educational material is a must; however, with the little interaction with the consumers at drive-thru pharmacies, it is challenging to provide standardized health and medicines information to the patients.

Several strategies can balance ease of access and protection from virus spread with the provision of appropriate advice and counseling. These include the provision of standard educational material, including leaflet and remote consultations and counseling. Also, information technology (IT) based services have played a useful role in controlling the spread of COVID-19 infections in the UK and South Korea.<sup>33,34</sup> It would certainly be beneficial to expand the remote consultations in primary care and during the time of pandemics.<sup>35</sup> It has also been argued that the pharmacists in primary care, in particular, can play a crucial role by providing remote consultation.<sup>36</sup>

The negative effects of drive-thru pharmacies are also worth noting. These include processing delays, reduced efficiency as well as dispensing errors due to distractions at the windows.<sup>37</sup> Those effects should be taken into consideration when pharmacies plan for the inclusion of this new service particularly during the pandemic.

### Research implications concerning drive-thru pharmacies and their role during pandemics

More research is needed on the role of drive-thru pharmacies during times of pandemics such as COVID-19. The continued and increasing use of drive-thru pharmacies could impact the workforce, workflow, and patient safety, necessitating collecting empirical data to answer research questions, and facilitate implementing evidence-informed policies. It has been argued that while dispensing medicines through the drive-thru pharmacies, there could be distraction and pharmacists could make more errors.<sup>38</sup> Pharmacy regulatory bodies worldwide need to adopt new ways to ensure patient safety and ensure optimal pharmacist-patient interactions. Research is also needed to identify the strategies and modalities that could be used to ensure that medicines' information and pharmaceutical care are provided optimally.

The provision of pharmaceutical care is possible even under challenging circumstances.<sup>39</sup> The hospital pharmacy experience in the current COVID-19 pandemic has shown that drive-thru pharmacies provide a patient-centered service and support medicine optimization in a safe and convenient environment.<sup>40</sup> In the United States, the Centre for Disease Control has also encouraged patients, especially those with severe illness, to use drive-thru pharmacies to pick up their medicines.<sup>41</sup> The advantages are less waiting times, eliminating queues and the use of technology.<sup>42</sup>

Though drive-thru pharmacy services started three decades ago, quantitative and qualitative research continues to be needed in this area. These could include qualitative studies analyzing pharmacists' and patients' interviews with regards to drive-thru experience. Quantitative data could include medicines use, data on safe dispensing practices, adverse drug events in a pharmacy patient population, drug interactions, and medicines-related harm leading to hospitalization. Research is also needed on the workforce, including staffing levels and pharmacy workflow patterns if this system is adopted on a long-term and large scale basis.

Though in the current pandemic, measures were taken, and the preference was to promote access to medicines and pharmacy services; however, pharmacy practice under those new conditions needs to be standardized. Regulatory bodies may need to change or amend laws to ensure that drive-thru pharmacies meet patient expectations and safety standards. Though some of the regulations could be relaxed, with caution, in pandemic times, sustainable legislation is needed in the foreseeable future.

### Future direction of drive-thru pharmacy services

Pharmacy is changing fast with the population demographics, changes in technology, consumer behavior, and changes in the pharmacy profession.<sup>43</sup> Increasing pressure on healthcare demand has resulted in the development of new roles and services for pharmacists.<sup>44</sup> In this context, it is vital to look at drive-thru pharmacies in the lens of the future of pharmacy services, particularly in relation to managing the pandemic.

One of the critical limitations of drive-thru pharmacies is the patient's lack of interaction with the pharmacists; however, the pandemic has allowed for a growth in the application of telemedicine.<sup>45</sup> The UK's National Health Service (NHS) Long Term Plan encouraged better use of technology stating that digital interaction with patients will necessitate updating pharmacists' skills to provide telepharmacy in the future.<sup>46</sup> A major report by the Royal Pharmaceutical Society also stresses the need for going digital in the future to cater to the patient's needs and demands.<sup>47</sup> This is also being included in the future pharmacy services plans of Australia<sup>48</sup> and New Zealand.<sup>49</sup> In fact, "smart system," "going digital," and "the use of technology" is classed as an "enabler of change" to improve patient health outcomes in all three countries; the UK, Australia, and New Zealand.<sup>50</sup> Making better use of digital advances and tools within the context of drive-thru pharmacies will be required going forward to integrate this development in a framework that facilitates broadening the scope of services provided by community pharmacy. This has significant public health implications particularly when pharmacies, like other health facilities, are managing this long-lasting pandemic. Research has indicated that the general public has been slow to utilize pharmacy public health services. The current circumstances, however, might be changing this attitude. Still, there continues to be a need to create awareness of these pharmacy services and facilitate access to them, potentially through a drive-thru delivery model.<sup>51</sup> Any development regarding "drive-thru pharmacies" will take place within the broader remit of healthcare infrastructure. Going digital and the changing pharmacy practice landscape associated with managing the pandemic might support such opportunities. Together with professional competency and economic efficiency, any future pharmacy practice model should have this new context taken into consideration to ensure successful public health initiatives where pharmacy plays a leading role.

## Conclusion

We can reflect, improve, and the lessons can be learned from the use of drive-thru pharmacies in different countries during the COVID-19 pandemic. These experiences may lead to developing standardized guidelines for drive-thru pharmacies globally, to maximize the benefits that could be gained from expanding their role in the future.

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## Declaration of competing interest

None.

## Appendix A. Supplementary data

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