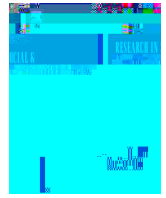


Since January 2020 Elsevier has created a COVID-19 resource centre with free



## Community Pharmacists: On the frontline of health service against COVID-19 in LMICs

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### ABSTRACT

The COVID-19 outbreak is a global public health crisis which has affected healthcare practice across professions. In the context of this pandemic, there is a need to highlight the roles and responsibilities of pharmacists. Community pharmacists are the most accessible healthcare professionals to the general public and have a lot to offer amid the COVID-19 response. This has led to significant changes in the health systems of many countries. This article seeks to highlight additional roles and activities relating to the public health response that can be

## Creating a balance between supply and demand of medicines and consumables

There have been anecdotal reports of patients stockpiling medications.<sup>10</sup> Unless prompt action is taken, this sudden increase in demand could have a considerable and detrimental effect on the medication supply chain. Medication shortages occur when the total supply of a medication is insufficient to meet current or projected demands at the patient-level. The reported frequency of medication shortages worldwide has been increasing in recent years and has been described as a healthcare crisis in itself.<sup>11,12</sup> Problems with local ordering, local or national distribution, or manufacturing can all result in supply problems that can lead to regional or national shortages. The medication distribution system in Nigeria is in a state of chaos and consists of open drug markets, and the activities of patent and proprietary medicine vendors (PMV), community pharmacies, private and public hospitals, importer, distributors and wholesalers, and pharmaceutical manufacturers.<sup>13</sup> There is growing concern because although reserves exist, China experienced a drop-off in drug production during the height of its COVID-19 outbreak, though that is leveling off.<sup>14</sup> And India, another big supplier, has also said that it will keep some of the medications it makes on reserve.<sup>15</sup> In one case, a drug wholesaler said that demand for over-the-counter and prescription drugs was 30–40% higher than the company's forecasts, which had already been adjusted to account for COVID-19. The problem has been confirmed by a number of pharmacists.<sup>16</sup> Pharmacies can share the information of drug availabilities and its store locations online or through mobile APPs to guide patients when they need to buy medications. For patients not able to visit the pharmacy, mail order or home delivery service can be offered by working with social works, volunteers, care coordinators, or drug companies. Through close collaboration with such personnel and organizations, Chinese community pharmacies have made great achievement in ensuring adequate drug supply for community patients.<sup>17</sup> Hand hygiene is an important part of the response to COVID-19. Washing hands often with soap and water for at least 20 s is essential, especially after going to the bathroom; before eating; and after coughing, sneezing, or blowing one's nose. Hand sanitizers are regulated as over-the-counter (non-prescription) drugs by the U.S. Food and Drug Administration. The Centers for Disease Control and Prevention (CDC) recommends consumers use an alcohol-based hand sanitizer that contains at least 60% alcohol (also referred to as ethanol or ethyl alcohol).<sup>18</sup>

## Point of care testing

Pharmacists play an essential and unique role within the healthcare team to optimize patient care during this COVID-19 pandemic.<sup>19</sup> They are trusted healthcare professionals with established relationships with their patients. The vast majority of Americans live close to a retail or independent community based pharmacy. That proximity reduces travel to testing locations, which is an important mitigation measure. Pharmacists also have strong relationships with medical providers and hospitals to appropriately refer patients when necessary.<sup>20</sup> HHS Secretary Alex Azar issued the following statement: "Giving pharmacists the authorization to order and administer COVID-19 tests to their patients means easier access to testing for Americans who need it. Pharmacists play a vital role in delivering convenient access to important public health services and information. The Trump Administration is pleased to give pharmacists the chance to play a bigger role in the COVID-19 response, alongside all of America's heroic healthcare workers."<sup>21</sup> This rapid diagnostic capability allows healthcare providers to quickly initiate antiviral medication, if appropriate, and direct infected patients to more acute care settings. Ensuring that pharmacists have the ability to order these diagnostics will expand access to care in underserved areas, reduce unnecessary burden on emergency departments that may already be strained with patients requiring a higher level of care, reduce community exposure by eliminating unnecessary

office visits, and ensure that patients needing higher levels of care are referred to their physician or hospital for treatment.

## Community pharmacies as point of immunization

Pharmacists have contributed to improving public health in a variety of ways, including immunizations, health promotion, health education, patient and medication counseling, medication reconciliation, disease self-management training, point-of-care testing, screenings, and emergency preparedness and response in disaster management.<sup>22</sup>

The incidence of vaccine-preventable diseases has decreased dramatically in recent decades. The incidence of influenza (flu), pneumococcal disease and herpes zoster has been substantially reduced thanks to vaccination.<sup>23,24</sup> Although there is currently no vaccine for COVID-19, significant research is underway to develop a vaccine.<sup>25</sup> When a vaccine does become available, it is likely that there will be high demand for access to the vaccine and a significant public health interest in achieving high levels of immunization in the community. Studies indicate that when pharmacists are empowered to provide immunizations, they substantially increase the number of vaccinated patients in the community.<sup>26,27</sup>

## Promoting safe use of medicines

In addition to protecting continuity of medication supply at the community pharmacy level, it is equally important that patients maintain adherence to their current treatment regimens in order to prevent any deterioration in their current health status that could ultimately place additional demand on currently overburdened health services.<sup>10</sup> According to World Health Organisation (WHO), rational use of drugs necessitate that patients receive 'medicines appropriate to their clinical needs, in doses, that meet their own individual requirements, for an adequate period of time, and at the lowest cost to them and their community'.<sup>28</sup> The US Centers for Disease Control and Prevention (CDC) released a health advisory urging physicians to advise patients on the harms associated with misusing non-pharmaceutical chloroquine phosphate to prevent infection of coronavirus disease 2019 (COVID-19).

In Nigeria, health authorities are warning against self-medicating, after two patients overdosed on the anti-malaria, drug chloroquine. Tests are currently being carried out with anti-malarials in the U.S. and other countries, but the FDA and the WHO have not approved its use as a treatment for COVID-19. Back in the U.S., lupus patients have reported shortages of the drug hydroxychloroquine — which is used to treat both malaria and lupus.<sup>25</sup> It is pertinent for pharmacist to dispense the right information to patients amidst this public health crisis so as to ease the panic.

## Conclusion

There is a need and opportunity for pharmacists to be utilized across key global health areas over and above what is currently being done. From workforce development to supply chain management and medication safety, pharmacists can apply their medication expertise to contribute to gaps in care that align with major global health efforts and programs. The shift pharmacists have made in high-income countries from product-centered to patient-centered services with public health implications took decades to achieve. The shift for pharmacists in low to middle-income countries will also take time. The activities and roles depicted in this article are a not all that there is community pharmacists have for the public. Finally, policy makers should make sure pharmacists in their communities are enabled to effectively support the COVID-19 response as well as other future public health crisis.

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## Appendix A. Supplementary data

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.sapharm.2020.04.013>.

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