

# Global pharmacists' contributions during the COVID-19 pandemic

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## Introduction

Pharmacists are medication experts and among the most accessible healthcare professionals. During the COVID-19 pandemic, physicians and nurses were recognised by the World Health Organisation (WHO), the news media and others due to their heroic frontline efforts. However, the pharmacists were overlooked<sup>1-3</sup>. Numerous COVID-19 educational resources were provided by pharmacy societies and organisations [Table 1]. This paper summarises the article<sup>4</sup> "Global Contributions of Pharmacists during COVID-19 Pandemic" published in the *Journal of American College of Clinical Pharmacy* in December 2020. The purpose was to describe how pharmacists from selected high and low-middle income countries contributed to patient care and the public well-being during the COVID-19 pandemic [Fig 1 & 2].

## The United States

An emergency medicine pharmacist was deployed to New York City to help in the city surge of COVID-19 patients. Pharmacists established a new ambulatory care COVID-19 clinic to assist in the management of COVID-19 patients post hospital discharge. The Ohio State University Wexner Medical Centre public relations team worked with an infectious diseases (ID) pharmacist for numerous COVID-19 education strategies. "ID Stewardship" is an online educational platform for ID pharmacists and antimicrobial stewardship (AMS) and managed by pharmacists<sup>5</sup>. The COVID-19 resources for pharmacists' blog pages is frequently updated with clinically relevant COVID-19 pharmacotherapy literature. Numerous monthly Twitter chats in an international, multidisciplinary discussion about AMS in COVID-19 were organised.

## United Kingdom

Pharmacists in the United Kingdom (UK) led on public health interventions, clinical and medicine supply management and policy changes. They developed national training guidance to support pharmacist redeployment to critical care settings, surveillance of antimicrobial utilisation as well as development and implementation of interventions to address antimicrobial resistance in the context of the COVID-19 pandemic. Some UK pharmacists, through the Commonwealth Partnerships for Antimicrobial Resistance and Commonwealth Pharmacists Association provided support outside the UK to colleagues in four African Commonwealth countries<sup>6</sup>.

## Australia

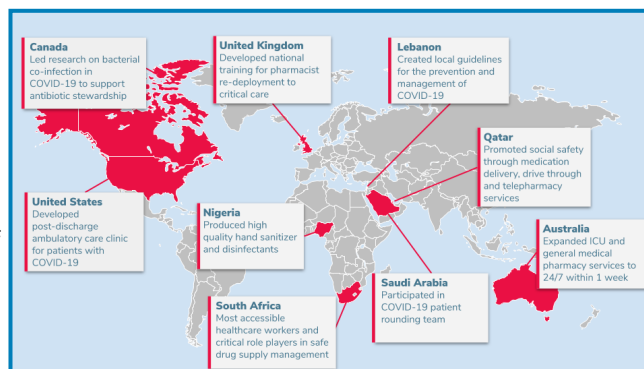
Clinical pharmacists sit on the National COVID-19 Clinical Evidence Taskforce to develop national COVID-19 guidelines. A dynamic medication demand model was developed to project critical medication usage and availability across Australia. Clinical pharmacy services were expanded to a 24-hour service within one week. The pharmacists participating in this service were credentialed for Partnered Pharmacist Medication Charting to help with prescribing medications, ordering pathology investigations and documentation during ward rounds<sup>7</sup>. Pharmacists implemented "Telehealth" and provided clinical reviews for rural and regional outpatients of existing state-wide services including solid organ transplantation.

## Canada

Pharmacists at Public Health Ontario (PHO) provided advice to healthcare stakeholders in Ontario and provincial government partners on safe medication use during the pandemic. Pharmacists at PHO are leading multidisciplinary research on bacterial co-infections<sup>8</sup> and antibiotic prescribing in COVID-19 patients. A team of pharmacists from several institutions with patient advisors developed patient educational resources to address common myths about regarding COVID-19 medications, prevention and treatment<sup>9</sup>. At Hotel Dieu Shaver Health and Rehabilitation Centre, pharmacists developed guidelines and educated hospital staff on prevention and treatment of COVID-19 by creating a web forum to address common therapy-related questions.

## Saudi Arabia

At King Abdulaziz University (KAU) and Hospital, a team of both ID physicians and ID pharmacists was initiated to manage COVID-19 patients and create relevant protocols. To reduce COVID-19 spread, restriction of antimicrobials was modified from a paper based to an electronic based process. An ID pharmacist won a COVID-19 grant and was a member of a few data safety monitoring boards of randomised clinical trials of COVID-19 patients. The faculty of pharmacy at KAU added new lectures and activities to include COVID-19 content in the PharmD curriculum and created a COVID-19 rotation for pharmacy interns.



## Qatar

The pharmacy department at Hamad Medical Corporation (HMC) promoted social safety through a medication home delivery service, staff re-distribution and installing glass shields in outpatient pharmacies. HMC's pharmacy driven anticoagulation clinic started a drive-through service to monitor the international normalised ratio and make therapeutic changes as appropriate<sup>10</sup>. The drug information and toxicology centre initiated a national helpline for the public to answer general questions about medications and provide medication counselling if necessary. A team of clinical pharmacists was involved in the country's core team for COVID-19 responsiveness.

## South Africa

Pharmacists in the 54 Netcare private hospital network played a significant role in the maintenance and supply of critical medications used for COVID-19. Pharmacists contributed to preparation of the material 'packs' for commonly used surgical items as well as therapeutic packs to facilitate supply of medication in the wards. A Monitored Emergency Use of Unregistered Interventions study was designed by a pharmacist and aimed to monitor patients receiving off-label medications for COVID-19. Pharmacists published a national COVID-19 guideline for pharmacists<sup>11</sup>. The Sefako Makgatho Health Sciences University staff initiated the manufacturing of hand sanitisers.

## Lebanon

Managerial roles in the Ministry of Public Health and in the Ministerial National Committee on COVID-19 were assigned to Lebanese pharmacists<sup>12</sup>. Guidance was issued by the Order of Pharmacists in Lebanon to promote the role of community pharmacists in public education on disease prevention and in referral of suspected patients to COVID-19 centres. Retail pharmacists played important roles as gatekeepers in containing shortages in drugs and medical supplies by controlling over-dispensation and black-market pricing. Despite the economic crisis, political unrest and poor healthcare system, Lebanese pharmacists contributed to the successful emergency response plans.

## Nigeria

Pharmacists at the University of Nigeria dedicated their time to managing over-prescribed antimicrobials and immune boosters in the face of no approved treatment for COVID-19. A pharmacist from the Clinical Pharmacy Department is part of the National Scientific Advisory Committee on verification of COVID-19 cure claims. In the face of illegal and large-scale production of low-quality products by unapproved chemical product vendors, the pharmacy laboratories produced high-quality sanitisers and disinfectants, which are currently being used in hospitals across Enugu State in Nigeria and are sold at lower prices at pharmacies.

## Conclusion

Although pharmacists were often overlooked as essential frontline health care providers by the news media, the public and politicians, the authors are hoping that this list of pharmacist contributions from nine countries can help to change this perspective.

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Country	Organisation/Society	Description
United States	IDStewardship	Provides comprehensive general, institutional, Governmental & Society COVID-19 Treatment Guidelines and resources for pharmacists.
	Society of Infectious Diseases Pharmacists (SIDP)	Evidence-based reviews and podcasts of potential pharmacotherapeutic treatment options for COVID-19
	American Society of Health Systems Pharmacists (ASHP)	Support for all healthcare providers to enhance the safe use of medications, deliver quality care, and enhance patient outcomes.
	American College of Clinical Pharmacists (ACCP)	Features short stories documenting pharmacists COVID-related practice, research, education, or leadership
International	International Pharmaceutical Federation (FIP)	COVID-19 information hub with international guidelines
	Commonwealth Pharmacists Association	COVID-19 CPD COVID resources hub for commonwealth countries COVID-19 app
United Kingdom	Royal Pharmaceutical Society	Policy asks and advocacy, national guidance for pharmacy professionals, posters and campaign materials, clinical resource hub Training webinar series in collaboration with expert groups across the profession
	United Kingdom Clinical Pharmacists Association	Training resources to upskill redeployed pharmacists
	Specialist Pharmacy Services	Training webinars in collaboration with Royal Pharmaceutical Society and relevant resources for clinical pharmacists
	National Pharmacy Association	National COVID-19 resources and medicines guidance summaries
	General Pharmaceutical Council	COVID-19 Resources for community pharmacy
Australia	Society of Hospital Pharmacists Australia (SHPA)	Examples of notable practice in community pharmacies during COVID-19 pandemic COVID-19 information hub with resources for pharmacy departments, continuing professional development offerings and a discussion forum for sharing of information and questions
	Pharmaceutical Society of Australia (PSA)	COVID-19 information hub with regulatory updates, resources, links and information for patients and the community
Canada	Canadian Society of Hospital Pharmacists (CSHP)	Features a pharmacy specialty network, educational videos, and links to COVID-19 resources for pharmacists in hospitals and other collaborative care settings
	Canadian Pharmacists Association (CPhA)	Pharmacists' advocacy, practice resources, drug therapy information, posters as well as graphics and videos for social media
South Africa	South African Society of Clinical Pharmacy (SASOCP)	A practice guide for clinical pharmacists featuring the role of the clinical pharmacist in COVID-19
	Pharmaceutical Society of South Africa (PSSA)	COVID-19 webinar series COVID-19 Guidelines for practicing community pharmacists Policy tasks and advocacy, assisting and supporting pharmacists through general day to day support in business and other legislative matters.
Nigeria	Pharmaceutical Society of Nigeria (PSN)	A practice guideline for front-line pharmacists. Lobbied government to provide grants for local production of medicines.
	Association of Community Pharmacists in Nigeria (ACPN)	National awareness campaign on personal hygiene and drug misuse during the azithromycin hydroxychloroquine controversy.
	Nigerian Association in Industrial Pharmacists (NAIP)	Community pharmacies dispense rapid diagnostic test kits and discounted sanitizers
	Association of Hospital and Administrative Pharmacists of Nigeria (AHAPN)	National production of Covid-19 and essential medicines to mitigate shortages
	Clinical Pharmacy Association of Nigeria (CPAN)	Part of the front line team in COVID-19 isolation and treatment centers, involved in medication review, dispensing and monitoring. News article: Six frontline pharmacists test positive for COVID-19. COVID-19 webinars and its effect on daily work life.

Table 1. Examples of Pharmacy Societies and Organisations contributions during COVID-19 Pandemic  
Please click here to view a larger version with links to the relevant societies / organisations