



# COVID-19 pandemic: the role of community-based pharmacy practice in health equity

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## Abstract

The COVID-19 pandemic disrupted the landscape of primary care practice, creating new gaps in chronic disease management and worsening existing health disparities. Community-based pharmacy practices have played a critical role in responding to the pandemic; however, their role in promoting health equity and addressing existing health disparities has not been fully characterized. The objective of this commentary is to highlight some of the challenges and opportunities to cultivate an equitable plain field for communities to overcome significant health crises. Moreover, this commentary underscores the potential role of integrating community-based pharmacies into the public health infrastructure. It is uncommon to find an individual or an organization that has not been impacted by the pandemic. As painful as it has been to lose so many lives due to COVID-19 infection, it is critical to dedicate the time to reflect on how we arrived at this point. Compounding this global health crisis, the pandemic did not weigh equally on all community members, but rather some population groups carried the brunt of the pandemic more than others. The disproportionate burden of COVID-19 has uncovered significant gaps in our healthcare system and the global public health response. Understanding how we arrived at that point in the pandemic is a crucial first step toward achieving health equity. While many factors have led us onto the pandemic path, using national and global health frameworks to address health disparities and monitor health inequalities are worth discussing to delineate a roadmap to optimal population health. As these pandemic lessons challenge the status quo throughout communities, facing these new realities allows us to envision a roadmap for social justice, health equity, and innovative models to optimize health. Leveraging community-based pharmacy services could promote health equity, close growing health gaps, increase access to health care, and rapidly detect and respond to public health threats.

**Keywords** Health disparities · Global health · Public health · Social determinants of health · Racial minorities · Underserved populations

## Background

The coronavirus disease 2019 (COVID-19) pandemic disrupted the landscape of primary care practice, creating new gaps in chronic disease management, worsening existing health disparities, and touching every aspect of our lives. It is uncommon to find someone or an organization that has not been impacted by the pandemic or operating under normal circumstances. As painful as it has been to lose so many human lives due to COVID-19 infection, it is also critical

to dedicate the time to reflect on how we arrived at this point. Further compounding the COVID-19 sequelae, the pandemic did not weigh equally on all community members, but rather some population groups carried the brunt of the pandemic more than others [1]. Specifically, COVID-19 related death was more than double in Black, American Indian/Alaska Native, and Latino than White and Asian [1]. Though the disproportionate burden of COVID-19 mortality could be a topic of its own, knowing how we arrived at that point is a crucial first step. So, while being on this journey to understand how we reached that point, some relevant stops are worth highlighting and contemplating due to their consequential impact on public health. As these pandemic lessons challenge the status quo throughout communities, facing these new realities allows us to envision a roadmap

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for social justice, health equity, and innovative models to optimize health.

Despite the numerous challenges that the COVID-19 pandemic has presented to the healthcare system, community-based pharmacy practice has sustained the delivery of critical health services to the community, including those at high risk for contracting COVID-19. Indeed, the pandemic has significantly accentuated the crucial public health role community pharmacists play during major health outbreaks. Recognizing the unequivocal role of community pharmacy in promoting population health and upstream disease prevention measures, leveraging pharmacy-based practices to address existing health care challenges and fill in the gaps within patient care are promising tools to achieve health equity.

Using the World Health Organization framework of promoting actions to achieve health equity and emulating the National Institute on Minority Health and Health Disparities research framework, below are some of the challenges and opportunities to cultivate an equitable plain field for communities to overcome significant health crises [2–4]. Additionally, this commentary explores the role of community-based pharmacy services in ameliorating the patient care gaps to promote health equity and provides some insights on the possible integration of community-based pharmacy services to monitor national health inequalities.

## Social determinants of health

According to Healthy 2030, social determinants of health (SDOH) are the conditions in the environments where people are born, live, learn, work, play, worship, and age that affect a wide range of health, functioning, and quality-of-life outcomes and risks [5]. SDOH framework is clustered into five major domains, including (1) economic stability, (2) education access and quality, (3) healthcare access and quality, (4) neighborhood and built environment, and (5) social and community context [5]. One of the major highlights of the COVID-19 pandemic was the role of social determinants of health (SDOH) in increasing the susceptibility of infection in specific communities. Once viewed as a distant cause and clouded by the lack of objective measures, SDOH has become an integral part of assessing the individual's risk for poor health and poor treatment outcomes [6]. Means to access health care, pharmacy deserts communities, poverty rates, housing, and state and federal policies have come together in a mosaic manner to paint the consequences of the pandemic in a way that we are witnessing today. It has become more critical than ever that characterizing and addressing SDOH in marginalized communities are the first steps to reintegrating minority groups in the health care system [7, 8]. And with examples of SDOH acting as

independent risk factors for developing chronic health diseases known to reduce the person's ability to fight infection, efforts to characterize SDOH as disease risk factors can help disease prevention in high-risk individuals or disease sequelae [7, 9]. Ultimately, these efforts will create a culture of health equity and promote optimal health practices across different population groups.

Screening for SDOH, specifically factors that can affect patient's treatment outcomes, is increasingly important for healthcare providers and the healthcare system at large [10, 11]. Community-based pharmacies and pharmacists are well-positioned to screen patients for various SDOH. With most patients seeing their primary care doctors a few times a year, majority of the population visit and interact with their community pharmacists regularly. These ongoing and extended interactions with the community allow the pharmacist to build trust with the community members and screen the patients for various SDOH. This mutual trust empowers the pharmacist to effectively conduct screening for social needs and patient barriers to medication adherence. Collectively, screening patients for SDOH leveraging community-based pharmacists may result in cost-saving for the patient and the health care system at large. Additionally, the pharmacist could provide brief interventions based on SDOH screening, including connecting the patients with community resources, optimizing care coordination to increase access and affordability of medications with the clinic or community pharmacy, and providing targeted patient education.

## Health disparities

In the United States, for example, racial health disparities have long existed. With differential disease burden, inadequate response to treatment, and reduced life expectancy across different population groups, health disparities have become the silent killer to society. Since the start of the COVID-19 pandemic, specific racial groups and individuals with certain socioeconomic backgrounds carried the brunt of the pandemic. Moreover, COVID-19 morbidity and mortality rates disproportionately impacted some groups with certain underlying health conditions, mainly cardiometabolic disorders [12]. Metaphorically, many believe that COVID-19 has done nothing but put the ongoing health disparities under the spotlight on the global center stage. This level of illumination of health disparities in the United States has triggered intense debates on the causes of health disparities. These discussions have also allowed for a profound understanding of various frameworks leading to health disparities. Recognizing the biological framework for health disparities, which is facilitated by genetic and epigenetic factors, the role of sociocultural, environmental, and behavioral frameworks

is equally critical. With the COVID-19 pandemic impacting people of color at a much higher rate than the overall population, the long history of racial discrimination and structural racism was put at the center stage of society displaying their course. As we grapple with solutions to address the root cause of health inequities, unquestionably, the COVID-19 pandemic has forced us to face the inconvenient truth of racism and challenged organizations to reassess their policies to put an end to the epidemic of racism [13].

Despite the substantive initiatives to enhance access to patient care in remote rural areas and medically underserved communities, there remains a significant shortage of primary care providers, especially in communities of racial and ethnic minorities [14]. Unfortunately, the primary care doctors' shortage is predicted to substantially grow introducing more challenges and healthcare barriers to increasing patient care access [14]. The ripple effect of primary care shortage is further compounded by the rapidly growing older population and the expanded access to health care [15]. Clinical and community pharmacists working within medically disadvantaged communities can fill the gaps in care among vulnerable and at-risk population groups [16, 17]. Also, community pharmacists are equipped with both clinical training and cultural competency, allowing them to conduct comprehensive therapeutic management of patients with multiple comorbidities in different clinical settings, leading to better treatment outcomes, positive patient satisfaction, and potential cost-saving [18–20]. The interface of community-based pharmacies between the community and public health could become a critical tool in monitoring national health inequalities to inform public health interventions and develop new health policies [3, 4]. Recognized as an essential healthcare team member, clinical and community-based pharmacists could play a significant role in addressing health disparities in treatment outcomes and closing existing gaps in patient care access.

## Globalization of health

Despite the COVID-19 outbreak taking place in Wuhan, China, the spread of the virus was not limited by geographical location, culture, race, ethnicity, or religion. Indeed, one of the most important lessons that the COVID-19 pandemic has taught us is that a pandemic anywhere is a pandemic everywhere. Therefore, recognizing the connectedness of health and the importance of robust global health measures are crucial to ensure a safe and clean environment. Also, this realization should be coupled with orchestrated tasks that should be delegated and proportionally distributed throughout the world to promote good global health measures [21]. As with preventing future pandemics, global health measures should be implemented in addressing the COVID-19

pandemic. These measures involve equal access to vaccines and health care resources allocation to minimize the risk of new outbreaks or the evolution of new virus variants. Other measures should include health information dissemination using scientific platforms and creating means to enhance collaboration and partnership to develop a novel treatment to mitigate future public health crises. On one hand, the COVID-19 pandemic has shown us the potential of global efforts to create a unified approach to address the health crisis. On the other hand, it highlighted some of the rifts existing in the global-wide response towards understanding the origin of COVID-19.

Globally, community-based pharmacies and pharmacists are the third largest health care professional group, following physicians and nurses. While the patient care services provided by the community-based pharmacies vary by country and state, pharmacists offer a plethora of patient care services ranging from dispensing and refilling prescriptions, modifying treatment regimens, providing vaccinations, and educating and counseling patients [22]. In developing countries, community-based pharmacists play a significant role in patient care, and in many instances, pharmacists could serve as primary care providers. Additionally, community-based pharmacists could provide public health services related to specimen collection, point-of-care testing, and screening. Together, community-based pharmacies could be critical for surveillance of acute and chronic diseases in the community, allowing public health leaders to promptly detect and respond to surges of novel and existing health conditions. While global health inequities occur due to factors associated with the lack of political, social, and economic power, designing global-level health programs or interventions focusing on reducing these inequities should be constructed in a culturally appropriate, effective, and sustainable fashion. Importantly, global health efforts should include community-based pharmacists who are crucial in the global response to major public health crises and the implementation of global-level health programs targeting health inequities.

## Culture of health

As COVID-19 appears to affect more people with multiple chronic commodities, COVID-19 infection rates have underlined the importance of robust health measures for disease prevention and optimal chronic disease management. These approaches for optimal health warrant creating health promotion strategies to ensure adequate public health measures, including a culture of health. Generally, a culture of health is defined as the environment in which good health flourishes across different geographic, demographic, and social groups [23]. Fostering healthy and equitable communities

guides public and private decision-making to ensure equitable access to health resources and means for disease prevention. This approach can allow everyone to make choices that lead to healthy lifestyles. Building a culture of health requires that society be free of systems and structures that perpetuate racial inequities. Though the exact meaning of a culture of health can look different to different people, a culture of health must embrace a wide variety of beliefs, customs, and values. Importantly, achieving a culture of health requires a trust-building process among communities that historically have been exploited. This process will allow for reintegration into the healthcare system and reduce the mistrust towards healthcare among the communities of color. Ultimately, this framework will be as diverse and multifaceted as the population it serves.

Having access to a community-based pharmacy is a crucial first step towards building a culture of health, disease prevention initiatives, and disease management programs. Clinical-based services provided through the community-based pharmacy could also be a step towards building trust with underserved communities. Collectively, clinical pharmacists are well-poised to promote optimal health and address community-specific needs to achieve health equity [10, 22].

## Community pharmacy services and health equity

Screening and testing for COVID-19 infection and rolling out of the COVID-19 vaccines were paramount undertaking processes [24]. These public health measures spotlighted the role of community-based pharmacists and access to a pharmacy in specific communities, especially communities of color, to ensure early detection and equitable access to the vaccine. Having access to a pharmacy within a reasonable distance has been shown to impact health outcomes and medication adherence [25, 26]. With the expanded role of community pharmacists and pharmacy-provided clinical services, it is unequivocal that access to a pharmacy is an effective and sustainable solution to address gaps in patient care, reduce the burden of health disparities and achieve health equity. Throughout the COVID-19 pandemic, clinical and community-based pharmacists have proven to be integral members of the healthcare team to deliver optimal patient care spanning multiple patient care levels. This unique aspect of community-based pharmacy services equips pharmacists with tools to address various clinical needs across the patient care continuum. Collectively, preventive services provided through a pharmacy (e.g., vaccination) and the patient education provided by a trusted community pharmacist will complement national and global efforts on reducing health disparities, creating a culture of health within marginalized

communities. Additionally, accessing pharmacy services in marginalized communities could significantly enhance the dissemination of accurate health information. Undoubtedly, the COVID-19 pandemic has added substantial socioeconomic distress to our communities nationally and globally. It is also evident that COVID-19 was the trigger to unleash the consequences of a long-standing history of health disparities and pervasive health inequities that disproportionately affect minorities and individuals of lower socioeconomic status. As we navigate our way out of this health crisis, we must recognize that the COVID-19 pandemic has illustrated both the prospect of unresolved public health problems as well as the potential for collective efforts to overcome such a health crisis.

## Conclusion

Health disparities have long existed in our societies, marked by inequalities in patient care access and disproportionate mortality rates. COVID-19 pandemic has exacerbated existing health disparities and brought into full view the need to address health inequities experienced by some population segments. Despite the substantive challenges presented by the pandemic, community-based pharmacy practices have maintained to deliver critical patient care services. When many healthcare systems restricted patient access to non-critical services, community pharmacies supported patients with chronic diseases that struggled to receive routine care. Promoting health equity is a multipronged approach, requiring multiple layers to enhance accessing to health care, screening for social determinants of health, and embracing a global view of health. Integrating community-based pharmacies into the public health infrastructure could rapidly detect and respond to novel public health threats. Community-based pharmacy practitioners are well-positioned to play a significant role in promoting health equity, responding to global outbreaks, and providing access to patient care among marginalized communities and at-risk populations.

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