

# The role of community pharmacists during the COVID-19 pandemic in the U.S.

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**ABSTRACT:** Coronavirus pandemic started to spread in the U.S.A. with a few cases from February 2020, causing a national health crisis with the number of cases exceeding 30 million in June 2021. To improve the situation during the crisis, new regulations regarding community pharmacies were made and innovative solutions were introduced to protect public health. Community pharmacists, who are the most accessible healthcare professionals, have assumed new roles and responsibilities including COVID-19 testing and vaccination. The scale and way pharmacists' potential are used have played an important role in determining the fate of the COVID pandemic in the U.S.A. The purpose of this article is to address the expanding job descriptions and sacrifices of community pharmacists in the COVID-19 era from a holistic perspective.

**KEYWORDS:** COVID-19; community pharmacy; public health; U.S.A. health care system, COVID-19 pandemic.

## 1. INTRODUCTION

Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2) emerged in Wuhan, China in December 2019 [1]. It was declared as a pandemic by World Health Organization (WHO) in March 2020 [2]. Fever, cough, difficulty in breathing, fatigue, and headache were the main symptoms result in 1.7% mortality in the United States of America (U.S.A.) by August 2021 [3]. In January 2020, with the exacerbation of COVID-19 cases in the U.S.A., a series of measures including travel restrictions and medical equipment procurement began to be taken. Schools, restaurants, and businesses were closed because of the uncontrolled increase in cases over time, and individuals were encouraged to self-quarantine. During this period, physicians with independent clinics began to treat patients using the tele-medicine approach [4]. The decreasing number of physicians and health professionals available has restricted the environments where mild-moderate cases can receive face-to-face treatment.

This situation resulted in an inadequate number of daily coronavirus tests, quality of outpatient care, patient counseling in chronic & acute diseases other than COVID-19, encouraging the public for obeying hygiene and social distancing rules. In the current situation, increasing the scope of work of pharmacies and pharmacists was viewed as an effective solution for relieving overburdened health facilities and reducing the strain on the other health workers.

"Rational drug use", is defined as the patients receiving "medications appropriate to their clinical needs, in doses that meet their individual needs, for an adequate period, at the lowest cost to themselves and to society" [5]. Rational drug use gained more importance as many drugs, herbal and synthetic supplements that are thought to be useful became popular in the COVID-19 period.

Community pharmacists have responsibilities to provide accurate information about the prescribed drug to the patient, to detect a possible drug-supplement interaction between the drug used and the herbal supplement, if any, and to cooperate for pharmaceutical care [6] [7]. It is expected that the sustainability of rational drug use during the COVID-19 period will have a positive effect on pharmaceutical care during pandemic.

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According to the International Pharmaceutical Federation (FIP), the roles of pharmacists in the situation of the pandemic were categorized as “disease prevention and infection control”, “adequate storage and drug supply” and “patient care and support for healthcare professionals” [8]. The potential of pharmacists in the USA to prevent vaccine-preventable diseases and contribute to immunization was demonstrated before the COVID-19 pandemic [9]. With the same expectation, some alleviations were made for pharmacists, to control the public health crisis in the U.S.A. Pharmacies were authorized to perform Polymerase Chain Reaction (PCR) antigen testing as “Community-Based testing sites for COVID-19” [10]. Pharmacy-Based Immunization Delivery Certificate was given to pharmacists with the launch of the vaccine, and over time, pharmacies have become one of the largest institutions contributing to immunization [11]. While the total vaccine dose administered in the USA until August 5 was 348.966.419 million, the vaccine dose administered only by pharmacies was more than 108 million [12].

### 1.1. Economical aspects: prophylaxis and rational drug use

The proliferation of misinformation on social media platforms have led people to buy and take drugs without medical professionals' consultancy. This may have life-threatening consequences [13]. On the contrary, for the success of the treatment applied to the patient, correct diagnosis, treatment including correct drug use, and compliance factors must all be met [6]. The pharmacist has a great responsibility for the correct use of the drug and increasing patient compliance. It is thought that providing the patient with correct or complete drug information during the COVID-19 period will reduce possible adverse effects, drug interactions and unnecessary drug use. Minimizing unnecessary drug use and possible adverse effects will contribute economically to the patient and to the society, because the risk of a possible adverse reaction will decrease, thus the necessity of an extra treatment plan will disappear.

One of the goals for a healthcare worker is to protect the public from being infected. In this regard, pharmacists have provided information to the public on how to minimize the risk of transmission and the possible COVID-19 symptoms from the beginning of COVID-19 [14]. It can be estimated that pharmacists contributed to reducing the rate of transmission by raising awareness of the public about COVID-19 infection. Another major goal of pharmacists is to ensure that the patient can live a normal life as an outpatient in case of infection and to reduce the necessity to go to the hospital. There are many supplements such as vitamins B, C, D, sambucol, zinc, quercetin with bromelain, 8-gingerol, 10-gingerol are thought to be effective on COVID-19 [15] [16] [17] [18] [19] [20]. The appropriate guidance for the use of the over the counter (OTC) drugs, supplements and herbal drugs is necessary to enhance immunity to COVID-19 and to help the patient to recover quickly in case of infection. For this purpose, the most important components are to evaluate patient data correctly, to be aware of other drugs used by the patient, to detect possible drug interactions, to observe the patient's compliance with the treatment. With the infrastructure pharmacists have in their education, they have the skills for distinguishing scientific information by deep academic research, drug compounding, and providing up-to-date information on COVID-19 to the public. They became part of pharmaceutical care including preventive and palliative treatment by collaborating with other health care professionals.

### 1.2. Testing for COVID-19 in pharmacies

One of the most effective ways to control the number of cases at the beginning of the epidemic was to carry out the maximum level of COVID-19 PCR / antigen tests, isolate positive cases and their contacts. More than 10,000 pharmacies were already performing Clinical Laboratory Improvement Amendments (CLIA)-waived tests to detect influenza and streptococcal pharyngitis and to monitor chronic diseases through a wide range of CLIA-waived point-of-care testing [14]. Becoming a COVID-19 testing center was appropriate for pharmacies, due to the workflow including patient education, consultancy including pharmacological and non-pharmacological advice, data interpretation. State rules restricting a pharmacist's authority to request and execute these tests were repealed by the Public Readiness and Emergency Preparedness (PREP) Act, allowing all pharmacists to provide COVID-19 testing [21]. The chance to be tested in community pharmacies has allowed people who feel symptomatic to be tested easily without going to the hospital. Pharmacists rationally used the limited number of test kits they had and gave priority to people with certain symptoms. Following the initiation of vaccination at the pharmacies, it was offered to vaccinate those whose test results were negative, thus encouraging the vaccination of the whole nation. While the number of daily tests was below 200 thousand on April 9, this number exceeded 500 thousand in June [12]. One of the most important factors in the rapid increase in the number of daily tests is thought to be the permission to apply the COVID-19 test by the community pharmacists.

### 1.3. Immunization

The COVID-19 vaccinations (Pfizer-BioNTech, Moderna, Janssen) were approved as Authorized for Emergency Use (EUA) by the Food and Drug Administration (FDA) in the U.S.A. On August 23, 2021, the FDA granted full approval for Comirnaty COVID-19 mRNA vaccine, which was previously known as Pfizer-BioNTech vaccine, for the prevention of COVID-19 disease in individuals 16 years of age and older. The goal was to gain herd immunity by vaccinating the entire population, including rural areas where people do not have access to hospitals and clinics. Considering that 90% of the U.S.A. population lives within 5 miles of community pharmacies [16], the strategy of designating pharmacies as vaccination centers was followed. Pharmacists, who are already working with full efficiency in testing, outpatient care, patient education, were activated this time as part of the 'Federal Retail Pharmacy Program' which is designed to leverage the power and knowledge of pharmacy partners to help vaccinate the American population more quickly.

Certain retail pharmacies around the country received a limited supply of COVID-19 vaccination straight from the federal government as part of the program. In the beginning, more than 1 million vaccines were distributed to 6500 different pharmacies. Due to the increasing demand of vaccines over time, additional stores were added to new locations based on the social vulnerability index [22]. Pharmacists effectively used their direct access to the patient population. Additionally, they have become a key point in the vaccine chain by keeping stocks of vaccines in medicine cabinets and encouraging public to vaccinate. 94 million vaccines made by pharmacies alone until June 24 demonstrated how successful pharmacies are in encouraging the public to get vaccines and in cooperating with local health departments [22].

### 1.4. Challenges

In early February, American President Trump declared a public health emergency after the total number of COVID-19 cases in the world exceeded 10,000 [12] [23]. In March, a travel ban was imposed on non-American citizens from 26 countries, after cases began to emerge and rapidly increased throughout the United States [24]. Following these decisions by the government, California became the first state to issue a stay-at-home order on March 19, 2020. Thus, all California citizens have been instructed to stay home except for basic needs [25]. In addition to these COVID-19 measures, citizens' access to healthcare has been disrupted after hospitals were instructed to prioritize the sickest people. In this period when hospitals could not accept outpatients, pharmacies, which were the closest health institutions for the society, remained open. During this moment of uncertainty, pharmacists have had to work even harder than before, taking extra care for their families, employees, and employee's families. The demand for personal protective equipment has increased more than ever before causing prices to rise several times over. Pharmacists had to procure their personal protective equipment for a long time to keep themselves and relatives from infection. In this process, pharmacists were also responsible for managing the psychology of pharmacy staff who were concerned about their life. Despite these challenges, pharmacists have remained to be one of the most reliable health workers for the public by making economic, psychological, and social sacrifices for a long time and encouraged people to follow the rules during the current public crisis.

## 2. DISCUSSION AND CONCLUSION

The pharmacists are one of the key health professionals who are responsible for the management of the pandemic. Despite the initial quarantine, the pharmacists continued to provide health consultancy to the public by maintaining their pharmacies. They contributed to pharmaceutical care by providing prophylactic and palliative treatment. COVID-19 infection has contributed economically to the public, due to the decreased medical support needs. By the new regulations, community pharmacies became the COVID-19 testing and vaccination centers. During the COVID-19 period, the U.S. government's granting of vaccination and testing rights to pharmacies is considered as an important strategy to improve the pandemic situation.

There is no consensus in Europe for using the pharmacists' workforce for vaccination. There are countries which allow vaccination at community pharmacies in the EU. Since 2015, pharmacists in some regions of Switzerland have been allowed to vaccinate after getting trained first. They continued to be a part of vaccination during the COVID-19 pandemic. Over the decade prior to COVID-19, pharmacists in the Ireland have had an increasing role in vaccination starting with seasonal influenza vaccination in 2011. With the COVID-19 pandemic, regulations including provisions for managing COVID-19 vaccines and vaccinating people outside the pharmacy setting have been put into effect. In the UK, influenza vaccines were being administered in pharmacies, which had a special consultation room for patients [26]. There are also governments that are preparing for the future, although they do not allow vaccines in pharmacies yet. This

situation is promising for the world because the rate of vaccination will likely increase as countries start to use pharmacies as vaccination centers. In countries such as Portugal, Belgium and Germany, pharmacists are not yet allowed to give shots. To be able to make vaccines in pharmacies in the future, regulations are being considered in those countries. Croatia government has not allowed vaccination in pharmacies yet but the government must have realized the immunization power of pharmacists because it has decided to add the "Vaccination Practice in Pharmacy" course to the pharmacy license curriculum. With the right strategies by governments, the power of pharmacies can be used for vaccination. Although the population difference between Switzerland and the USA is more than 323 million, vaccines are administered in pharmacies in both countries. This can be used as a model for other countries. For instance, vaccination is not allowed in community pharmacies, and it is limited to hospitals in Turkey [27]. Since the population is less and the number of pharmacies per capita is higher than the U.S, it may be easier to use the pharmacist workforce as a powerful team to fight against the pandemic.

In a possible vaccine preventable disease, pharmacies in the U.S. and all over the world can become vaccine centers faster and the number of pharmacies that become vaccine centers can be increased. This is promising for the long-term course of COVID-19, current and future vaccine-preventable diseases [28]. The active use of the pharmacist workforce in the US during the COVID-19 pandemic can serve as a role model for the developing countries to utilize pharmacists in delivering vaccines to the community for vaccine-preventable diseases such as influenza, chickenpox, hepatitis as well as the pandemics.

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