

Evaluating COVID-19's Impact on Patient Access to Care in the Community Pharmacy Setting

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Abstract

Introduction: Community pharmacies across the country have been adapting the ways their patients receive medications and prescription information during the COVID-19 pandemic. In order to reduce the risk of COVID-19 infection, the CDC encouraged patients to use pharmacy drive-throughs, curbside pickup, or home delivery services to obtain medications. This research study is one of the first studies to analyze how patients utilize and access Medication Management Services (MMS) in the community pharmacy setting during the COVID-19 pandemic.

Objective: To evaluate changes to patients' utilization of Medication Management Services in the community pharmacy setting during the COVID-19 pandemic.

Methods: Eligible patients included persons 18 years old and older, and currently taking at least (1) chronic prescription medication in the last three months. Pharmacists were excluded from the study.

Telephonic or video interviews were conducted with patients from community pharmacy settings. Descriptive statistics were used to summarize patient characteristics and responses to select interview questions. A qualitative thematic analysis was conducted with data collected from open-ended interview questions.

Results: Thirty-five patients participated in interviews. Patients reported increased use of telehealth and technology, increases in quantity or days supply of medications, initiation of mail delivery services, and curbside pick-up. Five (14.3%) patients used telehealth or increased their technology usage due to the pandemic. Seven (20%) patients reported they were more proactive in refilling their medications. Eleven (31.4%) patients indicated they were currently using a prescription delivery service and were likely to continue the service. On the contrary, five (14.3%) patients experienced decreased healthcare professional interactions, while 3 (8.6%) patients encountered slowed pharmacy processing and 2 (5.7%) faced technology barriers. However, 58% of patients reported no changes to the way they utilized MMS during COVID-19.

Conclusion: Like many other healthcare providers, the COVID-19 pandemic caused a shift in how community pharmacies care for the patients they serve. This study identified various changes in how the pandemic impacted the way patients accessed and utilized community pharmacy services. These findings can serve to inform community pharmacies on how to best serve their patients during this and future pandemic.

Introduction

Throughout the COVID-19 pandemic, pharmacies across the country have been evaluating the ways patients receive medications and prescription information to help assure effective medication consultations and delivery in light of social distancing guidance and quarantine conditions.^{1,2} As news of COVID-19 swept the globe in March 2020, its full impact on the world remained unknown. The Centers for Disease Control and Prevention (CDC) encouraged patients, especially those at increased risk of severe illness, to use drive-throughs, curbside pickup, or home delivery pharmacy services to obtain medications in order to reduce the risk of COVID-19 infection.³ Pharmacists and other healthcare providers across the country faced unprecedented challenges as essential and front-line workers attempting to address an evolving public health crisis, and to accommodate pre-existing community healthcare needs.⁴ Community pharmacies continue to learn and adapt to be better equipped, knowledgeable, and prepared for current and future public health demands.

Community pharmacies offer Medication Management Services (MMS) to patients that evolve over time based on patients' needs. MMS are a spectrum of patient-centered, pharmacist-provided, collaborative services that focus on medication appropriateness, effectiveness, safety, and adherence with the goal of improving health outcomes.⁵ According to the Joint Commission of Pharmacy Practitioners (JCPP), a MMS includes the following elements:⁵

1. Patient-centered approach to care – the service is individualized for a specific patient, focuses on the patients' needs and concerns, and involves the patient in the care process.
2. Assessment of medication appropriateness, effectiveness, safety and adherence.
3. Collaborative approach to care that involves the patient, caregiver(s), pharmacists, and other healthcare providers
4. Focus on health outcomes

Since community pharmacists implemented changes to how they provide services during the COVID-19 pandemic, patients had to adjust as well. According to an online study of 1,001 patients across the country conducted by EnsembleIQ, from April 27-29, 2020, about 41% of patients said they were limiting

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their visits to the in-store pharmacy and opting for home delivery of prescription medications.⁶ Some of these changes are due to recommendations by the CDC, such as drive-through windows, curbside pick-up, or home delivery.³

This research focused on the first element of MMS, involving patients within the community pharmacy setting and analyzed how COVID-19 has affected the way patients received their medications. The objective of this study was to evaluate changes to patients' access to, and utilization of, MMS in the community pharmacy setting during the COVID-19 pandemic. This study is intended to help community pharmacies better understand and consider patient experiences when reviewing pharmacy services and patient care.

Methods

Study population, setting, and design

Eligible patients included persons 18 years old and older, and currently taking at least (1) chronic prescription medication in the last three months. Licensed pharmacists were excluded from the study. Recruitment of the study was accomplished in the following ways: handing out flyers to patients at an independent community pharmacy in Portland, OR.; adding flyers to prescription bags of patients at an independent pharmacy in Portland, OR; and engagement through posts on Pacific University social media platforms. Persons who wished to participate in the study reached out to the principal investigator (HH) via email and then were assigned to one of three interviewers. Interviewed patients provided verbal informed consent before participating in the interview. Interviews conducted either over the phone or using a video conferencing platform with patients. This research study has been approved by the Pacific University Institutional Review Board (IRB).

Interview development

In addition to demographic questions, the interview consisted of 20 questions about patients' community pharmacy experiences before and during the COVID-19 pandemic. We utilized the EnsembleIQ study to inform our interview questionnaire. The EnsembleIQ study tracked how consumers were shopping for prescription and OTC products, basic foods, snacks, and household items during the pandemic.⁶ Our study's twenty interview questions were developed from the results of the EnsembleIQ study that focused on experiences mainly surrounding prescription and OTC products. The results of the EnsembleIQ study inspired the authors to look deeper into how patients were potentially impacted from MMS changes in their pharmacies. The authors developed interview questions that focused on the patient experience of utilizing their community pharmacies. Input for the interview questions was received from pharmacists and experienced researchers before being deployed to participants.

The 20-question interview was designed to take around 30-35 minutes to complete. The interview was piloted with

colleagues with no pharmacy background to assess understanding of the questions and to better estimate how long the interview would take to complete. The participants were able to stop the interview at any time. Interviewed participants received a gift card of nominal cash value for taking the time to complete the interview, and the answers were only available to the researchers. Gift cards were distributed to participants electronically or by mail, whichever was preferred.

Data coding and analysis

All participants' interviews were recorded and transcribed. Responses were stored within spreadsheets and Word documents, stored on a hard drive, and were only accessed by the researchers for analyses. Descriptive statistics were utilized to summarize the characteristics of the subjects and their responses to interview questions, where applicable.^{10,11} Open-ended questions related to MMS were coded to fit into categories.⁷ Inductive coding was used to identify themes within responses. Inductive coding is a ground-up approach where codes are derived from analyzing the dataset.⁸ Rounds of coding utilized qualitative content analysis, specifically summative content analysis, that was followed by interpretation of the underlying context.⁹ Three researchers in the team coded the transcripts from the participants they interviewed. Team meetings were then conducted to streamline the trends and themes from all participants. After all themes were agreed upon, quotes were then assigned to the theme they best fit into.¹² Many of the responses to the questionnaire were multifactorial. Where applicable, if a patient listed multiple topics, each response was recorded individually to capture the whole picture.

Results

Data was collected from patients from Oct 2020-Apr 2021. Coding was used to group responses into categories.¹³ To demonstrate the complexity of the participant responses, patient quotes for each of the most common responses were included in Table 3. For example, when asked about COVID-19's impact on a patient's overall health, a patient's response that mentioned "decreased fitness" and "mental health" were recorded separately causing the total number of responses to be greater than the total number of participants for those particular questions.

Characteristics, trends, and themes of participant quotes

Four main themes were agreed upon by the research team after analyzing patient responses (Table 2) from the interviews: increased motivation to be immunized, positive feelings towards COVID-19 testing at a community pharmacy, decreased physical activity and mental health, and pros/cons to changes to MMS during COVID-19. Below are example patient quotes under the four main themes:

Theme 1 - Increased motivation to be immunized

"I have a history of not always getting flu shots because of my interests in natural medicine, but I already got my flu shot this year at the local pharmacy, so [COVID-19] encouraged me to make an appointment to get the senior dose of the flu vaccine."

Theme 2 – Positive feelings towards COVID-19 testing at a community pharmacy

"I don't have a problem at all, I think that would actually be nice. Especially when I go to my local pharmacy for things that are acute. I have a relationship with them. It is easy and [have] no problem getting [COVID-tested] there. I would feel very comfortable."

Theme 3 – Decreased physical activity and mental health

"It's been a real challenge to my mental health, because like I said before I do have a history of mental health challenges and the way I learned to deal with that was by being more social and actively getting out of my box so I can bring that necessary interaction into my life. So, COVID has been a challenge to my mental health for that reason. On one hand, I understand it's safe to stay home but I also know it will do really bad things to me from a mental perspective and I lived in that place, and I do not want to live in that place again. I have other physical medical conditions now and it's just been such [an inconvenience] to get those addressed because visiting my doctor has long wait times. Especially when COVID first hit I was having these rashes that I could not see a doctor about for the longest time. So, it feels like I have multiple problems that have been building up on each other that I haven't been able to consistently address because I am trying to avoid going to the doctor as much as I can right now."

Theme 4 – Pros/Cons to changes to MMS during COVID-19

Pros: Being able to see what medications on profile, what I'm taking and what I'm supposed to be taking, instead of having to remember. If at night, can't give pharmacy a call, now can see changes online.

Cons: Couldn't go to pharmacy to pick them up, had a pharmacy personnel bring Rx's out. Didn't like that I couldn't go in and talk to someone face to face, instead, handing them curbside and leave. Places are slowly opening up now, able to go in and speak to someone."

Discussion

This research study is one of the first studies to analyze how patients utilize and access Medication Management Services (MMS) in the community pharmacy setting during the COVID-19 pandemic. As there are many elements involved in MMS, this research study is focused on the element of patient-centered approach to care - specifically when it pertains to focusing on patients' needs and concerns that involve the patient in the care process.⁵ This study also reflects back on the impact of the pandemic, and discusses the importance of

community pharmacy adaptability and effective communication moving forward. Community pharmacies, like other healthcare settings, were faced with the challenge of adapting to the shifting requirements and restrictions of the evolving pandemic, while finding ways to meet the needs of their patients safely and effectively.¹⁴ In accordance with CDC guidance, community pharmacies have encouraged patients, especially those at increased risk of severe illness, to use alternative methods to pick up medications.³ These alternative methods include home delivery of medications, curbside pickup, drive-through services, or having someone else who is not at higher risk of severe illness pick-up their medication.

Less than half (40%) of interviewed patients indicated positive changes in how they utilized MMS, ranging from initiating mail delivery services to an increase in the way patients utilized telehealth and technology to pick up their prescriptions. Community pharmacies now have implemented multiple modalities to accommodate patients' needs such as curbside pick-up and easier access to delivery services.¹⁵ Eleven (31.4%) patients indicated they are currently using a prescription delivery service and are likely to continue the service, indicating a positive prescription mail delivery experience that will likely expand to more community pharmacies in the future, if mail delivery services are not available already. Our study results aligned comparatively with the EnsembleIQ study when it comes to limiting in-store visits and patients opting for home delivery of prescription medications.

As expected, not all changes from the pandemic were positive changes. Patients picking up their prescriptions(s) via curbside or delivery may not have the opportunity to interact with the pharmacist and changing counseling techniques to adapt to this new environment is necessary.¹⁶ Telehealth or virtual patient counseling may be a viable option for pharmacies to consider looking into in the future. Less than half of interviewed patients (37%) indicated negative changes in how they utilized MMS, ranging from drive-thru inconvenience to fewer health care provider interactions. These factors were often correlated with slower prescription processing times. Many participants also reported decreased fitness and mental health, which may encourage community pharmacies to find alternative ways to assist patients coping with these issues while picking up their prescriptions.

One notable finding was that interviewed participants indicated they were more proactive in refilling and adherent to the way they take their medications during the pandemic when compared to pre-pandemic. This suggests that as a result of the pandemic, patients were more cognizant of their health and medications. Whether this positive change will be temporary in the upcoming years remains unclear. If this trend does continue, it could lead to community pharmacists spending less time focusing on patient medication adherence, and spending more time expanding access to other patient care services.

Given that most households in the United States are within 5 miles of a pharmacy, this community accessibility aligns well with the partnerships that the U.S. Department of Health and Human Services (DHHS) continues to make with community pharmacies. DHHS aims to accelerate testing and other pandemic-related care for more Americans in communities across the country.¹⁷⁻¹⁹ Twenty-eight (80%) participants supported COVID-19 testing from pharmacists, and sixteen (45.7%) were encouraged to receive their COVID vaccination, which could also translate to increased patient access to, and utilization of, other pharmacy point-of-care screening tests such as streptococcus, influenza, or Human Immunodeficiency Virus (HIV) screening services. Patients interact with pharmacists significantly more frequently than their primary care providers.²⁰ This suggests that community pharmacies could become more involved in point-of-care testing services in the future which would potentially expand access to care, with the ultimate goal of improving patient health outcomes. Patients' positive feelings towards community pharmacy point-of-care testing services may lead to increased patient utilization of not only MMS, but also medical testing in a community pharmacy setting.^{18,21}

Limitations

There are several limitations to this study such as the views of the interviewed participants may not accurately represent the views of patients nationwide, and the findings may not be representative of other types of community pharmacies. It is notable that the majority of participants were Caucasians and female; it would be beneficial to diversify and increase the sample size of participants for future research studies. Also, this study contained a relatively small sample size. Lastly, these interviews were conducted during the initial wave in COVID-19 cases in October 2020, which may not reflect the many changes community pharmacies have since implemented to the way they provide MMS to patients.

Conclusions

Like many other healthcare providers, the COVID-19 pandemic caused a shift in how community pharmacies care for the patients they serve.¹⁴ This study identified various changes in how the pandemic impacted the way patients were able to access and utilize patient care through community pharmacies. These findings can serve to inform community pharmacies on how to best serve their patients during this and future pandemics.

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Table 1. Demographics of participants

Characteristics	Frequency (N)	Percentage (%)
Sex		
Male	10	28.6
Female	25	71.4
Age		
18-30	9	25.7
31-60	14	40
>61	12	34.2
Educational level		
High School	3	8.6
Some college courses	8	22.9
Associates	1	2.9
Bachelors	10	28.6
Masters	4	11.4
Doctoral	9	25.7
Race		
Caucasian	25	71.4
Asian	5	14.3
Multiracial	2	5.7
Pacific Islander	1	2.9
Prefer Not to Disclose	2	5.7
Frequency of pharmacy visits pre-pandemic		
N/A*	2	5.7
>1x/month	12	34.3
1x/month	8	22.9
1x/ 2 months	3	8.6
1x/ 3 months	8	22.9
1x/ 6 months	2	5.7
Frequency of pharmacy visits over the last month		
0	3	8.6
1-2x this month	22	62.9
≥3x this month	4	11.4
1-2x in the last 90 days	3	8.6
Received mail order/ delivery	3	8.6

* - mix of mail-delivery/alternate person picking up prescription(s)

Table 2. Patient Experiences with Medication Management Services

Question	Response	% (n)
<i>If there was a change to the way you utilized medication management services, What did you like about the change?*</i>	No change	51.4 (18)
	Telehealth/ technology increase	14.3 (5)
	Mail delivery initiation	5.7 (2)
	Curbside pick-up	5.7 (2)
	Increase in pharmacy proactivity	5.7 (2)
	Increase in days supply per fill	2.9 (1)
	Encouraged med sync	2.9 (1)
	Drive-thru convenience	2.9 (1)
<i>What did you NOT like about the change?*</i>	Less provider/ HCP interaction	14.3 (5)
	Slow pharmacy processing	8.6 (3)
	Technology barriers	5.7 (2)
	Insurance changes/challenges	2.9 (1)
	Delivery issues/ concerns/ handling	2.9 (1)
	Drive-thru inconvenience	2.9 (1)
<i>If you were/are due for an immunization, how has COVID prevented or encouraged you to receive the immunization?</i>	Encouraged	45.7 (16)
	Prevented	20.0 (7)
	Neither	34.3 (12)
<i>If you are currently using a prescription delivery service, how likely are you to continue the service?</i>	N/A	65.6 (24)
	Likely	31.4 (11)
<i>How do you feel about pharmacists administering COVID-19 testing?</i>	Positive	80.0 (28)
	Negative	14.3 (5)
	Neutral	5.7 (2)

* - participants could have mentioned more than (1) answer

Figure 1. Patient Reported Positive Changes of Medication Management Services (N=35)

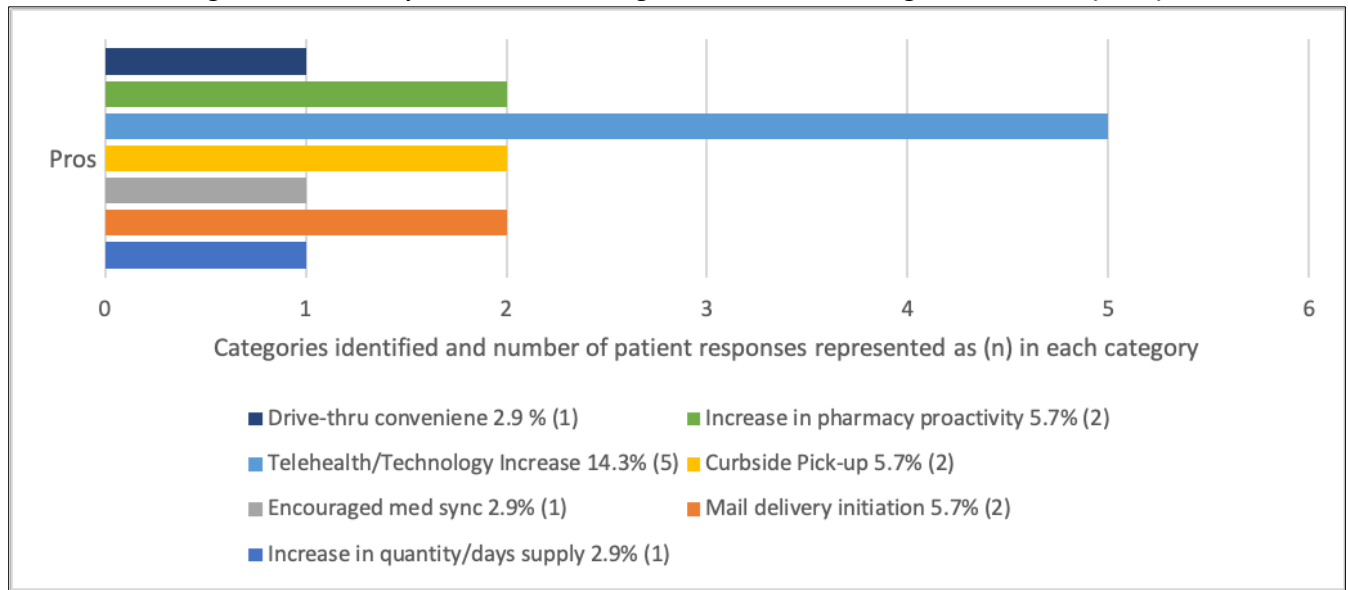


Figure 2. Patient Reported Negative Changes of Medication Management Services (N=35)

