CHAPMAN UNIVERSITY
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Prescription Acquisition by Drive-thru and Mail-order Before and During the COVID-19 Pandemic in the United States

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BACKGROUND

- Lockdown and social distancing were some measures recommended by the World Health Organization (WHO) to combat the spread of COVID-19 pandemic.
- These interventions impacted medication acquisition and prescription refilling, resulting in medication discontinuation, non-adherence and poor health outcomes.
- Pharmacy response included enhancing drive-thru and mail-order services to facilitate fast and convenient prescription acquisition, while maintaining safety during the pandemic.
- However, there is a dearth of information on the utilization of the two services and factors influencing their utilization.

OBJECTIVES

- The study analyzed the variations in the utilization of drive-thru and mail-order pharmacy services before and after the COVID-19 period.
- We analyzed the sociodemographic factors associated with the utilization before and during the COVID-19 pandemic.

METHODS

- We used 26,173 and 1,521 surveys from the 2015 and 2021 National Consumer Surveys on Medication Experience and Pharmacists' Roles (NCSME&PR).
- A cross-sectional, self-administered survey administered to the Qualtrics adult panels (≥18 years), with at least 3 comorbidities and taking ≥ 3 prescription drugs.
- Our study used demographic data and drive-thru and mail-order pharmacy service utilization in the United States.
- Frequency and percentages were used to assess the utilization of the two services.
- Chi-square test and binary logistic regression were used to investigate demographic factors influencing the utilization of the services before and during the pandemic.
- All statistical analyses were conducted at the significance level of 0.05 and 95% confidence interval.

RESULTS

- The mean age was 53.9 years.
- Over 80% were white in both surveys.
- A proportion of 34.5% used the drive-thru pharmacy service before the pandemic, which increased to 42.3% in 2021.
- A proportion of 17.0% used the mail-order service to acquire their prescriptions before the pandemic, while 28.7% used the service during the pandemic.

Prescription Acquisition by Drive-thru and Mail-order

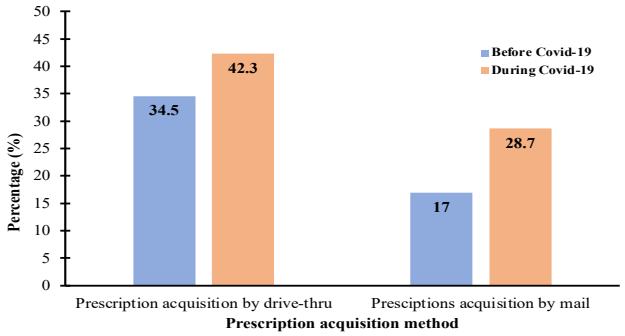

Table 1: Regression Analysis for Drive-thru Services

Variables	Before Covid-19			During Covid-19		
	B	aOR	*p-value*	B	aOR	*p-value*
Age (years)	-0.02	0.98	**<0.001***	-0.01	0.99	0.35
Age group *(ref = 18 - 44 years)*						
45 - 65 years	-0.03	0.97	0.40	-1.06	0.35	**0.001***
65 years old or older	0.02	1.02	0.66	-1.07	0.34	**0.031**
Gender *(ref = Male)*						
Female	-0.06	0.94	0.06	0.21	1.24	0.20
Marital Status *(ref = Single [Never married])*						
Separated/Divorced	-0.06	0.94	0.23	0.47	1.59	0.06
Married	-0.01	0.99	0.99	0.79	2.21	**<0.001***
Widowed	-0.01	0.99	0.84	0.58	1.79	0.09
Education *(ref = High school/college)*						
Associate	-0.02	0.98	0.66	-0.04	0.96	0.86
Bachelors	0.03	1.03	0.42	-0.10	0.91	0.61
Graduate/Professional	0.03	1.04	0.46	0.53	1.70	**0.02***
Household Income *(ref = $40,000 or lower)*						
$40,000 - $80,000	-0.05	0.95	0.15	0.02	1.02	0.90
$80,001 or higher	0.03	1.03	0.49	0.10	1.11	0.62
Race *(ref = Non-white)*						
White	0.15	1.16	**<0.001***	0.09	1.10	0.70
Geographical Area *(ref = City)*						
Rural	NA	NA	NA	0.03	1.03	0.85
Geographical Region *(ref = Northeast)*						
South	-0.02	0.98	0.60	0.76	2.13	**<0.001***
Midwest	-0.02	0.98	0.59	0.60	1.82	**0.003***
West	-0.04	0.96	0.38	-0.22	0.80	0.36
Relationship with Pharmacist *(ref = No)*						
Yes	0.43	1.54	**<0.001***	0.36	1.43	**0.02***
Pharmacy types *(ref = Independent-owned pharmacy)*						
Supermarket pharmacy	-0.13	0.88	**0.014***	-0.18	0.83	0.47
Mass Merchandiser pharmacy	-0.57	0.57	**<0.001***	-0.86	0.42	**<0.001***
Chain pharmacy	0.82	2.28	**<0.001***	0.73	2.07	**<0.001***
Clinic pharmacy	-0.63	0.54	**<0.001***	-0.23	0.79	0.50
Mail order/Internet pharmacy	-0.29	0.75	**<0.001***	0.23	1.26	0.45
Others	-0.80	0.45	**<0.001***	-0.68	0.51	0.18
Number of health conditions	0.00	1.00	0.70	0.05	1.05	0.19
Number of prescription drugs	NA	NA	NA	0.35	1.41	0.07

Table 2: Regression Analysis for Mail-order Services

Variables	Before Covid-19			During Covid-19		
	B	aOR	*p-value*	B	aOR	*p-value*
Age (years)	0.03	1.03	**<0.001***	-0.01	0.99	0.48
Age group *(ref = 18 - 44 years)*						
45 - 65 years	-0.03	0.97	0.48	-0.33	0.72	0.41
65 years old or older	0.001	1.00	0.99	-0.08	0.93	0.90
Gender *(ref = Male)*						
Female	0.01	1.02	0.73	-0.41	0.66	**0.045***
Marital Status *(ref = Single [Never married])*						
Separated/Divorced	-0.04	0.96	0.58	0.32	1.38	0.32
Married	-0.01	0.99	0.95	0.51	1.67	0.05
Widowed	-0.05	1.05	0.32	0.36	1.43	0.41
Education *(ref = High school/college)*						
Associate	0.02	1.02	0.69	0.22	1.25	0.40
Bachelors	-0.03	0.97	0.55	0.12	1.13	0.59
Graduate/Professional	0.06	1.07	0.30	0.60	1.82	**0.018***
Household Income *(ref = $40,000 or lower)*						
$40,000 - $80,000	-0.05	0.95	0.23	0.34	1.40	0.129
$80,001 or higher	-0.09	0.92	0.12	0.55	1.73	**0.03***
Race *(ref = Non-white)*						
White	-0.03	0.97	0.56	-0.32	0.73	0.27
Geographical Area *(ref = City)*						
Rural	NA	NA	NA	0.38	1.46	0.05
Geographical Region *(ref = Northeast)*						
South	-0.13	0.90	0.075	0.23	1.26	0.98
Midwest	-0.18	0.84	**0.001***	0.01	1.01	0.13
West	-0.14	0.87	**0.018***	0.43	1.53	0.27
Relationship with Pharmacist *(ref = No)*						
Yes	0.45	1.56	**<0.001***	0.11	1.12	0.56
Pharmacy types *(ref = Independent-owned pharmacy)*						
Supermarket pharmacy	-0.45	0.96	0.51	-0.13	0.88	0.69
Mass Merchandiser pharmacy	-0.10	0.90	0.13	0.01	1.01	0.98
Chain pharmacy	-0.11	0.90	0.067	0.30	1.35	0.27
Clinic pharmacy	0.52	1.68	**<0.001***	1.25	3.5	**<0.001***
Mail order/Internet pharmacy	4.23	69.01	**<0.001***	3.92	50.31	**<0.001***
Others	1.25	3.49	**<0.001***	2.39	10.92	**<0.001***
Number of health conditions	0.00	1.00	0.87	-0.02	0.98	0.64
Number of prescription drugs	NA	NA	NA	1.88	6.53	**<0.001***

CONCLUSION

- Certain demographics influenced the use of the services during the pandemic
- It is imperative to create awareness and promote utilization among certain demographics to address health disparities, prevent medication discontinuation, promote adherence, and guarantee safety during pandemics.