

# Impact of the COVID-19 Pandemic and Social Determinants of Health on Missed Visits



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## INTRODUCTION

- The emergence of the COVID-19 pandemic led to dramatic changes in clinical practice, such as increased usage of telehealth services.
- Though these changes may have facilitated healthcare access for some, they can be detrimental to patients unfamiliar with utilizing technology, which may be reflected in missed visit rates.

## AIMS

- Our aim is to identify the trends and factors associated with missed visits.

## METHODS

- The study population consisted of patients receiving outpatient care in the Cleveland Clinic Gastroenterology department during the lock-down period from March 9<sup>th</sup>, 2020 to June 18<sup>th</sup>, 2020 and representative samples from corresponding periods in 2019 (before COVID-19) and in 2021 (after the flattening of the COVID-19 surge).
- “Missed” visits were defined as those in which patients either cancelled or did not show up to scheduled visits.
- The following variables were collected and compared between the two groups (missed and completed visits): demographic data, substance abuse, insurance data, employment status, and median household income obtained from zip codes.
- Univariate and multivariable logistic regression analyses were performed to determine factors associated with missed visits.

**Table 1: Patient Characteristics Associated with Missed Visits**

Factor	Missed (N=3768)	Completed (N=43263)	p-value	Adjusted Odds Ratio for Missed Visits (95% CI)	p-value
Age in Years (Mean ± SD)	52.9 ± 17.8	56.6 ± 17.5	<0.001	0.99 (0.98 - 0.99) for every one-year increase	<0.001
Age ≥ 65 Years	1098 (29.1%)	16260 (37.6%)	<0.001		
Sex			0.46		
-Male	1456 (38.6%)	16459 (38%)			
-Female	2312 (61.4%)	26804 (62%)			
Race			<0.001		
-White	2471 (65.7%)	33432 (77.3%)		Reference	
-Black	808 (21.5%)	5993 (13.9%)		1.42 (1.29 - 1.57)	<0.001
-Hispanic	216 (5.7%)	1577 (3.6%)		1.34 (1.13 - 1.57)	<0.001
-Others	268 (7.1%)	2220 (5.1%)		1.44 (1.25 - 1.66)	<0.001
Type of Insurance					
-Private	1955 (53.3%)	26461 (62.4%)	<0.001	Reference	
-Medicare	693 (18.9%)	8981 (21.2%)		1.05 (0.95 - 1.16)	0.29
-Medicaid and other public	984 (26.8%)	6433 (15.2%)		1.35 (1.23 - 1.48)	<0.001
-No insurance	35 (1%)	504 (1.2%)		1.04 (0.73 - 1.47)	0.81
Median Household Income by Zip Code (by quartile)					
-Lowest	1304 (34.6%)	10321 (23.9%)	<0.001	Reference	
-Second	1093 (29%)	10698 (24.7%)		1.02 (0.92 - 1.12)	0.64
-Third	664 (17.6%)	11182 (25.8%)		0.64 (0.58 - 0.72)	<0.001
-Highest	707 (18.8%)	11059 (25.6%)		0.71 (0.63 - 0.79)	<0.001
Employment Status					
-Employed	1234 (32.8%)	16868 (39%)	<0.001	Reference	
-Unemployed	1959 (52%)	16783 (38.8%)		1.45 (1.33 - 1.58)	<0.001
-Retired	488 (13%)	8709 (20.2%)		0.99 (0.88 - 1.13)	0.99
-Unknown	84 (2.2%)	852 (2%)		0.98 (0.73 - 1.30)	0.88
Marital Status					
-Married	1565 (41.5%)	21463 (49.6%)	<0.001	Reference	
-Single	2153 (57.1%)	21206 (49%)		1.09 (1.01 - 1.17)	0.023
-Others	50 (1.3%)	593 (1.4%)		0.94 (0.68 - 1.29)	0.71
H/o Tobacco Use	756 (20.4%)	5903 (13.8%)	<0.001	1.23 (1.12 - 1.35)	<0.001
H/o Alcohol Use	1555 (43.2%)	18694 (45%)	0.074		
H/o Illicit Drug Use	352 (9.7%)	2657 (6.4%)	<0.001	1.14 (1.01 - 1.29)	0.03
Primary language					
-English	3639 (96.6%)	42355 (97.9%)	<0.001	Reference	
-Spanish	64 (1.7%)	413 (1%)		1.20 (0.89 - 1.63)	0.21
-Other	65 (1.7%)	495 (1.1%)		1.37 (1.03 - 1.82)	0.028

## RESULTS

- There was increase in missed visit rates since the onset of the pandemic (751 (4.2%), 1340 (10%), and 1693 (10.4%) missed visits in 2019, 2020, and 2021, respectively (p < 0.001)).
- During the study periods, there were a total of 3768 missed visits and 43262 completed visits. Missed visits were more frequent among the following groups: age < 65 years, non-white race, Medicaid or other public insurance, the lowest two quartiles of median income, unemployed and unknown employment status, single marital status, tobacco and illicit drug use, and non-English speakers (Table 1).
- On multivariate analysis, missed visits were 1% less likely for every one-year increase in age; more prevalent with non-white race, Medicaid and other public insurance, unemployment, single status, tobacco and illicit drug use, and non-English/Spanish speakers; and less prevalent for those in the two highest quartiles of median income (Table 1).

## CONCLUSION

- The ever-increasing missed visit rate since the onset of the pandemic is concerning.
- The increased association of missed visits with certain demographic groups is also notable.
- Future efforts must target these underserved groups as healthcare systems adapt to the pandemic.