

Health Inequity in Viral Infections in a Medicaid Population: Lessons from Influenza and COVID-19



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Background

- The COVID-19 pandemic highlighted existing global health inequities regarding healthcare access and infrastructure that impacted COVID-19 infection and containment.¹
- In the United States rates of COVID-19 infection and hospitalization among minority populations have been estimated to be 2- to 4-fold higher, respectively, compared to white populations.²
 - Minority and socially disadvantaged populations also exhibit increased rates of COVID-19 related mortality.^{2,3}

Objective

- This study utilized the Merative™ MarketScan® Multi-state Medicaid Database to investigate trends by race in management of viral infections both prior to and during the COVID-19 pandemic.

Methods

Data Source

- Merative™ MarketScan® Multi-state Medicaid Database from 1 July 2018 through 30 June 2021.
 - The MarketScan Multi-state Medicaid Database contains data on the full healthcare experience (inpatient, outpatient, and outpatient pharmacy) for individuals enrolled in Medicaid insurance plans in a number of geographically dispersed states.

Study Design

- Medicaid eligibility is based on socioeconomic status or disability. As other patient-level variables related to social determinants of health were not available, the race variable within the MarketScan Database was used here as a proxy.
- Patients were required to exhibit continuous eligibility for either the 2018, 2019, or 2020 viral season to be included in the study sample.
- The number of influenza or COVID-19 visits was examined on a monthly basis over the full study period (July 2018 to June 2021).
 - Among populations with at least one viral visit, utilization of inpatient or emergency services was also examined during the month.
- Rates of viral diagnoses and healthcare resource utilization were reported across racial groups (White, Black, Hispanic, or Other) to assess potential health inequities.

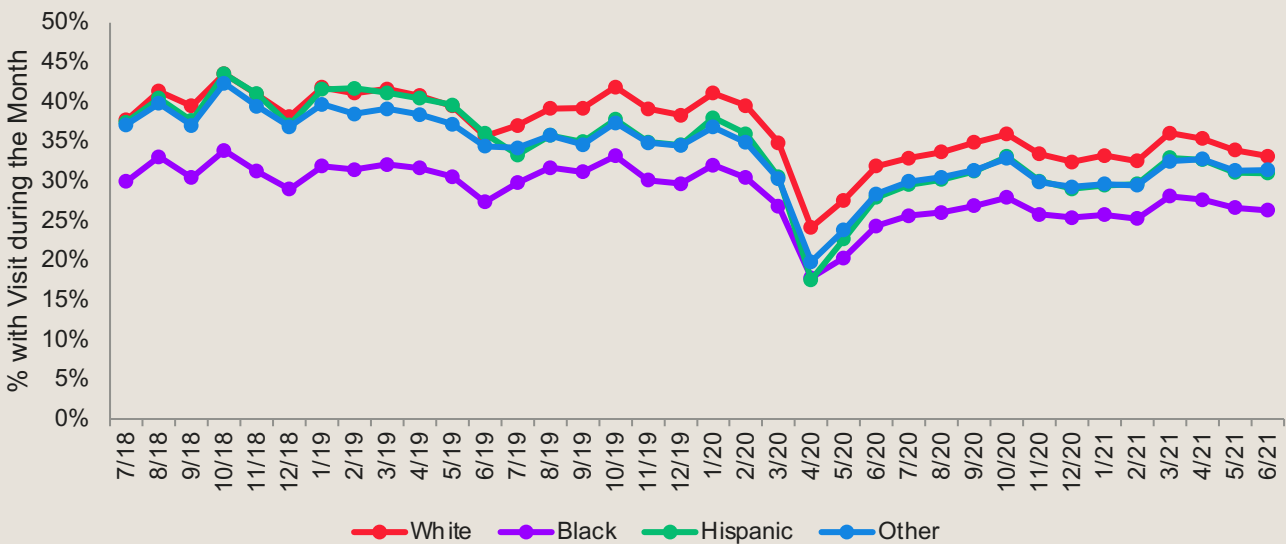
Results

Study Populations

Table 1. Study Sample						
	2018 Season July 2018–June 2019		2019 Season July 2019–June 2020		2020 Season July 2020–June 2021	
All Patients	6,079,743	100.0%	7,083,441	100.0%	8,560,385	100.0%
White	3,075,473	50.6%	3,426,299	48.4%	4,167,508	48.7%
Black	2,292,311	37.7%	2,399,613	33.9%	2,853,691	33.3%
Hispanic	457,796	7.5%	760,218	10.7%	923,675	10.8%
Other	254,163	4.2%	497,311	7.0%	615,511	7.2%

- Gender distributions were largely static year over year and across cohorts with 52.2%–57.7% females.
- Hispanic patients were younger with 63.1%–81.1% under the age of 18 at the start of each viral season compared to 51.9%–69.0% of Other, 53.3%–60.4% of Black, and 49.6%–59.2% of White patients.
- Cohorts demonstrated differential utilization of healthcare resources throughout the study period (Figure 1).
 - Black patients were least likely to have a healthcare visit on a monthly basis throughout the study period.
 - Starting in the 2019 season white patients were most likely to have a visit.

Figure 1. Monthly Healthcare Visits

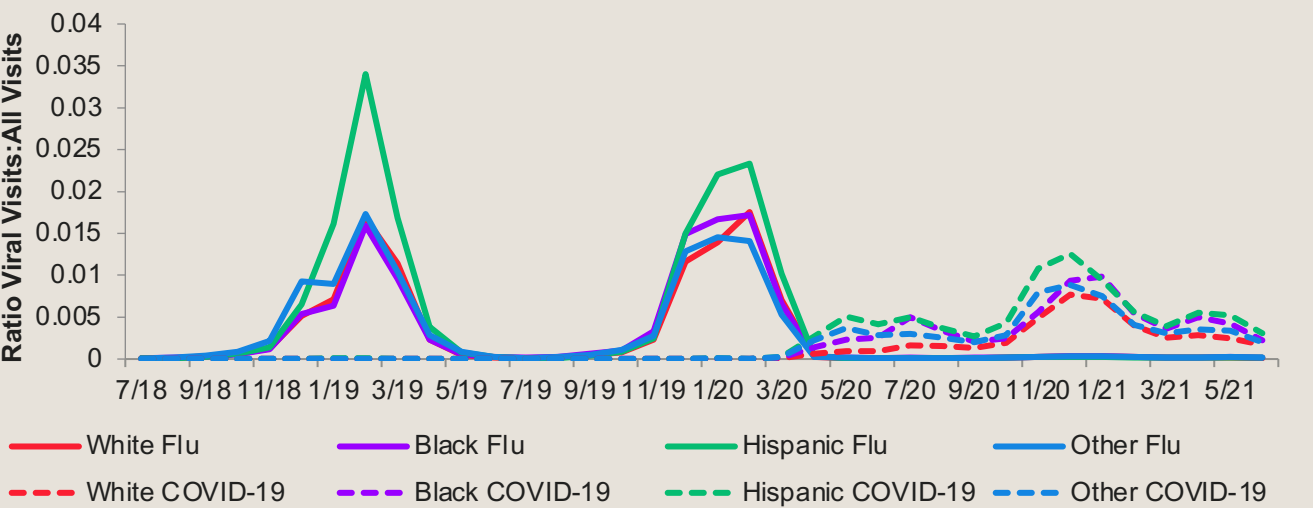


Results, continued

Viral Visits

- The COVID-19 pandemic negated the regular flu season (Figure 2).
 - Hispanic patients had the highest ratio of viral to overall visits for both flu and COVID-19.

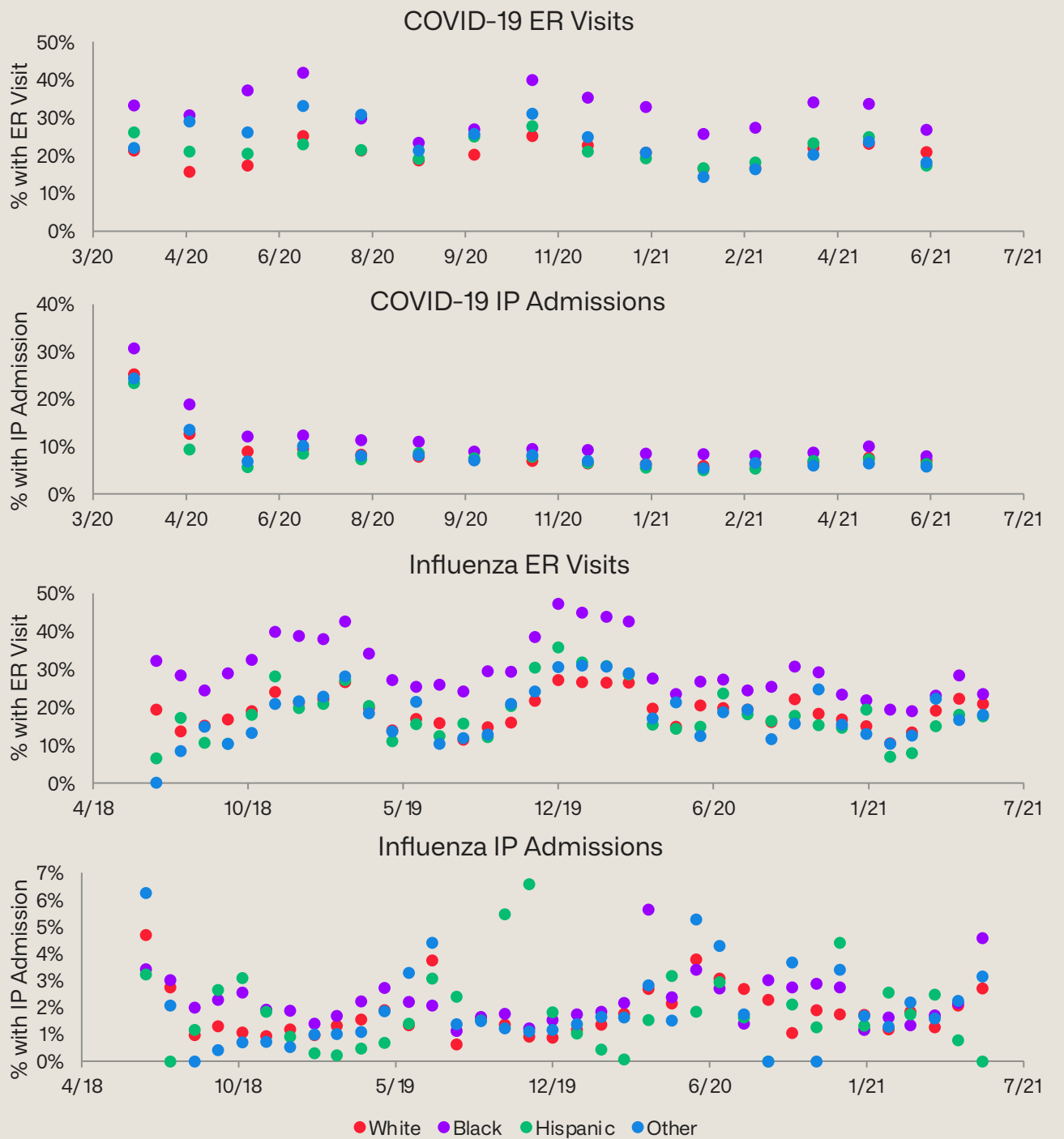
Figure 2. Viral Visits, normalized to total visits



Viral Resource Utilization

- A greater proportion of black patients with a viral diagnosis had a viral related emergency room visits or COVID-19 inpatient admission during the month; the same trend was not observed for influenza inpatient admissions (Figure 3).

Figure 3. Viral-related Healthcare Resource Use



Conclusions

- Although all patients were continuously covered by Medicaid, there were differences in healthcare resource utilization trends and rates of viral infections across cohorts.
 - Similar trends between the COVID-19 and pre-COVID-19 eras indicate that the underlying differences are not purely pandemic related but likely tied to long-standing differences in healthcare management practices.

Limitations

- COVID-19 infections, especially mild cases, are likely underestimated in claims data.
- Race was used as a proxy as other socioeconomic data (e.g., income level, region of residence, etc.) were not available.

Conflicts of Interest

- The authors have no conflicts of interest to report.

References

1. Health inequity and the effects of COVID-19. Copenhagen: WHO Regional Office for Europe; 2020.
2. Khazanchi R, et al. JAMA Netw Open. 2020;3(9):e2019933. 3. Abedi V, et al. J Racial Ethn Health Disparities. 2021;8:732-742.