COVID-19-related Alterations in Racial Disparities in Dermatology Practice Patterns

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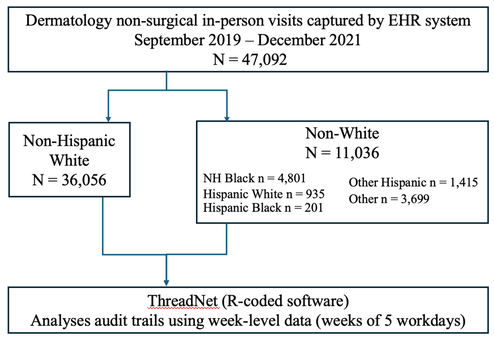
INTRODUCTION

- Although the amount of time patients spend each year with an outpatient physician has increased, racial disparities in visit time and access to care still exist.[1]
- The COVID-19 pandemic exacerbated existing racial health disparities, disrupted healthcare routines, and negatively impacted the continuity of care of dermatology patients.[2,3]
- Our previous work showed that pandemic-related alterations in Dermatology action patterns were not transient.[4]

STUDY OBJECTIVE

This study explores racial disparities in Dermatology practice pattern disruptions across the COVID-19 pandemic.

STUDY DESIGN



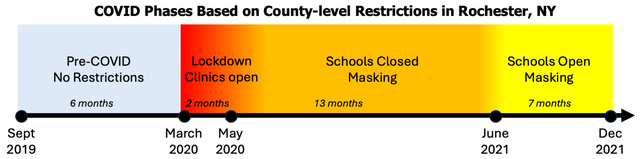
EHR Audit Trail

Check-in

Visit	Date	Time	Role	WorkStation_ID	Action
1	2/2/15	8:53:00	Technician	BCAHHURDRM	MR_SNAPSHOT
1	2/2/15	8:53:00	Technician	BCAHHURDRM	MR_REPORTS
1	2/2/15	8:53:03	Technician	BCAHHURDRM	MR_SNAPSHOT
1	2/2/15	8:53:03	Technician	BCAHHURDRM	MR_REPORTS
1	2/2/15	8:55:36	Technician	BCAHHURDRM	MR_SNAPSHOT
1	2/2/15	8:55:36	Technician	BCAHHURDRM	MR_REPORTS
1	2/2/15	8:56:21	Lic.Nurse	URDERMDT3	AC_VISIT_NAVIGATOR
1	2/2/15	8:56:22	Lic.Nurse	URDERMDT3	MR_HISTORIES
1	2/2/15	8:56:22	Lic.Nurse	URDERMDT3	MR_ENC_ENCOUNTER
1	2/2/15	8:56:22	Lic.Nurse	URDERMDT3	MR_VN_VITALS
1	2/2/15	8:56:22	Lic.Nurse	URDERMDT3	MR_REPORTS
1	2/2/15	8:56:22	Lic.Nurse	URDERMDT3	FLOWSHEET
1	2/2/15	8:56:22	Lic.Nurse	URDERMDT3	MR_VN_CHIEF_COMPLAINT
1	2/2/15	8:56:22	Lic.Nurse	URDERMDT3	UCW_RELATED_ENCOUNTER
1	2/2/15	8:56:31	Lic.Nurse	URDERMDT3	MR_REPORTS

Check-out

COVID Phases Based on County-level Restrictions in Rochester, NY



- ANOVA analysis and Tukey-Kramer test were performed at 0.05 significance level using R and JMP.

OUTCOME MEASURES

- ***Visit duration*** is defined as the time between when the patient check-in at the clinic and when the patient check-out.
- ***Wait time*** is defined as the time between when the patient checking-in at the clinic and when first vitals are taken.
- ***Percentage of action by role*** is the proportion of action by a staff type in all actions associated with the visit.
- ***Visit complexity*** is the # of paths in event narrative network that accounts for the routine (i.e., actions, roles, workstations) involved in a clinic visit.

REFERENCES

1. Gaffnet A et al. J Gen Intern Med; 2022; 38(2):434-441.
2. Alshiyab DM et al. *Annals Med Surg*; 2020; 60: 571-574.
3. Desai SR et al. Dermatol Clin; 2021; 39: 569-574
4. Ryan Wolf J et al. J Invest Dermatol; 2023; 143(5): S119.

RESULTS

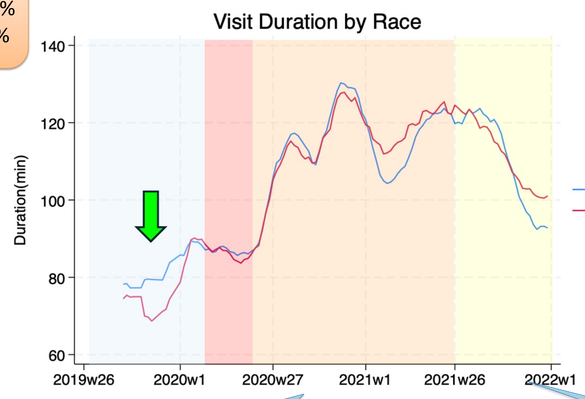
Table 1. Patient Population Characteristics

	Non-Hispanic (NH) White (N=36,056)	Non-White (N=11,036)
Age	53.21 (21.51)	38.62 (21.56)*
Mean (SD)		
Gender, n (%)		
Female	21,325 (59.1%)	7,087 (64.2%)
Male	14,729 (40.9%)	3,948 (35.8%)
COVID Phases, n(%)		
Clear	6,554 (18.2%)	1,847 (16.7%)
Red	1,612 (4.5%)	569 (5.2%)
Orange	17,155 (47.6%)	5,486 (49.7%)
Yellow	10,735 (29.8%)	3,134 (28.4%)
Top 5 Diagnoses		
1	Seborrheic keratosis	Pigmentation Disorder
n (%)	5,693 (16.5%)	802 (7.3%)
2	Nevi	Acne
n (%)	2,496 (6.9%)	766 (6.8%)
3	Psoriasis	Dermatitis
n(%)	1,838 (5.1%)	736 (6.7%)
4	Dermatitis	Hair Loss Disorder
n (%)	1,726 (4.8%)	629 (5.7%)
5	Acne	Rash/Skin Eruption
n (%)	1,661 (4.6%)	591 (5.36%)

*p<0.0001

≤ 21 years:
Non-White = 25%
NH White = 10%

Figure 1: Pre-COVID Visit Duration Differs Between Race/Ethnicity Cohorts



- NH White cohort has longer visit duration than Non-White cohort in Clear phase (83.5 (52.6) min vs. 81.3 (49.2) min, p=0.08).
- Similar visit duration between cohorts throughout COVID phases. Orange phase had the longest visit duration for both groups.

Orange - Mean Visit Duration
NH White = 111.3 (98.2) min
Non-White = 112.8 (101.0) min

Wait time longer for Non-White cohort than NH White cohort
Red: 25.9 (24.9) min vs. 23.1 (21.5) min, p=0.033
Orange: 20.2 (36.0) min vs. 17.7 (29.1) min, p<0.001

Visit duration does not return to pre-COVID times.

Figure 2: Alterations in Percent Actions by Staff per Visit during COVID

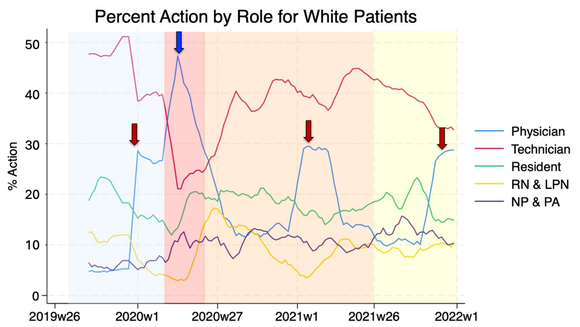
Seasonal pattern in the percent actions by physician during visits & visit complexity suggests an association between increased physician activity and visit complexity

Physician performed more actions during lockdown (i.e., Red).

NH White cohort 34% of actions/visit (p<0.0001)

Non-White cohort 36% of actions/visit (p<0.0001)

Technician percent actions decreased during lockdown (i.e., Red) and did not fully return to Pre-COVID levels



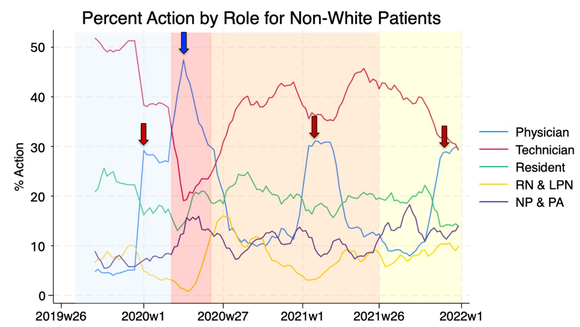
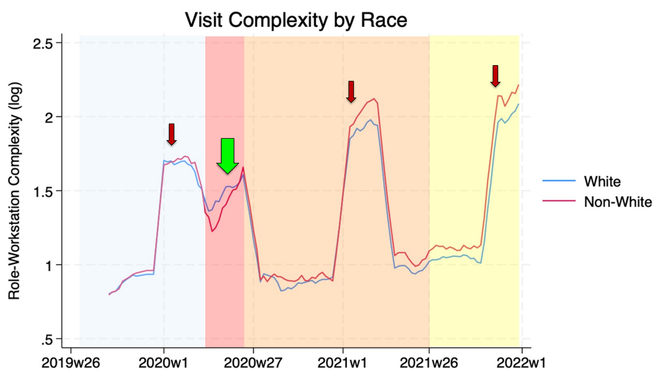


Figure 3: Visit Complexity Differs by COVID phase



- Seasonal pattern in visit complexity observed pre-COVID and after lockdown. During lockdown, there is disruption of visit complexity.
- Non-White cohort has greater visit complexity than NH White cohort in Orange (1.37 (1.19) vs. 1.30 (0.91) , p<0.0001) and Yellow (1.48 (1.07) vs. 1.36 (0.92), P<0.0001) phases.

CONCLUSIONS

- Overall, practice pattens have changed due to the pandemic in both cohorts.
- Age differences between cohorts may have influenced visit duration and complexity.
- Greater visit complexity observed in Non-White cohort at later stages of pandemic.
- Further investigation of practice patterns in Orange phase may help us understand the transitional dynamics (i.e., new/existing patterns) of healthcare routines to a "new normal" due to COVID or other pandemic disruptions.

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