



Preventing Delays in Care For Racial Minorities: Examining Referral Patterns in a Nail Specialty Clinic

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Introduction

In the US, it is commonplace for dermatology specialty clinics to require referrals for appointment scheduling. Similarly, health maintenance organization (HMO) insurance plans frequently require primary care physician (PCP) referrals prior to seeing dermatologists; however, effects of these policies on outcomes are underexplored [1]. Our objectives were to examine demographics, visit characteristics, and patient outcomes based on specialized nail clinic referral patterns.

Methods

Patient charts in the Weill Cornell nail clinic 09/29/21–04/29/22 were analyzed for referral, demographics, wait times, procedures performed, and diagnosis. Patients without referrals were excluded. Patients were grouped based on referral by:

1) dermatologist, 2) other physician, or 3) self-referral. T-tests, z-tests, and chi-square tests were performed, with $\alpha=0.05$.

Results and Discussion

Two hundred and twenty-nine nail patients seen for initial visit were analyzed, with average age 51.6 years (range: 1–89), 66.4% female, and 45.9% White. Overall, 59% of patients were dermatologist-referred, 15.3% by other physician, and 25.8% self-referred (Supplemental Figure 1).

There was no difference in average age, sex, or ethnicity and nail biopsy rate between referral groups. There was a larger proportion of White patients in the dermatologist-referred vs. self-referred groups (51.9% vs. 37.3%, $P = 0.02$) (Table 1). Nail condition incidence was similar between self-referred vs. dermatologist referrals ($P = 0.09–0.98$)

Overall, 30% of nail malignancies were diagnosed in self-referred patients. Nail malignancy incidence was

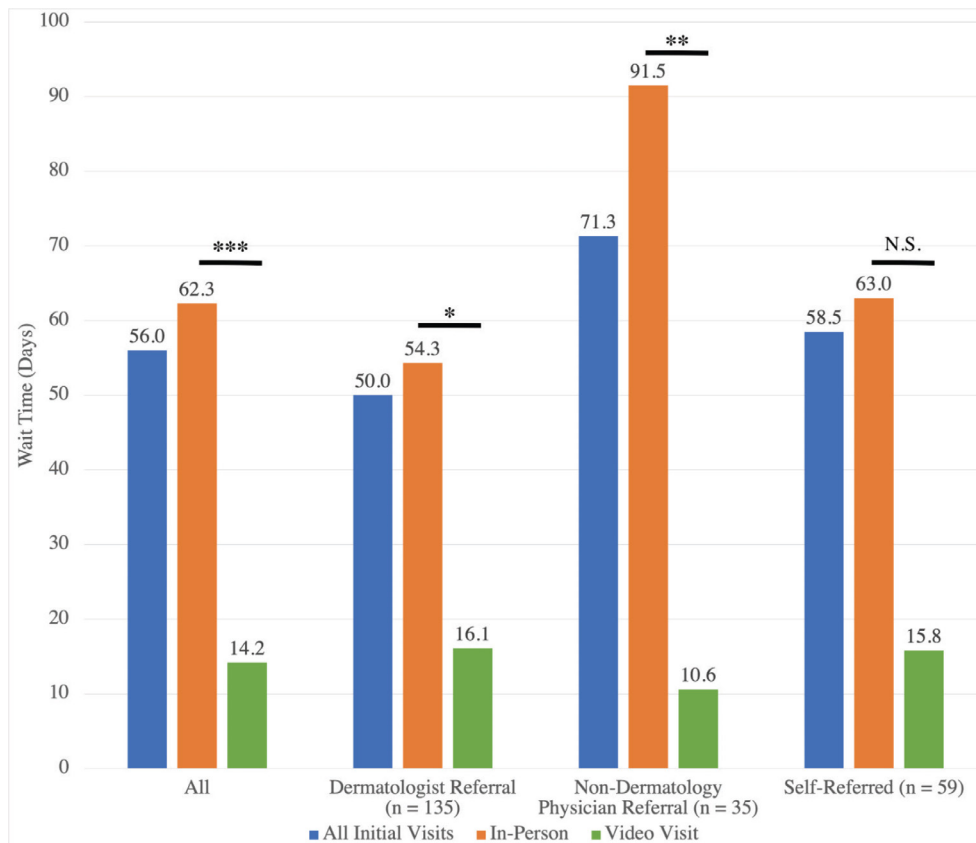


Figure 1. Visit wait times for these initial appointments. “All” category includes both video and in-person initial appointments combined. Significant differences denoted with asterisks (P value $< 0.05 = *$; $< 0.01 = **$, $< 0.001 = ***$).

similar in dermatologist-referred vs. other physician-referred and self-referred ($P = 0.17$ and 0.98 , respectively). Dermatologist-referred vs. non-dermatology physician-referred patients had shorter wait time for in-person appointments (54.3 vs. 91.5 days, $P = 0.01$). Wait times were consistently shorter for video (14.2 days) vs. in-person visits (62.3 days) ($P < 0.001$, Figure 1).

For a model requiring any physician referral, analysis of all patients referred by a physician (dermatologist, PCP, or other specialist) showed no difference on any parameter (demographics, outcomes, etc.) vs. self-referred patients (Supplemental Table 1).

Limitations of this study include single-center, retrospective design, and limited numbers of physician assistants and nurse practitioners to group.

Our study shows no differences in prevalence of testing, malignancies, or diagnoses between dermatologist-referred vs. self-referred, but dermatologist-referred patients were more often White and experienced shorter wait times. In 2 SEER studies, skin of color patients more often had advanced stage melanomas vs. Whites (1988-2011) [2] and worse outcomes and disease progression (1992–2009) [3]. Therefore, triaging patients based only on physician

referrals is not an adequate or effective system. In a retrospective study of 1,526 outpatient dermatology visits, 57% of referrals were deferrable conditions, and 36% of referrals were inappropriately triaged as urgent cases [4]. Telemedicine might be effective for triage but not for all nail patients nor for procedures, with up to 6-10 weeks shorter wait time in other specialties and a 38–88% reduction in need for a subsequent in-person appointment in dermatology [5]. We corroborate these studies, with an almost 7-week shorter wait time for a new patient telemedicine vs in-person visit.

Conclusion

In conclusion, patients referred by dermatologists were more often White and experienced shorter wait times, highlighting potential health care disparities in specialty clinics. Therefore, requiring referrals might represent significant barriers and delays in care that disparately affects minority populations.

Table 1. Demographic, Visit, and Outcomes Analysis

Patient/Visit Characteristics	All (n = 229)	Dermatology Referral (n = 135)	Other Physician ^a (n = 35)		Self-Referred ^b (n = 59)	
				P		P
Demographics						
Average Age (Years)	51.59	52.0	55.7	0.32	48.3	0.24
% Female	66.4%	65.2%	68.6%	0.70	67.8%	0.73
Race						
White	45.9%	51.9%	37.1%	0.07	37.3%	0.02
Black	4.8%	6.7%	2.9%		1.7%	
Asian	6.6%	8.1%	2.9%		5.1%	
Other/Declined	42.8%	33.3%	57.1%		55.9%	
Ethnicity						
Hispanic	5.2%	5.2%	8.6%	0.74	3.4%	0.36
Not Hispanic	52.0%	54.8%	51.4%		45.8%	
Other/Declined	42.8%	40.0%	40.0%		50.8%	
Visit Details						
Wait Time for Visit (Days)	56.0	50.01	71.3	0.09	58.5	0.41
For In-Person	62.3	54.3	91.5	0.01	63.0	0.43
For Video Visit	14.2	16.1	10.6	0.24	15.8	0.96
Time Since Condition Start	44.9	42.6	47.2	0.76	48.7	0.61
% Having Nail Clipping	44.5%	37.0%	57.1%	0.03	54.2%	0.03
% Having Nail Biopsy	17.0%	18.5%	11.4%	0.32	16.9%	0.79
Avg # Doctors Seen Prior	1.4	1.4	1.3	0.34	1.5	0.68
Avg # Dermatologist Seen Prior	1.0	1.3	0.2	<0.0001	1.1	0.25
Outcomes						
% Malignant	4.4%	5.2%	0%	0.17	5.1%	0.98
Final Diagnosis^c						
Benign melanonychia	15.7%	18.5%	14.3%	0.56	10.2%	0.14
Malignancy	4.4%	5.2%	0.0%	0.17	5.1%	0.98
Benign neoplasm of nail	7.0%	8.9%	0.0%	0.07	6.8%	0.62
Brittle nail	7.4%	8.1%	8.6%	0.94	5.1%	0.45
Chronic inflammatory condition	17.9%	20.0%	5.7%	0.046	20.3%	0.96
Fungal infection	17.9%	12.6%	31.4%	0.007	22.0%	0.09
Paronychia	3.5%	5.2%	0.0%	0.17	1.7%	0.26
Onychodystrophy-Related	24.9%	20.0%	37.1%	0.03	28.8%	0.18
Other/Unknown	1.3%	1.5%	2.9%	0.58	0.0%	0.35

^a Non-dermatology physicians includes: PCP, orthopedic surgeon, podiatrist, rheumatologist, etc.

^b Self-Referred includes: found on internet, word-of-mouth, family, or friends.

^c Malignancy: subungual SCC, melanoma. Benign neoplasm: glomus tumor, myxoid cyst, onychopapilloma, verruca, etc. Chronic inflammatory: nail lichen planus, psoriasis, eczema. Onychodystrophy-related: beau's lines, traumatic onychodystrophy/onycholysis/hematoma, onychomadesis, retronychia, onychotillomania.

*P-values represent comparison of non-dermatology physician referral group or self-referred group to the dermatology referral group. Bolded values indicate significance at a level of $\alpha = 0.05$.

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