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## Dermatology Online Journal

### Title

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### Permalink

<https://escholarship.org/uc/item/3mq7m0qv>

### Journal

Dermatology Online Journal, 30(3)

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### Publication Date

2024

### DOI

10.5070/D330363876

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Peer reviewed

# Patient satisfaction and outcomes within a free dermatology clinic implemented at an academic medical center

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*Keywords: access, barriers, dermatology, disparities, diversity, free clinic, health, healthcare, Medicaid, underserved, uninsured*

To the Editor:

In 2021, 8.3% of Americans lacked health insurance and 18.9% were insured by Medicaid, meaning that access to healthcare is severely limited for over one quarter of our population [1]. Access to specialty care is particularly difficult to obtain for both uninsured and Medicaid-insured individuals. Previous research has indicated that these underserved patients make up a smaller proportion of dermatology practice patients in comparison to their actual representation in the overall population [2]. Although addressing the underlying health care policy and societal factors that prevent individuals from obtaining health insurance is vital and of paramount priority, free health clinics serve a purpose in providing a safety net for those most in need. Unfortunately, there are a paucity of free dermatology clinics, with one survey identifying only 17 free clinics nationwide that offered dermatologic services [3]. When available, free dermatology care often does not encompass the full scope of dermatologic procedures, necessitating referrals to practices that may require payment [3]. Additionally, in counties with high rates of uninsured patients, there is a lack of dermatologists, which further limits access to care and worsens dermatology healthcare disparities [4].

Uninsured patients often present with more advanced dermatologic disease and experience poorer outcomes than insured patients [5]. The

Health Resource Center (HRC) at Saint Louis University School of Medicine is a student-run free clinic operating started in 1994 to provide free primary and specialty care to the uninsured and underinsured population in Street Louis. However, there were no ongoing established free/subsidized dermatology clinics in the Saint Louis area until a free dermatology clinic was established at the HRC in August 2021. This clinic is staffed by board-certified Saint Louis University Hospital academic dermatologists who work alongside medical students and residents monthly to provide free high-quality care to all patients with any general dermatology skin concern.

Other medical schools have implemented free dermatologic care to serve their communities and have primarily investigated patient demographics and disease characteristics [5-9]. There has been limited evaluation of patient outcomes and satisfaction with free dermatology care implemented by medical schools [10]. Through a series of three surveys, we set out to evaluate the impact the HRC Dermatology Clinic had on the patients it served in terms of improving access to dermatologic care, quality of treatment, patient satisfaction, and ability to address barriers to care.

Our study involved English speaking adult patients seen at the HRC Dermatology Clinic at 10 months

between August 2021 to May 2022. Patients were included in the study as long as one of the three surveys was completed. Survey 1 was a baseline survey, administered in the office after the patient completed the office visit with the physician. Patients were asked about the duration of their skin condition, if they had ever seen a dermatologist before, the self-rated severity of their skin condition on a three-point scale (mild, moderate, severe), self-rated negative effect on daily life on a four-point scale (no effect, mild, moderate, severe); further, multiple questions regarding satisfaction with the visit were included.

Survey 2 was conducted over the phone two weeks after the visit. This survey asked about medication acquisition and if patients experienced any barriers in obtaining their medication. For patients reporting a barrier to medication acquisition, the attending dermatologist was notified for additional recommendations and alternative medications were ordered when possible. If needed, the patient was offered a follow-up appointment to discuss alternative treatment options.

Survey 3 was given over the phone between weeks six to eight post-visit and re-evaluated medication acquisition, barriers in obtaining medication, self-rated severity of their skin condition on a three-point scale, self-rated negative effect on daily life on a four-point scale. Additionally, multiple questions were asked regarding satisfaction with their experience at the HRC Dermatology Clinic. Paired t-test was used to evaluate change in response to self-rated severity of skin condition and self-rated negative effect of skin condition on daily life in Survey 1 to Survey 3. A P value of <0.05 was considered significant. Chart review of the participants was completed to obtain demographic data, chief complaints, medication prescriptions, and diagnoses.

During the 10-month study period, 79 patient visits, consisting of 61 unique patients, were conducted at the HRC Dermatology Clinic. Forty-nine patients were eligible to participate and 47 patients participated in at least one survey. The average age of participants was 49 years. Seventy-two percent self-identified as female and 28% as male. The majority of participants (55%) identified as Black or

**Table 1.** Demographic information.

Demographic information (N=47)	
Average Age (years)	49
Sex	N (% respondents)
Male	13 (28)
Female	34 (72)
Ethnicity	
Black/African American	26 (55)
White (non-Hispanic)	9 (19)
Asian	5 (11)
Hispanic/Latino	4 (9)
American Indian/Alaskan Native	1 (2)
Other	2 (4)

African American (**Table 1**). Fifty-seven skin complaints were recorded for the 47 participants (**Table 2**). The most common reasons for seeking treatment were rash (28%) and full-body skin examination (15%). A total of 60 diagnoses were given with the most common being dermatitis (21%), (**Table 3**).

The response rate for survey one was 86%. More than half of respondents (56%) indicated that this was their first time ever seeing a dermatologist. Duration of condition was analysed for patients who received a diagnosis of an inflammatory skin condition including acne, eczema, post scabietic dermatitis, hidradenitis suppurativa, seborrheic dermatitis, and psoriasis. Of these patients, 79% reported that their skin condition had been present for more than one year. At the time of survey 1, 88% of participants responded that they were satisfied or very satisfied at the end of their visit. Furthermore, 95% reported that they would recommend the HRC Dermatology Clinic to a friend.

For both survey 2 and survey 3, the response rate was 59%. Of the respondents for survey 2, a total of 72% had been prescribed medications at their dermatology appointment. At the time of survey 2, only 48% of these patients were in possession of all the medications prescribed. Nineteen percent of participants had acquired some, but not all the prescribed medications; 33% of the participants had not acquired any of their prescribed medications. The most common reason for partial acquisition of medication was high medication cost (75%). Participants who did not acquire any of their prescribed medications also reported high cost as a

**Table 2.** Chief complaints and dermatologic diagnoses.

Chief Complaint	N (% respondents)
Rash	13 (28)
FBSE	7 (15)
Moles	5 (11)
Acne	4 (9)
Dry skin/dandruff	4 (9)
Psoriasis	3 (6)
Skin discoloration	3 (6)
Wart	3 (6)
Alopecia/hair loss	2 (4)
Eczema	2 (4)
Lesion	2 (4)
Nail complaint	2 (4)
Aging skin	1 (2)
Blisters	1 (2)
Itchiness	1 (2)
Pemphigus vulgaris	1 (2)
Rosacea	1 (2)
Skin nodule	1 (2)
Skin tags	1 (2)

FBSE, full body skin examination.

barrier, in addition to lack of time to go to the pharmacy and no longer needing or wanting the medication. Medications that participants were unable to acquire due to cost included ketoconazole 2% cream, benzoyl peroxide 5% wash, clindamycin 1% lotion, doxycycline hyclate 100mg, ketoconazole 2% shampoo, mupirocin ointment, spironolactone, tretinoin 0.05% cream, and azelaic acid gel 15%. For the 52% of patients who had not acquired all the medications prescribed to them, interventions were made after Survey 2 to assist in medication acquisition. Of patients who completed both Survey 2 and Survey 3, 50% of them had an increase in their medication acquisition at the time of Survey 3.

Survey 3 reassessed self-rated severity of disease and self-rated negative effect on daily life and a significant change was not found in comparison to Survey 1. Although the self-rated severity of disease and negative effect on daily life did not change, 90% of participants indicated they were satisfied or very satisfied with the care they received and 97% of participants affirmed that they had benefited from the HRC Dermatology Clinic.

The results of this study indicate the HRC Dermatology Clinic helps address a gap in the need for access to specialty dermatologic care for the

**Table 3.** Dermatologic diagnoses.

Dermatologic Diagnoses	N (% respondents)
Seborrheic dermatitis	9 (19)
Eczema	8 (17)
Acne	4 (9)
Onychomycosis	4 (9)
Psoriasis	4 (9)
Nevus	3 (6)
Seborrheic keratosis	3 (6)
Skin tags	3 (6)
Tinea pedis	3 (6)
Tinea versicolor	2 (4)
Vascular lesion	2 (4)
Wart(s)	2 (4)
Basal cell carcinoma	1 (2)
Formication	1 (2)
Hair loss	1 (2)
Hidradenitis suppurativa	1 (2)
Hyperpigmentation	1 (2)
Hypersensitivity reaction	1 (2)
Intertrigo	1 (2)
Nevus lipomatous superficialis	1 (2)
Pemphigus vulgaris	1 (2)
Pigmented purpuric dermatosis	1 (2)
Post scabietic dermatitis	1 (2)
Pruritus	1 (2)
Solar lentigines	1 (2)

historically underserved patients of the Street Louis region. To the best of our knowledge, it is the only free dermatology clinic in Missouri. The patients served at the HRC Dermatology Clinic are predominantly People Of Color. This correlates with the makeup of the uninsured population in the city of Street Louis, as Black residents are twice as likely to be uninsured as White residents [11]. By increasing access to dermatologic care for People Of Color, free clinics can help promote the American Academy of Dermatology’s mission to increase care to marginalized and minority populations [12]. Additionally, involving medical students and residents in caring for underserved patients early in their medical training may hopefully encourage them to continue to do so throughout their careers.

This study also assessed barriers to medication acquisition and employed interventions to overcome those barriers. To proactively assist with medication acquisition, every provider attempted cost-conscious prescribing and every patient who received a prescription was provided a universal GoodRx coupon at the time of their visit. Even with

these measures, the high cost of medication was reported as the greatest barrier to acquiring the prescribed medications. However, there was not one medication that participants had more trouble accessing than others. Instead, there was a vast array of prescriptions including topical antifungals and topical and oral antibiotics that were difficult to obtain. The most successful intervention for overcoming the cost barrier was prescribing an alternative medication. Despite cost of medications being a barrier that some patients faced, the HRC Dermatology Clinic was able to obtain highly expensive biologic medications for patients suffering from severe psoriasis and hidradenitis suppurativa. The attending dermatologists and medical student leads helped patients submit paperwork to financial assistance programs offered by pharmaceutical companies to obtain these biologic medications free of charge for the patient.

A significant change in the severity of disease and negative effect on daily life was not detected at the time of Survey 3. Assessment of a change in the severity of disease and negative effect on daily life was limited by the small sample size and the utilization of only a three-point and four-point rating scale, respectively. In addition, survey results included patients who only had benign skin lesions. Future studies would benefit from implementing a longer follow-up period and a broader rating scale to better detect change in disease severity for those with inflammatory skin conditions. Our study did find that participants continued to be highly satisfied and felt they benefitted from the care they received at the HRC Dermatology Clinic. It is important to consider that receiving two follow up phone calls may influence participants' perception of satisfaction. Overall, results indicate that the HRC Dermatology Clinic was able to provide patients with a positive healthcare experience.

Dermatology is the second-least diverse medical specialty, and it is a field to which medical students are exposed to least during their training [13,14]. A lack of diversity of dermatologists contributes to race discordance between patients and physicians which can impact patients' willingness to participate in

recommended interventions and lead to poor dermatologic outcomes [4,14]. One key intervention that can help improve the diversity of the field is to increase underrepresented in medicine (URiM) students' exposure to the field of dermatology while in medical school [15]. Free medical school-run dermatology clinics, such as the HRC Dermatology Clinic, improve URiM student exposure to dermatology early on in their medical education. This early interaction with dermatologic patients, residents, and attending physicians may help facilitate increased diversity in the field of dermatology [15].

Limitations of this study include a small sample size given the clinic was just getting established. Additionally, not every participant who completed Survey 1 was able to be reached on the phone to complete the follow-up surveys, despite calling three times for each survey. Despite its limitations, this study indicates that free dermatology clinics can provide invaluable care for those without access to dermatologic care, who otherwise may seek less effective and more expensive care in emergency rooms [16,17].

Moving forward, in order to expand access to care for underserved patient populations, greater financial support is needed. This can include reimbursements for equipment and supplies and incentives to providers to maintain safety-net care. Moreover, although free dermatology clinics are beneficial, it is of utmost importance to work towards increasing broader access to dermatologists. A crucial component of this effort is to increase the number of dermatologists who accept Medicaid-insured patients. Dermatology clinics have been shown to reject underinsured patients at a high rate, with a reported 32% of dermatologists accepting adult Medicaid-insured patients and only 19% of dermatologists accepting Medicaid-insured children [18-20]. A coordinated effort is needed to improve access to dermatologic care for all patients.

### Potential conflicts of interest

The authors declare no conflicts of interest.



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