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Descriptive Report

Establishing Dermatologic Care for the Homeless and Underserved at a Student-Run Clinic

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Abstract

Skin problems are the reason one-third of people experiencing homelessness seek medical care. These conditions are exacerbated by increased exposure to the sun and hazardous environments, malnutrition, physical injuries, and limited access to health care. This is a medically vulnerable population that does not have regular access to specialty care, such as dermatologic care. The objective of this pilot project was to increase access to dermatologic care in the homeless and underserved populations by integrating dermatologic specialists into a student-run clinic. Dermatologic screenings were held at a local student-run clinic monthly. Medical students and dermatologists screened patients for any dermatologic findings and educated patients on skin care and self-screening methods. Afterward, social work students referred patients to local dermatologists that best fit their needs. Patient demographics, skin findings, and qualitative patient responses were recorded. The majority of patients were interested in being screened, as many had never been evaluated by a dermatologist. Many felt the timing and location of the clinic was helpful in obtaining care. All patients successfully taught back skin cancer prevention methods. All skin findings were benign. This experience demonstrates that integrating dermatology specialists into an interprofessional, student-run clinic to provide dermatologic screenings and skin care education can be accomplished. Further studies will evaluate integrating monthly dermatology care at clinic as well as piloting the integration of other medical specialties into the clinic, such as ophthalmology.

Introduction

Skin problems are the reason one-third of people experiencing homelessness seek medical attention.[1,2] The risk of arthropod-borne diseases (bites from mosquitoes, ticks, bedbugs) and methicillin-resistant Staphylococcus aureus (MRSA) dermatologic infections are higher in homeless populations.[3,4] These conditions are exacerbated by increased exposure to the sun and hazardous environments, malnutrition, physical injuries, and limited access to healthcare. There are limited studies regarding acute skin care needs in the underserved population. The homeless and underserved are medically vulnerable populations that do not have access to screenings by dermatologists, making them ideal targets for a community intervention.[5]

In addition to acute skin care needs, homeless and underserved patients are at risk of developing skin cancer, likely from increased exposure to the sun due to insecure housing.[5,6] Skin cancer is one of the few types of cancer that continues to rise at profound rates in the United States. Melanoma alone accounts for more than 5% of new cancer cases each year.[7] One study found that less than one-fourth of homeless patients had received a dermatologic screen over their lifetime.[8] Prevention and early diagnosis by patient education and regular screening can lead to decreased morbidity and mortality for all types of skin cancer.[9] Given the increased risk of cancer and low screening rates, the need for intervention is high.

Free clinics care for a substantial number of the nation's homeless and underserved population.[10] Many of these clinics excel in managing

common chronic diseases but lack subspecialty care for patients, such as dermatology.[11] Since free clinics often see patients longitudinally, they are an ideal location for intervention to allow for continuity of care.

The objective of this pilot project was to increase access to dermatologic care in this population by integrating dermatologic specialists into a student-run free clinic to provide skin cancer screenings, patient education on skin cancer prevention methods, and treatment or referral of patients with dermatologic needs.

The CD Doyle Clinic

Screenings were held at CD Doyle Clinic (CDD), Dell Medical School's student-run free clinic in Austin, Texas. The clinic operates on Sunday afternoons out of St. David's Church gymnasium and provides over 900 no-cost primary care visits per year for the uninsured and underinsured. CDD provides urgent care, full primary care, and care coordination. An estimated 80% of the patient population is homeless and stay near the clinic. Student volunteers are undergraduate, nursing, pharmacy, social work, and medical students from local universities in Austin, Texas. There are one or two volunteer attendings present at each clinic that are usually family medicine or internal medicine physicians.

Establishing the Dermatology Clinic

A dermatology attending was first recruited to aid in the establishment of the pilot program. Dermatology residents and faculty at The University of Texas at Austin Dell Medical School were then contacted by students and the attending and asked to participate in the student-run free clinic. Additionally, they were asked to select a date to volunteer via SignUpGenius, an online tool for volunteer coordination and event planning. Before screenings began, validated skin cancer prevention methods and self-screening technique materials from the American Academy of Dermatology were gathered to distribute to patients and to help educate.[12] Local lidocaine, scalpels, and curettes were provided by the residents' clinic. Residents brought their own dermatoscopes to each screening. Over-the-counter medications and materials, as well as wound care supplies, were provided by the clinic through donations. For each clinic at which screenings were performed, medical students were in attendance for 2-3 hours, and the dermatology resident or attending was present for 1-2 hours. This was in addition to the normal staffing of clinic.

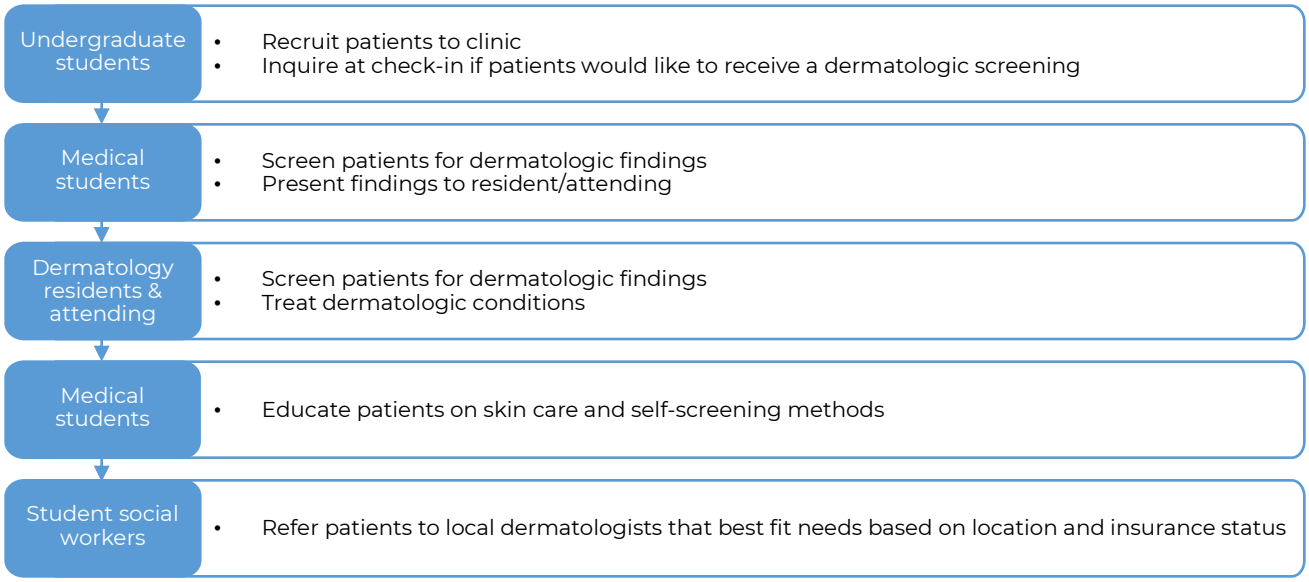
Workflow

One hour prior to the opening of clinic, flyers were handed out around downtown Austin, as well as at the Austin Resource Center for the Homeless (ARCH). The flyers contained ads for patient care at CDD–one for general medical care that is usually distributed before clinic and an additional flyer specifically advertising dermatologic care as a recruitment strategy. At CDD, it has been demonstrated that using flyers as a reminder for clinic has led to an increase in the number of patients seen.

All patients at clinic were first seen by an undergraduate student for intake and vitals. During this visit, the students assessed patient interest in seeing a dermatologist for a screening or any other dermatologic needs. The undergraduate students were CDD volunteers recruited from local universities. They received training at the beginning of the year on how to obtain vitals and obtain a patient's history. For this project, they added the question "would you be interested in receiving a skin examination from the dermatologists here today?" Interested patients then saw a third-year medical student who guided the patients to a private room to perform a partial skin cancer screening and assess any skin concerns. The medical student then presented the patient to the dermatology resident before seeing the patient together to address their concerns. At this time, a more in-depth skin examination was done to the level of patient comfort. A full skin examination was offered along with an explanation for why a full skin examination was the best option to completely screen for skin cancer. However, if a patient requested to keep certain items of clothing on, this was respected.

After seeing the resident, the medical student educated patients on skin cancer prevention methods. This was taught to the medical students in a meeting prior to clinic by the derma-

Figure 1. Clinic workflow by professional role



tology attending. The patients were then asked to perform a "teach back" of their understanding of these methods to the medical student. The skin cancer prevention methods included knowledge on how to perform a self-examination for skin cancer, including how to assess the full body front and back including the back of the neck and buttocks with the assistance of a mirror as well as their feet soles and toes. Patients were also taught components that made these lesions suspicious including asymmetry, irregular border, color variation, a diameter over 6 mm, lesions that have evolved over time, and bleeding or non-healing lesions. Patients were then asked, "could you please repeat back to me the skin cancer prevention methods to ensure I explained it correctly?" The teach back was considered satisfactory if the patient could repeat the areas of the body to screen for skin cancer and the components of a suspicious skin lesion. If the patient had any difficulty explaining the methods, the topic of misunderstanding was clarified and sometimes explained in another way. This was done until patients could adequately provide a teach back consisting of all areas of the body that should be self-examined, as well as the majority of the components making up a suspicious lesion.

Benign conditions were immediately cared for in clinic. If a patient required prescriptions, the general medicine attending prescribed medication based on recommendations by the dermatology resident and after assessing the patient themselves. Any patient with suspicious findings or those who required a further workup were referred to a local dermatologist. Of note, the resident community dermatology clinic made an arrangement with CDD to accept each patient for one follow-up visit if needed free of charge, regardless of insurance status. The dermatology resident volunteering in clinic assured that the patient was seen in follow-up. The student social workers were already familiar with clinic options for patients; however, they were given additional information regarding the dermatology schedule at the other community clinics so that they could refer appropriately. Bus passes purchased by CDD from The Capital Metropolitan Transportation Authority were given if needed for transportation to the appointment. Lastly, if patients had additional concerns not related to skin, they were then handed off to the general medicine attending at clinic that day. The dermatologic findings and plan were communicated at that time.

Figure 1 demonstrates the workflow by profession. Patient sex, ethnicity, age, skin findings, and any referrals were recorded at each visit. Additionally, any qualitative patient responses to dermatologists in the clinic were recorded.

Table 1. Patient demographics and dermatologic findings

Demographics and Findings	**N = 15**
Age, median years (IQR)	49 (39-56)
Female, n (%)	5 (33.3)
Race/Ethnicity, n (%)	
White	8 (53.3)
Black	3 (20.0)
Hispanic	4 (26.7)
Dermatologic findings*, n	
Actinic keratosis	1
Benign nevi	3
Congenital melanocytic nevus	1
Ecthyma	1
Eczema	1
Epidermal inclusion cyst†	1
Hirsutism	1
Keratosis pilaris	1
Nevus spilus	1
Paronychia	1
Post-inflammatory hyperpigmentation	1
Seborrheic keratosis	1
Staphylococcus aureus abscess	1
Stasis dermatitis	1
Tinea pedis	1

**Patients may have multiple findings*
†Patient had a return visit at CD Doyle Clinic for cyst drainage and was referred to a local dermatologist for follow-up
IQR: interquartile range

Results

Overall, there were four dermatologic clinics held across a four-month timespan as a pilot. More than 75% of all patients seen at CDD on these days elected to receive a skin screening and education. The majority were interested in being seen for general dermatology concerns rather than concern for skin cancer or suspicious lesions. Patient demographics and dermatologic findings are shown in Table 1. One patient was referred to dermatology for follow-up after the incision and drainage of an epidermal inclusion cyst. The patient was able to be seen in clinic two days later with the dermatology resident who performed the initial procedure. All patients provided a teach back for skin cancer prevention methods on the first try.

Multiple patients remarked that they had never been to a dermatologist before and were eager to be seen by one. Several also stated how helpful it was to have access to dermatologists at this location and time, as the community clinic in town, which offered services one half day per week, was usually booked months in advance and required several buses to get there. One patient noted that he could not attend appointments during the week as his job did not allow him absences. He found Sunday afternoons to be a beneficial time. Having skin concerns addressed and receiving reassurance that the findings were benign brought patients great relief. Many had minimal understanding of their skin findings and were concerned about cancer. Several others were content that their basic skin care needs were met. The patient who had the epidermal inclusion cyst removed reported immense physical relief after it was removed and later reported increased quality of life, as he had not been able to lie on his back to sleep for several months prior. Regarding level of comfort with screening, all patients were okay with removing shoes and socks, half were okay with removing their shirt, and all preferred to keep their pants on. All patients were comfortable with pulling up the pant leg or pulling up the shirt to assess the back.

Discussion

Establishing routine dermatologic care in a student-run clinic is important for improving comprehensive patient care to homeless and underserved patients. Interprofessional collaboration can also play a critical role in providing care to this population. This experience demonstrates that dermatologic screenings, interventions, and skin cancer prevention education can be accomplished in a student-run clinic with all professions working collaboratively.

CDD was an ideal location for this pilot. This clinic is well-established in terms of its location, operations, resources, and patient population. Additionally, this clinic's association with Dell Medical School made it easier to recruit resident dermatologists to volunteer at each clinic. Although residents at all levels of training were approached, the residents who volunteered were

senior residents who were passionate about caring for homeless and underserved populations and worked seamlessly alongside the general medicine attending. Having residents attend clinic regularly also allowed for continuity of care. Patients could return to clinic the following week if they had persistent concerns or needed follow-up, and continuity has been shown to lead to better patient outcomes.[13]

Dermatology was the specialty of choice for integration into clinic during the pilot since the clinic sees a significant proportion of dermatology-related concerns (addressed in nearly one-third of all visits). While some patients seen at clinic have a primary care doctor, most of them wait months to see any sort of specialist. Although full-body skin examinations can be performed by primary care physicians, it is not usually part of general examination performed by non-dermatology providers.[14] Prior to this pilot at CDD, the primary care providers were addressing dermatologic complaints if the patient brought them up, but dermatologic screenings were not performed. The primary care providers also did not feel comfortable treating epidermal inclusion cysts. These patients were being referred to dermatology clinics for with long waits and little oversight regarding patient follow-up.

This pilot experienced several challenges, some of which have been addressed already. First, it was more difficult than expected to get residents to sign up to volunteer at clinic. Twenty percent of the residents volunteered and each of them attended more than one clinic. Also, an attending volunteered more than one clinic. This was an acceptable number for the small pilot that was performed but may lead to scaling issues in the future. To increase participation, perhaps residents could receive credit for volunteering at CDD. For instance, two hours of volunteering could translate to two hours of time off from clinic during the week. It is also possible that a "volunteer block", equivalent to a 2-week work period (80 hours) could be implemented in the residency curriculum. This would allow residents to accumulate 80 hours of volunteering over their free time while in residency and would be treated as a 2-week elective. If this is not possible, we have considered creating a "resident volunteerism award" to acknowledge those that are contributing their time.

We asked the residents who did volunteer for feedback and they stated an appreciation for the autonomy to manage a patient on their own and follow-up with them in clinic. In the future, we plan to advertise and highlight the resident autonomy and opportunity for continued care. Residents also expressed satisfaction in being able to do minor procedures, such as excising an epidermal inclusion cyst. The pilot allowed us to ascertain that it would be best to have supplies present for performing routine dermatologic procedures. The residents had to bring their own dermatoscopes as well as local lidocaine, scalpels, and curettes to use at CDD. In the future, a key aspect of providing the best dermatologic care will be to provide these supplies at clinic, in addition to other supplies such as liquid nitrogen and biopsy tools, so that residents can easily provide care without having to make extra trips or borrow equipment.

One limitation to our pilot is that the evidence of its impact is anecdotal. It may have been more helpful to systematically assess patient views on the importance of skin cancer screening both before and after screening and education were performed. These tools may have provided a stronger level of evidence in regard to the perceived success of the program by patients. Another limitation is the lack of medical student evaluation of increase in knowledge base before and after screening and educating patients. This may have provided an additional educational benefit to the pilot.

Next steps include implementing the routine integration of dermatology screenings into the student-run clinics once a month. With approximately 9 dermatology residents in Austin, Texas, this would mean volunteering their services once or twice a year. In addition to incentivizing residents to volunteer consistently at CDD, this plan will also require a greater focus on marketing of clinic dates to patients ahead of time so that patients can expect a dermatologist on certain days and plan accordingly. With an increased number of patients, the hope is to obtain a better understanding of specific dermatologic needs in this population.

This project has also opened up the possibility of integrating other specialty care into the clinic. An ophthalmology specialty care pilot is currently being developed based on patient needs at CDD. The goal is to eventually have rotating specialists for each weekend of the month (dermatology first weekend, ophthalmology second weekend, etc.) to provide more complete patient care at clinic and to help patients remember on which dates they can expect certain specialists to be present.

It is hoped that other students might use this pilot as a guide for incorporating specialty care into their own student-run clinics. The strategy and methods used can serve as a starting point and the challenges faced in this pilot can hopefully be avoided for other clinics. All patients deserve to receive the best, most comprehensive care available, and incorporating specialty care into student-run free clinics is a great start to improving the health of homeless and underserved populations.

Disclosures

The authors have no conflicts of interest to disclose.

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