

Title: Removing Barriers to Dermatologic Care of the Uninsured

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Abstract:

Purpose: Uninsured patients have restricted access to healthcare, including dermatology care. The incidence of nonmelanoma skin cancer (NMSC) in this population is not definitively known, yet multiple studies have shown a higher incidence than the general U.S. population. Through this grant, our goal was to increase access to dermatologic care for this population by increasing screening and diagnostic capacity.

Scope: Uninsured Americans make up 10.4% of the population. The 50-64-year-old age range is the most vulnerable to NMSC because they do not qualify for Medicare and have had more time to accumulate sun damage. The Lubbock Impact Free Clinic has served the uninsured population of Lubbock County since 2009. We provide dermatologic care once a month. The incidence of NMSC in our population is greater than that of the general U.S. population based on a 2014-2015 chart review.

Methods: We performed a retrospective chart review from July 1, 2016 through December 31, 2017 to calculate differences in quantity of care provided before and after we started using grant-funded equipment.

Results: The incidence of NMSC during this time period was 4%. We were able to increase the number of procedures by 51% and the number of patients we treated by 67%. We found that before our grant we were able to diagnose 0.95 NMSCs per month versus 1.47 after the grant. We were able to perform 2.76 skin procedures per month before the grant versus 4.05 procedures per month after the grant.

Key Words: uninsured, skin cancer, incidence

Purpose:

While there is a significant amount of data explaining health disparities, there is a lack of data specifically concerning dermatologic health disparities.¹ We know that uninsured and homeless patients are less likely to have access to routine and dermatologic health care.² Our goal was to collect data on the incidence of nonmelanoma skin cancer (NMSC) in the uninsured population to illustrate the effects that restricted access to care has on our patient population. This helped us understand the risks these patients face, which helped highlight the need for routine skin examinations and preventative measures in our target population so we can better care for them in the future.

Through this project, we aimed to work to increase access to dermatologic care in our underserved population. Our patients received free skin cancer education, screening, and treatment. With the benefit of more equipment, we performed more skin cancer surgery in a more timely fashion.

Scope:

Thirty-three million Americans, or 10.4% of the population, were without health insurance in 2014.¹ These patients, as well as Medicaid patients, are much less likely to visit a dermatologist's office. Resneck et al. found that uninsured and Medicaid patients represented 27% of the population at the time of their study, yet this group made up only 5% of patients in the surveyed dermatology practices.² Not only is this vulnerable

patient population less likely to seek dermatological care, they also have a higher incidence of NMSC. Grossberg et al. and Wild et al. found that the NMSC rate in homeless populations ranged from 10.9% to 20.9%.^{3,4} While the NMSC rate in homeless patients has been studied, we wanted to investigate the incidence of NMSC in patients who are uninsured.

The Free Clinic hosted by Lubbock Impact is a nonprofit community clinic that provides free medical and dermatologic care to the uninsured population of Lubbock since 2009. After conducting a retrospective chart review of all patients seen at The Free Clinic from July 1, 2014 through June 30, 2015, we found that the population had a higher incidence of NMSC (1.4%), particularly in the 50-64-year-old age range (2.8%), than the general population (0.65% in 2006⁵ and 1.05% in 2012⁶). The 50-64 age group is particularly vulnerable as they do not yet qualify for Medicare, leading to a lack of routine health care, yet due to their age, have had increased opportunity to accumulate sun exposure. We will again evaluate the incidence of NMSC in the uninsured population to better understand the effects that their barriers to health care have on their health while also providing them with dermatologic education and treatment. Through the grant, we were awarded \$9,383.49 in funding used to obtain medical supplies and pay pathology lab processing fees that assisted us in diagnosing and treating NMSC in this vulnerable patient population.

Participants in this project include: Texas Dermatological Society: Cloyce L. Stetson, MD, President; Laura Madole, Executive Director

The Free Clinic: Fiona Prabhu, MD, Medical Director

Dermatologists providing care at the Free Clinic: Ashley Sturgeon, MD, Michelle Tarbox, MD.

Assisted help from Texas Tech University Health Science Center School of Medicine
Lubbock

The grant went into effect on July 1, 2016 to purchase supplies and medications needed for the dermatology night. From July 1, 2016 through December 31, 2017, we calculated the NMSC incidence to be 4%. The total number of NMSCs found at The Free Clinic since the inception of dermatology night in 2012 was 67 cases. However, 28 of those were diagnosed and treated during the tenure of the grant.

Methods:

An IRB approved retrospective chart analysis was performed on patients seen at the Free Clinic from July 1, 2016 through December 31, 2017. Patient charts were reviewed for the gender, age, income level, and ethnicity, and the data was recorded. Patients were assigned a number, and the data was listed under the patient number. The total number of patients presenting during this time period was recorded. Multiple visits from the same patient were not included in the patient total. No other patient health information was recorded. A list of all biopsies sent from The Free Clinic was obtained by looking for dermatology pathology charges to Lubbock Impact Clinic. All pathology reports from biopsies sent to Texas Tech University Health Science Center Department

of Dermatology through The Free Clinic from July 1, 2016 through December 31, 2017 were obtained from our electronic medical records. The study investigators reviewed the pathology reports and recorded only the type and number of skin cancers, age, race, and ethnicity. Statistical analysis was performed on the collected data.

Results:

On June 1, 2016, The Free Clinic started using our grant-funded equipment for the diagnosis and treatment of skin cancer in our uninsured population. The average age of all patients receiving a skin procedure was 49. Sixty-seven percent of all patients that received a skin procedure were female, and 33% were male. The self-reported races of the patients that received a skin procedure were 8% Black, 16% Hispanic, and 76% White. The annual household incomes of patients receiving a biopsy were as follows; 30% between \$0-\$499, 12% between \$500-\$4999, 8% between \$5000-\$9999, 18% between \$10,000- \$19,999, 28% between \$20,000-\$29,999, 1% between \$30,000-\$39,999, and 3% above \$40,000.

Methods of biopsy and treatment include shave, punch, ED&C, and excision. The total number of these procedures performed before the grant was 113 and after the grant was 77. This averages out to 2.76 procedures/month before the grant and 4.05 procedures/month after. From June 1, 2016 to December 31, 2017, we performed 77 biopsies on 45 patients. Diagnoses included 11 Squamous Cell Carcinomas (SCC) and 17 Basal Cell Carcinomas (BCC). In comparison, during a defined time period before

receiving the grant (December 1, 2014- May 31, 2016), we performed 51 biopsies on 27 patients. Diagnoses included 6 SCCs and 17 BCCs. With the grant-funded supplies, we were able to increase the number of procedures by 51% and increase the number of patients we treated by 67%. We found that the average time between the initial diagnosis of skin cancer and clear surgical margins prior to the grant was 25 days. In contrast, after the grant, there was an average delay of only 8 days. The incidence of NMSC discovered and treated at The Free Clinic during the grant funding time was 4%. In comparison, a previously calculated incidence for NMSC at The Free Clinic during 2015, a non-grant funded time period, was 1.4%. We found that, before our grant, we were able to diagnose 0.95 NMSCs per month versus 1.47 after the grant.

These results highlight the increased incidence and risk of NMSC in the Lubbock County uninsured population. Providing the funding for biopsies, treatment, and pathology allowed us to expand the number of cancers we were able to diagnose and treat. We have seen more dermatology patients, performed more biopsies on suspicious lesions, and diagnosed and treated more NMSCs. As our patient base expands and knowledge about the services we provide spreads, we expect more patients to take advantage of the dermatology services provided at The Free Clinic. The education we provide allows patients to understand the significance of skin cancer screening, especially in their vulnerable state of no insurance, and will hopefully allow us to detect skin cancer in earlier stages before spreading and becoming locally destructive. The funding we have received will allow us to continue diagnosing and treating skin cancer and will broaden our reach into the Lubbock community.

List of Publications

Sturgeon, A., et al., Incidence of Non-Melanoma Skin Cancer in the Uninsured. *J Health Care Poor Underserved*, 2017. 28(4): p. 1327-1332.

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