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**A Prospective Analysis of Sources of Referral to a Student Run Free Clinic in Camden, NJ**

# A Prospective Analysis of Sources of Referral to a Student Run Free Clinic in Camden, NJ

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## ABSTRACT

**Background:** A center for learning and a haven for minority, marginalized, and medically indigent patients, the student run free clinic (SRFC) has emerged as a cornerstone of care at many academic medical centers (AMC). However, little is known regarding the demographics of patients who utilize SRFC and the manner in which they come to know of the free and quality care available at SRFC .

**Methods:** Participants were administered a survey wherein they were asked their ethnicity, how they came to know of the clinic, and how long they have remained a patient at the Cooper Rowan Clinic (CRC) – the SRFC of Cooper Medical School in Camden, NJ.

**Results:** One hundred and seventy-five patients participated in this survey of which 77% identified as Hispanic, 16% identified as African American, 6% identified as white, and 1% identified as Asian.

Participants came to know of the clinic predominantly by word of mouth (64%). Other sources of referral included discharges from the AMC's university hospital (10%), AMC outpatient specialists (9%), the AMC emergency department (8%), the local cancer screening initiative (6%), and an AMC under-insured program (3%). A majority of patients (57%) reported being patients of the clinic for >1 year, while 43% reported being patients for year.

**Conclusions:** This data suggests that the predominantly Hispanic population of the CRC came to know of it via word of mouth and remained patients upon initiating care.

**Keywords:** Student run clinic, Demographics, Sources of referral, Recruitment

## INTRODUCTION :

A center for learning and a haven for minority, marginalized, and medically indigent patients seeking medical care, the student run clinic has emerged as the cornerstone of care at many academic medical centers. In 2014, it was estimated that 52% of allopathic medical schools had at least one student run clinic

; with the opening of new medical schools and the growing popularity of student run clinics, one can expect that number to continue to rise<sup>1</sup>. Studies have demonstrated that participation in the student run clinic results in improved medical interviewing and diagnostic skills, while allowing students to hone less teachable skills such as interpersonal communication and leadership<sup>1</sup>. Student run free clinics help medical students develop and maintain empathy as well as shape attitudes towards care of the underserved.<sup>2-4</sup> Additionally, student run free clinics serve as an important platform for IPE within the academic medical center.<sup>5-8</sup>

Besides the utility of student run clinics as an important component of undergraduate medical education, previous studies described below also suggest the ability of student run clinics to deliver quality care that is economically sustainable. At Mount Sinai's free student run clinic for mental health services (EHHOP), researchers were able to demonstrate that patients seen by the student run clinic statistically performed better on many validated measures of quality [using the healthcare effectiveness data and information set (HEDIS) measures of quality], including appropriate number of physician contacts and acute phase and continuous phase pharmacologic treatment of depression in comparison to privately insured patients<sup>9</sup>. Hua et al. 2015 sought to quantify the economic impact of a student run podiatric clinic, and found that students provided \$17,332 worth of care to underserved populations in just 15 days<sup>10</sup>. Likewise, Trumbo et al. 2018 demonstrated that student medical clinics were able to reduce hospital admissions, although this effect did not extend to emergency department visits<sup>11</sup>. In Thakkar et al. 2019, meanwhile, average ED utilization decreased by 0.39 visits per patient per year after enrollment in a student-run clinic.<sup>12</sup>

While these studies provide compelling evidence for the utility of student run clinics in medical education and as measures of economically sustainable care, several questions remain unanswered that are necessary for the incorporation of student run clinics as viable centers for healthcare delivery in all academic medical centers. Namely, the primary sources of referral to student run clinics remain unknown. If student run clinics are to serve as fixtures of an academic medical center's strategy to care for underserved, chronically ill patients, the most effective methods to recruit patients to seek care at student run clinics must be elucidated.

This study seeks to address this question as it pertains to our clinic via analyzing the sources of referral to the Cooper Rowan Clinic (CRC), the free medical student run clinic of Cooper Medical School of Rowan University (CMSRU) which has been in operation for over five years.

## **METHODS:**

In order to answer our study question, a questionnaire was administered to participants asking them to identify their demographic characteristics, how they came to know of the CRC, and length of care at the

CRC. When prompted to identify how they came to know of the CRC, participants were asked to select from one of six known sources of referral: the Cooper Univ. Hospital (AMC) Emergency Department, Cooper Univ. Hospital (AMC) following an inpatient stay, an outpatient Cooper Univ. Hospital (AMC) specialist, the local MD Anderson Cancer Screening Program, the Urban Health Institute (an AMC under-insured program), or word of mouth from a community member. Patients were also given the option of choosing “other” if they came to know of the CRC through other means. When prompted to identify length of care at the CRC, patients were asked to select from either length of care less than or greater than one year. This study was approved by the IRB as a quality and performance improvement project.

The questionnaire was administered by trained front desk volunteers during patient intake for an office visit in either English or Spanish based on patient preference (Figure 1). Patients who were illiterate were excluded from the study. Data collection occurred from the period of March 2019 to November 2019. Only questionnaires which were completed in their entirety were included in the data analysis. Only one response was allowed per participant; this was ensured via removing data entries when a patient’s name and corresponding address was listed more than one time. A chi-square analysis was conducted to identify group differences in the categorical variables measured.

## **RESULTS:**

At the end of the collection period, 205 questionnaires were collected of which 30 were excluded due to an incomplete response in one or more question fields. 175 questionnaires were completed in their entirety by participants and were selected for further analysis. Of those who participated, 77% identified as Hispanic, 16% identified as African American, 6% identified as white, and 1% identified as Asian (Figure 2). Sources of referral to the clinic included word of mouth (64%), Cooper Univ. Hospital (AMC) (10%), Cooper Univ. (AMC) Specialist (9%), Cooper (AMC) ED (8%), the local cancer screening initiative (6%), and UHI (AMC under-insured program) (3%). Significant differences were found among sources of referral ( $p < 0.05$ ) (Figure 3). Most patients who attended the clinic reported being patients for over one year (57%), while only 43% reported being patients of the clinic for less than one year (Figure 4).

## **DISCUSSION :**

An integral part of medical education and a source of healthcare delivery for underserved populations, student run clinics have taken on a crucial role at academic medical centers. As such, understanding the most effective method of recruiting patients for student run clinics is central to its ability to achieve the aforementioned goals. Our study looked to understand sources of referral to our student clinic, the Cooper

## Rowan Clinic.

In analyzing the results of this study, it is important to note that the CRC is located in Camden, NJ and serves a diverse population of patients, many of whom are undocumented immigrants or are medically indigent. This patient population is analogous to those seen in numerous SRFCs located in urban and coastal cities. By an overwhelming majority, our student clinic patients stated they came to know of and make an appointment at the CRC through a referral from a pre-existing patient of the clinic who was a friend or relative. It is notable that the prevalence of English as a second (rather than primary) language in our predominantly Hispanic population may contribute to the reason why word of mouth is the most popular medium by which prospective patients come to learn of the CRC. It is also important to note that federally qualified health centers such as Camcare also operate in Camden, NJ and serve the same population of patients who might otherwise have sought care at the CRC. A potential limitation of this study is that participants were asked to select one source of referral to the CRC; if participants came to know of the CRC through multiple sources, this information may not have been captured. Additionally, the exclusion of illiterate patients may also have limited this study.

Despite these limitations, this study provides evidence that the most effective method to recruit patients to our student run clinic in Camden, NJ is via providing high quality care and encouraging patients to share their experiences of the care they have received. Strategies to increase sharing may include providing patients with clinic pamphlets to distribute to interested relatives or friends, or placement of flyers at prominent locations in community gathering areas. The distribution of similar surveys at other SRFCs nationwide may be used to determine the most effective method of recruitment in their local area and initiate targeted responses to increase patient volume.

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Cooper Rowan Clinic (CRC) Survey

Date: \_\_\_\_\_

Name: \_\_\_\_\_

Age: \_\_\_\_\_

Location:

Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip code: \_\_\_\_\_

Please specify your ethnicity:

- White
- Hispanic or Latino
- African American
- Asian/Pacific Islander
- Native American or American Indian
- Other: \_\_\_\_\_

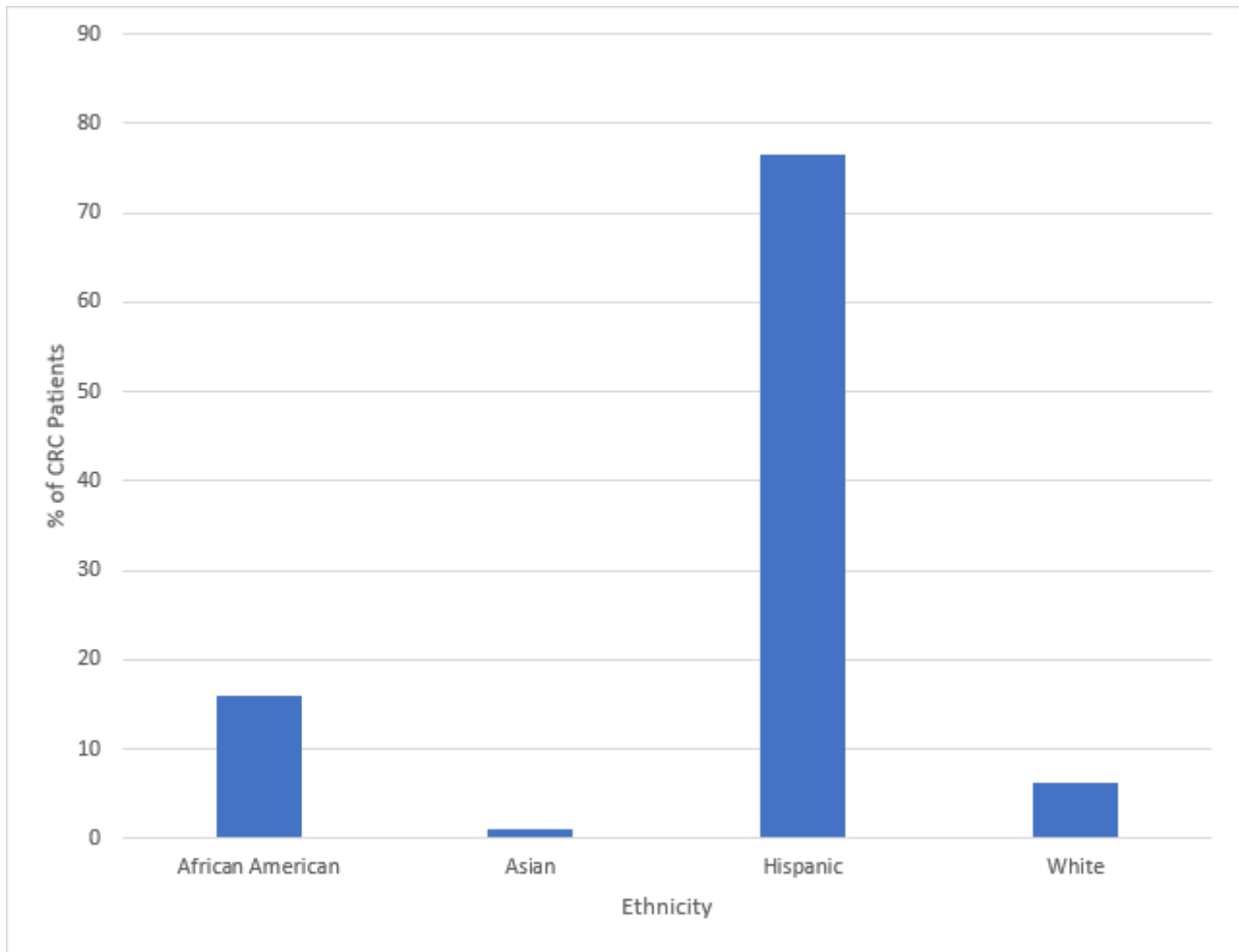
How did you find out about the Cooper Rowan Clinic (CRC)? Who referred you? Please select one of the below:

- Emergency Department
- Cooper Univ. Hospital [I was advised to follow-up here after I was hospitalized]
- Cooper Univ. Specialist [I was advised to follow-up here after seeing a visiting doctor's office for a specific complaint (ex. Family medicine doctor, Cardiologist, etc.)]
- MD Anderson Cancer Screening Program
- Urban Health Institute (UHI) [3 Cooper Plaza, Suite 215]
- Word of Mouth (From friends, family, co-workers, etc. who have used this clinic)
- Other: \_\_\_\_\_

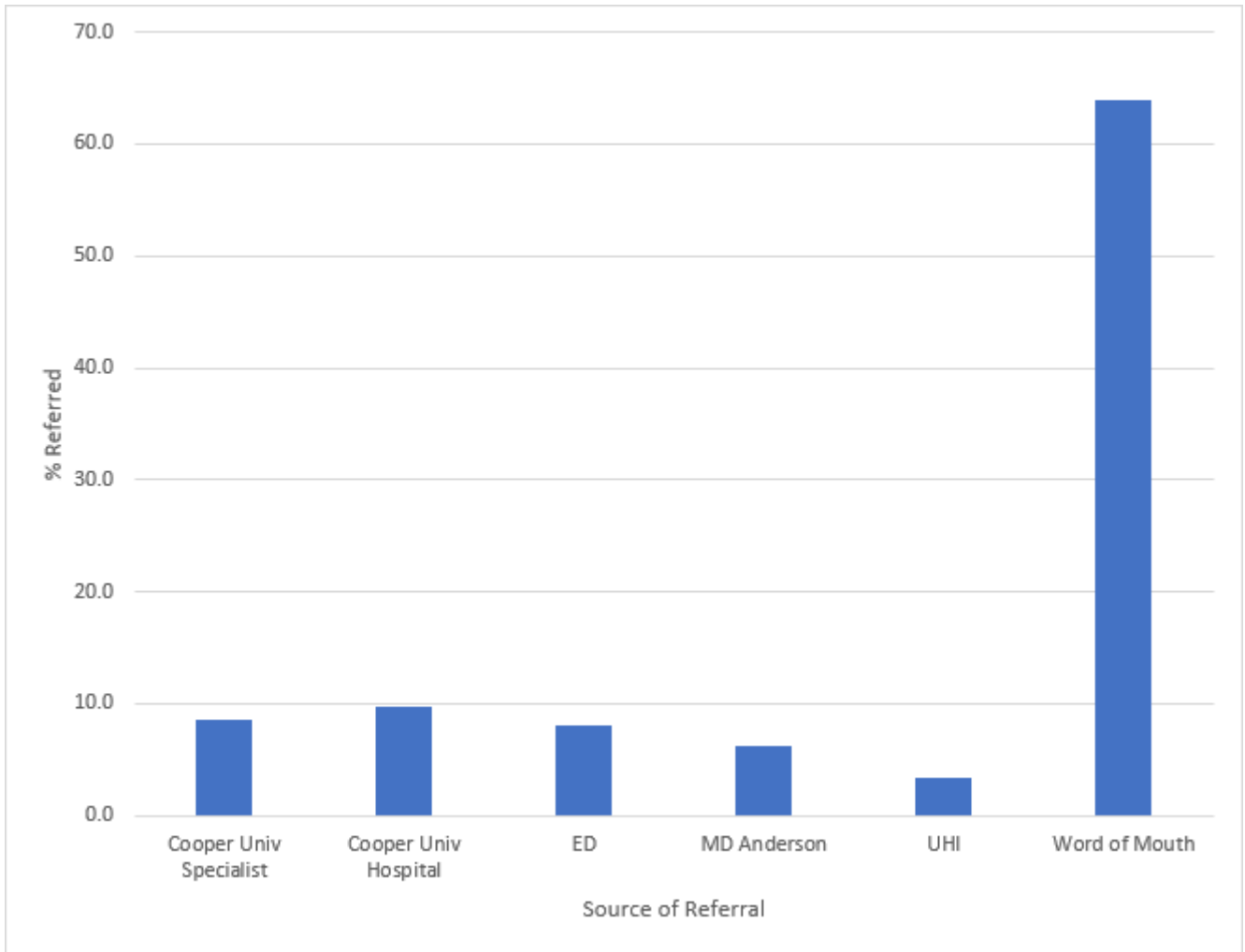
Is this your first visit at Cooper Rowan Clinic (CRC)?

- Yes (I am at the Cooper Rowan Clinic for the first time)
- No
  - o If No:
    - How long have you been a patient of the Cooper Rowan Clinic (CRC)?
      - Less than 1 Year
      - More than 1 Year
        - o Please specify: \_\_\_\_\_ Year(s) \_\_\_\_\_ Month(s)
    - Have you had to go to the Emergency Department or Urgent Care for your medical problems since initiating care at the Cooper Rowan Clinic (CRC)?
      - No
      - Yes

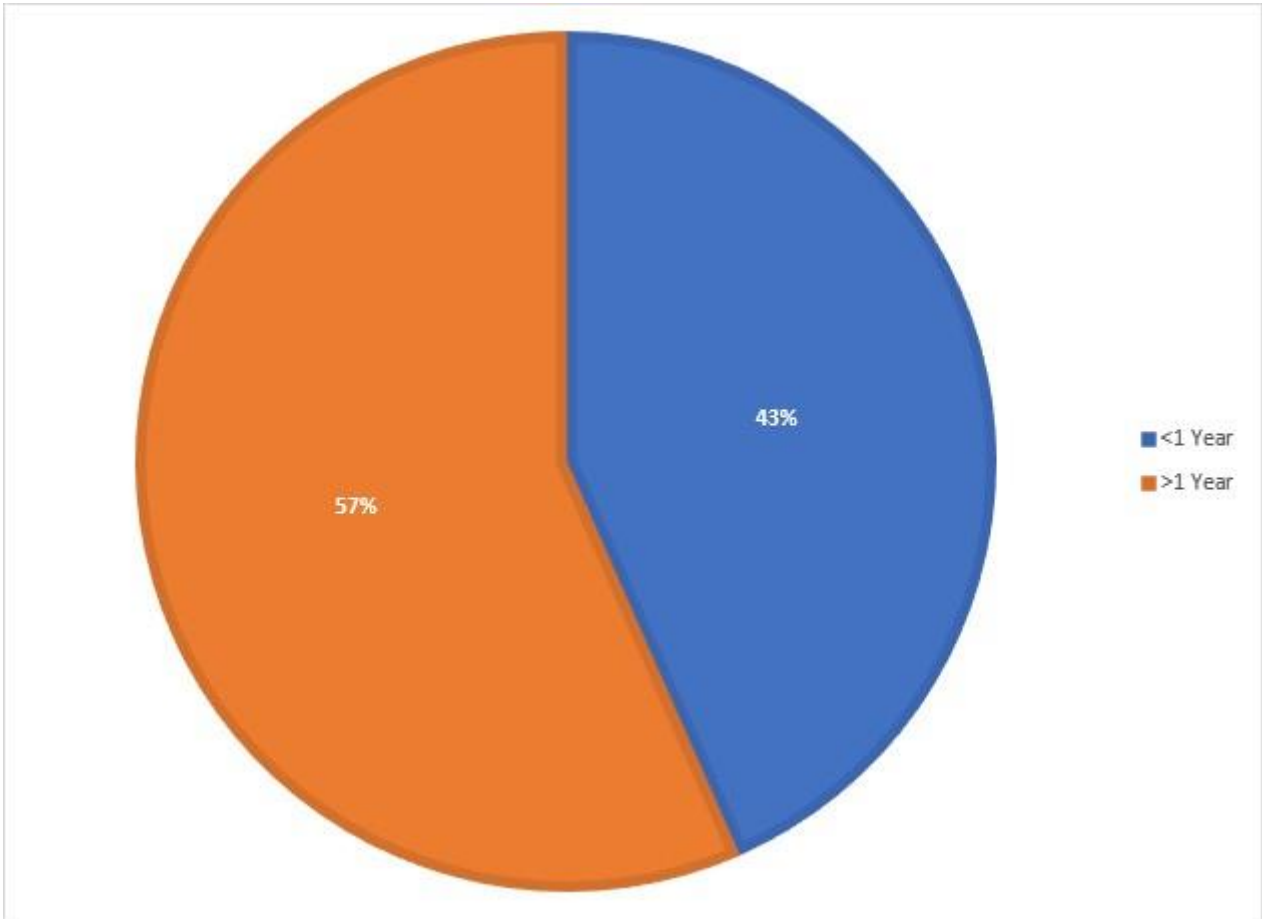
**Figure 1** English-language questionnaire administered by CRC front desk volunteers.



**Figure 2** Ethnicity of patients referred to the CRC.



**Figure 3** Sources of referral to the CRC. ( $p = < 0.05$ ).



**Figure 4** Survey participants length of care at the CRC.