Free Clinics Can Aid in Reducing Cardiovascular Disease Risk for Uninsured Patients: A Preliminary Study & Retrospective Chart Review

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Introduction

- Patients without health insurance often only seek care through emergency departments or urgent care facilities when their chronic conditions acutely worsen. Within these clinical setting, patients frequently experience little to no follow-up care.[1]
- The Gary Burnstein Community Health Clinic (GBCHC) is a free clinic located in Pontiac, Michigan that provides free medical services and follow-up care to uninsured patients.
- A large proportion of patients seen at GBCHC have multiple chronic conditions, such as hypertension (HTN), hyperlipidemia (HLD), and diabetes mellitus (DM).
- HTN, HLD, and DM are well-researched risk factors for developing cardiovascular disease (CVD).[2]
- Social determinants of health (SDOH), which disproportionately affect medically-underserved populations, also play a substantial role in influencing patients' cardiovascular health.[3,4]
- Currently, there is limited research regarding the impact of free clinics on the cardiovascular health outcomes of uninsured patients.
- This project seeks to expand on previous research by investigating the effects of receiving care at a free clinic on atherosclerotic cardiovascular disease (ASCVD) risk for uninsured patients with hypertension, diabetes, or hyperlipidemia.

Aims and Objectives

- Our main objective was to answer the research question: Is there a significant decrease in the average ASCVD risk score over time for uninsured patients at GBCHC aged 40-64 who have hypertension, hyperlipidemia, or diabetes without known ASCVD?

- The specific aims of this quality improvement project are as follows:

1) To identify the impact of receiving care at a free clinic for uninsured patients on cardiovascular disease risk
2) To understand how the length of continuous care impacts cardiovascular disease risk for uninsured patients
3) To identify correlated health-harming social factors that may impact the risk of cardiovascular disease for uninsured patients.

Methods

Results

- This analysis is based on preliminary data collected as part of an ongoing project
- Analysis of our 28 patient sample showed a statistically significant decrease in median ASCVD 10-year risk from 12.6 percent to 8.3 percent after 6-12 months of care at GBCHC (p<.0001).

Figure 1: Average ASCVD Risk Scores

Variable (n=28)	Median (IQR)	P-Value
Initial 10 Year ASCVD Risk	12.6 (9.9, 20.3)	
Follow Up 10 Year ASCVD Risk	8.3 (6.4, 13.1)	
Decrease in Risk Percentage	3.4 (1.8, 8.8)	<.0001

Figure 1: Table showing the median values of 10-year ASCVD risk scores for our 28 patients at their initial visits and follow up visits.

- Lower education attainment was identified as a health-harming social factor that may impact ASCVD risk as the majority of patients (65 percent) reported their highest level of education at the high school level or below.

- Specifically, 65.4% (17 out of 26 patients) reported their educational attainment at the level of high school or less, while 34.6% (9 out of 26 patients) reported having some college or higher educational attainment.

Figure 2: Highest Level of Education

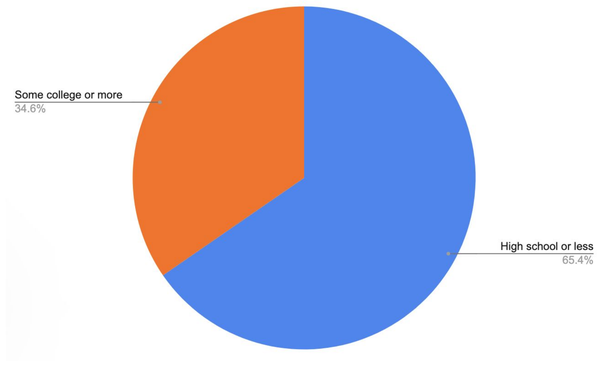

Figure 2: Pie chart showing responses of 26 out of 28 patients who answered the highest level of education question on the new patient Empowerment Plan form.

Conclusions

- Receiving care at GBCHC helped patients reduce their ASCVD risk over time.
- Within GBCHC, lower education attainment was identified as a health-harming social factor that may impact ASCVD risk.
- For uninsured individuals, access to a free clinic that provides medical services and connections to community resources, such as GBCHC, serves as a valuable resource for reducing cardiovascular risk factors.
- An important limitation is the small sample size of 28 patients for the current study, but this will be expanded upon for the full study.
- Further analysis will focus on analyzing changes in certain CVD risk factors, such as studying changes in average BP measurements or average cholesterol levels over time. Future studies will also investigate whether certain GBCHC services help address modifiable SDOH, which may impact patient's ASCVD risk.

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