

Implementing a Screening Tool for Homelessness at LVHN

Timothy Batchelor
Lehigh Valley Health Network, timothy.batchelor@lvhn.org

Kareem Elsayed MS2
USF MCOM- LVHN Campus, kareem.elsayed@lvhn.org

Cristina Calogero
Lehigh Valley Health Network, Cristina.Calogero@lvhn.org

Marna R. Greenberg DO, MPH, FACEP
Lehigh Valley Health Network, marna.greenberg@lvhn.org

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Implementing a Screening Tool for Homelessness at LVHN

Tim Batchelor, Kareem Elsayed, Cristina Calogero, Marna Greenberg DO MPH

INTRODUCTION

The National Health Care for the Homeless Council states 1.5 million Americans experience homelessness each year with >600,000 on any given night⁷. Approximately one-third of the homeless are families with children, and another 3% represent unaccompanied minors⁶. The Lehigh Valley is not immune to these national trends, and has a population of approximately 10,500 individuals qualifying as “homeless” based on local shelter census data — a figure that is rising.

The correlation between housing status and health outcomes cannot be overstated, as evidenced by an average life expectancy 30 years less within the homeless population as compared to non-homeless individuals, and a mortality rate for the chronically homeless 4-9 times that of the general population⁸. The need to provide quality primary care for the homeless population is great given the high level of disease burden and healthcare utilization among that population, as well as data that clearly support the critical role of primary care with regard to wellness promotion and disease management⁹. Large numbers of the national homeless population access hospital ER's as a place for care on a regular basis^{1,3,5} and, when admitted, stay approximately 4 days longer regardless of diagnosis. In this population the 30 day readmission rate is 10 times that of a citizen living in poverty but with secure housing². The NHCHC estimates that 80% of ER visits by homeless individuals can be prevented by adequate primary care.

A LVHN Street Medicine Team was created, utilizing an integrative, interdisciplinary mobile team approach for the care of homeless individuals and families in the Lehigh Valley. Basic medical and preventive services are provided free of charge to people who are homeless at multiple points of service. Patients identified as homeless during an ER visit or inpatient hospitalization are referred to a Street Medicine Consult Service, which provides safe discharge planning and rapid outpatient follow up to prevent readmissions.

LVHN is currently unable to report actual utilization rates or costs of caring for patients who are homeless due to challenges in documenting homelessness and housing instability, which currently rely heavily on data related to uninsured patients. Thus, annual cost totals become impossible to generate although it is clear that the status quo in caring for this patient demographic is quite unsustainable. In FY2012, each LVHN admission of a self-pay patient cost the hospital an average of \$20,000, and each ER visit cost a minimum of \$150. With a total of \$327 million in uncompensated care provided to the community in 2013, adequate attention to this particular subset of patients could provide significant system wide savings and improved health outcomes⁴.

PLAN

Predicting the level of need for community services is always a challenge. A significant component of this uncertainty is the absence of reliable data, due primarily to a lack of standardized screening initiatives integrated into care models.

LVHN hopes to continuously collect valid data related to rates of homelessness within the patient population. This would ultimately allow for projections of utilization patterns and costs of caring for this subgroup, and would provide a springboard for operational planning, funding acquisition, outcomes evaluation, and prediction of future trends.

Considering the longitudinal nature of such a plan, I focused predominantly on measuring the prevalence of homelessness among specific ER sites, with respect to time-of-week. By accurately quantifying where and when homeless patients (or those at-risk for homelessness) seek medical attention, we can begin to assess the needs of the population and improve healthcare access by allocating resources specific to their demand.

DO

A simple survey method for prospectively capturing the needed data was devised. In addition to very basic demographic data, a brief screening tool comprised of five “Yes or No” questions was administered to patients admitted to LVHN Emergency Rooms.

Participation in the survey is voluntary, and participation does not affect a patient's care or their relationships with any of the healthcare team. Consent is implied by survey completion.

All patients who presented to LVHN ED's during scheduled survey times and met inclusion criteria were eligible for enrollment, and were approached.

The inclusion criteria:

- 18 years or older
- Speak English
- Have capacity to answer survey questions
- Not critically ill
- Willing to participate

The screening protocol was uniform throughout all sites, but adapted to the unique layout and patient flow of each setting:

- **Cedar Crest** - a single pod was selected for screening purposes and all patients within it eligible for involvement.
- **17th Street** - all eligible and willing patients within the ED assessed on a given shift.
- **Muhlenberg** - screening rotates between the Rapid Assessment Unit (RAU) and various pods over the course of screening duration.

This allowed for comprehensive sampling of demographics and problem acuity. Patients are typically assigned randomly to different sections of the ED, so by screening all patients in these sections bias was eliminated. Over the course of the screening period, a reasonable collection representing available hours and days of the week had coverage, again combating screening bias.

Survey administration occurred electronically through the use of iPads utilizing a secure online interface, which stores only anonymous and de-identified data. Patients with positive screens are offered a Street Medicine Consult at the healthcare providers' discretion.

STUDY

By Site

Summer ED sampling yielded a total 1044 unique participants for analysis. The overall prevalence of homelessness was 7% and at-risk for homelessness was 3% as reported by the survey. In total, our study sample had a prevalence of homelessness or at-risk for homelessness of 10%.

SITE	At Risk n (%)	Homelessness n (%)	Total n (%)
17 th	9 (8%)	13 (11%)	22 (19%)
CC	10 (2%)	30 (7%)	40 (9%)
MHC	12 (2%)	28 (6%)	40 (8%)

The total prevalence at the 17th Street Emergency Department (19%) was significantly greater than both Cedar Crest (9%, p=.002) and Muhlenberg (8%, p=.0001) Emergency Departments. There was no statistically significant difference when comparing Cedar Crest and Muhlenberg (p=.643).

By Time-of-Week

Of the 1044 participants, 72 of 693 screened Monday through Thursday were identified as homeless or at-risk for homelessness (10%). 30 of 351 screened Friday through Sunday were identified as homeless or at-risk for homelessness (8.5%).

Day of Week	17 th	CC	MHC
M-Thur	15/72 (20.8%)	29/246 (11.8%)	28/375 (7.5%)
F-Sun	7/42 (16.6%)	11/196 (5.6%)	12/113 (10.6%)

There was no statistically significant difference in presentation between weekdays and weekends of the participants who screened positive for homelessness or at-risk for homelessness (p=.34). There was also no statistically significant difference between presentation on weekday or weekend at 17th Street (p=.653) or Muhlenberg (p=.328). Subjects were more likely to screen positive for homelessness at Cedar Crest on weekdays as compared to weekends (p=.039) however.



ACT

In general terms, the prevalence governs distribution of resources when the interventions that would best to help the homeless and at-risk for homelessness populations are determined. Strictly from a health systems perspective, knowing whether the needs of the patient population increase over weekends or are equally distributed throughout the week impacts resource deployment, as does population presentation delineated between sites.

At the present time, continuing data collection and analysis will yield the greatest study benefit. As the number of cohort participants increases, the more accurate project interpretations will become. We ideally wish to breakdown homeless population by location and time-of-week, but currently the sample size is too small to produce a significant result. Current data suggests that resource delivery to the 17th Street site should have priority based on reported prevalence.

The preliminary data from this study has already been used and was pivotal in the allocation of \$200,000 from the Pool Trust Foundation to the Street Medicine program (a budget increase of \$40,000). The next steps for our project would be to utilize this acquisition in conjunction with a significantly large sample analysis to deploy services and resources where they will yield the highest benefit. Such an endeavor will likely occur after an additional round of data sampling, set to occur during the winter months. If our endeavor proves to accurately identify and meet the population's needs, implementing such a screening tool system-wide would be the most effective, beneficial, and cost-appropriate endgame for this study.

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