Journal of Community Health (2019) 44:249–255
https://doi.org/10.1007/s10900-018-0580-3

ORIGINAL PAPER

Chronic Disease Burden of the Homeless: A Descriptive Study of Student-Run Free Clinics in Tampa, Florida

Abby Pribish[1] · Nadia Khalil[1] · Rahul Mhaskar[2] · Laurie Woodard[3] · Abu-Sayeef Mirza[2]

Published online: 15 October 2018

Abstract

Variation between homeless populations due to socioeconomic and environmental factors necessitates tailoring medical, health policy, and public health interventions to the unique needs of the homeless population served. Despite the relatively large size of the homeless population in Florida, there is a paucity of research that characterizes the homeless population who frequent homeless clinics within the state. This project describes the demographics, disease prevalence, and other risk factors among homeless individuals in Tampa, Florida. We conducted a retrospective chart review on adult homeless patients seen in 2015 and 2016 at two free clinic sites operated by Tampa Bay Street Medicine, a medical student-run organization from the University of South Florida in Tampa, Florida. Rates of diseases and substance use were recorded and Charlson Comorbidity Index (CCI) was calculated to assess mortality risk. Of the 183 homeless patients in this study, 34.4% reported hypertension, 13.7% reported diabetes, 27.1% reported a respiratory disease, 5.6% reported hyperlipidemia, and 32.8% reported a psychiatric disorder. Tobacco use was reported by 65.6% of patients, 32.2% reported alcohol use, and 17.5% reported illicit drug use. CCI was positively associated with age. Females reported higher rates of anemia, anxiety, chronic obstructive pulmonary disease, and psychiatric disorders. Hypertension, diabetes, certain respiratory diseases, and mental health disorders were more prevalent in the homeless population than in the general population in Tampa, Florida. Homeless women appeared to have higher morbidity than homeless men. Rates of tobacco and illicit drug use were significantly higher whereas alcohol use was lower in the study population than the general population. This study underscores the critical need for mental health initiatives, substance abuse treatment programs, and women's health programs that are accessible to the homeless in Tampa.

Keywords Chronic disease · Substance use · Homeless · Uninsured · Morbidity

Background

On any given day in 2017, 553,742 people in the United States were homeless, which represented a 1% increase from 2016 [1]. In Florida, homelessness affected 32,190 individuals in 2017, or 16 per 10,000 individuals in the state [1]. Florida contains 28 Continuums of Care (CoCs), which are comprised of all organizations within a geographic region that address homelessness. In 2017, there were a total of 1549 homeless individuals in the Hillsborough County CoC, which includes the city of Tampa [2]. This CoC has the eighth largest homeless population in Florida, and in 2017, 79.5% of homeless individuals were over the age of 18 [2, 3]. Of the homeless individuals in the Hillsborough County CoC, 37% were unsheltered and 12% of these reported health issues as a cause of their homelessness, 40% reported a disabling condition, and only 33% reported having health insurance [4].

Homelessness is an independent risk factor for increased mortality, partly attributable to higher levels of poverty, instability, and environmental exposure that homeless individuals experience [5]. Compared with the domiciled population, homeless individuals have been shown to have higher rates of infectious diseases, physical trauma, psychiatric conditions, food insufficiency, geriatric conditions, and common

✉ Abby Pribish
apribish@health.usf.edu

[1] Morsani College of Medicine, University of South Florida, 12901 Bruce B Downs Blvd, Tampa, FL 33612, USA

[2] Department of Internal Medicine, University of South Florida, Tampa, USA

[3] Department of Family Medicine, University of South Florida, Tampa, USA

chronic diseases such as hypertension, diabetes, and depression [5–7]. Substance use, including alcohol, tobacco, and illicit drug use are also more prevalent in the homeless population [8]. Additionally, suicide and unintentional injuries are more common in the homeless population [8].

Individuals and organizations who work to improve the health of the homeless can play a critical role in addressing the unique health challenges surrounding homelessness. One such intervention at the local level is the free clinic, which can improve healthcare access for the homeless by removing barriers such as cost and stigma. While several studies have been published that examine patient demographics and patient satisfaction at student-run free clinics, more studies are warranted that specifically evaluate homeless patients [9, 10]. This project was designed to characterize the homeless population in Tampa, Florida, in order to better define the unique health challenges of the homeless so that initiatives can be tailored to the needs of the homeless.

Methods

Patient Selection

The Institutional Review Board at our institution approved this study and waived informed consent. We included all patients over the age of 18 who were evaluated one or more times in 2015 and 2016 at the First Presbyterian Clinic or the Well Clinic in Tampa, Florida. Exclusion criteria were patient age < 18 and poor or incomplete documentation that prevented data collection. Demographic and medical variables from patient-reported medical history were extracted. A total of 183 patients were included in this retrospective chart review. More specific parameters were queried in the 2016 data collection, such as prescription patterns and Charlson Comorbidity Index (CCI).

Study Site

Patients included in this study were seen at the First Presbyterian Clinic or the Well Clinic, located in Downtown Tampa and West Tampa, respectively. These clinics are operated by Tampa Bay Street Medicine (TBSM), a medical student-run organization at the University of South Florida (USF) in Tampa, Florida. At these clinics, medical students and supervising healthcare professionals volunteer to provide free acute care and continuity care to 10–15 patients during each 4-h weekend clinic. In 2017, 186 of 502 (37.1%) unsheltered homeless individuals identified during the Hillsborough County Point-in-Time Count were located in Downtown Tampa, and 62 of 502 (12.35%) unsheltered homeless individuals were located in West Tampa [4]. Assuming the data from reporting unsheltered individuals during the Point-in-Time Count can be extrapolated to represent the total unsheltered population in the county, USF TBSM's service in Downtown and West Tampa offers easily accessible free primary care services to approximately half of the unsheltered homeless population in Tampa.

Data Analysis

Data analysis was performed using IBM SPSS Statistics for Windows, version 24.

Results

Demographic Data

The average patient age was 49.6 years old. The patients were 75.4% male and 24.6% female. Race was reported as white in 30.1% of patients, black or African American in 18.6%, Asian in 1.1%, and was not reported for 50.3% of patients. The remaining demographics are summarized in Table 1.

Chronic Medical Conditions

In 2015 and 2016, 34.4% of patients reported hypertension. Only 3 of 41 patients (7.3% of patients) with hypertension seen in 2016 reported currently taking an antihypertensive medication. In 2015 and 2016, 25 of 183 patients (13.7%

Table 1 Summary of demographic information for patients included in this study (n = 183)

	Frequency	Percentage
Sex		
Female	45	24.6
Male	138	75.4
Clinic location where patient was seen		
Downtown Tampa	46	25.1
West Tampa	137	74.9
Ethnicity		
Hispanic or Latino	18	9.8
Not Hispanic or Latino	80	43.7
Not reported	85	46.4
Race		
White	55	30.1
Black or African American	34	18.6
Asian	2	1.1
Not reported	92	50.3
Employment status		
Unemployed	175	95.6
Employed	8	4.4

Table 2 Percentage of patients in 2016 (n = 107) who reported chronic medical conditions and current pharmacologic disease treatment. Respiratory disease includes asthma, COPD, emphysema, and bronchitis

	Patients reporting diagnosis	Patients reporting current disease treatment
Hypertension	41 (38.3%)	3 (7.3%)
Diabetes	16 (15.0%)	10 (62.5%)
Respiratory disease	29 (27.1%)	14 (48.3%)
Hyperlipidemia	6 (5.6%)	2 (30.0%)

of patients) reported a diagnosis of diabetes. In 2016, 10 of 16 patients (62.5% of patients) with diabetes reported currently taking medication to control their diabetes. In 2016, 29 out of 107 patients (27.1% of patients) reported at least 1 respiratory disease. These were asthma (reported by 16 patients, or 55.2% of patients with a respiratory disease), chronic obstructive pulmonary disease (COPD) (reported by 12 patients, or 41.4%), emphysema (reported by 1 patient, or 3.4%), and bronchitis (reported by 10 patients, or 34.4%). In 2016, 48.3% of patients with a respiratory disease reported current treatment. In 2015 and 2016, 10 of 183 patients (5.5% of patients) reported hyperlipidemia. In 2016, 3 of 6 patients (50% of patients) with hyperlipidemia reported currently taking a statin. These results are summarized in Table 2.

In 2015 and 2016, 11 of 183 patients (6.0% of patients) reported a diagnosis of coronary artery disease (CAD) and 8 of 183 patients (4.4% of patients) reported history of cerebrovascular accident (stroke). In 2016, 5 of 107 patients (2.7% of patients) reported history of anemia, none of whom reported taking iron supplementation. In 2016, 7 of 183 patients (3.8% of patients) reported history of cancer. Of these, 1 reported breast cancer, 3 reported prostate cancer, 2 reported cervical cancer, 1 reported colon cancer, and 1 reported Kaposi sarcoma. Of these 7 patients, 3 reported prior treatment of cancer with surgery (1 patient with cervical cancer, 1 patient with prostate cancer, 1 patient with breast cancer) and 1 patient with prostate cancer reported prior treatment of cancer with radiation.

Mental Health

In 2015 and 2016, 60 of 126 patients (32.8% of patients) reported a psychiatric disorder, including 21.3% who reported depression, 8.2% who reported anxiety and 14.2% who reported another psychiatric diagnosis. Of the 39 patients who reported history of depression, 10 reported currently taking medication for depression. Of the 15 patients with anxiety, 8 reported currently taking medication for anxiety. Of the 26 patients who reported another psychiatric disorder besides depression or anxiety, 10 reported schizophrenia, 6 reported bipolar disorder, 5 reported post-traumatic stress disorder (PTSD), 1 reported schizoaffective disorder, 1 reported delusional parasitosis, 1 reported both bipolar disorder and schizophrenia, 1 reported both bipolar disorder and intermittent explosive disorder, and 1 reported both bipolar disorder and PTSD. Of these patients, none reported taking medication for their psychiatric diagnosis. These results are summarized in Table 3.

Substance Use

Between 2015 and 2016, 120 of 183 patients (65.6% of patients) reported current tobacco use. 31 of 183 patients (16.9% of patients) reported never smoking tobacco, and 7 of 183 patients (3.8% of patients) reported being a past smoker. Smoking history was not documented for 25 of 183 patients (13.7% of patients). Of the 127 patients who reported current or prior tobacco smoking, pack year smoking history was reported for 45 patients (35.4%). The prevalence and characterization of substance use is summarized in Table 4.

Current alcohol use was reported by 59 of 183 patients (32.2% of patients), 65 of 183 patients (35.5% of patients) reported no history of alcohol use, and 8 of 183 patients (4.4% of patients) reported history of alcohol use. Alcohol use history was not documented for 51 of 183 patients (27.9% of patients). Of the 59 patients who reported current alcohol use, alcohol intake was quantified in 22 patients (37.3% of patients).

Current illicit drug use was reported by 32 of 183 patients (17.5% of patients), no history of illicit drug use was reported by 80 of 183 patients (43.7% of patients reported), history of illicit drug use was reported by 12 of 183 patients (6.6% of patients), and illicit drug use history was not documented for 59 of 183 patients (32.2% of patients). For the 44 patients who reported current or past illicit drug use, the specific drug of abuse was documented in 32 patient charts (72.7%).

Table 3 Percentage of patients in 2015 and 2016 who reported psychiatric diagnoses and current pharmacologic treatment (n = 183)

	Patients reporting diagnosis	Patients reporting current disease treatment
Depression	39 (21.3%)	10 (25.6%)
Anxiety	15 (8.2%)	8 (53.3%)
Other psychiatric diagnosis	26 (14.2%)	0 (0.0%)

The other psychiatric diagnosis category includes schizophrenia, bipolar disorder, PTSD, schizoaffective disorder, delusional parasitosis, and intermittent explosive disorder

Table 4 Prevalence and characterization of substance use among patients (n = 183)

Tobacco use					
Use type	Current smoker (%)	Past smoker (%)	Never smoker (%)	Not documented (%)	
	65.6	3.8	16.9	13.7	
Pack year smoking history[a]	1–10 PY	11–20 PY	21–30 PY	31–40 PY	≥ 41 PY
	15	12	9	6	3
Alcohol use					
Use type	Current alcohol use (%)	Prior alcohol use (%)	No history of alcohol use (%)	Not documented (%)	
	32.2	4.4	35.5	27.9	
Drinks/week[b]	1 drink/week	2 drinks/week	4 drinks/week	6 drinks/week	≥ 14 drinks/week
	11	2	2	2	5
Illicit drug use					
Use type	Current illicit drug use (%)	Prior illicit drug use (%)	No history of illicit drug use (%)	Not documented (%)	
	6.6	43.7	43.7	32.2	
Drug of abuse[c]	Marijuana	Cocaine	LSD/Ecstasy	Other	
	12	11	1	8	

PY pack years

[a]Of the 127 patients who reported current or prior tobacco smoking, 45 patients (35.4%) reported their pack year smoking history. Of the patients who reported ≥ 41 PY, 1 reported 41–50 PY and 2 reported 61–70 PY

[b]Of the 59 patients who reported current alcohol use, 22 patients (37.3%) quantified their alcohol intake. Of the patients who reported ≥ 14 drinks/week, 1 reported 14 drinks/week, 1 reported 28 drinks/week, 1 reported 98 drinks/week, 1 reported 140 drinks/week, and 1 reported 168 drinks/week

[c]Of the 44 patients who reported current or past illicit drug use, the specific drug used was documented in 32 patient charts (72.7%)

Charlson Comorbidity Index

The average CCI was 1.37 and the median CCI was 1. The CCI was 0 for 57 patients, 1 for 60 patients, 2 for 35 patients, 3 for 12 patients, 4 for 15 patients, 5 for 1 patient, 6 for 1 patient, and 7 for 2 patients. There was significant positive correlation between CCI and age (correlation coefficient 0.793, $P < 0.001$). There were no significant correlations between CCI and sex, race, or ethnicity.

Gender and Chronic Disease

There was an association between patient sex and anemia, with 4 of 33 women (12.1% of women) and 1 of 74 men (1.4% of men) reporting anemia ($P = 0.031$). There was an association between sex and COPD, with 8 of 45 women (17.8% of women) and 10 of 138 men (7.2% of men) reporting COPD ($P = 0.039$). There was an association between sex and anxiety, with 8 of 33 women (24.2% of women) and 7 of 74 men (9.5% of men) reporting anxiety ($P = 0.042$). There was an association between sex and psychiatric disorders besides depression or anxiety, with 14 of 45 women (31.1% of women) and 12 of 138 men (8.7% of men) reporting a psychiatric disorder ($P < 0.001$). When depression and anxiety were included, there was also an association between psychiatric disorder and sex, with 23 of 45 women (51.1% of women) and 37 of 138 men (26.8% of men) reporting at least one of these conditions ($P = 0.003$). There was no significant association between sex and substance use or other diseases (hypertension, diabetes, cancer, hyperlipidemia, asthma, CAD, heart attack, stroke, or depression).

Race/Ethnicity and Chronic Disease, Substance Use and Psychiatric Diagnoses

There was an association between patient race and illicit drug use ($P = 0.010$). There was an association between patient ethnicity and reported psychiatric disorder besides depression or anxiety ($P = 0.003$). Apart from this, race and ethnicity were not significantly associated with chronic disease, substance use or psychiatric diagnoses in our population.

Chronic Disease, Substance Use, and Psychiatric Diagnoses

There was a negative association between anxiety and CCI (P = 0.005). The median CCI for patients without anxiety was 1 (range 0–7) and the median CCI for patients with anxiety was 0 (range 0–3). There was no association between depression and CCI.

There was an association between tobacco use and psychiatric disorder besides depression or anxiety (P = 0.027). Of the patients who reported history of tobacco use, 42.9% also reported a psychiatric disorder. Of the patients who reported current tobacco use, 11.7% also reported a psychiatric disorder, and 6.5% of patients who never smoked reported a psychiatric disorder. There were no other significant associations between substance use and psychiatric diagnoses, or between age and psychiatric disorders.

Discussion

While the factors that lead to homelessness are complex and heterogeneous, the three primary societal factors contributing to homelessness in Florida are lack of affordable housing, employment, income opportunities, and adequate healthcare access [2]. At the level of the individual, illness and disability are major contributors. As a result of inadequate healthcare access, homeless individuals tend to have poor management of chronic conditions and unnecessarily delayed treatment of acute conditions. Homelessness, then, increases an individual's risk both for developing health problems and for having more severe health problems than housed individuals. Despite their large burden of medical need, homeless individuals face many barriers in accessing routine primary care services, including geospatial restrictions, financial limitations, lack of insurance, lack of transportation, and limited health literacy. As a result, homeless individuals typically utilize fewer preventative healthcare services, leading to limited health maintenance, poor treatment compliance, and worsening of chronic conditions. This increases individual health risk as well as the cost and duration of treatment, including unnecessary emergency room utilization for primary care issues and costly hospital admissions for disease exacerbations [2]. Due in part to these increased health challenges, the average lifespan of homeless individuals is estimated to be 42–52 years, which is significantly lower than the national average lifespan of 78 years [10].

Due to the large burden of disease in the homeless population, homelessness is also costly to society. One 2014 study of 107 homeless individuals in Central Florida found an annual average cost per year of $2,160,031 for emergency room use and hospitalizations alone for this cohort [11]. In contrast, permanent supportive housing measures for chronically homeless and disabled individuals costs only around $10,000 per year, which is less than half the cost of medical services required by the homeless [11]. Addressing the deficit in healthcare accessibility is thus crucial to mitigating the effects of homelessness on individual and public health.

The median age of our patient cohort was 49.6 years old. One study on homeless individuals in San Francisco reported an average patient age of 37 in 1990–1994, which increased significantly to 46 in 2003, and this translates to an average age increase of 0.55 years per calendar year among the homeless population, and similar trends have been reported in other cities [12]. Our study found that increasing patient age was associated with poorer health, shown by a significant correlation between CCI and age. Since the average age of the homeless population is likely to continue to increase, it can be anticipated that the morbidity of the homeless population will continue to rise over time as well.

Our cohort was demographically different from the homeless population in Hillsborough County with respect to gender. In 2017, the Hillsborough County CoC reported that 59.2% of homeless individuals were male and 40.5% were female [3]. In our study, 75.4% of the patients were male and 24.6% were female, suggesting that proportionally fewer homeless women utilized USF TBSM's free clinics than men.

The female homeless population in Tampa, Florida, appears to have higher morbidity than the male homeless population. Within our cohort, female patients had significantly higher rates of multiple medical conditions than male patients, while male patients did not have significantly higher rates of any medical conditions. Female homeless patients reported higher rates of anemia, COPD, and psychiatric disorders (including non-depression/non-anxiety psychiatric disorders, anxiety alone, and psychiatric disorders including depression and anxiety) than male patients.

Due to the relatively high percentage of patients in our study for whom ethnicity or race was not reported, comparison of the similarity of our patient population with regard to ethnicity and race to the general homeless population in Hillsborough County is difficult. In 2017, 17.2% of homeless individuals in the Hillsborough County CoC were Hispanic/Latino and 82.8% were non-Hispanic/non-Latino [3]. In our study, 9.8% of patients were Hispanic/Latino, 43.7% of patients were non-Hispanic/non-Latino, and 46.4% of patients did not report ethnicity. The ethnic distribution of our patient population appears to be proportionally similar to data from the Hillsborough County CoC, but this cannot be definitively concluded. The racial distribution for homeless individuals in the Hillsborough County CoC in 2017 was 48.4% white, 46.9% African American or Black, 0.3% Asian, 1.9% Native American or Alaska Native, 0.006% Native Hawaiian or Other Pacific Islander, and 2.5% multiple

races. In our study, 30.1% of the patients were White, 18.6% of patients were African American or Black, 1.1% of patients were Asian, and for 50.3% of patients race was not reported. The racial distribution of our patient population appears to differ from the data from the Hillsborough County CoC in that white homeless individuals were more likely to utilize USF TBSM's free clinics compared with African American or black homeless individuals, though further study would be required to conclude this definitively.

The rates of hypertension, diabetes, and respiratory disease in our study population were higher than in the general population. Hypertension was reported by 34.4% of our study population (compared with 23.1% of adult Hillsborough County residents and 27.9% of adult Floridians), diabetes was reported by 13.7% of our study population (compared with 9.3% of adult Floridians), and COPD was reported by 11.2% of our study population (compared with 3.2% of adult Floridians) [13–16]. These results agree with previous work that shows higher rates of certain chronic diseases among homeless patients [5].

The rate of pharmacologic treatment of hypertension was lower in our cohort than the general population, while the rate of pharmacologic treatment of diabetes was comparable. In Florida, 58.9% of patients with hypertension are prescribed at least 1 antihypertensive medication [13], while in our study, only 7.3% of patients seen in 2016 reported currently taking an antihypertensive medication. Of diabetic patients seen in our free clinics in 2016, 62.5% reported current medication use for diabetes. This rate of medication adherence is similar to that of the general population, which has been reported to be roughly 47%-68% [17].

The rate of hyperlipidemia reported by our patient population was 5.5%, which is drastically lower than the general rate of hyperlipidemia in the United States, which is 20.2% in the outpatient setting [15]. This discrepancy may be explained by underreporting of hyperlipidemia by patients seen in our free clinics, as well as incomplete documentation of past medical history in patient charts by medical student volunteers.

The rate of mental illness among the homeless is higher than in the general population. While around 25% of adults in the general population have a mental illness, the reported rate of mental illness in the homeless population in Florida was nearly 30% in 2014 [18, 19]. The rate of mental illness in our cohort was similar, at 32.8%. The most commonly reported mental illness in our study was depression, with 21.3% of homeless patients reporting depression, compared with 8.1% of patients in the general population [20]. While the rate of psychosis in the general population is 1–2%, the prevalence among homeless patients is highly variable, reported to be anywhere between 3–42% [21]. In our study, 7.1% of patients reported psychosis. Since conclusions of studies evaluating the psychiatric morbidity of homeless populations are heterogeneous, this suggests that studies at the local level are required to accurately describe the substance use and mental illness situation within a given community [8].

The patient population in our study reported higher rates of tobacco use and illicit drug use than the general population but a lower rate of alcohol use. While 56.0% of the general population reports alcohol use within the last month, only 35.8% of homeless patients in our study report current alcohol use [22]. In 2016, 15.5% of adults in the general population reported current cigarette smoking, while 65.6% of patients in our study reported current tobacco use [23]. The rate of illicit drug use in the general population in Florida was reported to be 8.32% in 2011, compared with the national average of 8.82% [24]. The reported rate of illicit drug use in our study was more than double that, at 17.5%. Our observed rate of illicit drug use is also slightly higher than the 13.3% rate of chronic substance abuse reported by the Florida Council on Homelessness in 2017 [2]. Our study suggests that tobacco and illicit drug use are both major health problems faced by the homeless population in Tampa, Florida.

A limitation to this study is that all patient medical information was self-reported, which makes it possible that medical records are incomplete or inaccurate. Furthermore, because the USF TBSM free clinics are primarily operated by medical student volunteers working under supervising providers, history-taking and charting may be inaccurate or insufficient due to practitioner inexperience. Both free clinics are relatively busy, which can also leave volunteers with inadequate time to collect thorough patient histories, resulting in artificially low disease rates. Another limitation of this study is its relatively small sample size. Larger studies are warranted to more accurately estimate the prevalence of uncommon diseases.

The results of this study may reasonably be generalized to the homeless population in Tampa, Florida, given that the catchment area for the free clinics in this study includes approximately half of the city's unsheltered homeless population. However, given the degree of demographic variation between geographic areas and community types, similar studies in other cities, states, and countries are recommended to demonstrate the unique makeup and needs of specific homeless populations.

Conclusion

This descriptive project facilitates the delivery of free services that are more effectively tailored to the needs of the homeless, and for future interventions to meet specific health challenges facing the homeless in our area. This study demonstrates the critical need for mental health initiatives,

substance abuse treatment programs for tobacco and illicit drugs, and women's health programs that are accessible to the homeless in Tampa.

References

1. Henry, M., Watt, R., Rosenthal, L., & Shivji, A. (2017). The 2017 Annual Homeless Assessment Report (AHAR) to Congress. The U.S. Department of Housing and Urban Development Office of Community Planning and Development.
2. Nazworth, S. (2017) Council on Homelessness 2017 Report. Florida Council on Homelessness.
3. Point-in-Time Count FL-501 Tampa/Hillsborough County CoC Tampa Hillsborough Homeless Initiative, 2017.
4. Tampa/Hillsborough County CoC 2017 Homeless Point-in-Time Count. Tampa Hillsborough Homeless Initiative, 2017.
5. Health Care and Homelessness NCH Fact Sheet #8 (2006). National Coalition for the Homeless.
6. Lebrun-Harris, L. A., Baggett, T. P., Jenkins, D. M., Sripipatana, A., Sharma, R., Hayashi, A. S., et al. (2013). Health status and health care experiences among homeless patients in federally supported health centers: Findings from the 2009 patient survey. *Health Services Research, 48*(3), 992–1017.
7. Brown, R. T., Kiely, D. K., Bharel, M., & Mitchell, S. L. (2012) Geriatric syndromes in older homeless adults. *Journal of General Internal Medicine, 27*, 16–22.
8. Fazel, S., Geddes, J. R., & Kushel, M. (2014). The health of homeless people in high-income countries: Descriptive epidemiology, health consequences, and clinical and policy recommendations. *Lancet, 384*(9953), 1529–1540.
9. Cesari, W. A., Vaikunth, S. S., Lewis, J. B., & Panda, M. (2012). Know your audience: Analysis of chief complaints at clinica esperanza, a student-run free clinic in Memphis, Tennessee. *Journal of Primary Care & Community Health, 3*(4), 295–298.
10. Lu, K. B., Thiel, B., Atkins, C. A., Desai, A., Botwin, A., Povlow, M. R., et al. (2018). Satisfaction with healthcare received at an interprofessional student-run free clinic: Invested in training the next generation of healthcare professionals. *Cureus, 10*(3), e2282.
11. Shinn, G. (2014). The cost of long-term homelessness in Central Florida: The current crisis and the economic impact of providing sustainable housing solutions. Central Florida Commission on Homelessness.
12. Hahn, J. A., Kushel, M. B., Bangsberg, D. R., Riley, E., & Moss, A. R. (2006). BRIEF REPORT: The aging of the homeless population: Fourteen-year trends in San Francisco. *Journal of General Internal Medicine, 21*(7), 775–778.
13. Smith, S. M., McAuliffe, K., Hall, J. M., McDonough, C. W., Gurka, M. J., Robinson, T. O., et al. (2018). Hypertension in Florida: Data from the OneFlorida Clinical Data Research Network. *Preventing Chronic Disease, 15*, E27.
14. Diabetes Data and Statistics. (2018). United States Diabetes Surveillance System, Division of Diabetes Translation, CDC.
15. Rui, P., & Okeyode, T. (2015). National Ambulatory Medical Care Survey: 2015 State and National Summary Tables.
16. Summary Health Statistics: National Health Interview Survey. (2016). U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Health Statistics.
17. Polonsky, W. H., & Henry, R. R. (2016). Poor medication adherence in type 2 diabetes: Recognizing the scope of the problem and its key contributors. *Patient Preference and Adherence, 10*, 1299–1307.
18. CDC Report. (2013). Mental illness surveillance among U.S. adults. Centers for Disease Control and Prevention.
19. Carroll, M. (2014). Council on Homelessness 2014 Report. Florida Council on Homelessness.
20. Brody, D. J., Pratt, L. A., & Hughes, J. P. (2018). Prevalence of depression among adults aged 20 and over: United States, 2013–2016. *NCHS Data Brief* (303): 1–8.
21. Fazel, S. (2008). The prevalence of mental disorders among the homeless in western countries: Systematic review and meta-regression analysis. PLoS Medicine *5*, e225.
22. 2015 National Survey on Drug Use and Health (NSDUH). Table 2.41B—Alcohol use in lifetime, past year, and past month among persons aged 12 or older, by demographic characteristics: Percentages, 2014 and 2015. Substance Abuse and Mental Health Services Administration (SAMHSA).
23. Jamal, A., Phillips, E., Gentzke, A. S., Homa, D. M., Babb, S. D., King, B. A., et al. (2018). Current cigarette smoking among adults—United States, 2016. Centers for Disease Control and Prevention, Morbidity and Mortality Weekly Report (MMWR).
24. Florida Drug Control Update. (2013). Executive Office of the President of the United States.