Critical Topics in an Aging Society

Homeless Older Populations
A Practical Guide for the Interdisciplinary Care Team

Diane Chau, MD, FACP · Arnold P. Gass, MD, FACP
EDITORS

Offers proven strategies for advancing the care of the homeless elderly

Filled with key insights and field-tested knowledge, this is a concise, hands-on guide to how interdisciplinary team strategies can advance the care of older homeless adults. The book encompasses research evidence, education-based initiatives, and systems thinking, and describes how to implement promising health care outlooks for diverse elderly populations in a variety of localities.

Chapters address the many challenges to caring for homeless individuals by integrating a team vision for adopting transformation and geriatrics health care workforce education. The book provides an overview of population demographics and trends and discusses specific medical/psychological care challenges including the spread of infectious diseases. It covers the delivery of care to homeless patients, complex ethical and legal issues, housing, social economics, family disruption and abuse, end-of-life considerations, and political and policy challenges. With abundant case studies and discussions about successes and failures in homeless geriatric health care, the book provides a framework for the joint efforts of social worker, nurse, mental health professional, physician, and other health care professionals to provide optimal care for older homeless populations.

KEY FEATURES:
• Presents the most current resources, evidence, and developments for interdisciplinary care of older homeless populations
• Written by an interprofessional health care workforce with abundant clinical and academic experience in the field
• Focuses on implementing, developing, and adopting health care strategies to provide care for the frail homeless elderly
• Includes case studies and discussions of successes and failures
• Addresses challenges, barriers, resolutions, and opportunities for homeless geriatric care

SPRINGER PUBLISHING COMPANY
11 W. 42nd Street
New York, NY 10036-8002
www.springerpub.com

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Editorial Advisor, Toni C. Antonucci, PhD

- Using Technology to Improve Care of Older Adults
  Diane Chau, MD, FACP, and Thomas F. Osborne, MD, Editors
- Homeless Older Populations: A Practical Guide for the Interdisciplinary Care Team
  Diane Chau, MD, FACP, and Arnold P. Gass, MD, FACP, Editors
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Homeless Older Populations
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Preface

Homeless Older Populations: A Practical Guide for the Interdisciplinary Care Team began as a solution to a care coordination problem among clinical colleagues who knew their knowledge needed to be shared. These passionate providers have devoted their lives to the service of frail older populations who are increasingly needing care within our complicated healthcare systems. These providers-turned-authors see daily the rise of homeless older populations and want to join to help others improve and provide equitable care for all humans. We as humans must recognize the need to preserve our population and collaborate to solve gaps that contribute to human suffering. This book serves as the pillar for clinical care teams to improve health equity among homeless older adults.

Interdisciplinary care teams are essential in complex homeless older population clinical practice, as all disciplines must work together to address medical, surgical, behavioral, nutritional, and social determinants of health. All clinicians who treat older adults, from the independent to the frail, should approach problem solving via an inclusive approach that includes social work, pharmacy, nursing, rehabilitation, administrative, and medicine inputs. The social determinants of health that contribute to the complexities of clinical care outcomes cannot be addressed within silos. The authors and topics of this book have been assembled to reflect a holistic care model to assist clinicians in the complicated homeless population that is continuing to change in the instability of the homeless environment.

Chapters in this book are organized by problems most commonly faced by clinicians in servicing homeless populations: mental, social, medical, and surgical challenges. We focus on specific conditions and challenges that may benefit the most from the use of interdisciplinary care teams, with special focus on challenges in caring for homeless populations.

Diane Chau, MD, FACP
Share

Homeless Older Populations: A Practical Guide for the Interdisciplinary Care Team
CASE STUDY

J.G., a 59-year-old chronically homeless African American man, was brought to a Veterans Affairs (VA) homeless clinic by a VA outreach social worker. Several years earlier, the VA had identified him as a vulnerable person, but because he had no address or phone number, he was difficult to find and engage. Eventually, the outreach staff found him sleeping in front of a church downtown. The church staff allowed the outreach workers to leave messages for J.G. The social workers were then successful at getting him registered for VA healthcare and placed him in temporary housing at a local shelter.

Social History: J.G. was born and raised in Illinois. He served honorably in the U.S. Marine Corps, but became homeless shortly after his military discharge in 1975. A review of the records indicated he was diagnosed with schizophrenia while on active duty, but was not receiving a service-connected compensation for this illness. He was unable to obtain gainful employment post-discharge and became homeless. He then began to use illicit substances, including cocaine, heroin, methamphetamines, and alcohol. At the time of his presentation to the homeless outreach clinic, J.G. had been homeless most of the prior 40 years. He was addicted to methamphetamines, estranged from his family, and was collecting cans for a living.

Past Medical History: J.G. carried diagnoses of hypertension, hyperlipidemia, chronic hepatitis C, and schizophrenia. Approximately one year prior to his presentation at the VA homeless clinic, J.G. was diagnosed with heart failure with reduced ejection fraction (EF 20%). In the prior year, he had been seen in the emergency department (ED) more than 30 times and was
hospitalized 20 times for decompensated heart failure. The records indicated that he continued to abuse methamphetamines and was non-compliant with his heart failure medications.

Multiple studies suggest that mortality rates in the adult homeless are higher than the general population (Baggett, Hwang, et al., 2013; Beijer, Andreasson, Ågren, & Fugelstad, 2011; Kasprow & Rosenheck, 2000; LePage, Bradshaw, Cipher, Crawford, & Hoosyhar, 2014; Schinka, Bossarte, Curtiss, Lapcevic, & Casey, 2016). Homeless mortality ratios vary between countries, but are typically 2 to 5 times those of the age-adjusted general population (Fazel, Geddes, & Kushel, 2014). Older homeless people in the United States die from similar causes as older people in the general population, but on an average of 10 to 15 years earlier (Baggett, Hwang, et al., 2013).

According to the Centers for Disease Control and Prevention (CDC, 2015b), cardiovascular disease (CVD) continues to be the leading cause of death in the United States. Recent estimates are that 92.1 million U.S. adults have CVDs, accounting for over 800,000 deaths in 2014. Homeless people experience chronic stress, malnutrition, and failure to engage in protective health behaviors and preventative medical care. These conditions are associated with an increased prevalence of CVD (Curtis & O’Keefe, 2002; Schinka, Curtis, et al., 2016). Baggett, Hwang, et al. (2015) suggested that CVD has been reduced to the second leading cause of homeless mortality in the United States, with drug overdose being the primary cause. However, the study further indicates that cancer and heart disease remain the leading causes of death in homeless adults over age 45. Nonetheless, chronic disease rates, including CVD, are expected to rise along with the increasing rate of older adult homelessness in the United States (Hahn, Kushel, Bangsberg, Riley, & Moss, 2006). This chapter will examine the risk factors, barriers to prevention, and treatment, and provide care recommendations for older adult homeless persons with CVD.

**RISK FACTORS**

Increased cardiovascular (CV) morbidity and mortality rates in the homeless are attributable to a complex interaction between traditional and less-traditional CV risk factors. Traditional CV risk factors are hypertension, diabetes, smoking, and hyperlipidemia. Less-traditional risk factors include substance abuse; the psychological stress of fulfilling survival needs, including food, shelter, and safety; and a decrease in diagnostic and preventative medical care. These less-traditional risk factors result in an increased prevalence of and/or poorer control of the traditional risk factors (Jones et al., 2009).
Hypertension

Hypertension is the most common condition seen in primary care. If not detected early, and treated appropriately, hypertension leads to myocardial infarction, heart failure, stroke, renal failure, and death (James et al., 2014). The CDC (2016) estimates that 75 million Americans (32%) have hypertension. The rates of uncontrolled blood pressure among U.S. hypertensive persons aged 40 to 59 years and 60 to 79 years are 19.6% and 24.8%, respectively (Bernstein, Meurer, Plumb, & Jackson, 2015). Several studies between 1990 and 2002 suggested that homeless adults were more likely to have hypertension at younger ages than the general population (Burt, 1999; Gelberg, Linn, & Mayer-Oakes, 1990; Kinchen & Wright, 1991; Kleinman, Freeman, Perlman, & Gelberg 1996; Szerlip & Szerlip, 2002; Wright, 1990). Although a recent meta-analysis by Bernstein et al. (2015) suggested no difference in hypertension prevalence between the homeless and general population, a recent study by Asgary (2016) found a greater than 40% rate of uncontrolled blood pressure among homeless adults using New York City shelter-based clinics.

A high prevalence of smoking, substance abuse, chronic stress, and lack of healthy food may play a role in higher rates of uncontrolled blood pressure in homeless adults (Bernstein et al., 2015; Szerlip & Szerlip, 2002). Additionally, it has been suggested that a lack of health insurance is a strong predictor of uncontrolled blood pressure among hypertensive homeless adults (Hwang, Orav, O’Connell, Lebow, & Brennan, 1997).

Diabetes

Diabetes is the seventh leading cause of death in the United States and is a major contributor to CVD. Although a recent meta-analysis by Bernstein et al. (2015) suggested no difference in diabetes prevalence between the homeless and general populations, the CDC has consistently identified socioeconomic disparities in the increasing prevalence rate of diabetes in the United States (CDC, 2013). Homeless diabetics typically suffer from poor glycemic control. The most commonly reported challenges are related to diet, access to healthcare, medications and supplies, and the coordination of medications with meals (Zlotnick & Zerger, 2009).

Tobacco Dependence

Tobacco dependence is a major risk factor for CVD (CDC, 2017b). In comparison, cigarette smoking is more prevalent in homeless persons than in the general population (Szerlip & Szerlip, 2002). A large Canadian study
reported double the rate of smoking-related deaths among the homeless when compared with stably housed people (Hwang, Wilkins, Tjepkema, O’Campo, & Dunn, 2009). Multiple factors create challenges for cessation or reducing tobacco use in this population. Homeless smokers have a high burden of nicotine dependence, psychiatric symptoms, and coexisting substance-use disorders (Arnsten, Reid, Bierer, & Rigotti, 2004). In addition, homeless smokers are more likely than nonsmokers to have experienced physical or sexual trauma.

High Cholesterol

People with high cholesterol have about twice the risk of heart disease when compared with people with normal cholesterol levels. It has been reported that 12.1% of U.S. adults age 20 years and over have high cholesterol (greater than or equal to 240 mg/dL) (CDC, 2017a). Gelberg et al. (1990) found that 36% of homeless adults under age 50 and 55% age 50 and older had elevated cholesterol levels. Homeless people often eat foods prepared by charity shelters, churches, fast-food restaurants, 24-hour convenience stores, and from garbage cans. Studies have shown that homeless people’s diets are frequently high in saturated fats and cholesterol and inadequate in essential nutrients, contributing to hyperlipidemia (Hu & Willett, 2002; Luder, Boey, Buchalter, & Martinez-Weber, 1989). In addition, there is evidence of inadequate diagnosis and treatment of high cholesterol in this population (Lee et al., 2005). The National Coalition for the Homeless (2009a) found that use of prescription cholesterol-lowering medication was three times greater among adults who had health insurance when compared with those without health insurance. The majority of homeless adults lack health insurance, making them less likely to take prescription cholesterol-lowering medication, and thus more likely to suffer the effects of untreated hyperlipidemia (Baggett, O’Connell, Singer, & Rigotti, 2010).

Alcohol and Illicit Substance Use

Alcohol and substance abuse both cause and are a consequence of homelessness. Since 2002, substance use in adults over the age of 50 has doubled (Substance Abuse and Mental Health Services Administration, 2013). The “Baby Boomers,” those born between 1946 and 1964, account for this increase in substance dependence in aging adults. Unfortunately, homeless individuals have an even higher prevalence of substance-use disorders than the general population (Culhane, Metraux, & Bainbridge, 2010).

Alcohol and illicit substance use represent prevalent and potent less-traditional CDC risk factors (Rehm, Sempos, & Trevisan, 2003; Lange & Hillis,
2001). Alcohol use dependency (AUD), which is more common than illicit substance dependence in the older homeless population, often leads to serious CV problems (Stringfellow et al., 2016). Excessive drinking can cause stroke, cardiomyopathy, cardiac arrhythmia, and sudden cardiac death (American Heart Association, 2015). Most illicit substances have the potential for adverse effects on the CV system. In particular, cocaine, amphetamines, and MDMA (ecstasy and molly) exacerbate hypertension and coronary vasoconstriction. If left untreated, chronic substance use can lead to CV complications, such as acute myocardial ischemia and infarction, arrhythmias, cardiomyopathy, aortic dissection, or endocarditis (Maraj, Figueredo, & Morris, 2010).

Mental Illness

According to the Substance Abuse and Mental Health Services Administration, 20% to 25% of the homeless population in the United States suffers from some form of severe mental illness. In comparison, only 4% of all Americans are diagnosed with severe mental illness (National Institute of Mental Health, 2015).

Mental illness is frequently considered to be a CVD risk factor (Stansfeld, Fuhrer, Shipley, & Marmot, 2002). In one study, participants with severe mental illness had significantly lower high-density lipoprotein-cholesterol (HDL-cholesterol) levels, higher total cholesterol/HDL-cholesterol ratios, were more likely to smoke, were more likely to have diabetes, and had elevated overall coronary heart disease risk scores for their age and gender (Osborn, Nazareth, & King, 2006). Depression can accelerate atherosclerosis, increase the risk of an unhealthy lifestyle, and increase cortisol levels, leading to increased blood sugar and blood pressure. There is evidence that anxiety, anger, and stress may increase CV risk (Chaddha, Robinson, Kline-Rogers, Alexandris-Souphis, & Rubenfire, 2016). Additionally, common metabolic side effects of the medications used to treat severe mental illness, such as weight gain and increased insulin resistance, can contribute to CV risk (Mangurian, Newcomer, Modlin, & Schillinger, 2016).

Psychosocial Factors

Homeless people experience a daily battle for the necessities of life, including food, shelter, and safety. They also experience an increased risk of a multitude of social problems, including victimization and violence (CDC, 2010). These factors lead to significantly higher levels of stress than that experienced by the general population. Chronic stress, both early in life and in adulthood, has been associated with an approximately 40% to 60% excess risk of coronary heart disease (Steptoe & Kivimäki, 2012). Along with a lack
of informational support networks, isolation and loneliness are common among people who are homeless. A meta-analysis by Steptoe and Kivimäki (2012) indicated that patients with coronary heart disease or other chronic conditions have a significantly worse prognosis if they experience social isolation.

**Hyperhomocysteinemia**

Homocysteine levels greater than 15 mol/L have been correlated with an elevated risk of coronary artery disease (Clarke et al., 1991). In a study by Malinow, Bostom, and Krauss (1999), 7% of the homeless population were in this range. The vitamin and mineral deficiencies commonly found in homeless people can also indirectly increase the CVD risk through elevation of homocysteine levels.

**BARRIERS TO PREVENTION AND TREATMENT**

CV health requires prevention, as well as prompt intervention, and close follow-up when a CV event occurs. Prevention of CVD involves eating a healthy diet, maintaining a normal weight, regular exercise, and smoking cessation. Treatment of elevated blood pressure and/or cholesterol is vital to the prevention of CV events. Prompt intervention for a CV event mandates patient knowledge of emergent symptoms and what to do when these occur. After a cardiac event, close medical follow-up and medication compliance are necessary to prevent further events. Barriers to CV health for homeless individuals include their environment, lack of access to care, difficulty obtaining healthy food, substance dependence, mental health comorbidities, and issues surrounding medication access, storage, and adherence.

**Environment**

Many of the barriers to CV health faced by homeless people are inherent in being without a home or regular shelter. Sleep deprivation due to sleeping outdoors or in a crowded shelter is a common occurrence. Fear for personal safety and/or having one’s belongings stolen contribute to a lack of or inadequate sleep. For those with peripheral vascular disease or heart failure, sleeping in a sitting position contributes to lower extremity edema. Limited access to basic hygiene, including lack of access to showers, clean clothes, and a need to keep shoes on for long periods of time, also contribute to poor health. Communal eating, bathing, and sleeping in shelters facilitate
the transmission of communicable disease. Exposure to the elements when living outdoors increases the risk for sunstroke, sunburn, frostbite, and hypothermia. When a homeless person becomes ill, there is no place for him/her to rest (McMurray-Avila, 2001).

In addition, researchers have noted that the location of medical services can be a barrier to seeking healthcare. Homeless people may be less willing to go to a clinic if it is located in an area they are unfamiliar with or feel uncomfortable in because of the potential for greater public and/or police surveillance (Campbell, O’Neill, Gibson, & Thurston, 2015). The need to carry all of one’s personal belongings for fear of theft if they are left behind is an additional environmental barrier to seeking healthcare.

Access to Care

Among the homeless, access to healthcare is limited by social, economic, and behavioral barriers, and competing needs (O’Toole, Johnson, Aiello, Kane, & Pape, 2016; National Coalition for the Homeless, 2009a). Social issues include stigmatization and marginalization of the homeless by healthcare providers (Gerber, 2013). Homeless adults report experiencing unmet health needs due in part to perceived discrimination in healthcare settings (Kushel, Vittinghoff, & Haas, 2001). Social behaviors such as an episodic lifestyle, attempts at invisibility to stay safe, and living one day at a time also play a role (Gerber, 2013). Economic issues that limit access to care include lack of or limited finances to pay for healthcare, lack of a telephone, and no mailing address. Behavioral barriers consist of poor medical follow-up, high-risk behaviors, substance dependence, non-compliance, and health illiteracy (Gerber, 2013; National Coalition for the Homeless, 2009a; O’Toole, Johnson, Aiello, Kane, & Pape, 2016). Competing needs, such as food, shelter, safety, and substance abuse, also impact the ability of homeless people to access traditional primary care.

These access-to-care barriers often lead the homeless to seek only crisis-oriented or convenient healthcare (Homeless Veteran Patient Aligned Care Team. Update, 2013; O’Toole, Johnson, Aiello, Kane, & Pape, 2016). Due to their ease and 24-hour accessibility, many homeless individuals use emergency departments (ED) when they are ill or injured (Doran, Raven, & Rosenheck, 2013; O’Toole, Johnson, Aiello, Kane, & Pape, 2016). Utilization of EDs for non-urgent healthcare issues leads to fragmented care; illness prevention and ongoing medical and mental health needs are not typically addressed in the ED (Baggett et al., 2010; Doran, Raven, & Rosenheck, 2013; O’Toole, Johnson, Kane, & Pape, 2016; Tsai & Rosenheck, 2013; White & Newman, 2014). Delays in seeking care make it more likely that homeless
people will be hospitalized. In fact, the rates of hospitalization of homeless individuals are 2 to 3 times higher than those who are housed. In addition, on average, the homeless spend three to four more days as inpatients (Baggett et al., 2010; Doran, Raven, & Rosenheck, 2013; O’Toole, Johnson, Kane, & Pape, 2016; White & Newman, 2014).

**Substance Dependence**

Substance users are less likely to seek healthcare and are at increased risk for non-adherence to medical treatment. For many homeless persons, illicit substances, which include alcohol and drugs, are used as a means to cope with their undesirable circumstances (National Coalition for the Homeless, 2009b).

Substance dependence creates barriers to the prevention and treatment of CVD, especially for the homeless. Competing needs, such as finding food and shelter, take priority over drug counseling. Many homeless people are estranged from family and friends, and therefore do not have the social support network that is vital to recovery from substance dependence. Even when successful, remaining clean and sober is difficult while living on the street where illicit substances are frequently used and easily available (National Coalition for the Homeless, 2009b).

Substance dependence programs are traditionally structured toward younger clients and may be unprepared to deliver treatment to older adults with comorbidities such as CVD (Spinelli et al., 2016). Furthermore, many shelters, medical clinics, or rehab programs will not admit or provide care to an individual who is actively using illicit drugs.

**Mental Illness**

As previously mentioned, mental illness is inordinately prevalent among the homeless. Barriers to CV health in people with mental illness include inadequate self-management, lack of social support, and unhealthy behaviors (Correll et al., 2017). Characteristics of mental illness, such as lack of initiative and lack of energy and motivation, are additional barriers to CV prevention and treatment (Blomqvist, Sandgren, Carlsson, & Jormfeldt, 2017).

Mental illness often co-occurs with substance dependence. Homeless persons with untreated mental illness may inappropriately turn to illicit drugs or alcohol to treat their symptoms. Unfortunately, many treatment programs for persons with mental illnesses do not accept those with substance dependence disorders (National Coalition for the Homeless, 2009b).
Food Insecurity

A healthy diet is fundamental for the prevention and management of CVD (American Heart Associations Diet and Lifestyle Recommendations, 2017). Dietary modifications for preventing and managing CVD are: decreasing portion size, decreasing foods high in saturated fats, and increasing intake of whole grains, fruits, and vegetables (American Heart Associations Diet and Lifestyle Recommendations, 2017). Following a heart-healthy diet has been shown to reduce heart disease risk by lowering blood pressure, decreasing body weight, and maintaining healthy glycemic levels (American Heart Associations Diet and Lifestyle Recommendations, 2017).

According to Feeding America, one out of eight people do not get enough food, including five million senior citizens over the age of 60 (Weinfield, Mills, Borger, Gearing, Macaluso, Montaquila, & Zedlewski, 2014). It is estimated that 12% of Americans have limited access to basic nutritious foods, or are “food insecure” (Coleman-Jensen, Rabbitt, Gregory, & Singh, September, 2016). Due to limited financial resources, and physical and psychological barriers, food insecurity is especially prevalent among homeless persons. The chronically homeless are particularly vulnerable (Coleman-Jensen, Rabbitt, Gregory, & Singh, September 2016).

Many homeless shelters provide meals. However, foods served in these facilities lack variety, are high in saturated fats and carbohydrates, and provide limited or no fresh fruits and vegetables (Richards & Smith, 2006; Seale, Fallaize, & Lovegrove, 2016). Some homeless people scavenge for food, sell belongings, ask strangers for food, or use food stamps. Nonetheless, barriers to accessing heart-healthy foods exist (Richards & Smith, 2006; Seale, Fallaize, & Lovegrove, 2016).

Physiological barriers, including infectious diseases, injury, and degenerative diseases, make it difficult for homeless people to access food (Lee & Greif, 2008). Homeless people with mental health and/or substance abuse issues may isolate and avoid social situations, thus reducing their likelihood of seeking out food at a shelter or church. Lack of cooking facilities and lack of places for food storage are added physical barriers to eating a heart-healthy diet (Lee & Greif, 2008; Richards & Smith, 2006; Seale, Fallaize, & Lovegrove, 2016).

RECOMMENDATIONS

It is evident that CVD is very prevalent in older homeless persons. Unfortunately, significant barriers to CVD prevention and treatment in this population exist. Research suggests that integrating social support and social determinants of health into clinical care is an effective way to manage the
healthcare of people who are homeless (O’Toole, Johnson, Aiello, Kane, & Pape, 2016). Suggested interventions for improving non-ED care access are case management, integration of primary care, social and mental health services, fixed or mobile outreach, orientation of services available at primary care clinics, and supportive housing services (Health Quality Ontario, 2016).

**Housing**

Environmental barriers to CV health/healthcare include sleep deprivation, fear for personal safety, limited access to basic hygiene, communicable disease exposure, exposure to the elements, and lack of storage for belongings. Studies of homeless adults and older adults have consistently supported the benefits of housing in reducing hospital visits, admissions, and lengths of stay (Larimer et al., 2009; Sadowski, Kee, VanderWeele, & Buchanan, 2009). A 2016 study of homeless veterans found that permanent supportive housing significantly increased treatment for chronic and acute physical illness, mental illness, and substance-use disorders (O’Connell, Kasprow, & Rosenheck, 2012). Permanent housing may improve CV health in particular, by decreasing chronic psychological stress and allowing for healthier food choices.

**Access to Care**

Access to healthcare for homeless persons is limited by perceived discrimination, isolation, economic concerns, and competing needs. Research indicates that increased access occurs with street outreach, “Housing First” models, and utilization of multidisciplinary teams of clinicians working together to integrate the various components of the healthcare system (O’Toole et al., 2016; Sadowski et al., 2009).

When providing care to homeless clients, it is imperative that providers examine their personal feelings about homeless people. A non-judgmental clinician, who upholds the dignity of the homeless individual by showing genuine caring and respect, can engender the trust and engagement that is critical for continuous care and adherence to the treatment plan. Admittedly, this can be difficult when hygiene is poor, infestation is suspected, and/or the patient presents with all of his or her earthly belongings. However, clinicians who work with and are able to establish trust with homeless individuals find that most are “normal” people who have experienced serious adversity in their lives and who are extremely appreciative of any assistance/care provided.

The episodic lifestyle of homeless persons mandates that their healthcare be open-access, with walk-in capacity and flexible scheduling. Street
or shelter outreach and availability of clinics with multidisciplinary staff in areas where there are large numbers of homeless people enhances access to care. Having food, toiletries, clothing, and bus passes available allows homeless clients to focus on their social and health needs, rather than where they will get their next meal, or how they will get back to their shelter or usual sleeping location. In-clinic shower facilities are a definite benefit. A list of homeless services in the area (including free meals, showers, laundry, mailboxes, storage for belongings) should also be available.

A Multidisciplinary Team

A cohesive team, including at minimum a medical provider, nurse, social worker, and mental health provider who are available on-site, will prevent the need for referrals that, for a variety of reasons, may not be scheduled or attended. A nurse who understands the unique needs of homeless clients can monitor vital signs, weight, and blood glucose, as well as provide CVD lifestyle education and medication teaching. Using prepared handouts with pictures and real packaged foods, clients can be taught to read labels and make better food choices. A nurse can address medication issues such as storage, scheduling, compliance, theft, and side effects. Homeless clients who carry their medications in a backpack find that the compartments in medication organizers can inadvertently open and spill their contents. Additionally, having no place to leave medications out and visible makes remembering to take them difficult. Something as simple as teaching a client to set an alarm on his or her cell phone (yes, homeless clients often have cell phones) can increase medication compliance. In fact, a recent study suggested that cell phones might be a feasible method for communicating medication and appointment information to homeless persons (Moczygemba et al., 2016).

A social worker who has experience working with homeless people and who is knowledgeable about available homeless resources in the community can assist the homeless client to find temporary or permanent housing. A social worker can also assist the homeless person to apply for food stamps, pharmaceutical patient assistance programs, Medicaid, Supplemental Security Income (SSI), Supplemental Security Disability Income (SSDI), or veterans benefits. Homeless social work case management programs have been shown to decrease hospitalizations, length of stay, ED visits, and have a positive impact on housing stability (O’Toole et al., 2016; Sadowksi et al., 2009). Ideally, a social work case management program provides monthly client visits and includes coordination with hospital discharge planning, assistance with permanent or temporary housing, coordination of medical and mental healthcare, and substance-abuse treatment referral.
Due to the extremely high rate of mental illness among homeless individuals, a mental health provider is a priority for an effective multidisciplinary homeless care team. Collaboration between the mental health and medical care provider can lead to improved client outcomes. For example, a medical provider could advocate for an antidepressant that also treats chronic pain. A mental health provider might request the medical providers’ assistance with treatment of erectile dysfunction related to an antidepressant or ask that a beta-blocker be discontinued due to worsening depression. With regard to CVD, treatment of depression may decrease stress hormone levels and increase motivation to engage in lifestyle changes that promote CV health. Treatment for anxiety may help with blood pressure reduction, as well as increase the likelihood of medical and mental healthcare follow-up.

When a homeless client is hospitalized, a visit from one or more of the care team members is extremely beneficial. Homeless patients often isolate, and therefore may have no visitors during their hospitalization. Seeing a familiar face while in a strange and unfamiliar environment is reassuring. In addition, the outpatient care team can provide invaluable insight and pertinent medical/mental health history to the inpatient care providers. Finally, and most importantly, post-hospitalization follow-up can be arranged prior to discharge. This is particularly important when the homeless person has no address or phone number.

**Medical Treatment for Cardiovascular Disease**

When working with homeless clients, evidence-based treatment guidelines for CVD (hypertension, hyperlipidemia, coronary artery disease, heart failure, etc.) should be followed whenever possible. However, certain adaptations must be considered. The information presented here is an amalgamation of the practice adaptation recommendations of the Strehlow, Robertshaw, Louison, Lopez, Colangelo, Silver, & Post (2009) with those of the authors of this chapter, who have extensive experience in caring for homeless clients with CVD.

Obtaining the medical history of a homeless person is similar to that of permanently housed clients, with a few exceptions. Living conditions must be addressed at each visit. Clients should be asked where they sleep, where they spend their time and with whom, where they get their food, where they store their medications, and if they feel safe. It is essential that contact information be updated at each encounter. If the client has no address or phone, it is inherent that a place and time for future contact be arranged.

The physical exam can be a challenge. Homeless people often wear multiple layers of clothing and can be very sensitive and embarrassed about their
poor hygiene. The provider must be empathetic to these feelings and may need to defer all or part of the physical exam until trust is established. If infestation is suspected, care must be taken to prevent the client from feeling like a pariah, while at the same time preventing its spread.

When providing care to homeless persons, there is no substitute for longer clinic appointments and more frequent follow-up. Gaining the trust of homeless clients, assisting them to select and set realistic goals, and monitoring their progress toward goal achievement takes time. CVDs such as hypertension and hyperlipidemia are often asymptomatic. Education about the adverse health effects of these morbidities and the benefits of treatment takes time. Additional time is necessary to allow for and to answer client questions.

Homeless people often have multiple comorbidities and may not have received medical care for “years.” The medical provider must prioritize the problem list and address the most urgent issues first. The tendency of medical providers to tackle too many problems at one visit can lead to an overwhelmed client who does not follow through on any of the provider recommendations. Referrals to specialists should be minimized whenever possible. The e-consultation process provided by the Veterans Administration Healthcare System allows primary care providers to seek specialist opinions/recommendations without the specialist having to see the client. At a minimum, multiple visits to a specialist can be avoided if the primary care provider orders any necessary testing or labs prior to the initial specialty consultation.

Because lifestyle modification is difficult at best, initiation of CV medications may need to occur sooner with homeless clients. Availability of bathroom facilities and the ability to have follow-up labs should be ascertained prior to ordering diuretic therapy. Beta-blockers and clonidine should be prescribed with care, as sudden discontinuation can result in rebound hypertension.

Simplification of the drug regimen through the use of once-daily dosing regimens and combination drugs will help improve adherence. Prescribing small amounts of medication may encourage follow-up visits and decrease the risk of theft, loss, or misuse. Limiting the amount of medication dispensed should definitely be considered in clients who are determined to be at high risk for suicide.

Thorough medication reconciliation by the provider at each encounter is imperative. Homeless clients should be advised to bring all of their medications to each and every visit. It is not uncommon to find duplicate or missing medications in this transient population. Inconsistent adherence is common.
While maintaining a non-judgmental attitude, an exploration of barriers to adherence and an exploration of ways to address these barriers should then be undertaken. Medications, other than opioids or those known to react with EtOH (Ethanol) or other illicit drugs, should not be withheld due to substance dependence. Active amphetamine users, in particular, tend to be very hypertensive and should be treated with anti-hypertensive medication(s).

Providing home blood pressure monitors or weight scales to homeless clients (even those living in shelters) is not advised. These pieces of equipment are difficult to carry and are frequently lost or stolen. It is preferable to offer anytime, no-wait, walk-in opportunities for clients who need frequent blood pressure or weight monitoring. Glucometers are small and easy to carry and hide, and can thus be provided to diabetic homeless persons in most instances.

**Tobacco Cessation**

Although medical treatment for CVD is extremely important, smoking cessation is critical to reducing CV risk. Studies suggest that psychosocial stressors and the physical hazards of daily living diminish the perceived benefits of smoking cessation for homeless persons (Baggett & Rigotti, 2010; Baggett, Tobey, & Rigotti, 2013). There is, however, evidence that many homeless smokers want to quit (Arnsten et al., 2004). Baggett, Tobey, and Rigotti (2013) suggest the following: (a) pair smoking cessation pharmacotherapy with behavioral counseling located near shelters or walk-in clinics, (b) emphasize the immediate symptom relief and financial benefit of cessation, and (c) address smoking cessation at every clinical encounter. In addition, for male smokers, emphasizing that tobacco use causes erectile dysfunction may convince them to attempt cessation!

**Substance Dependence**

Homeless clients often lack understanding about the adverse effects of illicit substances and alcohol on their CV system. The relationship between excessive alcohol intake and stroke, enlarged heart, heart rhythm disturbances, and sudden cardiac death should be stressed. Those dependent on cocaine, stimulants, and/or ecstasy should be educated that these substances can cause high blood pressure, heart attack, irregular heart rhythms, and/or heart failure. Motivational interviewing can be used to promote substance-dependence treatment. If a team member ascertains readiness for treatment, both inpatient and outpatient referral resources must be readily available.
Geriatric adults are more susceptible to adverse reactions between illicit drugs and their medications (Lindsey, Stewart, & Childress, 2012). If substance dependence or alcohol use is known or suspected, stern warnings about these interactions should be provided. Certain hypertensive medications (e.g., clonidine) have been known to increase and prolong the psychoactive effects of heroin and are sold on the streets to reduce the withdrawal symptoms of opioid addiction (Maness & Khan, 2014).

CASE STUDY CONTINUED

At the time of his presentation to the VA homeless clinic, J.G. was living in a homeless shelter. He was greeted warmly and thanked for his service to our country. He was offered donated toiletries, socks, food, and water. An echo-cardiogram was arranged. It revealed worsening heart failure with an ejection fraction (EF) of 13%. At his discharge from the hospital two weeks prior, he had been prescribed aspirin, atorvastatin, furosemide, lisinopril, metoprolol SA, olanzapine, ranitidine, tamsulosin, and spironolactone. He had been clean and sober for 90 days. Fortunately, J.G. brought his medications with him to the clinic. A complete medication reconciliation was completed. He was educated about heart failure in simple terms. J.G. was strongly advised to take his medications as prescribed and to avoid illicit substances. He was provided with a computer print-out of his medication list.

Between this initial visit and his next presentation to the clinic five months later, J.G. was hospitalized with a left middle cerebral artery stroke. He was discharged on his prior medications, except furosemide was changed to bumetanide, and warfarin and aspirin were added. He admitted to taking his medications only intermittently. He was again living on the street. The homeless clinic primary care provider (PCP) made the difficult decision to discontinue the warfarin due to safety concerns (inconsistent adherence and inability to have frequent laboratory monitoring). As an alternative, his aspirin dose was increased to 325 mg daily. Medication reconciliation at this visit revealed two containers of spironolactone and no bumetanide. He was 10 lbs. above his dry weight. Duplicate medications were combined and obsolete medications were discarded. Arrangements were made to obtain a supply of bumetanide at a nearby pharmacy. A medication list was provided.

During follow-up two weeks later by the homeless clinic nurse, his weight was down by only 1 lb. Medication counts did, however, reveal adherence. His bumetanide dose was increased, and he was provided with a $5 coupon book to spend at the VA store or cafeteria. He was given a bus pass so that he could return for labs in one week.
Several days later, J.G. walked-in to the homeless clinic with new-onset slurred speech. He was taken immediately to the ED and admitted to the hospital. Discharge documentation indicated a “re-expression” of the old stroke. He was discharged on his pre-hospitalization medications with dabigatran added for anticoagulation (aspirin was discontinued). Social work was unable to arrange temporary or transitional housing; J.G. was discharged to the street. However, the homeless clinic team was able to visit him while he was hospitalized to provide insight to the inpatient medical team, and they provided J.G. with a primary care follow-up appointment.

J.G. was seen in the homeless clinic one week post-discharge. Medication reconciliation revealed dabigatran AND aspirin in the client’s possession. Aspirin was discarded. The clinic PCP was nervous about the dabigatran, as although it does not require laboratory monitoring, missing doses of this anticoagulant can cause hypercoagulation. It was stressed to the client that he MUST take this medication daily to prevent another stroke. J.G. was very frustrated about his dysphasia that consisted of word salad and difficulty with word finding. A speech therapy consult was entered, but he never scheduled the appointment. J.G. reported he did not like taking too many medications at one time and refused a medication organizer (“too bulky, and the containers open and spill into my backpack”). The PCP separated the daily medication containers into morning and evening. She placed a blue colored sticker on each morning medication and a red sticker on each evening medication. She placed both blue and red stickers on carvedilol (a twice-daily medication).

Unfortunately, three weeks later, J.G. was admitted to the hospital with another heart failure exacerbation. His urine toxicology screen was positive for amphetamines. An echocardiogram indicated his EF had decreased to 8%. He was diuresed, provided with donated clothing, and discharged to the street with scheduled primary care and social work case manager follow-up appointments. With each hospital discharge, he adamantly declined skilled nursing facility placement.

Subsequently, J.G. was seen monthly by the PCP with in-between registered nurse visits for weight and medication reconciliation. He was ultimately assigned to a VA supportive housing (VASH) social work case manager who arranged admission to a supervised transitional living program for physical and mental health stabilization. She assisted J.G. to apply for a VA pension, and he was ultimately housed in an apartment downtown. The social worker also assisted J.G. to locate members of his family. He was in contact with them by phone.
Unfortunately, two weeks after he was permanently housed, J.G. was admitted to the hospital again. His EF was only 3%. He died several days later. The homeless clinic team members were sad, but took comfort knowing that J.G died, not as a nameless, homeless, drug-addicted statistic. He died as a veteran of the U.S. Marine Corps and was buried with honor at the local veterans cemetery.

CONCLUSION

CVD remains the leading cause of death in older homeless people. Traditional CV risk factors, such as hypertension, diabetes, smoking, and hyperlipidemia, and nontraditional CV risk factors, such as substance abuse, psychological stress, and lack of diagnostic and preventative medical care, contribute to CVD in this population. Barriers to CV prevention and treatment in homeless individuals include their environment, lack of access to care, substance dependence, mental illness, food insecurity, and medication non-adherence. Healthcare models that provide Housing First and just-in-time care by non-judgmental multidisciplinary teams have been shown to improve the CV health of people who are homeless. CV healthcare practice adaptations for homeless clients include ascertaining living conditions, improvising the physical exam, scheduling longer clinic appointments with frequent follow-up, prioritization of the plan of care, and simplification of the medication regimen.

REFERENCES


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