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Homeless With a Heart Attack in America—A Double Whammy

We think sometimes that poverty is only being hungry, naked, and homeless. The poverty of being unwanted, unloved, and uncared for is the greatest poverty.
Mother Teresa

Homelessness is at crisis levels in our society (Figure).[1] There are nearly 1 million Americans homeless in any given week in the United States,[2] and reports suggest that between 5 and 8 million people have experienced homelessness during the past 5 years.[3] Homelessness affects people of all ages—from infants to senior citizens[3]—and veterans, minorities, the legally undocumented, and the mentally ill are disproportionately represented. Homelessness is associated with poor cardiovascular health; studies report homeless adults to be 40% to 50% more likely to die of heart disease than adults with stable housing.[4,5] Paradoxically, homelessness is a growing problem in wealthy American cities such as San Francisco,[6] likely exacerbated by a shortage of affordable housing caused by the booming technology economy in that region.

In this issue of *Mayo Clinic Proceedings*, Balla et al[7] report on the effect of homelessness on outcomes in patients admitted with acute myocardial infarction (AMI). They identified 3937 homeless patients among the 1,589,853 patients admitted with AMI in the National Readmissions Database from January 1, 2015, through December 31, 2016.

Homeless patients with AMI differed from patients with stable housing in several characteristics: homeless patients were younger (57±10 years vs 68±14 years), less likely to have traditional risk factors (eg, dyslipidemia, hypertension, and type 2 diabetes mellitus), and more likely to suffer from anxiety, depression, and substance abuse. Balla et al also reported that homeless patients received less aggressive cardiovascular care for AMI than did patients with stable housing, including reduced utilization of coronary angiography, percutaneous revascularization, and drug-eluting stents. Homeless patients were more likely to suffer from acute kidney injury despite lower use of invasive procedures, were more likely to remain hospitalized longer, and were more likely to be discharged to an intermediate care facility or to self-discharge against medical advice than were patients with stable housing.

The short-term hospital mortality rate was not different among all patients, but 30-day readmission rates were substantially higher in homeless patients (22.5% vs 2.0%; $P<.001$). This observation is consistent with other literature on the effect of homelessness on cardiovascular disease.[8] Lee et al described homeless people as "extremely disadvantaged" among all groups in North America. Cardiovascular disease was the leading cause of death among the homeless population, and their risk of AMI was elevated across all decades of life studied. These outcomes underscore the potential adverse consequences of suboptimal AMI treatment and the associated long-term risks attributed to less than optimal care for hospitalization for AMI, as reported in this issue of *Mayo Clinic Proceedings*. Lee et al also previously reported that there was no increase in the prevalence of hypertension, dyslipidemia, or diabetes mellitus in the homeless population compared with the general population; however, disease management was suboptimal in homeless patients, with poor control and/or management of hypertension, dyslipidemia, and diabetes mellitus.

There are many factors associated with homelessness that contribute to the elevated cardiovascular disease risks observed by

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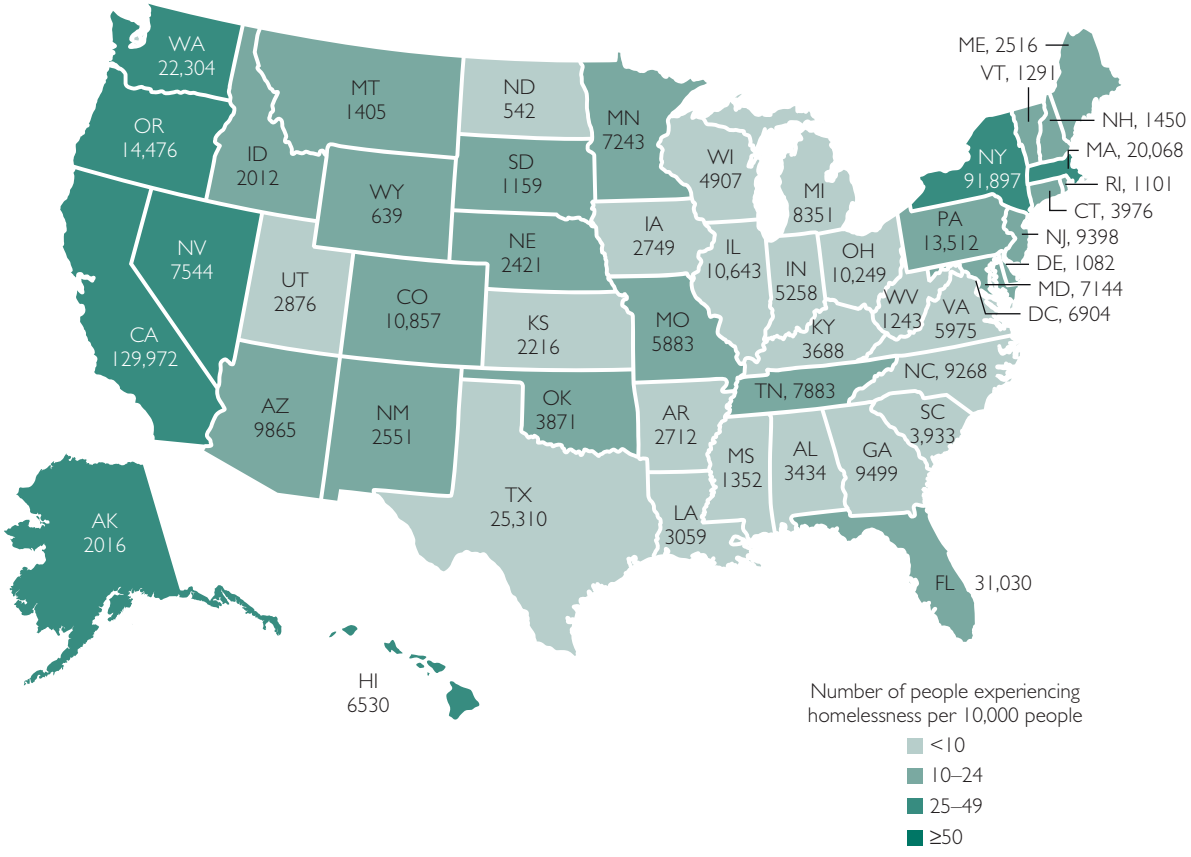

FIGURE. The estimated homeless population in the United States illustrated by a state-by-state estimate (2018). From *The 2018 Annual Homeless Assessment Report (AHAR) to Congress: Part 1: Point-in-Time Estimates of Homelessness.*[1]

Balla et al. Homelessness is associated with poor access to health care overall, less access to primary care and prescription medications, higher rates of mental illness, and greater exposure to environmental extremes.[2,3] An important psychological issue is social isolation. In 2011, Bucholz et al[9] reported that living alone was associated with higher 4-year mortality rates (21.8% vs 14.5%; $P<.001$) and a lower quality of life after AMI compared with patients living with social support.

Homelessness is a complex sociological and economic condition with no easy solutions, but there are several important lessons to take from the report by Balla et al in this issue of *Mayo Clinic Proceedings*. First, the homeless receive inferior care when hospitalized for AMI. Homeless patients receive less medical and invasive therapy and less revascularization, which, in turn, likely contribute to the observed higher long-term mortality rates. If unperceived bias regarding cost is driving the medical decision to use lifesaving therapy less often, we must recognize this and work to eliminate it. Homeless patients should receive the same high-quality AMI care that patients with stable housing receive.

Second, homeless patients are more likely to need discharge to an intermediate care unit and are at high risk of self-discharge from hospital against medical advice. Physicians should proactively work to minimize premature self-discharge of homeless patients by seeking to understand why they want to leave the hospital sooner than recommended and working to reassure

them that the hospital is a safe space to recover and get well. We should resist pressure by hospital administrators to discharge homeless patients more quickly than insured patients because of financial concerns; indeed, it may be appropriate to keep the homeless patient an extra day or two to facilitate postdischarge care and prescription coverage.

Third, it is important to recognize that the homeless population exhibits a higher prevalence of substance abuse issues, and these should be managed appropriately and discreetly while in hospital. It is appropriate to request consultation from substance abuse experts and, more broadly, to include social workers in the discharge planning process.

Finally, the medical community may need to adapt to the changing demographics of the homeless population and consider offering mobile follow-up care in the communities, parks, and temporary shelters where they live. The Ohio State University has recently expanded its mobile health outreach platforms to include multiple mobile clinics[10] that offer a range of health care services to displaced populations. This type of innovative approach may be a model that more medical centers can use to enhance care delivery and better manage the health care needs of nontraditional groups.

It is a personal crisis and a societal failing for one to be homeless in an advanced and wealthy society such as ours. This crisis is doubly compounded by the complication of AMI and inferior medical care as reported by Balla et al in this issue of *Mayo Clinic Proceedings*. We need to better address the health and living conditions of America's homeless population, some of whom as veterans have risked their lives for us in foreign wars. And we need to more fully invest in their care during and after hospitalization for AMI to ensure better long-term health outcomes for them and ultimately lower costs for our society at large.

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