



Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

Elsevier hereby grants permission to make all its COVID-19-related research that is available on the COVID-19 resource centre - including this research content - immediately available in PubMed Central and other publicly funded repositories, such as the WHO COVID database with rights for unrestricted research re-use and analyses in any form or by any means with acknowledgement of the original source. These permissions are granted for free by Elsevier for as long as the COVID-19 resource centre remains active.

Potential Implications of the COVID-19 Pandemic on the Homeless Population



Dana Albon, MD
Morgan Soper, MSSW, LCSW
Anthony Haro, BA
Charlottesville, VA

KEY WORDS: asthma; bronchiectasis; COPD; cystic fibrosis

As the number of coronavirus disease 2019 (COVID-19) infections increases in Virginia, social distancing is encouraged in all aspects of current life. However, an entire population is left behind from our isolation planning: the homeless. Charlottesville alone, on any given night, has about 150 people staying in shelters: (1) Salvation Army, approximately 70 people; (2) People and Congregation Engaged in Ministry, approximately 50 to 60 people; and (3) Shelter for Help in Emergency (shelter for domestic violence survivors), approximately 25 people.

These shelters do not have the space for people to properly socially distance. If one person becomes infected with COVID-19, there is a high probability that the entire shelter population will become infected. In this situation, they will need to be hospitalized to prevent further spread/contamination, and they cannot be discharged into the community as long as the virus is

active. As learned from the Chinese and Italian experiences with this disease, the hospital length of stay could be as long as 14 to 21 days. UVA Medical Center and Martha Jefferson Hospital, the existing major health-care institutions in Charlottesville, are already working at capacity, and despite having plans in place to accommodate potential patients infected with COVID-19, they are not prepared for a large incoming sick patient population. A COVID-19 spread in the homeless community of > 100 patients can create sudden, extensive pressure on the health-care system already weakened financially by social distancing, closing of elective procedures, and minimizing of routine clinic visits. The cost of the homeless hospitalizations can become a game changer in a small community such as Charlottesville, not to mention the risk of spread of the disease beyond the homeless population.

If social distancing continues beyond the next 2 weeks, it is predicted that more people in the United States will experience job instability, and some will potentially transition to unemployment and homelessness. This scenario will likely cause many to become uninsured, which will further increase the pressure on health-care systems.

Some of these citizens are already at higher risk of complications with any infection because of underlying chronic conditions. Particularly high-risk populations include people with respiratory conditions such as asthma, COPD, and bronchiectasis, as well as those with immunosuppression, heart disease, and diabetes. Uninsured status in these chronic conditions will most likely lead to cessation of therapies, causing disease decompensation and increased risk of hospitalization even in the absence of COVID-19 infection and creating additional pressure on the current health-care system.

COVID-19 Pandemic Crisis Has Exposed Major Gaps in the US Health-Care System

Homelessness is an independent risk factor for increased health-care utilization in the United States.¹

Introduction of a program that addressed homelessness in the state of New York yielded average Medicaid savings of \$23,000 to \$52,000 per person per year (amounts varied by program), with a 40% reduction in

ABBREVIATION: COVID-19 = coronavirus disease 2019

AFFILIATIONS: From the Department of Internal Medicine (Dr Albon and Ms Soper), Division of Pulmonary and Critical Care, University of Virginia; and the Thomas Jefferson Area Coalition for the Homeless (Mr Haro).

FINANCIAL/NONFINANCIAL DISCLOSURES: None declared.

CORRESPONDENCE TO: Dana Albon, MD, University of Virginia, Department of Internal Medicine, Division of Pulmonary and Critical Care, 1 Lee St, CDW Room 5607, PO Box 800546, Charlottesville, VA 22908; e-mail: da9zj@virginia.edu

Copyright © 2020 American College of Chest Physicians. Published by Elsevier Inc. All rights reserved.

DOI: <https://doi.org/10.1016/j.chest.2020.03.057>

inpatient days and a 26% reduction in ED visits. Most homeless patients have Medicaid, few have Medicare, and some are uninsured. Emergent introduction of programs to address homelessness in the United States, through Medicaid and local programs, could significantly minimize hospitalizations and risk of COVID-19 spread in the homeless community. The total estimated cost to meet the emergency and observational/quarantine shelter bed need is approximately \$11.5 billion for the current year for the entire country.² There has been local discussions regarding helping homeless individuals achieve social distancing by creating emergent housing (using dorm rooms because the universities are closed) following infection with COVID-19 infection. However, social isolation postinfection could prove to be too little too late. Preventive strategies are needed to contain community spread before the situation gets worse and the need for homeless isolation transfers from the community to the medical systems.

Charlottesville is only a small-scale example of the homeless COVID-19 crisis that could affect multiple towns and hospitals across the United States. According to the National Alliance to End Homelessness, a total of 552,830 people were experiencing homelessness on a single night in 2018. This number represents 17 of every 10,000 people in the United States.³ Innovative ideas and community resources in addition to federal help would need to be used in an urgent manner to preserve what little health-care resources we currently have and avoid homeless persons spending unnecessary days in hospitals already overwhelmed by the current epidemic.

According to *US News*, unemployment claims spiked > 33% during the week of March 19, 2020.⁴ Unemployment will lead to insurance loss and subsequently to medication cessation in populations with chronic conditions. We will most likely see a surge in financial assistance applications to pharmaceutical companies and health-care systems that are already financially weakened by the current COVID-19 crisis. During times of stability, robust health-care systems can afford to offer financial assistance to low-income patients. However, in the context of COVID-19, sustaining current financial assistance policies could lead to bankruptcies of entire medical systems. COVID-19, crisis-emergent, federal universal insurance coverage added to the current private insurance system could salvage the US economy and maintain disease control in patients with chronic conditions in dire need of consistent treatment. Medicaid expansion would also be beneficial across states.

References

1. Department of Health, New York State. Housing is healthcare: supportive housing evaluation. https://www.health.ny.gov/health_care/medicaid/redesign/supportive_housing/evaluation.htm. Accessed May 19, 2020.
2. Culhane D, Treglia D, Steif K, Kuhn R, Byrne T. Estimated emergency and observational/quarantine capacity need for the US homeless population related to COVID-19 exposure by county; projected hospitalizations, intensive care units and mortality. https://endhomelessness.org/wp-content/uploads/2020/03/COVID-paper_clean-636pm.pdf. Accessed May 19, 2020.
3. National Alliance to End Homelessness. State of homelessness: 2020 edition. <https://endhomelessness.org/homelessness-in-america/homelessness-statistics/state-of-homelessness-report/>. Accessed May 19, 2020.
4. Soergel A. Unemployment spikes 33% amid coronavirus pandemic. *US News*. March 19, 2020. <https://www.usnews.com/news/economy/articles/2020-03-19/unemployment-spikes-33-amid-coronavirus-pandemic>. Accessed May 19, 2020.