COVID-19 Reveals Emerging Opportunities for Rural Public Health

See also the *AJPH* Rural Health section, pp. 1274–1343.

Differences in physical and mental health care outcomes and premature mortality between residents who live in rural areas and those who live in urban areas have been well documented.[1] Rural Americans tend to be older, to be sicker, and to have less access to health care services. In addition, some racial/ethnic groups living in rural communities are particularly disadvantaged and have even higher rates of mortality from leading causes of death.[2] As part of their mission, local health departments (LHDs) work to protect and improve the health of the people in the communities they serve. However, rural LHDs often have lower levels of staffing and financial resources than do urban LHDs.

Although unfavorable health outcomes and disparities between metro- and micropolitan areas have characterized the rural United States for some time, the COVID-19 pandemic has underscored the health impacts of these differences, which suggests that public health systems need to rapidly innovate to meet the health needs of their communities. The articles in this special section of *AJPH* provide a broad view of some of the unique challenges of protecting and improving health in rural communities and discuss innovative opportunities to advance rural public health.

NEW MODALITIES IN SERVICE PROVISION

Amid the COVID-19 crisis, many health care centers and clinics have drastically reduced in- person health care visits and subsequently made rapid transitions to using telehealth services to meet the health and mental health care needs of the populations they serve. The inability to provide in-person services because of the pandemic has also forced rural health departments to evaluate different delivery modalities for providing nonclinical public health services. Anecdotal evidence suggests that technology has allowed local public health departments to maintain and expand the reach and scope of the services they provide.

For example, federal waivers —intended to promote social distancing and reduce the necessity of in-person visits to WIC (Special Supplemental Nutrition Program for Women, Infants, and Children) clinics during the pandemic—have allowed health departments to provide WIC recertification appointments electronically. In a conversation with the director of a regional Kentucky LHD that serves seven rural counties (June 2020), I learned that WIC participation rates increased from 84% to 98% with electronic (online or telephone) appointments between March and June 2020. Rural LHDs have also used online meeting platforms to provide smoking cessation, diabetes self-management, and other health education classes to multiple counties. The director stated, "We are reaching people we have never reached before." Aside from helping during the pandemic, providing public health services via telehealth modalities can mitigate a known barrier of care: lack of transportation, which in many rural areas is exacerbated during winter months.

The ability to continue to provide services electronically after the COVID-19 pandemic ends will be important for these more remote communities. Community partners, such as cooperative extension, can also assist LHDs in the expanded use of these technologies (see Buys and Rennekamp, p. 1300, in this issue of *AJPH*). Although the use of telehealth to improve access to public health services is promising, many rural areas still lack high-speed broadband networks. The Association of State and Territorial Health Officials noted that ensuring an adequate telehealth infrastructure, including sufficient broadband, was a foundational component of advancing telehealth.[3] Although there are some pilot programs to expand broadband, funding for telehealth infrastructure in rural areas is still a primary barrier to expansion.

CONSTRAINED RESOURCES

Funding for public health, in general, has long been inadequate. This has become strikingly evident with the recent outbreaks of communicable diseases, such as hepatitis A, syphilis, and now COVID-19. In this issue, DuPre et al. (p. 1332) showed that more disadvantaged counties in Kentucky, predominantly in rural Eastern Kentucky, had even higher rates of hepatitis A during a 2017 to 2018 outbreak. Funding for rural public health departments, however, has been disproportionately lower than has funding for their urban counterparts.

Beatty et al. (p. 1293) address how rural LHDs rely more on state and federal funds, which are more vulnerable to policy change, and receive less funding from local sources. Local public health funding is often determined by an area's overall wealth

ABOUT THE AUTHOR

Angela T. Dearinger is with the University of Kentucky College of Medicine, Lexington.

Correspondence should be sent to Angela T. Dearinger, MD, MPH, University of Kentucky, Department of Internal Medicine, 900 South Limestone St, Charles T. Wethington Bldg, Lexington, KY 40536-0200 (e-mail: angela.dearinger@uky.edu). Reprints can be ordered at http://www.ajph.org by clicking the "Reprints" link.

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and tax base (Beatty et al., p. 1293; Leider et al., p. 1283), but because many rural communities are facing a declining tax base or are reluctant to raise local taxes, rural LHDs are left with lower or less stable funding. This is certainly the case in Kentucky, where the majority of LHDs serve rural constituents, yet LHDs in more affluent counties are able to provide more robust public health services for their communities.

This inequity was brought to light in 2018, when a pension crisis in Kentucky threatened the solvency of more than half of Kentucky's LHDs, almost all of which served rural areas. The local and state health departments worked collectively to develop a transformative public health funding model that would direct more resources to the areas with the greatest needs and thus ensure that all Kentuckians have equitable access to essential public health services. However, the implementation of this equitable funding model as intended has been hampered by budget constraints associated with the COVID-19 pandemic.

This lack of funding, along with a health care workforce shortage, is one of many reasons that some rural LHDs must prioritize clinical services over population-based services. Nevertheless, communicable disease control is a core responsibility of all LHDs. In rural areas, the crisis of the COVID-19 pandemic has been exacerbated by the poor health status discussed. Residents of these areas have a higher prevalence of comorbidities such as hypertension, obesity, diabetes, and chronic lower respiratory diseases—all of which increase their risk of death from COVID-19. With less funding, fewer staff, a sicker population, and, often, a larger geographical area in which to provide services, rural LHDs are not equipped to deal with the extreme demands of a pandemic of this enormity. COVID-19 has highlighted the inequity and fundamental flaws in the way rural public health is funded. Leider and Henning-Smith (p. 1291) recommend reevaluating how the public health system is financed and increasing investments in rural public health to ensure that adequate resources are available to address the unique needs of rural communities.

A CALL FOR NEW RESOURCES AND PARTNERSHIPS

COVID-19 has been a wake-up call for our nation and has shed even more light on the rural–urban disparities in health outcomes and public health funding. After the COVID-19 pandemic, expanded use of technology may be a new normal in the way we interact with one another, including health care services and public health programs. This may be even more important for rural areas; thus, investment in resources and expanded partnerships are necessary. Funding mechanisms for rural public health must be reevaluated. Funding should be based on the public health needs of communities, not on their local tax base. We need a vibrant and robust public health infrastructure that is able to meet the unique needs of our rural communities and most vulnerable populations. Supporting rural LHDs so they are better equipped to improve the health of their communities will advance not only rural public health but the overall health of our nation. AJPH

Angela T. Dearinger, MD, MPH

CONFICTS OF INTEREST

The author has no conflicts of interest to disclose.

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