providing a smooth transition to home. Because opioid use disorder is a chronic medical condition involving a likelihood of relapse, our responsibility to mothers and infants does not end at hospital discharge. After discharge, we should ensure continuous access to care (i.e., medical care and addiction treatment), minimize adverse postdischarge outcomes for both mother and infant (e.g., readmission), and connect infants with such resources as early intervention services. Health care providers involved in postdischarge care should acknowledge that the newborn period can be stressful, which can increase the odds of relapse, and should support mothers and infants using a chronic disease model (Figure A).

The opioid epidemic has exposed deficiencies throughout the continuum of US maternal and child health care. Challenges remain in treatment access of women of reproductive age (especially inconsistencies during the postpartum period), hospital care is variable for opioid-exposed infants, and child welfare systems are stretched.[6] In 2017, in a mandated report to Congress,[7] SAMHSA provided a blueprint for dealing with the crisis. The report highlights prevention strategies, such as decreasing barriers to contraception and ascertaining whether opioid prescribing is necessary and appropriate. It addresses enhancing treatment access, including improving access to treatment for substance use disorder in the preconception period through at least the first year of life. Lastly, the services strategy includes improving access to family-centric treatment and developmental services (e.g., early intervention). Complete, well-funded implementation of this blueprint could vastly improve the care that pregnant women and infants affected by the opioid epidemic receive today and serve as the foundation to improve outcomes in future epidemics.

URGENT ACTION NEEDED NOW

Substantial attention has recently been paid to the opioid epidemic. In just the past three years, legislative efforts—such as the Protecting Our Infants Act, the Comprehensive Addiction and Recovery Act, and, most recently, the SUPPORT (i.e., Substance Use-Disorder Prevention That Promotes Opioid Recovery and Treatment) for Patients and Communities Act—have increased resources for fighting the epidemic. Although these efforts have been important, they have yet to provide the funding, infrastructure, and coordination needed to stem the tide of the opioid epidemic and provide the foundation for lasting public health infrastructure to improve outcomes for substance-affected pregnancies.

More Americans will die this year from opioid overdose than died of AIDS during the worst year of the HIV epidemic. We should learn from our response to the HIV epidemic and, as some have suggested, establish programs and provide funding to combat this crisis just as the Ryan White Act of 1990 did to combat HIV/AIDS. There is no time to waste; each passing year, the opioid epidemic grows in complexity and expands. AJPH

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CONFLICTS OF INTEREST

No conflicts of interest.

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Moving From Public Health Surveillance to Action

See also Cosby et al., p. 155.

Public health surveillance is the systematic, ongoing collection, management, analysis, and interpretation of data followed by the dissemination of these data to public health programs to stimulate public health action.[1] Over the past several years, a number of surveillance studies have examined trends in the leading causes of death in detail, as well as social determinants of health focusing on differences by place in the United States.[2–4] In general, these studies have found that worse health outcomes and slower relative gains in life expectancy in rural populations began in the mid-1980s, a trend that has continued to the present day.[5]

THE RURAL MORTALITY PENALTY

The study by Cosby et al. (p. 155) delves deeper to examine this trend and other factors at play in these rural mortality differences. By using regression

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models to control for education, poverty, race, and income, they ultimately discovered that the rural mortality penalty is more nuanced than previously described, specifically affecting high-poverty rural areas rather than rural areas in general. Their findings align with recent observations by the Economic Innovation Group[5] in which the authors concluded that—aside from the large swatches of rural distressed areas spanning the Southeast, Appalachia, and parts of the Southwest—some of rural America, such as rural counties in parts of the Midwest and Northeast, enjoy relative prosperity.

However, large urban counties are much more likely to be classified as prosperous than are counties with fewer than 100 000 people (50% vs 14%). It is also worth noting that the investigation of the mortality trends in many of most distressed urban areas, such as the counties of Newark, New Jersey and Detroit, Michigan shows that health outcomes in these locations are moving in the right direction, with precipitous decreases in premature deaths in the past two decades.[3] Distressed rural counties, on the other hand, are not making such gains, as Cosby et al. show in their thoughtful analysis.

Specifically, Cosby et al. found that the deaths in counties with higher poverty and rurality have had increasingly unfavorable mortality trends over time relative to counterparts in low-income urban locations. They show that during the past nearly 50 years, rural poverty shifted from being the weakest predictor of age-adjusted all-cause mortality to the strongest, tied with the percentage of residents without a college degree. Of note, demographic analysis over this same period shows significant out-migration from rural counties. This trend is rooted in market forces, with young people moving to urban areas for further education and jobs, leaving behind a population with fewer opportunities. The individuals left behind in poor rural areas in particular have higher rates of adolescent pregnancy, smoking, obesity, and opiate addiction, all factors associated with premature mortality.[3]

Sociologists Carr and Kefalis refer to this out-migration of the more upwardly mobile populations as a "rural brain drain" and compare it to the loss of middle-class populations from urban centers to suburbs starting in the 1950s.[6] Looking at New York City mortality during this time suggests that such demographic shifts are indeed associated with changes in mortality rates, with the years between the mid-1950s and the 1970s in New York City being the only years since 1910 when the New York City mortality rate increased rather than decreased.[7]

DEATHS OF DESPAIR IN RURAL AMERICA

Unfavorable trends in age-adjusted mortality in rural poor locations are the tip of the iceberg. When researchers focus on specific age groups and races, the findings in rural areas are even bleaker. In 2016, Case and Deaton described increasing premature mortality rates among Whites with less than a college degree.[2] Because of the high density of this subpopulation in rural areas, our 2017 study published in *AJPH*[4] aimed to examine these findings from the perspective of place and the urban–rural continuum. We found that during 1999 to 2016, rural areas made less progress in premature mortality reduction than did all other locales, with people of all races in rural areas experiencing more unfavorable mortality trends than do their urban counterparts. Whites, in particular, had premature mortality increases that were the worst in rural areas but not limited to them.

We went on to show that the causes of death driving these unfavorable mortality trends in rural areas were largely attributable to suicides, accidental poisonings, respiratory disorders, and liver disease—considered to be deaths of despair and hopelessness. In addition, we found that among Whites aged 45 to 54 years living in rural areas, chronic disease deaths are increasing despite significant medical advances that have benefited populations elsewhere. Future research is needed to examine these preventable causes of death in rural areas of high poverty.

TIME FOR ACTION

The findings from the study by Cosby et al. and others are clear and compelling. Although more research is needed to further understand the nature of this "epidemic of despair,"[4] it is time to go beyond defining the problem to using this information to develop, implement, and evaluate broad societal interventions to solve the problem, such as economic development, improved social services, and better treatment of mental and substance abuse disorders. Considering the real economic and public health challenges that confront rural America, it will not be easy. But nothing worth doing ever is. AJPH

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