Sex Education Requirements

Although Roberts et al. considered sex education requirements in their analysis, they did not consider minor consent laws. Sex education mandates might have a direct impact on HPV vaccine uptake only in states that permit minors to consent to HPV vaccination without parental approval. For example, since January 2012, minors aged 12 years and older in California has been permitted to consent to receive medical care for the prevention of sexually transmitted diseases, including receiving an HPV vaccine.[6] Without a law permitting minors' consent to vaccination, educating minors in school may or may not lead to an increase in parents' decision to vaccinate their child. Thus, the correlation found between HPV vaccine uptake and required sex education may reflect societal attitudes that lead to acceptance of both HPV vaccine and sex education for adolescents. The impact of minor consent laws on HPV vaccine uptake should be considered in future research to evaluate minors' acceptance of the vaccine.

FOCUS ON HEALTH DISPARITIES

There is also a need for an examination of policies specifically focusing on increasing uptake of the HPV vaccine among members of minority groups. Lack of vaccine uptake will lead to a continued number of cervical cancers and deaths, especially among minority individuals. Minority adolescents are less likely than their White counterparts to complete the three-shot series required for full HPV vaccination.[7] Such health disparities will continue to arise until new, effective policies that increase uptake of HPV vaccination can be implemented.

CONCLUSION

Although Roberts et al. should be complimented on their efforts to raise awareness of HPV vaccination and explore policies that may influence the vaccine's uptake, their results do not provide any new data for policy development. None of the policy options they studied, with the exception of school-entry mandates, are likely to be adopted for the sole purpose of increasing HPV vaccine uptake. Their study does, however, contribute to increased awareness of a significant public health issue and confirms that a combination of policies can affect a state's vaccine uptake rate.

Because Roberts et al. did not look at individual data in their correlational study and what would be needed to change low HPV vaccine uptake rates, there is a need for additional studies. Researchers must dig deeper into the reasons that parents do not accept this particular vaccine. Potential interventions directly targeting improvements in uptake among minority adolescents are also vital to reducing disparate vaccination rates. Until we make further progress in these areas, there will be a significant cohort of young adults at unnecessary risk for preventable cancers as they age. AJPH

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"Complete Streets" Policies and Eliminating Pedestrian Fatalities

See also Porter et al., p. 525.

The United States has experienced a 46% increase in annual pedestrian fatalities from 2009 (4109) to 2016 (5987).[1] Could "Complete Streets" policies help solve this public health problem? These policies direct transportation agencies to accommodate the needs of all users in roadway projects, including pedestrians. According to the Smart Growth America National Complete Streets Coalition, more than 30 states and 1000 local and regional agencies have established Complete Streets policies, most within the last decade. They are intended to achieve a variety of objectives, including the important public health goals to promote physical activity and reduce the prevalence and severity of traffic-related injuries.

FLORIDA STUDY

In 1984, Florida was the second state to adopt a Complete Streets policy. In this issue of *AJPH,* Porter et al. (p. 525) take advantage of Florida's early adopter status to test whether its policy was associated with a reduction in pedestrian fatalities.

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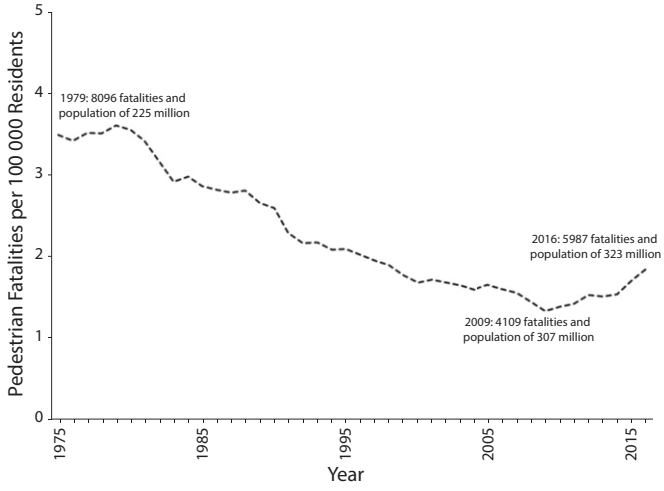

Source. Data from National Highway Traffic Safety Administration[1] and US Census Bureau.

FIGURE 1—US Annual Pedestrian Fatality Rate: 1975–2016

By comparing nearly four decades of Florida pedestrian fatality rates (per 100 000 population) with rates in 13 states in the Southeast and the United States as a whole, this study represents one of the longest analysis periods ever used to assess the effect of a pedestrian safety policy. Quantitative data were supplemented by interviews with Florida transportation professionals to identify factors that supported or hindered the policy's implementation.

With the Complete Streets policy in place between 1984 and 2013, Florida's pedestrian fatality rate decreased by 0.5% more per quarter than would have been expected based on the nationwide trend. Porter et al. argued that this policy was associated with preventing 3500 pedestrian fatalities over 29 years.

THEORETICAL SUPPORT

If the Florida Complete Streets policy reduced pedestrian fatalities, how did this occur? Complete Streets policies most directly affect roadway infrastructure. As several study interviewees implied, Florida may have made more physical changes than other states to reduce pedestrian crash risk (e.g., adding sidewalks, installing median crossing islands, improving pedestrian information and phasing at traffic signals, and improving crosswalk lighting).[2] Some of these changes also could have modified behaviors, such as reducing vehicle speeds, which is shown to decrease pedestrian fatality risk.[3]

Future studies could quantify physical and behavioral changes created by Complete Streets policies to further establish the causal chain leading to pedestrian fatality reductions.

OTHER FACTORS

Factors other than the Complete Streets policy could have led to greater pedestrian fatality reductions in Florida than in other states. Porter et al. mentioned that Florida traffic safety education and enforcement programs could have improved pedestrian and driver behaviors (e.g., reduced driver and pedestrian intoxication, decreased speeding, and increased number of drivers yielding to pedestrians in crosswalks). Local policies could have improved pedestrian safety within Florida communities, independent of the statewide Complete Streets policy. Florida also may have had relatively less growth in vulnerable populations (e.g., between 1980 and 2010, the population older than 64 years increased from 11.3% to 13.0% in the United States but remained constant at 17.3% in Florida). Although less likely, Florida could have experienced relatively better emergency response times and medical treatment or relatively less increase in pedestrian activity.

Nonetheless, even if the Complete Streets policy prevented only a portion of the 3500 pedestrian fatalities cited in the study, it had a positive effect.

TRENDS IN PEDESTRIAN FATALITIES

Despite reducing its population-based pedestrian fatality rate by half in three decades, Florida still has one of the worst state pedestrian safety records. Florida's 2016 fatality rate (3.24 fatalities per 100 000 people) was much higher than the US fatality rate (1.85).[1] A recent analysis of exposure-based fatality rates (e.g., pedestrian fatalities per walking trip, distance, and time) found that four of six US metropolitan regions with especially high pedestrian risk were in Florida (Jacksonville, Miami, Orlando, and Tampa).[4] Furthermore, even though the number of state and local Complete Streets policies has increased, the 2016 US population-based pedestrian fatality rate was the highest in nearly two decades (Figure 1). The exact causes of this increase are unclear. Some theories include higher driving and walking levels since the Great Recession, heavier vehicles, an aging population with increased vulnerability to injury when walking and decreased ability to drive safely, and more impaired driving and technological distraction. The evidence provided by Porter et al. suggests that the pedestrian fatality rates in Florida and the United States would be higher without Complete Streets policies. However, a pedestrian fatality problem remains, and it is worsening.

Increases in pedestrian (and overall) traffic-related fatalities are sometimes viewed as a byproduct of economic growth. Yet, fatalities should not be inevitable externalities of the transportation system, especially when traffic-related fatality risk is disproportionally higher for vulnerable groups—people of lower socioeconomic status, older persons, pedestrians, bicyclists, and motorcyclists.[4–6] With this aspiration in mind, leading cities and states have adopted "Vision Zero" (https://visionzeronetwork.org) and "Toward Zero Deaths" (http://www.towardzerodeaths.org) policies to eliminate all traffic-related deaths, including pedestrian fatalities.

Better pedestrian safety outcomes are possible if the United States follows the lead of other countries. Comparing 1990 to 1994 with 2010 to 2014, Buehler

and Pucher[7] found that Australia, the United Kingdom, Sweden, Denmark, France, Spain, and Germany each reduced their population-based pedestrian fatality rates by approximately twice as much as did the United States. Per kilometer traveled, pedestrians in Germany had one fifth the chance of being killed in a traffic crash compared with pedestrians in the United States.[7] Eliminating pedestrian fatalities likely will require systemic change—a multidecade campaign in which Complete Streets policies are complemented by land use, education, enforcement, and technological strategies.

In addition to having much of the pedestrian infrastructure promoted by Complete Streets policies, European countries with lower pedestrian fatality rates tend to have more compact, mixed-use cities with slower-speed streets. Some city centers include automobile-free zones; many neighborhood streets have traffic calming measures and maximum speed limits of 30 kilometers per hour (20 miles per hour).[7] By contrast, the Florida Complete Streets interviewees cited counterproductive land development policies that allowed exclusively residential subdivisions to be separated from workplaces, shopping centers, and other activities. Long distances between activities make walking inconvenient and high-speed vehicle travel the norm. Florida interviewees also mentioned level of service standards that require widening roads and intersections to minimize peak-period automobile congestion. This creates multilane thoroughfares that are more difficult and less safe for pedestrians to cross. To improve pedestrian safety, land use policies should increase accessibility—decrease distances between activities so that everyday movement is less dependent on wide, high-speed roads (e.g., encourage redevelopment of urban core areas; redevelop space used for surface parking lots in suburban areas).

Many countries with better safety records have mandatory pedestrian and driver education in schools, more challenging driver training and licensing requirements, and stricter traffic enforcement.[7] The United States should strengthen existing education and enforcement efforts. Automated traffic enforcement and rapidly developing automated and connected vehicle technologies also have the potential to make driver and pedestrian interactions safer. Vehicle automation has an important role in eliminating pedestrian fatalities, but communities should proceed cautiously to prevent reversing progress toward more accessible land development patterns and more enjoyable street environments for pedestrians.

MAKING WALKING SAFER

Walking is fundamental to community vitality and public health. When a greater proportion of travel is done by walking, the number of pedestrian fatalities per trip, distance, or time tends to be lower.[4] Furthermore, walking provides physical activity, facilitates social interaction, requires only limited resources, produces little waste, uses minimal space, and complements traveling by car, bus, train, or bike. Complete Streets and other supporting policies should be implemented to make walking safer and ultimately eliminate pedestrian fatalities. AJPH

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