

potential risks are, particularly for patients with medical conditions, so that they can advise, warn, and refer as appropriate. Ideally, physicians also will be familiar with community opportunities for engagement in YTQ for clinical populations. The fact that YTQ practices straddle both the field of CAM and that of physical activity and exercise may be an advantage in incorporating YTQ into medical education, because YTQ could be part of both CAM and physical activity courses.

Although educating physicians about YTQ is an important strategy, I believe that the diffusion of YTQ could involve wider dissemination strategies than educating physicians. Appreciation of what YTQ practices are and what they can potentially offer in terms of both physical and mental health benefits could be increased among a much wider field of professionals with roles relevant to public health. These include not only other health care providers (e.g., nurses, physiotherapists) but also exercise and fitness professionals, health promotion specialists, and mental health professionals. Knowledge about YTQ's features, benefits,

risks, and suitability for different subpopulations is relevant for all these professionals, both in responding to a natural growth of YTQ uptake and in making concerted efforts to increase use.

Wider education and dissemination, of course, require efforts from the YTQ communities themselves. Apart from curricular education, this includes initiatives from YTQ providers to inform medical and other professionals in their community about what they offer. Furthermore, if YTQ practices are being used for the management of health and medical conditions, YTQ teachers need to be prepared to deal with such students. YTQ practitioners also must engage with rigorous research related to YTQ benefits, risks, participation, and adherence of both healthy and clinical populations to help support the evidence-based practice of YTQ.

In a useful document published in 2006,⁶ tai chi and qigong experts, along with aging and health promotion specialists, identified a range of barriers to diffusion of tai chi and qigong and

potential strategies for overcoming these, including marketing, public relations, and community-oriented strategies. That these processes take time is evidenced by the fact that by 2012 these efforts had not yet resulted in increases in tai chi and qigong participation.¹ Nevertheless, initiatives such as these are important stepping stones in the process of wider dissemination of YTQ. Of interest also is the development of scalable evidence-based standardized programs targeted at specific populations.⁷

In conclusion, it is important to be aware of differences between yoga and tai chi/qigong in content, prevalence, growth, and user characteristics. The dialogue that Wang et al. call for could be extended to include other professionals and efforts at diffusion. **AJPH**

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CONFLICTS OF INTEREST

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Texting Bans, a Possibly Low-Cost and Effective Means to Help Improve Motor Vehicle Safety

 See also Ferdinand et al., p. 748.

In this issue of *AJPH*, an article by Ferdinand et al. (p. 748) looks at the question of whether statewide texting-while-driving bans are effective at reducing crash-related emergency department (ED) visits. Their results suggest that the answer is a cautious yes. Given the ever-

growing body of evidence that texting while driving increases crash risk,¹ it is important to assess whether interventions such as texting bans are having the effect we hope they are having. So, should states all rush to pass texting-while-driving bans? The answer to this is less clear.

were experimental, conducted either in a simulator or on a test track. All estimated mean effects were positive, showing worse performance while texting than at baseline, and all but two of these effects were significant.

However, these effects may or may not translate to increases in crashes in the field. Driving is undertaken in a complex environment, and drivers may

TEXTING AND DRIVING

A meta-analysis by Caird et al.¹ included 28 studies of texting and driving, all of which

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alter their risk by engaging in secondary tasks in particular situations (e.g., low speeds, lighter traffic) or by adjusting their speeds and following distances.²

One reason that so few studies have been done with field data is that texting while driving has been relatively rare until recent years. Pickrell and Li³ reported results of annual national roadside surveys that showed that texting while driving (defined as visibly manipulating an electronic device) was done by just 0.4% of drivers in 2006 but rose steadily to 2.1% in 2016. Moreover, data from police-reported crashes have not included reliable information on whether the driver was texting before the crash, making texting-while-driving risk difficult to evaluate with crash data.

From 2012 to 2015, the Transportation Research Board-sponsored second Strategic Highway Research Program (SHRP2) Naturalistic Driving Study collected data from more than 3000 drivers' own vehicles while they were driving. The resulting data set includes more than 35 million miles of driving and 1000 crashes. In-vehicle cameras recorded drivers' actions including texting, and a random sample of this video has been coded for a variety of secondary tasks.⁴

Using the SHRP2 data set, Dingus et al.⁵ reported that texting occurred in 1.91% of randomly sampled 6-second driving epochs, and the estimated crash incidence rate ratio (IRR) for texting was 6.1 (95% confidence interval = 4.5, 8.2). Although the Dingus et al.⁵ study provided strong evidence for the high risk associated with texting, more recent work has suggested that their approach may overestimate the potential risk

reduction that would come from stopping drivers from texting. First, the SHRP2 sample drastically overrepresents younger and, to a lesser degree, older drivers.⁶ Moreover, Guo et al.⁷ showed in another analysis of SHRP2 data that age is an effect modifier for cell phone-related distraction, such that both younger and older drivers have higher estimated IRRs for crashing when involved in cell phone-related tasks including texting, compared with middle-age drivers. These results, combined with young drivers' high rate of texting compared with other age groups,³ suggest that the Dingus et al.⁵ IRR estimate is probably an overestimate of the driver-population average IRR.

Finally, Dingus et al.⁵ and Guo et al.⁷ both compared the crash risk of texting while driving to a baseline of idealized driving in which the driver is engaging in no secondary tasks and is not impaired, fatigued, or visibly emotionally upset. Flannagan et al.⁶ reanalyzed the SHRP2 data using propensity scoring to develop a baseline comparison of non-cell phone use that better represents what drivers are likely to replace cell phone use with if a ban were effective. Although that study did not directly report an IRR for texting, the estimated IRR for all forms of cell phone use was 3.56 with the Dingus et al.⁵ method, but dropped to 1.98 (still significantly greater than 1) when compared with activities (including undistracted driving) that would be likely to replace cell phone use if a ban were effective.

These points are not meant to suggest that texting while driving is not risky. The evidence on that is clear. However, the magnitude of the effect and, most importantly, the likely benefit of reducing or eliminating texting and other cell phone use while

driving may be less than the large IRRs might suggest.

DO BANS WORK?

As a starting point, research cited in the introduction to Ferdinand et al. generally indicates that handheld phone bans reduce the amount of phone use while driving. Although reducing texting while driving is clearly a prerequisite for bans to be effective, the real measure is whether it reduces crashes and injuries. The Ferdinand et al. analysis suggests yes.

The analysis done by Ferdinand et al. was one of the most rigorous and well designed in the literature. Thus, we can believe that their results show reliable patterns in the data. However, interpretation of those results as evidence of the causal relationship between texting bans and ED-visit reductions is less certain. Ferdinand et al. do not make causal claims, but, in principle, a causal relationship is important if these results are used to justify texting bans. Specific results give indications that texting bans alone could not have produced all of the differences attributed to them. First, the significant 40% decrease in ED visits resulting from secondary novice driver-only texting bans is implausibly large. Novice drivers are not responsible for 40% of crash-related ED visits, so they could not be responsible for the 40% reduction alone.

A second indication that the results might not reflect the causal action of texting bans is the lack of differences in IRRs across age groups. Given the large differences in texting rates by age (in 2016, 4.5% of drivers aged 16–24 years, 2.0% of drivers aged 25–69 years, and 0.3% of drivers aged 70 years or older were texting³), the

estimated IRRs should have decreased in magnitude with age.

SHOULD STATES ADOPT TEXTING BANS?

Despite these uncertainties, there may be reasons for states to enact texting bans even if the Ferdinand et al. results do not arise (fully) from a causal link between texting bans and ED visit reductions. First, as mentioned, numerous studies indicate that texting increases crash risk, especially for younger (and older) drivers. Second, additional research shows that handheld cell phone bans dramatically reduced handheld cell phone use in states that enacted them, and that the reductions in use persisted over time. If such bans are relatively low cost to implement, then these two facts alone may justify them.

Regardless, the literature on texting and driving, along with the hope of the Ferdinand et al. results, underscores the need to promote attentive, eyes-on-road driving practices. Although advances in vehicle automation hold the promise of eliminating human-driver error, that solution is still decades from widespread deployment. In the meantime, it is critical to take measures to help drivers avoid crashes and thereby reduce injuries and deaths associated with motor vehicle crashes. *AJPH*

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Academic Health Department Partnerships: Bridging the Gap Between Town and Gown

 See also Erwin et al., p. 739.

Academic health department (AHD) partnerships are a formal affiliation between an academic institution and a public health practice organization and are certainly one mechanism available to remedy an academic–practice disconnect.

AHDs, called “teaching health departments” by some, are not a new phenomenon, but they have been receiving increasing interest since the 1988 publication of the Institute of Medicine (IOM) report, “The Future of Public Health.” The report famously described public health in the United States as a “system in disarray.” Among the many deficiencies cataloged was a disconnect between academic programs in public health and public health practice settings—a situation with real ramifications for workforce training, student education, and research.¹ As the AHD concept has gained traction, researchers have begun to examine the nature and growth of AHDs. Case studies and reports describing the characteristics and prevalence of AHDs have appeared, and there is little doubt that there are benefits in terms of student training, health department capacity, and joint research efforts. A key question, however,

and one of the most difficult to answer, is whether an AHD is more likely to deliver evidence-based public health services and foster advances in community health status than is a health department without an academic connection.

EVIDENCE-BASED PRACTICES

That is why the article by Erwin et al. (p. 739) is so important. It is the first to sample local health departments with the intent of determining whether evidence-based practices are more prevalent in health departments with academic partners. The findings that AHDs were more likely to engage in evidence-based decision making and to implement evidence-based public health services than are non-AHDs were encouraging outcomes of the study. These findings substantiate the authors’ suggestion that internal support for evidence-based decision making in local health departments, and that ready access to academicians who are knowledgeable about evidence-based public

health practices and can participate in trainings, increase the likelihood that evidence-based interventions will be used.

Additional research must become a priority if we are to fully understand the potential benefits and possible shortcomings of academic–practice partnerships for both. An AHD research agenda that can provide some guidance for investigators interested in this topic has been developed under the auspices of the Council on Linkages Between Academia and Public Health Practice (Council on Linkages).² Erwin et al. detail research opportunities available because of existing data sources and the nature of the health department accreditation process. Prospects for valuable and groundbreaking research abound. In addition to community health status impact, it would be particularly helpful to know, for example, whether students in academic institutions that

participate in AHD partnerships are better prepared for careers in governmental public health than are those in institutions without such partnerships, whether AHDs achieve accreditation through the Public Health Accreditation Board more efficiently than do non-AHDs, and whether academic programs and institutions achieve accreditation through the Council on Education for Public Health more efficiently if they are part of AHD partnerships. We should also wonder whether medical students and residents with work experience in AHDs are more likely to practice population-focused medicine.

AHD LEARNING COMMUNITY

To date, the only national effort to define, document, encourage, and support AHDs rests with the Academic Health Department Learning Community (AHDLC) of the Council on Linkages, which the Public Health Foundation staffs. In existence since 2011, the AHDLC brings together public health and health care professionals to share AHD-related knowledge and experiences and work collaboratively

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