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Washington), the District of Columbia, and the Virgin Islands. All of these laws except Maryland's are primary enforcement—an officer may cite a driver for using a handheld cell telephone without any other traffic offense taking place. Thirty-two states, the District of Columbia, and Guam ban text messaging for all drivers. In 5 states, the District of Columbia, and Guam, texting laws are primary enforcement, and in the other 4 states these laws only permit secondary enforcement. Many states also ban cell telephone use or texting by novice drivers or school bus drivers.

Copies of the 8-page report *Driver Electronic Device Use in 2010* can be obtained from the National Center for Statistics and Analysis, NHTSA, 1200 New Jersey Avenue, SE, Washington, DC 20590 or downloaded from the NHTSA Web site at http://www.distraction.gov/download/research-pdf/8052_TSFSF_RN_DriverElectronicDeviceUse_1206111_v4_tag.pdf. Questions about the information presented in this document can be directed to Timothy Pickrell at timothy.pickrell@dot.gov.

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COMMENTARY: DRIVER ELECTRONIC DEVICE USE—PUT DOWN THAT CELL TELEPHONE!

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You are driving home from work. You're at a stoplight and suddenly you hear that "bing" your mobile telephone makes when you've received a text message or an e-mail. The temptation wells up inside of you to take a glance at your mobile device to see if that message is important. Your internal logic appears to be sound: "I am at a stoplight. I'm not moving. I'll take a quick peek before the traffic starts to move."

Unfortunately, this dangerous scenario occurs daily on our roadways, and more often than not what is actually occurring is that drivers don't listen to the warning in their head and are using their mobile devices when actually moving. Obviously this can lead to crashes, property damage, injuries, and death. This form of driver distraction may not seem that foreign to us as emergency physicians because we ourselves are repeatedly tempted to answer that "bing." What we should remember is all the times we had to break bad news to some loving parents about their son's or daughter's death in a motor vehicle crash. The news media have made this clear to far too many

communities across the nation, with frequent reports of deaths directly attributable to texting while driving.¹

The recent NHTSA report on driver electronic device use is frustrating in that the visible manipulation of these devices is on the increase, from 0.6% in 2009 to 0.9% in 2010.² Since 2003, data collected by the NOPUS has shown a 350% increase during the past 6 years. What is even more worrisome is that these data are difficult to record—for example, drivers using built-in vehicular technology to manipulate their telephones would not be recorded—and it is certain that the numbers described in this study are but the tip of the iceberg and point toward a much larger problem.

NOPUS, although a useful tool, has a few key limitations. The study relies on trained observers watching stopped vehicles at about 1,400 intersections across the country, determined by probabilistic sampling. Data collection occurs only between 7 AM and 6 PM for about 3 weeks every June. Although the observers are good at what they do, there is an inherent limitation in relying on a person's ability to quickly ascertain whether the driver, front passenger, and up to 2 more passengers are texting, speaking on a headset, holding a telephone to their ear, or just chatting with one another in the amount of time an average driver spends stopped at an intersection. Furthermore, because of the nature of the data collection, it is not possible to observe evening or night behaviors, which could be different, particularly for younger drivers driving long after the school day has ended. Finally, the time of year may also affect behaviors. Accordingly, it is quite possible that the data reported here do not fully describe the scope of driver electronic device use.

As scientists, we want to be able to quantify how risky a particular behavior might be. Handheld device manipulation while driving is a difficult risk to quantify, but let's put it in perspective. Driving simulation studies have shown that handheld device manipulation slows a subject's response time to braking, impairs forward and lateral control of the vehicle, and correlates to more crashes than are experienced by controls who are not driving.³ Another simulator-based study quantified the risk of using handheld devices when driving to be greater than using alcohol to the legal limit or smoking marijuana.⁴ Even more persuasive is a study that showed a 4-fold increase associated with crashes when using a mobile telephone.⁵ Clearly, our culture frowns on alcohol and illicit drug use while driving. What we haven't quite grasped is that the level of distractibility of cell telephone manipulation while driving poses a similar risk.

Another striking fact from this NHTSA report is that 32 states, along with the District of Columbia, have made text messaging while driving illegal, yet there has still been an astronomical increase in the number of individuals using electronic devices when driving; at any given daylight moment, about 118,800 drivers in the United States are visibly manipulating their handheld devices. This rate of increase is beyond just that in the number of vehicles on the road, which has increased only slightly during the past years.⁶ What it likely

signifies is that mobile telephone use, and in particular Smartphone use, is increasing and that drivers are relying on them more and more. In the current information era, text messages and e-mails are sent at lightning speeds and our culture pressures us to respond to these calls immediately. Our lack of awareness about the downstream effects of driving when using mobile devices can be catastrophic.

Age is a significant variable in the issue of using mobile devices while driving. In fact, this report showed that since 2007, 16- to 24-year-olds have had the most significant level of driver manipulation of handheld devices and are partially responsible for the sharp increase in these numbers in 2010. Youths are already engaging in risky driving behavior such as speeding and alcohol use, with those risks magnified by inexperience.⁷ We know that young driver mortality increases with the number of passengers in their vehicle.⁸ The use of mobile devices further compounds that risk and makes our roadways less safe to travel. Imagine your teenage son or daughter driving his or her friends home from school, all the while distracted in the vehicle by the passengers and also receiving a text message from another friend. The driver responds to that “bing” and picks up the telephone, with distractions all around. The driver then decides to reply to the text with another text, and bing! it’s sent out. Little did the driver realize that the roadway was curving and traffic is coming to an abrupt halt. Bang! Crash, injuries, and possible disability and death are the result of this preventable distraction.

So how do we prevent such occurrences? There is a growing wave of “countertechnology” to help curtail these issues and reduce the amount of risk involved with driving when using mobile devices. Applications on Smartphones have appeared on the market. One such application recognizes through the global positioning system that the cell telephone is traveling more than 10 miles per hour and locks the telephone, thereby making it unusable while driving. That means no cell usage whatsoever while driving. This might be enticing to parents who must rely on their children to drive and still want them to have access to a mobile telephone during emergencies. Still other applications will record and transmit e-mail “citations” to a parent of the driver about mobile telephone usage while driving. Whether the technology is prevention or policing it still is a distant second to cultural change.

Culture is not easily altered. But what we must do is to model behavior. As emergency physicians, we see the result of many risky behaviors. Drunk driving, speeding, unsafe sex, alcohol abuse, and violence are but a few familiar scenarios we routinely face in the emergency department. When we see the casualties of these events, we shake our heads, exhale deeply, and

mutter to ourselves about how much of a waste this event was and how preventable it all could have been. This is where the rubber meets the road. Setting the proper precedent is paramount and we should take personal responsibility in this effort. We need to put our mobile devices away while driving and lock them up in our glove compartment to eliminate all temptation. We need to encourage this behavior with our family and friends. We need to continue to support public health measures, policymakers, and enforcement when it comes to this important preventable, modifiable risk for injury.

So make a mental note the next time you’re on a shift and a victim of a motor vehicle crash arrives and needs a chest tube for a pneumothorax, a pelvic binder for a pelvic fracture, or tracheal intubation for an intracerebral hemorrhage. Perhaps this will trigger that “bing” in the recesses of your memory, and the next time you hear that same “bing” when you’re driving you will have the willpower to not reach for your mobile device.

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