

The Health Index

CELL PHONE USE WHILE DRIVING

April, 2014

KEY POINTS:

- Cell phone use while driving decreased after legislation banning the activity was introduced and again after enactment of fines, but increased in 2012. There was an overall decrease in cell phone use while driving between 2008 and 2012 of 12.4%.
- Over 35% of respondents in the Middlesex-London region reported talking or texting while driving in a typical week in 2012.
- Those who were young, male, and had a high household income were more likely to talk or text while driving.
- Nearly three quarters of drivers reported using only the hands-free mode 'every time' or 'most times' when talking on the phone while driving; females and those with a university/college degree were more likely to do so.

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BACKGROUND

Over the past decade, a large volume of research has been conducted on cell phone use while driving and its association with motor vehicle collisions. A recent study found the risk of collision was more than four times higher if a cell phone was used in the ten minutes prior to the event¹. The risk is said to be similar to that of driving with a blood alcohol content (BAC) limit of 0.08%².

Text messages have also been implicated in the increasing trend in motor vehicle collisions. In one study those who texted while driving were 23 times more likely to be involved in a collision than drivers who did not³. This body of research has led many countries to ban the use of cell phones while driving. On October 26, 2009, Ontario made it illegal to talk, text, dial or email using hand-held cell phones or other hand-held communication and entertainment devices while driving⁴. Furthermore, on February 1, 2010, police began issuing \$155 tickets for use of hand-held devices and in March, 2014, the fine was raised to \$280⁵. Understanding whether drivers are complying with the ban has also been studied. In New York the rate of cell phone use dropped significantly after the enactment of the ban in 2001⁶. Although there is a perception that hands-free devices are safer⁷, researchers cite that hands-free device use does not eliminate or reduce cognitive distraction⁸.

OBJECTIVES

The purpose of the evaluation was threefold:

1. To measure the difference in cell phone use while driving before, during and after the implementation of the ban;
2. To identify subgroups more likely to talk or text while driving; and,
3. To identify subgroups more likely to use the hands-free mode while driving.

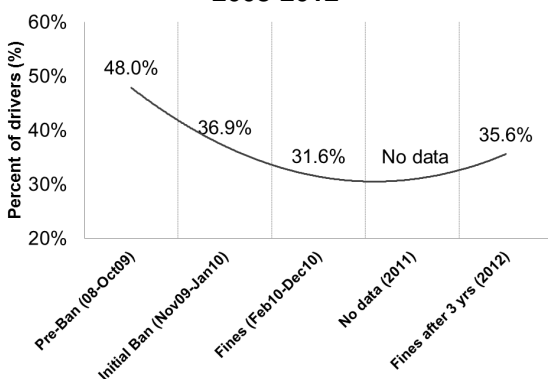
RESULTS

Drivers were asked how often in a typical week they talked or sent or read messages/emails on a mobile device while driving. Those who reported any use of a cell phone while driving were considered users. Only statistically significant findings are reported.

Time Trend

An overall decrease of 12.4% in cell phone use during driving was observed between 2008 and 2012 (Figure 1).

Figure 1: Percent of the drivers (18+) talking or texting while driving, Middlesex-London, 2008-2012



Source: Rapid Risk Factor Surveillance System 2008-2012

There was steep decrease in cell phone use while driving after the enactment of the cell phone legislation (2009) and an even further decrease after the implementation of fines (2010). However, several years after the

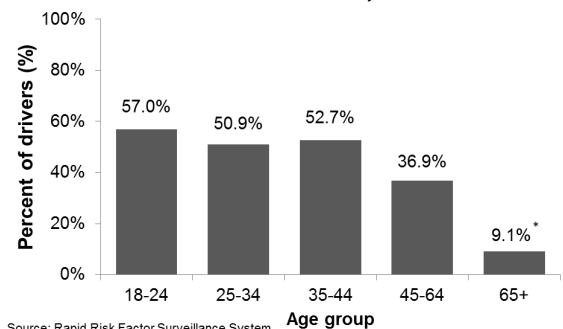
legislation was enacted (2012) an increase in cell phone use while driving was observed. This trend was observed across subgroups.

Predictors of Talking & Texting While Driving

Looking only at the most recent year of data, 2012, over a third of the population of drivers (35.6%) reported talking or texting while driving in a typical week. A greater proportion of men reported the behaviour (41.1%) compared to women (31.4%). In fact, men were 1.6 times (OR=1.6, 95%CI=1.3-2.1) more likely than women to talk or text while driving in a typical week.

The proportion of respondents reporting talking or texting while driving decreased as age increased. It was highest in 18 to 24 year olds (57.0%) (Figure 2).

Figure 2: Percent of drivers (18+) talking or texting while driving, by age group, Middlesex-London, 2012



Source: Rapid Risk Factor Surveillance System

Source: Rapid Risk Factor Surveillance System 2012

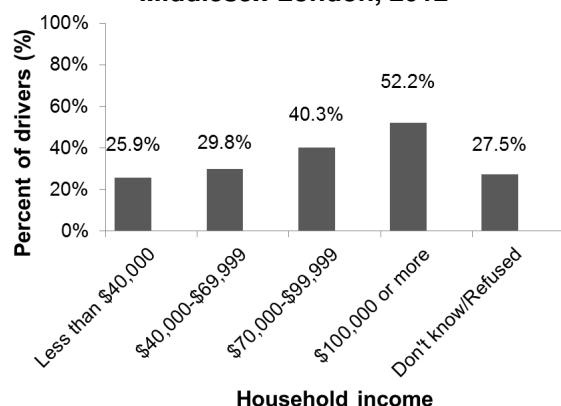
Note: *Estimate should be interpreted with caution due to high variability

Individuals aged 18 to 24 were 12.5 times (95%CI=6.9-22.7) more likely to talk or text while driving than those 65 and older. Those aged 25 to 34 were 9.4 times (95%CI=5.3-16.5), those 35 to 44 were 9.4 times (95%CI=5.6-15.8), and those 45 to 64 group were 5.0 times (95%CI=3.1-7.9) more likely to talk or text while driving compared to those over the age of 65.

Those with the highest household income of \$100,000 or more had the highest

proportion (52.2%) of respondents reporting talking or texting while driving in a typical week (Figure 3).

Figure 3: Percent of drivers (18+) talking or texting while driving, by household income, Middlesex-London, 2012



Source: Rapid Risk Factor Surveillance System 2012

Adults who indicated a household income of \$100,000 or more were twice as likely (OR=2.0, 95%CI=1.2-3.0) to talk or text while driving in a typical week than those who reported earning less than \$40,000. All other income groups did not significantly differ from those earning less than \$40,000.

Predictors of use of Hands-Free Mode

Nearly three quarters (73.2%) of respondents who reported talking on the phone or mobile device while driving said they used the hands-free mode. This translates into 22.6% of the whole driving population.

Women were 2.1 times (95%CI=1.2-3.5) more likely to frequently use the hands-free mode while driving compared to men. Respondents with a university or college degree were 2.1 times (95%CI=1.3-3.7) more likely to report frequent use of the hands-free mode while driving compared to those without a university or college degree. There were no other statistically significant predictors of hands-free use.

SUMMARY & IMPLICATIONS

Over 35% of respondents in the Middlesex-London region reported talking or texting while driving in a typical week in 2012. This finding is consistent with other North American studies^{9,10}.

Cell phone use while driving decreased after the enactment of the legislation and a further decrease occurred after the implementation of fines. The difference in prevalence could be due to the law change. However, cell phone use while driving increased in 2012, suggesting a short-term effect of the legislation on drivers' use of cell phones. A similar pattern was seen in New York following the implementation of a ban¹⁷. The findings of this report show that there was a reduction in compliance with the law in 2012, compared to when the law was initially enacted; however overall there was a decrease in the use of cellular phones while driving across the entire period.

Factors that predict cell phone use while driving include young age, male gender, and high income. Previous studies reported males using a cell phone while driving more often than females^{11,12}. One explanation for this may be that risky driving behaviour is predominant among males¹³. Past research has also shown that younger age was a significant predictor of cell phone use while driving^{11,14}.

Although it is a legal activity in Ontario, past research has suggested that hands-free use is no safer than hand-held cell phone use. Females and respondents with a university or college degree were significantly more likely to frequently use the hands-free mode while driving. Previous research has found that there is no difference in safety between hands-free and hand-held cell phone use while driving¹⁵. It is the interference from having the conversation and not the act of holding a phone is believed to be the cause of risk while driving¹⁶. Hands-free phone use

is shown to be even more dangerous than passenger conversation due to the fact that the passenger is more likely to pace the conversation according to roadway conditions¹⁶. Drivers may believe that they are safe if they are complying with the law but may be unaware that they are also at risk for a collision.

This study provides information that will help program planners in implementing distracted driving prevention programs that are more targeted to populations who are at risk of talking or texting while driving. Likely these subgroups of males, young and high earners are aware of the legislation but continue to exhibit the behaviour. Stakeholders may also want to target subgroups (women and individuals who have a higher education) with awareness campaigns that hands-free phone use is dangerous.

Continued surveillance is needed to monitor the rate of cell phone use while driving in order to measure if the increase in fines in 2014 and other preventive programs have an impact in reducing distracted driving.

METHODS & DEFINITIONS

Data was analyzed from the Rapid Risk Factor Surveillance System (RRFSS), a cross-sectional population health survey. Each month, a random sample of approximately 100 people from Middlesex County and London aged 18 years and older are interviewed to find out about their health, their health behaviours, and their awareness of health-related issues.

Using a cell phone while driving in a typical week was includes those who responded 'every time', 'most times', 'sometimes' or 'seldom' to either talking or texting questions. Not using a cell phone while driving in a typical week was defined as responding 'never', 'do not have a cell

phone' or only using the device when pulled over. Frequent use of the hands-free mode was included responding 'every time' or 'most times', while infrequent use was defined by responding 'sometimes', 'seldom' or 'never' to using hands-free while driving in a typical week. For the analysis, the population was limited only to those who reported driving a motor vehicle in the past twelve months.

A time trend analysis on prevalence of cell use while driving was conducted using logistic regression to determine if a statistically significant change occurred over four time periods:

1. Pre-Ban: January 2008-October 15, 2009 (N=1604)
2. Initial Ban: October 16, 2009-January 31, 2010 (N=224)
3. Implementation of Fines: February 1, 2010-December 31, 2010 (N=1009)
4. Fines after 3 years: January 1, 2012-December 31, 2012 (N=1149)

Logistic regression on data from 2012 was also used to examine the association between talking or texting while driving and the following socio-demographic variables: age, gender, employment status, education level, household income, marital status, and having children in the house under the age of 18. A second analysis looked at which subpopulations were most likely to use the hands-free mode while driving.

All data were weighted using derived weights for the Middlesex-London region. Estimated proportions for cell phone use while driving as well as odds ratios and their corresponding 95% confidence intervals (CIs) for the logistic model were calculated. A significance level of .05 was used. Analyses were conducted by using SPSS v.19 software.

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