



# MOBILE PHONE USE: A GROWING PROBLEM OF DRIVER DISTRACTION



World Health  
Organization



# MOBILE PHONE USE: A GROWING PROBLEM OF DRIVER DISTRACTION

2011



#### WHO Library Cataloguing-in-Publication Data

Mobile phone use: a growing problem of driver distraction.

1.Accidents, Traffic. 2.Automobile driving. 3.Cellular phone - utilization. 4.Safety. 5.Attention. 6.Risk-taking. I.World Health Organization. II.NHTSA (U.S.).

ISBN 978 92 4 150089 0

(NLM classification: WA 275)

Suggested citation: *Mobile phone use: a growing problem of driver distraction*. Geneva, Switzerland, World Health Organization, 2011 ([http://www.who.int/violence\\_injury\\_prevention/publications/road\\_traffic/en/index.html](http://www.who.int/violence_injury_prevention/publications/road_traffic/en/index.html)).

#### © World Health Organization 2011

All rights reserved. Publications of the World Health Organization can be obtained from WHO Press, World Health Organization, 20 Avenue Appia, 1211 Geneva 27, Switzerland (tel.: +41 22 791 3264; fax: +41 22 791 4857; e-mail: [bookorders@who.int](mailto:bookorders@who.int)). Requests for permission to reproduce or translate WHO publications – whether for sale or for noncommercial distribution – should be addressed to WHO Press, at the above address (fax: +41 22 791 4806; e-mail: [permissions@who.int](mailto:permissions@who.int)).

The designations employed and the presentation of the material in this publication do not imply the expression of any opinion whatsoever on the part of the World Health Organization concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. Dotted lines on maps represent approximate border lines for which there may not yet be full agreement.

The mention of specific companies or of certain manufacturers' products does not imply that they are endorsed or recommended by the World Health Organization in preference to others of a similar nature that are not mentioned. Errors and omissions excepted, the names of proprietary products are distinguished by initial capital letters.

All reasonable precautions have been taken by the World Health Organization to verify the information contained in this publication. However, the published material is being distributed without warranty of any kind, either expressed or implied. The responsibility for the interpretation and use of the material lies with the reader. In no event shall the World Health Organization be liable for damages arising from its use.

This publication solely reflects the views of the Department of Violence and Injury Prevention and Disability of the World Health Organization and does not necessarily reflect the position of institutions or organizations that have made financial contributions making this publication possible.

Printed in Belgium.

Designed by L'IV Com Sàrl.

# Contents

<b>Acknowledgements</b>	2
<b>Executive summary</b>	3
<b>Introduction</b>	5
<b>1. Defining driver distraction</b>	7
1.1 Sources of driver distraction	8
1.2 Prevalence of driver distraction	10
1.3 The magnitude of the crash problem resulting from driver distraction	10
<b>2. Mobile phone use</b>	13
2.1 Trends in possession and use of mobile phones	13
2.2 Estimates of levels of mobile phone use while driving	15
2.3 Estimates of levels of text messaging while driving	17
<b>3. Effects of mobile phones on driving behaviour and crash involvement</b>	18
3.1 The impact of mobile phone use on driving performance	18
3.1.1 Methodological issues associated with assessing impact	18
3.1.2 Areas of driving behaviour affected by the use of mobile phones	19
3.1.3 Hand-held versus hands-free	22
3.1.4 Compensatory behaviour when using mobile phones	23
3.1.5 Effect of text messaging on driving behaviour	23
3.2 The impact of using a mobile phone while driving	24
3.3 Other road users	25
<b>4. Interventions to address mobile phone use while driving</b>	27
4.1 Legislation and policies	27
4.1.1 Legislation on mobile phone use in vehicles	28
4.1.2 Effectiveness of legislation	31
4.1.3 Policies on data collection	34
4.1.4 Employer policies	36
4.2 Public awareness campaigns on mobile phone use while driving	38
4.3 Technological developments	40
4.4 Training and licensing	41
4.5 The need for evidence	42
<b>5. Conclusion</b>	44
<b>References</b>	48

# Acknowledgements

The World Health Organization (WHO) gratefully acknowledges the contributions made to this publication by the following:

WHO: Coordination for the development of this Report was provided by Margie Peden. The publication was written by Tami Toroyan. Other WHO staff who contributed technical and/or administrative support to its development were: Alison Harvey, Melecki Khayesi, Etienne Krug, Pascale Lanvers-Casasola, Eugenia Rodrigues, Dinesh Sethi, Tom Shakespeare, Laura Sminkey, Jelica Vesic and Francesco Zambon.

The following provided comments on the draft and contributions to the text: Matts Åke-Belin, Paul Boase, Peter Burns, Aline Chouinard, Ann Dellinger, Cheng-Min Huang, Brian Jonah, Susan Kirinich, Brian Lawton, Kate MacMahon, Dinesh Mohan, Stephanie Pratt, Gary Ronald, Teresa Senserrick, David Sleet, Hamid Soori, Virginia Tanase, Claes Tingvall, Maria Vegega, Pieter Venter and Fred Wegman.

Thanks are also due to the following:

- Angela Burton who edited the Report;
- The graphic designers from L'IV Com Sàrl who designed and typeset the Report;
- All the translators who prepared various language versions of this Report.

Finally, the World Health Organization wishes to thank United States National Highway Traffic Safety Administration for co-funding this publication.

# Executive summary

**D**river distraction is an important risk factor for road traffic injuries. There are different types of driver distraction, usually divided into those where the source of distraction is internal to the vehicle – such as tuning a radio, or using a mobile phone, and those external to the vehicle – such as looking at billboards or watching people on the side of the road. This document focuses on the use of mobile phones while driving, in response to concern among policy-makers that this potential risk to road safety is increasing rapidly as a result of the exponential growth in the use of mobile phones more generally in society. It aims to raise awareness about the risks of distracted driving associated with mobile phone use, and to present countermeasures that are being used around the world to tackle this growing problem.

Studies from a number of countries suggest that the proportion of drivers using mobile phones while driving has increased over the past 5–10 years, ranging from 1% to up to 11%. The use of hands-free mobile phones is likely to be higher, but this figure is more difficult to ascertain. In many countries the extent of this problem remains unknown, as data on mobile phone use is not routinely collected when a crash occurs.

Using mobile phones can cause drivers to take their eyes off the road, their hands off the steering wheel, and their minds off the road and the surrounding situation. It is this type of distraction – known as cognitive distraction – which appears to have the biggest impact on driving behaviour. There is a growing body of evidence that shows that the distraction caused by mobile phones can impair performance in a number of ways, e.g. longer reaction times (notably braking reaction time, but also reaction to traffic signals), impaired ability to keep in the correct lane, shorter following distances, and an overall reduction in awareness of the driving situation. Using a mobile phone for text messaging while driving seems to have a particularly detrimental impact on driving behaviour. Text messaging is often a low-cost form of communication, and the increasing use of text messaging services among drivers is likely to make this an important road safety concern. Young drivers are more likely to be using a mobile phone while driving than older drivers, and are particularly vulnerable to the effects of distraction given their relative inexperience behind the wheel.

The impact of using a mobile phone on crash risk is difficult to ascertain, but studies suggest that drivers using a mobile phone are approximately four times more likely to be involved in a crash. This increased risk appears to be similar for both hand-held and hands-free phones, suggesting that it is the cognitive

distraction that results from being involved in a conversation on a mobile phone that has the most impact upon driving behaviour, and thus crash risk.

While the body of research looking at the risk associated with using a mobile phone while driving is growing rapidly, there is much less known about the effectiveness of interventions to address this issue. As a result, a number of countries are following approaches that has been known to be successful in addressing other key risk factors for road traffic injuries, such as in increasing seat-belt use, or reducing speed and drink-driving.

This includes:

- collecting data to assess the magnitude of the problem and identify where and among whom it is most prevalent;
- adopting and enforcing legislation relating to mobile phone use;
- supporting this legislation with strong enforcement and public awareness campaigns to emphasize the risk of the behaviour and the penalties associated with transgression of the law.

Other measures that offer potential reduction in risk include:

- technological solutions, for example, applications that detect when the phone is in a moving car and direct in-coming calls to a voice messaging service;
- company policies that regulate employees' use of mobile phones while driving.

Nonetheless, to date the effectiveness of any of these measures on mobile phone use while driving – and more importantly, on crashes and injuries – has yet to be adequately documented. While there is some research on the effectiveness of legislation on the use of mobile phones, the ability to sustain reduced levels of mobile phone use needs to be assessed. In addition, the possibility that laws banning only hand-held mobile phones may actually increase the use of hands-free sets phones needs to be evaluated, particularly as based on the available evidence, using a hands-free phone while driving appears to have a similar risk to using a hand-held one.

Although the evidence around mobile phones as a risk factor for road traffic injuries is in its infancy compared to other aspects of road safety, this issue is likely to become a growing concern globally. Furthermore, while this report focuses on mobile phone use, it is important to recognize that mobile phone services are increasingly integrated with other applications (e.g. e-mail and Internet access via "smart phones"), and that information on the risks of such devices for road traffic crashes, as well as on potential countermeasures, is therefore likely to evolve alongside the rapid technological changes taking place in this area. Governments need to be proactive now, and put in place measures to address mobile phone use among drivers, while simultaneously monitoring and evaluating the effects of these interventions. In this way the body of evidence in this area will grow, allowing future policy decisions to be grounded firmly in science.

# Introduction



Every year nearly 1.3 million people die and 50 million are injured as a result of road traffic crashes (1). These deaths and injuries have an immeasurable impact on families and communities as they tragically and irrevocably change people's lives. In addition to the huge emotional toll these injuries exact, they also cause considerable economic loss to casualties, their families and nations as a whole.

Road traffic injuries affect all age groups, but their impact is particularly striking among the young – they are the leading cause of death worldwide among those aged 15–29 years (2). Trends suggest that between now and 2030, road traffic injuries will rise from being the ninth leading cause of death globally to become the fifth. This rise is particularly driven by the dramatic increase in motorization in a number of low- and middle-income countries – an increase that now demands improved road safety strategies and land-use planning.

A number of factors have been identified as affecting the likelihood of a road traffic injury, and limiting the exposure to these risk factors is critical to the success of efforts to reduce road traffic injuries. For example, there is now a large body of scientific research showing the increased risk of road traffic

预览已结束，完整报告链接和二维码

<https://www.yunbaogao.cn/report/index/report?report>