

World report on road traffic injury prevention



World report
on road traffic
injury prevention

The World Health Organization was established in 1948 as a specialized agency of the United Nations serving as the directing and coordinating authority for international health matters and public health. One of WHO's constitutional functions is to provide objective and reliable information and advice in the field of human health, a responsibility that it fulfils in part through its extensive programme of publications.

The Organization seeks through its publications to support national health strategies and address the most pressing public health concerns of populations around the world. To respond to the needs of Member States at all levels of development, WHO publishes practical manuals, handbooks and training material for specific categories of health workers; internationally applicable guidelines and standards; reviews and analyses of health policies, programmes and research and state-of-the-art consensus reports that offer technical advice and recommendations for decision-makers. These books are closely tied to the Organization's priority activities, encompassing disease prevention and control, the development of equitable health systems based on primary health care, and health promotion for individuals and communities. Progress towards better health for all also demands the global dissemination and exchange of information that draws on the knowledge and experience of all WHO's Member countries and the collaboration of world leaders in public health and the biomedical sciences.

To ensure the widest possible availability of authoritative information and guidance on health matters, WHO secures the broad international distribution of its publications and encourages their translation and adaptation. By helping to promote and protect health and prevent and control disease throughout the world, WHO's books contribute to achieving the Organization's principal objective – the attainment by all people of the highest possible level of health.

World report on road traffic injury prevention

Edited by
Margie Peden, Richard Scurfield,
David Sleet, Dinesh Mohan,
Adnan A. Hyder, Eva Jarawan
and Colin Mathers



World Health Organization
Geneva
2004

WHO Library Cataloguing-in-Publication Data

World report on road traffic injury prevention / edited by Margie Peden ... [et al.].

1.Accidents, Traffic – prevention and control 2.Accidents, Traffic – trends
3.Safety 4.Risk factors 5.Public policy 6.World health. I.Peden, Margie

ISBN 92 4 156260 9

(NLM classification: WA 275)

© **World Health Organization 2004**

All rights reserved. Publications of the World Health Organization can be obtained from Marketing and Dissemination, World Health Organization, 20 Avenue Appia, 1211 Geneva 27, Switzerland (tel: +41 22 791 2476; fax: +41 22 791 4857; e-mail: bookorders@who.int). Requests for permission to reproduce or translate WHO publications – whether for sale or for noncommercial distribution – should be addressed to Publications, at the above address (fax: +41 22 791 4806; e-mail: 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.

The World Health Organization does not warrant that the information contained in this publication is complete and correct and shall not be liable for any damages incurred as a result of its use.

The named editors alone are responsible for the views expressed in this publication.

Designed by minimum graphics.

Cover by Tushita Graphic Vision.

Typeset and printed in Switzerland.

Contents

Foreword	vii
Preface	ix
Contributors	xiii
Acknowledgements	xvii
Introduction	xix
Chapter 1. The fundamentals	1
<hr/>	
Introduction	3
A public health concern	3
Road deaths, disability and injury	3
The social and economic costs of road traffic injuries	5
Changing fundamental perceptions	7
The predictability and preventability of road crash injury	7
The need for good data and a scientific approach	8
Road safety as a public health issue	8
Road safety as a social equity issue	10
Systems that accommodate human error	10
Systems that account for the vulnerability of the human body	11
Technology transfer from high-income countries	11
The new model	12
A systems approach	12
Developing institutional capacity	13
Achieving better performance	18
Shared responsibility	18
Setting targets	22
Partnerships in the public and private sectors	23
Conclusion	25
References	25
Chapter 2. The global impact	31
<hr/>	
Introduction	33
Sources of data	33
Magnitude of the problem	33
Global estimates	33
Regional distribution	34

Country estimates	35
Trends in road traffic injuries	36
Global and regional trends	36
Trends in selected countries	36
Projections and predictions	37
Motorization, development and road traffic injury	39
Profile of people affected by road traffic injuries	41
Types of road user	41
Occupational road traffic injuries	44
Sex and age	44
Socioeconomic status and location	46
Other health, social and economic impacts	47
Health and social impacts	48
Economic impact	50
Data and evidence for road traffic injury prevention	52
Why collect data and build evidence on road traffic injuries?	52
Sources and types of data	52
Data linkages	55
Analysis of data	56
Data issues and concerns	56
Other issues	59
Limitations of the data sources used in this chapter	59
Conclusion	60
References	61

Chapter 3. Risk factors **69**

Introduction	71
Factors influencing exposure to risk	72
Rapid motorization	72
Demographic factors	74
Transport, land use and road network planning	74
Increased need for travel	75
Choice of less safe forms of travel	75
Risk factors influencing crash involvement	76
Speed	76
Pedestrians and cyclists	78
Young drivers and riders	79
Alcohol	80
Medicinal and recreational drugs	83
Driver fatigue	84
Hand-held mobile telephones	85
Inadequate visibility	85
Road-related factors	86
Vehicle-related risk factors	88

Risk factors influencing injury severity	88
Lack of in-vehicle crash protection	88
Non-use of crash helmets by two-wheeled vehicle users	90
Non-use of seat-belts and child restraints in motor vehicles	91
Roadside objects	93
Risk factors influencing post-crash injury outcome	93
Pre-hospital factors	94
Hospital care factors	94
Conclusion	94
References	95
Chapter 4. Interventions	107
A road traffic system designed for safe, sustainable use	109
Managing exposure to risk through transport and land-use policies	109
Reducing motor vehicle traffic	109
Encouraging use of safer modes of travel	111
Minimizing exposure to high-risk scenarios	111
Shaping the road network for road injury prevention	113
Safety-awareness in planning road networks	113
Incorporating safety features into road design	114
Remedial action at high-risk crash sites	118
Providing visible, crash-protective, “smart” vehicles	119
Improving the visibility of vehicles	119
Crash-protective vehicle design	120
“Intelligent” vehicles	124
Setting and securing compliance with key road safety rules	126
Setting and enforcing speed limits	127
Setting and enforcing alcohol impairment laws	128
Medicinal and recreational drugs	131
Drivers’ hours of work in commercial and public transport	131
Cameras at traffic lights	132
Setting and enforcing seat-belt and child restraint use	132
Setting and enforcing mandatory crash helmet use	135
The role of education, information and publicity	137
Delivering post-crash care	138
Chain of help for patients injured in road crashes	138
Pre-hospital care	139
The hospital setting	140
Rehabilitation	141
Research	142
Conclusion	143
References	143

Chapter 5. Conclusions and recommendations	155
Main messages from the report	157
Recommended actions	160
Conclusion	164
Statistical annex	165
Glossary	199
Index	203

预览已结束，完整报告链接和二维码

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