



Project No. TREN-05-FP6TR-S07.61320-518404-DRUID

DRUID

Driving under the Influence of Drugs, Alcohol and Medicines

Integrated Project 1.6. Sustainable Development, Global Change and Ecosystem 1.6.2: Sustainable Surface Transport

6th Framework Programme

Deliverable 7.3.1

Prototypes of booklets, posters, messages for risk communication including a script for a TV-clip

Due date of deliverable: 01.10.2009

Actual submission date: 03.11.2009

Revision date: 03.11.2009

Start date of project: 15.10.2006

Duration: 48 months

Organisation name of lead contractor for this deliverable: UVa

Revision 0.0

| Project co-funded by the European Commission within the Sixth Framework Programme (2002-2006) | | |
|---|---|---|
| Dissemination Level | | |
| PU | Public | x |
| PP | Restricted to other programme participants (including the Commission Services) | |
| RE | Restricted to a group specified by the consortium (including the Commission Services) | |
| CO | Confidential, only for members of the consortium (including the Commission Services) | |

Prototypes of booklets, posters, messages for risk communication including a script for a TV-clip

Authors:

F. Javier Álvarez, Inmaculada Fierro (UVa, Spain)
Sofie Boets, Uta Meesmann (IBSR-BIVV, Belgium)
Kristof Pil (UGent, Belgium)

Partners:

- Martina Albrecht, Michael Heißing (BASt, Bundesanstalt für Straßenwesen, Germany)
- Katerina Toulidou, Lila Gaitanidou (CERT-HIT, Centre for Research and Technology Hellas, Greece)
- Kristof Pil, Trudy van der Linden, Elke Raes, Alain Verstraete (UGent, Ghent University, Belgium)
- Silvia Ravera, Susana Monteiro, Han de Gier, (RUGPha, University of Groningen, the Netherlands)
- Inmaculada Fierro, Trinidad Gómez-Talegón, M. Carmen Del Río, F. Javier Alvarez (UVa, University of Valladolid, Spain)
- Michel Mallaret, Charles Mercier-Guyon, Isabelle Mercier Guyon (UGren, University of Grenoble, Centre Régional de Pharmacovigilance, France)
- Uta Meesmann, Sofie Boets, Mark Tant, (IBSR-BIVV, Belgian Road Safety Institute, Belgium)
- Wolfram Hell (LMU, Ludwig-Maximilians-Universität München, Institute for Forensic Medicine, Germany)

Task 7.3 Leader: F. Javier Alvarez (UVa, Spain)

Work Package Leader: Han de Gier, (RUGPha, the Netherlands)

Project Co-ordinator: Horst Schulze (BASt, Germany)

Table of contents

| | |
|--|----|
| List of abbreviations | 6 |
| List of figures | 7 |
| List of tables | 8 |
| Executive summary | 9 |
| Introduction | 12 |
| Part I. | 14 |
| On-line survey of experts on the criteria for the design of prototype documents for information regarding psychoactive substances and driving..... | 14 |
| 1. Introduction | 15 |
| 2. Objective..... | 17 |
| 3. Methods | 18 |
| 3.1. Design of the questionnaire | 18 |
| 3.2. Questionnaire..... | 19 |
| 3.3. Selection of the experts | 26 |
| 3.4. Sending the questionnaires | 26 |
| 3.5. Ethical issues | 26 |
| 4. Results | 28 |
| 4.1. Participation..... | 28 |
| 4.2. Results of the questionnaire..... | 29 |
| 5. Limitations of the study | 50 |
| 6. Conclusions and recommendations for designing the prototype documents for information regarding psychoactive substances and driving..... | 51 |
| 6.1. Medicines and illicit drugs should be addressed separately | 51 |
| 6.2. Target groups and specific age groups: Much more attention than expected paid to the older (> 65) population | 51 |
| 6.3. Illicit drugs and medicines and driving campaigns should be done by substance group..... | 51 |
| 6.4. Key substances to be included in the informative campaigns. | 52 |
| 6.5. Effectiveness of the media in informative campaigns on substances and driving | 52 |
| 6.6. Type of information to be included in the informative campaigns on illicit drugs, medicines and driving..... | 52 |
| 7. Acknowledgements | 54 |
| 8. References | 56 |
| Part II. | 57 |
| Derived criteria for the development of prototype documents..... | 57 |

| | |
|---|--------|
| 1. Introduction | 58 |
| 2. Target group | 59 |
| 2.1. Link to DRUID | 59 |
| 3. Background (analysing the situation) | 60 |
| 3.1. Link to DRUID | 60 |
| 4. Message | 61 |
| 4.1. Message content strategy | 61 |
| 4.1.1. Link to DRUID | 61 |
| 4.2 Message execution strategy | 62 |
| 4.2.1. Link to DRUID | 63 |
| 5. Means and features (media) | 64 |
| 5.1. Link to DRUID | 65 |
| 6. Communication objectives | 66 |
| 6.1. Link to DRUID | 66 |
| 7. References | 67 |
| Part III | 68 |
| Description of the prototype documents | 68 |
| 1. General public | 69 |
| 1.1. General information | 69 |
| 1.2. Description of the prototype documents | 71 |
| 1.2.1. Prototype brochure for the general public: medicines & driving | 71 |
| 1.2.2. Prototype brochure for the general public: illicit drugs & driving | 71 |
| 2. Drivers as patients | 72 |
| 2.1. General information | 72 |
| 2.2. Description of the prototype documents | 73 |
| 2.2.1. General Introduction | 74 |
| 2.2.2. Therapeutic classes | 74 |
| 2.2.3. Therapeutic indication | 75 |
| 2.2.4. Doses: how many intakes, when to take the treatment | 75 |
| 2.2.5. Side effects and consequences on driving | 76 |
| 2.2.6. How to manage the beginning of the treatment | 76 |
| 2.2.7. Other advices | 76 |
| 2.2.8. Level of management | 77 |
| 2.2.9. Regulations, liability | 80 |
| 3. Younger drivers | 82 |
| 3.1. General information | 82 |
| 3.2. Description of the prototype documents | 83 |
| 3.2.1. Prototype brochure for the young drivers: illicit drugs and driving | 83 |
| 4. Physicians and pharmacists | 85 |
| 4.1. General information | 85 |
| 4.2. Description of the prototype documents | 87 |
| 4.2.1. Prototype brochure for physicians and pharmacists: medicines and driving | 87 |
| 5. Policy makers | 89 |
| 5.1. General information | 89 |
| 5.2. Description of the prototype documents | 90 |

| | |
|--|-----|
| 6. References | 91 |
| Annex | 93 |
| Prototypes documents..... | 93 |
| 1. General public | 95 |
| Brochure for the general public on medicines and driving | 96 |
| Brochure for the general public on illicit drugs and driving | 99 |
| 2. Drivers as patients | 101 |
| Brochure for patients using sleeping pills | 102 |
| Brochure for patients using antidepressants | 104 |
| Brochure for senior drivers..... | 106 |
| 3. Younger drivers | 108 |
| Brochure for young people on illicit drugs and driving | 109 |
| 4. Physicians and Pharmacists | 112 |
| Brochure for Physicians and Pharmacists | 113 |

List of abbreviations

| Abbreviation | Full description |
|--------------|--------------------------------------|
| BZs | Benzodiazepines |
| D | Deliverable |
| DUI | Driving under the influence |
| DUID | Driving under the influence of drugs |
| ELM | Elaboration-Likelihood Model |
| EPPM | Extended Parallel Process Model |
| WP | Work Package |

List of figures

| | Page |
|--|------|
| Figure 1. Questionnaire used. | 19 |
| Figure 1. Text of the e-mail with the application form to participate in the on-line questionnaire on Task 7.3 Booklets. | 27 |
| Figure 3. Number of experts who answered each of the questionnaire's closed questions. | 28 |
| Figure 4: Percentages of responses to question1: In your opinion, would the campaigns aimed at different target groups be more effective if they analysed both medicines and illicit drugs with respect to driving jointly or separately?. | 29 |
| Figure 5. Responses to question 2: Would it be useful to have a campaign on medicines and/or illicit drugs and driving aimed at specific age groups?. | 30 |
| Figure 6. Response to the question: In your opinion, a campaign on drugs and driving should analyse all drugs as a whole, each drug separately, by substance group (e.g.: stimulants). | 31 |
| Figure 7. Mean scores for substances on the importance of each group of drugs when developing drugs and driving campaigns (10 maximum score). | 33 |
| Figure 8. Responses to the question: An informative campaign on medicines and driving should, in your opinion, analyse: all the groups of medicaments as a whole or each group of medicaments separately. | 34 |
| Figure 9. Mean scores for substances on the importance of each group of medicines when developing campaigns on medicines and driving (10 maximum score). | 36 |
| Figure 10. Mean scores for the media on the importance of developing campaigns on illicit drugs and driving (10 maximum score). | 38 |
| Figure 11. Percentage of experts who would include each type of information in the campaign drugs and driving, according to target group. | 40 |
| Figure 12. Mean scores for media on their importance when developing campaigns on medicaments and driving (10 maximum score). | 42 |
| Figure 13. Percentage of experts who would include each type of information in the campaign medicines and driving, depending on the target group. | 44 |
| Figure 14. Campaign "Ten cerebro, pasa de la coca". | 48 |
| Figure 15. Campaign: "Si bebes no conduzcas" | 48 |
| Figure 16. Campaign from IBSR-BIVV: BOB. | 48 |

List of tables

| | page |
|--|------|
| Table 1. Average scores obtained for the question: On a scale of 1 to 10 (where 1 is the least and 10 the most), mark the importance you feel a campaign on illicit drugs and driving would have with respect to the following substances. | 32 |
| Table 2. Average scores obtained for the question: the importance you feel a campaign on medicines and driving would have with respect to the following groups of medicines. | 35 |
| Table 3. Average scores obtained for the question: On a scale of 1 to 10 (where 1 is the least and 10 the most) evaluate the following media according to their effectiveness, in your opinion, of an informative campaign on illicit drugs and driving. | 37 |
| Table 4. Responses to the question: Mark the media you feel would be most effective for the campaign on illicit drugs and driving for each target group (mark the three most important in each case). | 39 |
| Table 5. Average scores obtained for the question: On a scale of 1 to 10 (where 1 is the least and 10 the most), evaluate the following media according to their effectiveness, in your opinion, of an informative campaign on medicines and driving. | 42 |
| Table 6. Percentages of opinion for the question: Mark the media you feel would be most effective for the campaign medicines and driving for each target group (mark the three most important in each case). | 43 |
| Table 7. Publicity campaign and part of the said campaigns related to the consumption of illicit drugs and/or medicines and driving best remembered by the consulted experts. | 46 |
| Table 8. Professional category of experts. | 49 |
| Table 9. Type of information to be included in the informative campaigns on illicit drugs, medicines and driving: summary of the findings. | 53 |
| Table 10. Result of question Nr. 2: "Would it be useful to have a campaign on medicines and/or illicit drugs and driving aimed at specific age groups?" (D7.3.1, Part I, p. 30) | 59 |
| Table 11. CAST: Main advantages and disadvantages of flyers, leaflets, brochures, and internet websites. | 64 |
| Table 12. Conclusion on effectiveness of the media in informative campaigns on substances and driving (D7.3.1, Part I, p. 53). | 65 |
| Table 13. Type of information to be include in informative campaigns on illicit drugs, medicines and driving. | 70 |
| Table 14. French categorization system of medicines. | 78 |
| Table 15. DRUID Categorization system | 79 |

Executive summary

Deliverable 7.3.1

Deliverable 7.3.1. "Based on the results of Work Package (WP) WP2, WP4, WP5 and on Tasks 7.1 and 7.2, prototype documents for information regarding psychoactive substances and driving will be produced. These European Traffic Safety brochures should have the potential to be understood easily and designed to be in a later stage multilingual. Some basic ideas for European information campaigns against psychoactive substances in traffic will be added. These documents will be addressed to:

1) The general public (basically information regarding medication and driving), 2) The drivers as patients (basically information regarding how diseases/medication can affect driving), 3) A younger public as a prevention strategy (e.g. especially regarding multiple drug use, e.g. cannabis in combination with alcohol or ecstasy), 4) The physicians/pharmacist (basically information about counselling the patient-driver regarding medication and driving), 5) Policy makers and other public bodies" (DRUID Core contract).

However, when this Deliverable (D) was produced, no final results were available from DRUID "WP2, WP4, WP5 and on Tasks 7.2" as mentioned in the DRUID Core contract, and therefore the prototype documents for information regarding psychoactive substances and driving are produced without such information.

Deliverable 7.3.1. includes 4 parts, each one assessing different issues.

- Part I "Experts' on-line survey on the criteria for the design of prototype documents for information regarding psychoactive substances and driving", assesses the opinions of experts in various fields (policy makers, physicians, pharmacists, researchers, people working in the field of illicit drugs, etc), on the design of prototype documents for information regarding psychoactive substances (illicit drugs and medicines) and driving for the various target populations previously defined.

The following conclusions and recommendations for designing the prototype documents for information regarding psychoactive substances and driving were reached:

- Medicines and illicit drugs should be addressed separately: The surveyed experts consider that, when creating publicity campaigns on illicit drugs and / or medicines and driving, the campaign should deal with illicit drugs and medicines separately, especially if the campaign is aimed at the i) general public, ii) drivers as patients and iii) younger public.
- Target groups and specific age groups: Much more attention should be paid to the elderly, either in campaigns addressed to the public in general as well as to the aged patients who drive.
- Illicit drugs and medicines and driving campaigns should be done by substance group.
- Among illicit drugs, the greatest relevance should be given to cannabis followed by illicit use of benzodiazepines and stimulants such as ecstasy, amphetamines and cocaine.
- For the campaigns on medicines and driving by substance group, priority should be given at least to the medicines used in anaesthesia (general anaesthetics) followed by analgesics,

hypnotics and sedatives, ophthalmologic medicines and anti-epileptics and anti-psychotics, anxiolytics, drugs used in addictive disorders and psycho-stimulants.

- With regard to the type of information to be included in the informative campaigns on illicit drugs, medicines and driving, for all the target groups, the publicity message should give information on the risks and the effect of the substances on driving. For the “general public”, “driver as patients” and the “younger public”, over half the experts consider that the campaign should include information on sanctions. For the “general public”, over half also believe it to be important to include information on the size of the phenomenon (data on epidemiology). For “physicians/pharmacists” and “policy makers”, information should be included on the size of the phenomenon and current legislation.
- Part II “Derived criteria for the development of documents”, is mainly based on information presented by the EU project Campaigns and Awareness-raising Strategies in Traffic Safety (CAST).

Part II of this deliverable thus provides a theoretic frame and top-down assistance – restricted to CAST and DRUID input – for the development of prototype documents.

The following key points are addressed in this Part II:

- Target audience: A key factor of success of road safety communication strategies is the identification of the target audience since this enables defining the best way to reach the targeted individuals. Furthermore, segmenting the target audience enhances the likelihood of success of the message and strategy in reaching and involving the intended audience. Once the target audience is defined, it is very important to find out and to know what the audience wants and what their needs are, as well as what will have the greatest effect on changing their behaviour.
- Analysing the situation: The background of a campaign refers to results from the: in-depth analysis of the problematic behaviour and possible solutions; identification of the target group at risk and how to reach and influence them; translation of the overall campaign goal into specific objectives
- Message: An effective message strategy, based on the communication objectives, is essential for the success of a campaign. It can be subdivided into content strategy (what will be said) and execution strategy (how and by whom it will be said).
- Means and features (media): Target segments’ factors as well as media-related factors should be taken into account when choosing the type(s) of communication and media. Target audience factors include aperture (or opening), which is the audience’s general habits, general interests and media habits. Media-related factors include the ability of media vehicles and combined actions to reach the target audience, and the communication capacity of media vehicles and combined actions
- Communication objectives: This refers to the translation of the general goal of the campaign (based on the problem analysis) into the expected effects (objectives). It should be defined which behaviour (= primary objectives) is to be adopted by the target group to realise the general goal of the campaign. Furthermore, the factors that can contribute (i.e. knowledge, beliefs, attitudes ... = secondary objectives) to reaching the primary objectives can be defined. The specific campaign objectives are used during the evaluation of a campaign. Therefore, objectives should be clearly defined with their levels of accomplishment (e.g. % increase of knowledge) in order to evaluate the success (effectiveness)

- Part III “Description of prototype documents”, analyse, according to the criteria mentioned in part I and II, how the prototype documents were elaborated.

The “Description of prototype documents” was done regarding:

- General public: two prototype documents: i) medicines & driving, and ii) illicit drugs & driving.
 - Driver as patients: a general description for the three prototype documents elaborated.
 - Young drivers: one prototype document, illicit drugs and driving.
 - Physicians and pharmacist: one prototype document, medicines and driving.
- Annex, includes the prototype documents for information elaborated by Task 7.3. partners.
 - General public:
 - Medicines & driving.
 - Illicit drugs & driving.
 - Driver as patients: a general description for the three prototype documents elaborated.
 - What to know about sleeping pills.
 - What to know about antidepressants.
 - What to know about medicines and driving in senior drivers.
 - Young drivers: illicit drugs and driving.
 - Physicians and pharmacist: medicines and driving.

Introduction

Within DRUID Work package 7 - Dissemination and Guidelines, Task 7.3 aims to develop **prototype documents for information regarding psychoactive substances and driving**. Please see below for a full description of Task 7.3.

Task 7.3 as described in the Annex I to the Core Contract of DRUID project

Task 7.3 Booklets

Task leader: UVa

Based on the results of WP2, WP4, WP5 and on Tasks 7.1 and 7.2, prototype documents for information regarding psychoactive substances and driving will be produced. These European Traffic Safety brochures should have the potential to be understood easily and designed to be in a later stage multilingual. Some basic ideas for European information campaigns against psychoactive substances in traffic will be added. These documents will be addressed to:

- 1) The general public (basically information regarding medication and driving)
- 2) The drivers as patients (basically information regarding how diseases/medication can affect driving)
- 3) A younger public as a prevention strategy (e.g. especially regarding multiple drug use, e.g. cannabis in combination with alcohol or ecstasy)
- 4) The physicians/pharmacist (basically information about counselling the patient-driver regarding medication and driving)
- 5) Policy makers and other public bodies

Multimedia support in developing these materials is important as well as the assessment of the impact of the various means of communication.

Task 7.3 will benefit from Task 7.1 "State of the art" and 7.2 "Guidelines", Task 1.3 „Recommendation of thresholds“, Task 1.4 „Integration of results“, Task 2.3 „Relative risk estimation“, Task 4.2 "Consensus" and Task 5.2 „Good practice“.

Task 7.3 will serve as input for Task 7.4 "Implementation“.

Involved partners: RUGPha, UGent, UVa, UGren, LMU, CERTH-HIT, IBSR

Duration of the Task: Month 16 -month 46

The Deliverable is divided into three parts. Part I includes an international expert survey with regard to relevant criteria for developing booklets. Part II introduces relevant communication aspects which should be taken into account while developing information documents. These communication aspects derived from the EU project Campaigns and Awareness-raising Strategies in Traffic Safety (CAST). Parts I and II provide the general lines for the elaboration and development of prototype documents within this Deliverable. As the primary objective of the documents is to give information on the most relevant DRUID results, the specific content input should directly derive from the

scientific DRUID project results. As most of these results will only be available at the end of the project though, links to the expected DRUID outcomes are indicated in Part II. Part III takes all possible background information sources on the different relevant target groups into account and explains the developmental process and the proposed content of the prototype documents.

Part I.

On-line survey of experts on the criteria for the design of prototype documents for information regarding psychoactive substances and driving

Authors

Inmaculada Fierro, Trinidad Gómez-Talegón, M.Carmen Del Río, F. Javier Alvarez (UVa, University of Valladolid, Spain)

Partners

- Han de Gier, Silvia Ravera, Susana Monteiro (RUGPha, University of Groningen, the Netherlands)
- Kristof Pil, Elke Raes, Alain Verstraete (UGent, Ghent University, Belgium)
- Michel Mallaret, Charles Mercier-Guyon (UGren, University of Grenoble, Centre Régional de Pharmacovigilance, France)
- Wolfram Hell (LMU, Ludwig-Maximilians-Universität München, Institute for Vehicle Safety, Germany)
- Lila Gaitanidou (CERT-HIT, Centre for Research and Technology Hellas, Greece)
- Mark Tant, Sofie Boets, Uta Meesmann (IBSR-BIVV, Belgian Road Safety Institute, Belgium)
- Martina Albrecht, Michael Heiing (BASt, Bundesanstalt fr Straenwesen, Germany)

1. Introduction

Within DRUID Work package 7- Dissemination and Guidelines, Task 7.3 aims to develop **prototype documents for information regarding psychoactive substances and driving.**

Task 7.3 as described in the Annex I to the Core Contract of DRUID project

Task 7.3 Booklets

Task leader: UVA

Based on the results of WP2, WP4, WP5 and on Tasks 7.1 and 7.2, prototype documents for information regarding psychoactive substances and driving will be produced. These European Traffic Safety brochures should have the potential to be understood easily and designed to be in a later stage multilingual. Some basic ideas for European information campaigns against psychoactive substances in traffic will be added. These documents will be addressed to:

- 1) The general public (basically information regarding medication and driving)
- 2) The drivers as patients (basically information regarding how diseases/medication can affect driving)
- 3) A younger public as a prevention strategy (e.g. especially regarding multiple drug use, e.g. cannabis in combination with alcohol or ecstasy)
- 4) The physicians/pharmacist (basically information about counselling the patient-driver regarding medication and driving)
- 5) Policy makers and other public bodies

Multimedia support in developing these materials is important as well as the assessment of the impact of the various means of communication.

Task 7.3 will benefit from Task 7.1 "State of the art" and 7.2 "Guidelines", Task 1.3 "Recommendation of thresholds", Task 1.4 "Integration of results", Task 2.3 "Relative risk estimation", Task 4.2 "Consensus" and Task 5.2 "Good practice".

Task 7.3 will serve as input for Task 7.4 "Implementation".

Involved partners: RUGPha, UGent, UVA, UGren, LMU, CERTH-HIT, IBSR

Duration of the Task: Month 16 -month 46

The development of this informative material will consider the possibility of different advertising media and their impact. The international nature of the DRUID project requires that the message or content can later be adapted to the various languages of the Member States.

In a previous study within DRUID WP 7, Task 7.1, a review of guidelines, booklets and other resources was produced (Raes et al., 2008): 75 campaigns were identified, while information on the impact evaluation was available for only 7 campaigns.

In order to develop prototype documents for information regarding psychoactive substances and driving, we find very limited information regarding the development of such prototype documents (Alvarez and Del Río, 2000; Raes et al., 2008; EMCDDA, 2007a, 2007b). Furthermore, the issue has recently been raised that as people “come from different socioeconomic classes and age groups, a “one size fits all” campaign may not be the most effective (Siebers et al., 2003); older benzodiazepine users will apparently ignore messages aimed at young cannabis users, and vice versa, while neither will feel that warnings about alcohol apply to them” (EMCDDA, 2007a, pp: 21). This is in agreement with the point of view that the issue of medicines – illicit drugs and driving should be addressed separately whenever possible (Alvarez and Del Río, 2004).

Based on all these issues and the limited information available on the development of prototype documents on psychoactive substances and driving, we decided to design an on-line survey to experts in the field to assess key issues relevant for us in the development of such documents.

2. Objective

General objective

The main aim of this on-line survey was to assess the opinions of experts in various fields (policy makers, physicians, pharmacists, researchers, people working in the field of illicit drugs, etc), on the design of prototype documents for information regarding psychoactive substances (illicit drugs and medicines) and driving for the various target populations previously defined.

Specific objectives

- Would the campaigns aimed at different target groups be more effective if they analysed both medicines and illicit drugs with respect to driving jointly or separately?
- For both illicit drugs and medicines, should campaigns be aimed at groups of substances or at each substance separately?
- For both illicit drugs and medicines, which type of substances should be included in such campaigns?
- For both illicit drugs and medicines, which are the most effective media for each target group?
- For both illicit drugs and medicines, what kind of information would be included in the campaigns?

3. Methods

3.1. Design of the questionnaire

When making the questionnaire, different aspects that could influence the design of each campaign, such as the target group the message is aimed at, the characteristics of that message (form and content of the information), and the impact of the different media, are all taken into account. In order to establish a profile of the campaigns by juggling the previously considered aspects, the questions for the questionnaire were created, giving the experts:

a) The target populations for the publicity campaign were those previously established in DRUID Annex I to core contract:

- General public
- Drivers as patients
- Younger public
- Physicians and pharmacists
- Policy makers

b) Different substances (illicit drugs and medicines) on which the campaign could focus:

- **Illicit drugs**
 - Cocaine
 - Amphetamines
 - Ecstasy
 - Cannabis
 - LSD
 - Heroin & other opiates
 - Inhalants
 - Benzodiazepines (illicitly used)
 - Barbiturates (illicitly used)
- **Medicines**
 - Anti-obesity preparations
 - Insulin and drugs used in diabetes
 - Antihypertensives
 - Diuretics
 - Beta blocking agents
 - Calcium channel blockers
 - Agents acting on the renin-angiotensin system
 - Anti-neoplastic substances
 - Anti-inflammatory and anti-rheumatic products, non-steroids (like ibuprofen)
 - Anaesthetics, general
 - Analgesics
 - Anti-epileptics
 - Anti-Parkinson drugs
 - Anti-psychotics
 - Anxiolytics
 - Hypnotics and sedatives
 - Antidepressants

- Psycho-stimulants (methylphenidate)
- Anti-dementia drugs
- Drugs used in addictive disorders
- Antihistamines for systemic use
- Ophthalmologic medicines

c) Possible informative contents:

- The size of the phenomenon
- The effects of the drugs
- The risks
- The current legislation
- How the police can detect a driver on medicines
- The sanctions

d) Possible different media to disseminate the campaign:

- Posters
- Web pages
- Press adverts
- Text messages (SMS)
- TV
- Radio
- Explanatory leaflets

3.2. Questionnaire

The questionnaire (Figure 1) was created in the University of Valladolid (UVA) and later revised by the partners of WP7, Task 7.3. The final version was tested on 10 people in order to analyse the degree of understandability and coherence of the questions, as well as the operability and functionality of the computer platform used.

There were 18 questions related to the carrying out of a publicity campaign on medicines / illicit drugs on driving and the aims of the study. Four questions were open (questions number 10, 14, 15 and 16). Questions 17 and 18 dealt with information regarding the respondent.

1. In your opinion, would the campaigns aimed at different target groups be more effective if they analysed both **MEDICAMENTS** and **DRUGS** with respect to driving jointly or separately? Mark the best option for each target group:

| | Medicaments and drugs jointly | Medicaments and drugs separately |
|------------------------|-------------------------------|----------------------------------|
| General public | <input type="radio"/> | <input type="radio"/> |
| Drivers as patients | <input type="radio"/> | <input type="radio"/> |
| Younger public | <input type="radio"/> | <input type="radio"/> |
| Physicians/pharmacists | <input type="radio"/> | <input type="radio"/> |
| Policy makers | <input type="radio"/> | <input type="radio"/> |

2. Would it be useful to have a campaign on **MEDICAMENTS** and/or **DRUGS** and driving aimed at specific age groups? For each target group, mark which groups (one or more).

| | There would be no difference, whatever the age group | I would have a campaign aimed specifically at the younger age group (-30 years) | I would have a campaign aimed specifically at the older age group (+65 years) |
|-----------------------|--|---|---|
| General public | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Drivers as patients | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Physicians/pharmacist | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Policy makers | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

3. In your opinion, a campaign on **DRUGS** and **DRIVING** should analyse:

- All drugs as a whole
- Each drug separately
- By substance group (e.g.: stimulants)

4. On a scale of 1 to 10 (where 1 is the least and 10 the most), mark the importance you feel a campaign on **DRUGS** and **DRIVING** would have with respect to the following substances. If you don't know some of these substances and/or the effects on driving mark "I don't know":

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I don't know |
|------------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| Cocaine | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Amphetamines | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Ecstasy | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Cannabis | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| LSD | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Heroin & other opiates | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Inhalants | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Benzodiazepines | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Barbiturates | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

5. An informative campaign on **MEDICAMENTS** and **DRIVING** should, in your opinion, analyse:

- All the groups of medicaments as a whole
- Each group of medicaments separately

6. On a scale of 1 to 10 (where 1 is the least and 10 the most), mark the importance you feel a campaign on **MEDICAMENTS** and **DRIVING** would have with respect to the following groups of medicaments. If you don't know some of these substances and/or the effects on driving mark "I don't know":

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I don't know |
|--|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| Anti-obesity preparations | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Insulin and drugs used in diabetes | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Antihypertensives | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Diuretics | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Beta blocking agents | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Calcium channel blockers | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Agents acting on the renin-angiotensin system | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Anti-neoplastic substances | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Anti-inflammatory and anti-rheumatic products, non-steroids (like ibuprofen) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Anaesthetics, general | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Analgesics | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Anti-epileptics | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Anti-parkinson drugs | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Anti-psychotics | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Anxiolytics | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Hypnotics and sedatives | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Antidepressants | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Psycho-stimulants (methylphenidate) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Anti-dementia drugs | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Drugs used in addictive disorders | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Antihistamines for systemic use | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Ophthalmologic | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

7. On a scale of 1 to 10 (where 1 is the least and 10 the most), evaluate the following media according to their effectiveness, in your opinion, of an informative campaign on DRUGS and DRIVING:

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| TV | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Radio | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Explanatory leaflets | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Posters | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Web pages | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Press adverts | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Text messages (SMS) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

8. Mark the media you feel would be most effective for the campaign DRUGS and DRIVING for each target group (mark the THREE most important in each case).

| | TV | Radio | Explanatory leaflets | Posters | Web pages | Press adverts | Text messages (SMS) |
|-----------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| General public | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Drivers as patients | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Younger public | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Physicians/pharmacist | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Policy makers | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

9. What kind of information would you include in the campaign DRUGS and DRIVING for each target group?

| | The size of the phenomenon | The effects of the drugs | The risks | The current legislation | How the police can detect a driver on drugs | The sanctions |
|-----------------------|----------------------------|--------------------------|--------------------------|--------------------------|---|--------------------------|
| General public | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Drivers as patients | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Younger public | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Physicians/pharmacist | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Policy makers | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

10. Any other questions

1

2

11. On a scale of 1 to 10 (where 1 is the least and 10 the most), evaluate the following media according to their effectiveness, in your opinion, of an informative campaign on **MEDICAMENTS** and **DRIVING**:

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| TV | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Radio | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Explanatory leaflets | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Posters | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Web pages | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Press adverts | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Text messages (SMS) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

12. Mark the media you feel would be most effective for the campaign **MEDICAMENTS** and **DRIVING** for each target group (mark the **THREE** most important in each case).

| | TV | Radio | Explanatory leaflets | Posters | Web pages | Press adverts | Text messages (SMS) |
|-----------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| General public | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Drivers as patients | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Younger public | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Physicians/pharmacist | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Policy makers | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

13. What kind of information would you include in the campaign **MEDICAMENTS** and **DRIVING** for each target group?

| | The size of the phenomenon | The effects of the drugs | The risks | The current legislation | How the police can detect a driver on medicaments | The sanctions |
|-----------------------|----------------------------|--------------------------|--------------------------|--------------------------|---|--------------------------|
| General public | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Drivers as patients | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Younger public | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Physicians/pharmacist | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Policy makers | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

14. Any other questions

1

2

15. Do you remember any publicity campaign related to the consumption of DRUGS and/or MEDICAMENTS and driving that made a particular impact on you.

Yes (Indicate which)

No

16. Do you remember any part of the said campaigns that particularly attracted your attention? Please specify:

1

2

3

17. The information requested below is purely for statistical purposes and will only be used anonymously to formulate the results of this survey. Primary Address.

Sex

Age

Country

Collective to which you belong

18. It is our intention to recognise your contribution by mention of your name as having participated in the study. If you do not wish your name to appear as a participant, mark the box with a cross.

I do not wish my name to appear as one of the participants in this study.

19. Address.

- First (Given) Name
 - Last (Family) Name
 - Institution
 - Department
 - E-mail Address
 - Address
 - State/Province
 - City
 - Postal Code
-

Figure 1. Questionnaire used.

3.3. Selection of the experts

Experts were selected as follows:

1) Starting from the information offered by the partners of the DRUID Consortium. Each of the main researchers of the 37 DRUID Partners was asked for a list with at least 10 e-mail addresses from people in their country to whom it would be relevant to answer the questionnaire (policy makers, physicians, pharmacists, researchers, people working in the field of illicit drugs, etc). This information was also asked from each of the DRUID WP leaders. The DRUID project researchers were also asked to participate in the on-line survey.

2) As in the above case, the members of the Working group on Alcohol, drugs, medicines and driving, European Commission, Directorate E – Inland Transport were also asked to participate in the on-line survey. They were also asked for a list of at least 10 e-mail addresses from people in their country to whom it would be relevant to answer the questionnaire (policy makers, physicians, pharmacists, researchers, people working in the field of illicit drugs, etc).

The addresses (e-mail addresses) of the experts were asked for on 1st April 2008 through a personal e-mail. Approximately a fortnight later, the request was repeated to those people who had not answered the first request by sending a list of experts. When no answer was given, a third message was sent at the beginning of May.

3.4. Sending the questionnaires

As the University of Valladolid received the lists of experts proposed by the groups, and once it had been checked that no e-mail address had appeared twice, i.e., that an expert could have been proposed by two groups, an e-mail was sent to each expert with a personal link giving him/her direct access to the survey server to complete the questionnaire.

The questionnaire was sent to a total of 608 experts between 31st March and 2nd June 2008. In order to increase participation, two reminders were sent to the participants who had still not completed the questionnaire.

The study was carried out by means of auto questionnaire via the Web (CAWI) using the tool SIGET-Web managed by WWW.TECNOMARKETING.NET. The questionnaire was sent to each expert by e-mail, together with a letter of presentation (Document 2).

The link allowed the expert to gain access to the questionnaire as many times as he/she wanted to fill it in successfully. When the questionnaire had been satisfactorily completed, the link closed, thus avoiding the superimpression of different answers. The system only allowed one valid answer per candidate. The answers have been dealt with anonymously and only for statistical purposes.

The list of names and e-mails has only been used to send information corresponding to this study, and not for the personalization of answers or for the use of other studies or purposes. The statistical results and results files are the property of ACSUCYL (Agency for the Quality of the University System of Castilla y León), and cannot be used by other Institutions or individuals without express prior consent.

3.5. Ethical issues

The study was approved by the Ethics Committee, Faculty of Medicine, University of Valladolid, Valladolid, Spain.



Dear Sir/Madam

The European Union DRUID project (Driving under the Influence of Drugs, Alcohol and Medicines, <http://www.druid-project.eu>) started on October 15th, 2006, and will run for 48 months.

DRUID is aimed at the whole class of psychoactive substances, alcohol as well as medicines and drugs. The DRUID project consists of 7 work packages. Work package 7 is aimed at the “development of prescribing and dispensing guidelines, development of information materials, evaluation of practice guidelines and protocols in clinical practice regarding medicinal drugs and driving”

We would like to have your opinion on the development of prototype documents regarding psychoactive substances and driving, that we will produce within the DRUID project. We would appreciate it if you could answer the survey you can find at the link shown below. It would take only a few minutes and your information would be very useful for us.

Below is a short description of task 7.3 and the target population for which the prototype documents will be produced:

Description of Task 7.3 “Booklets”

Prototype documents for information regarding psychoactive substances and driving will be produced. These European Traffic Safety brochures should have the potential to be understood easily and designed to be in a later stage multilingual. Some basic ideas for European information campaigns against psychoactive substances in traffic will be added. These documents will be addressed to:

- 1) **The general public** (basically information regarding medication and driving)
- 2) **The drivers as patients** (basically information regarding how diseases/medication can affect driving)
- 3) A **younger public** as a prevention strategy (e.g. especially regarding multiple drug use, e.g. cannabis in combination with alcohol or ecstasy)
- 4) **The physicians/pharmacist** (basically information about counselling the patient-driver regarding medication and driving)
- 5) **Policy makers** and other public bodies.

Link to the survey: <http://www.tecnomarketing.net/ct/8A10ABBF-465F-42D3-A560-XXXXXXXXXX>

Many thanks in advance

Pr F. Javier Álvarez
Faculty of Medicine,
University of Valladolid,
c/ Ramón y Cajal s/n,
47005 Valladolid
SPAIN
alvarez@med.uva.es
tel: +34 983 423077
fax: +34 983 423077

Figure 2. Text of the e-mail with the application form to participate in the on-line questionnaire on Task 7.3 Booklets.

4. Results

4.1. Participation

The questionnaire was sent to a total of 608 experts. Up until Thursday, June 12th, 2008, when the study was considered to have ended, there had been 235 contacts with the administrative server of the questionnaire. These said contacts were from 181 different users.

A total of 181 out of 608 experts answered the first question (29.8%), while question 13 was answered by 134 of the 608 (22.0%)(Figure 3).

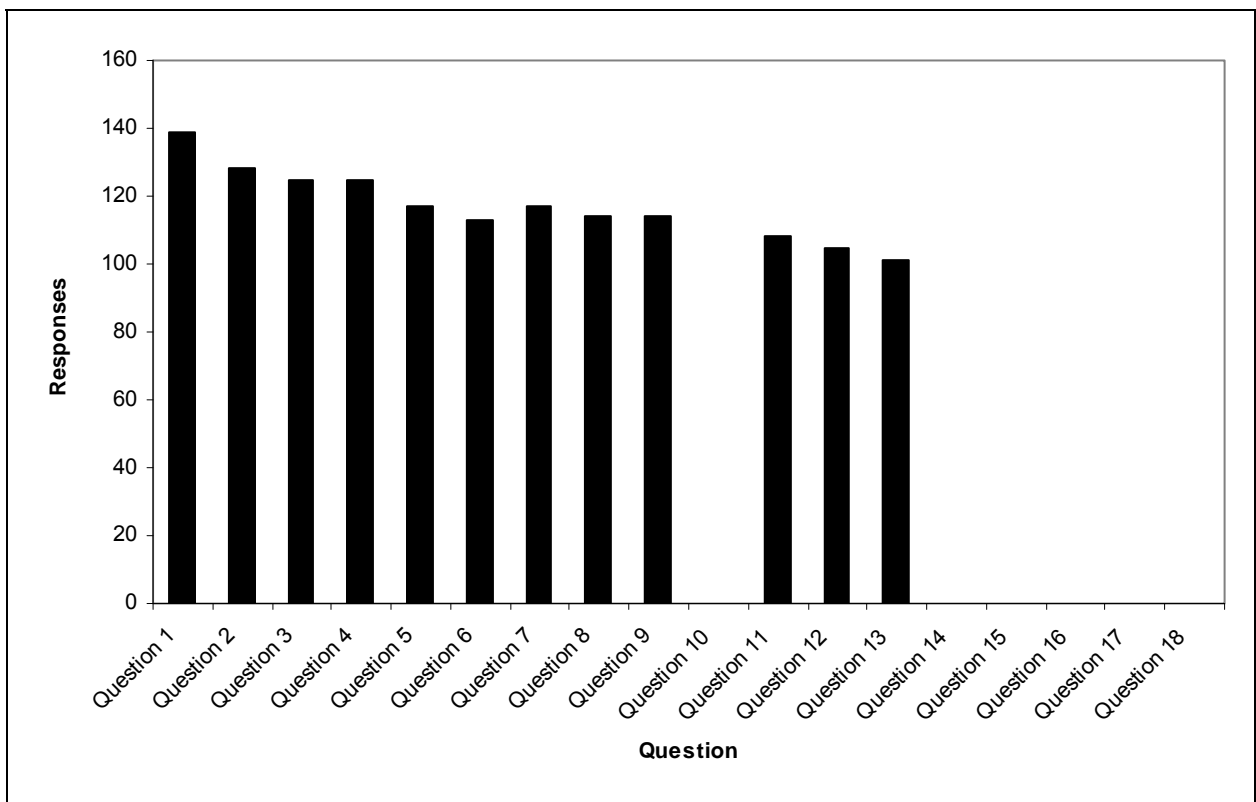


Figure 3. Number of experts who answered each of the questionnaire's closed questions.

4.2. Results of the questionnaire

The results for each question are shown below:

- **Question 1: In your opinion, would the campaigns aimed at different target groups be more effective if they analysed both MEDICINES and ILLICIT DRUGS with respect to driving jointly or separately? Mark the best option for each target group:**

There were 181 replies to this question.

For the “general public”, the “drivers as patients” and the “younger public”, the most effective way to tackle the campaign would be to deal with illicit drugs and medicines separately, especially in the case of “drivers as patients”, where 3 out of every 4 experts shared this opinion (Figure 4). For the groups of physicians/pharmacists and policy makers, the opinions were more equally shared between both possibilities.

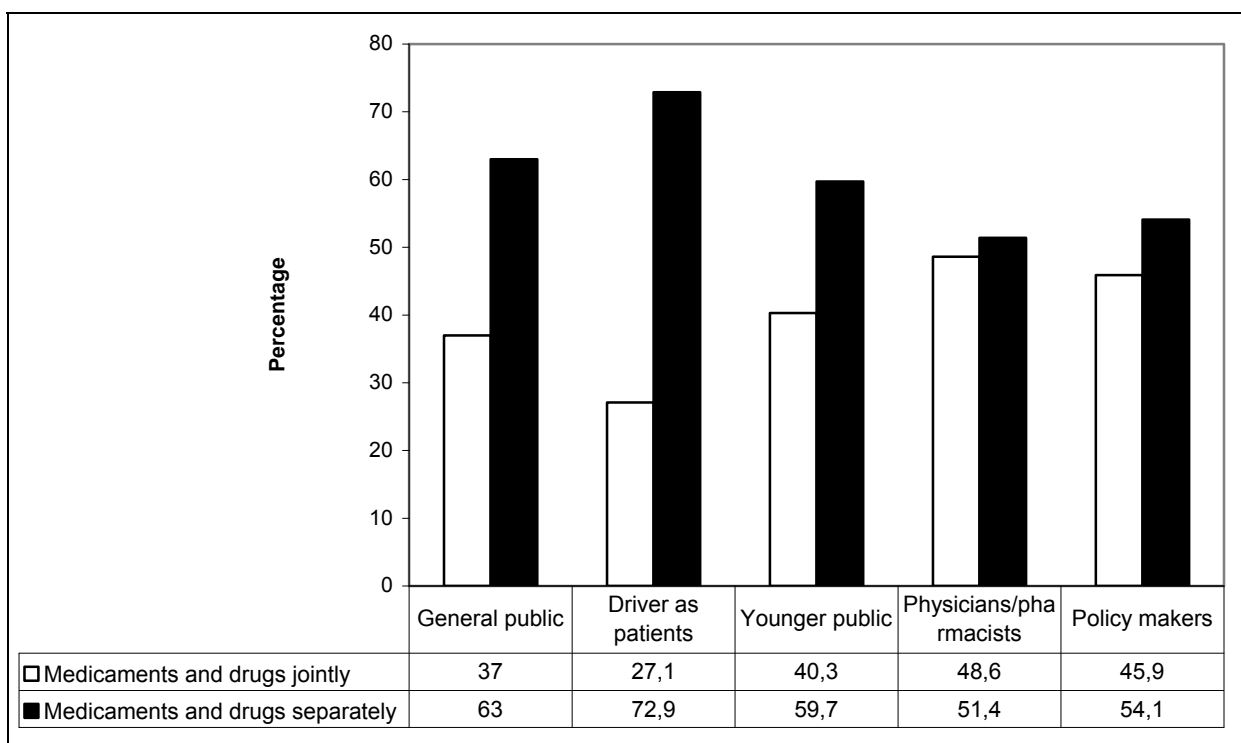


Figure 4: Percentages of responses to question1: In your opinion, would the campaigns aimed at different target groups be more effective if they analysed both MEDICINES and ILLICIT DRUGS with respect to driving jointly or separately?.

- **Question 2: Would it be useful to have a campaign on MEDICINES and/or ILLICIT DRUGS and driving aimed at specific age groups? For each target group, mark which groups (one or more).**

There were 168 replies to this question. When answering this question, choosing more than one option was allowed, so the sum of the percentages for each target group may be over 100%. The percentages have been calculated over the number of 168.

In view of the experts' answers, different opinions can be observed depending on the target group (Figure 5):

- ✓ In the case of a campaign aimed at the “general public”, more than half (60.1%) would pay special attention to young people, while 45.2% would dedicate a campaign specifically to the over 65s.
- ✓ As for the “drivers as patients”, 62.5% of the experts consulted would direct a campaign at the over 65s.
- ✓ On the other hand, when the campaign is aimed at “physicians/pharmacists” and “policy makers”, most of the experts consider that a different focus depending on age is not necessary.

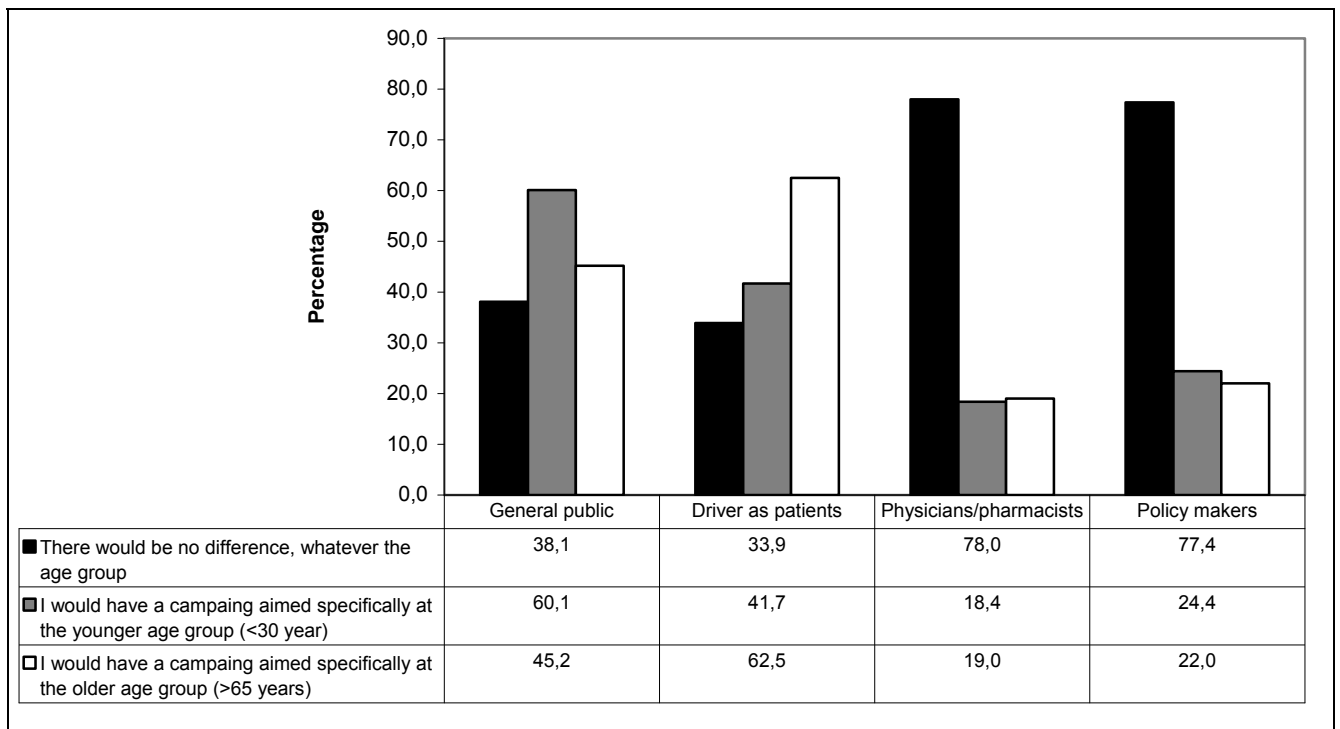


Figure 5. Responses to question 2: Would it be useful to have a campaign on MEDICINES and/or ILLICIT DRUGS and driving aimed at specific age groups?.

- **Question 3: In your opinion, a campaign on DRUGS and DRIVING should analyse: all drugs as a whole, each drug separately, by substance group (e.g.: stimulants)**

There were 164 replies to this question.

Most of the experts considered that a campaign on illicit drugs and driving should be done by substance group. Only one in five would include all drugs in general in the campaign, while one in five also would deal with each drug separately (Figure 6).

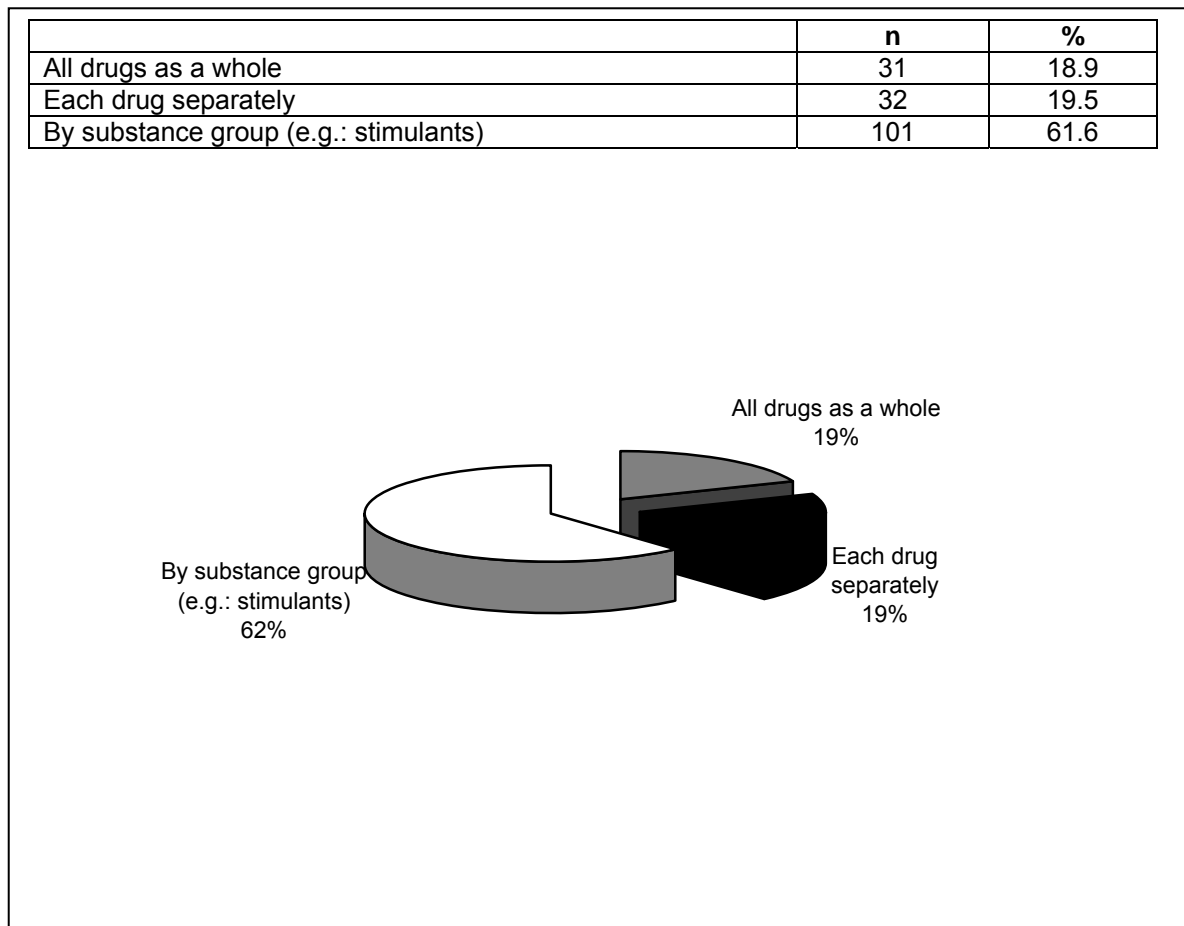


Figure 6. Response to the question: In your opinion, a campaign on DRUGS and DRIVING should analyse all drugs as a whole, each drug separately, by substance group (e.g.: stimulants).

- **Question 4: On a scale of 1 to 10 (where 1 is the least and 10 the most), mark the importance you feel a campaign on DRUGS and DRIVING would have with respect to the following substances:**

There were 164 replies to this question, although in some cases a lack of knowledge concerning the effects of a particular substance, or its effect on driving was admitted to.

The experts were questioned on 9 groups of substances that are shown in Table 1.

Table 1 shows the mean \pm SD of the scores obtained by each substance and the number of people (n) who gave each substance a score.

As can be seen in Table 1 and Figure 7, according to the experts' opinions, cannabis is the substance that should have the greatest relevance in a campaign on DRUGS and DRIVING, followed by the benzodiazepines and the stimulants such as ecstasy, amphetamines and cocaine. As can be seen, all the substances obtained an average score of over five out of ten, that is, although an order of priority has been established, all the substances are worth serious consideration by the experts.

Table 1. Average scores obtained for the question: On a scale of 1 to 10 (where 1 is the least and 10 the most), mark the importance you feel a campaign on ILLICIT DRUGS and DRIVING would have with respect to the following substances.

| Drug | n | Mean \pm SD | Range | |
|------------------------|-----|-----------------|---------|---------|
| | | | Minimum | Maximum |
| Cocaine | 155 | 7.57 \pm 2.62 | 1 | 10 |
| Amphetamines | 156 | 7.74 \pm 2.35 | 1 | 10 |
| Ecstasy | 153 | 7.81 \pm 2.45 | 1 | 10 |
| Cannabis | 156 | 8.40 \pm 2.26 | 1 | 10 |
| LSD | 153 | 5.78 \pm 3.00 | 1 | 10 |
| Heroin & other opiates | 155 | 6.55 \pm 2.95 | 1 | 10 |
| Inhalants | 140 | 5.71 \pm 2.60 | 1 | 10 |
| Benzodiazepines | 150 | 8.18 \pm 2.23 | 1 | 10 |
| Barbiturates | 150 | 6.43 \pm 2.84 | 1 | 10 |

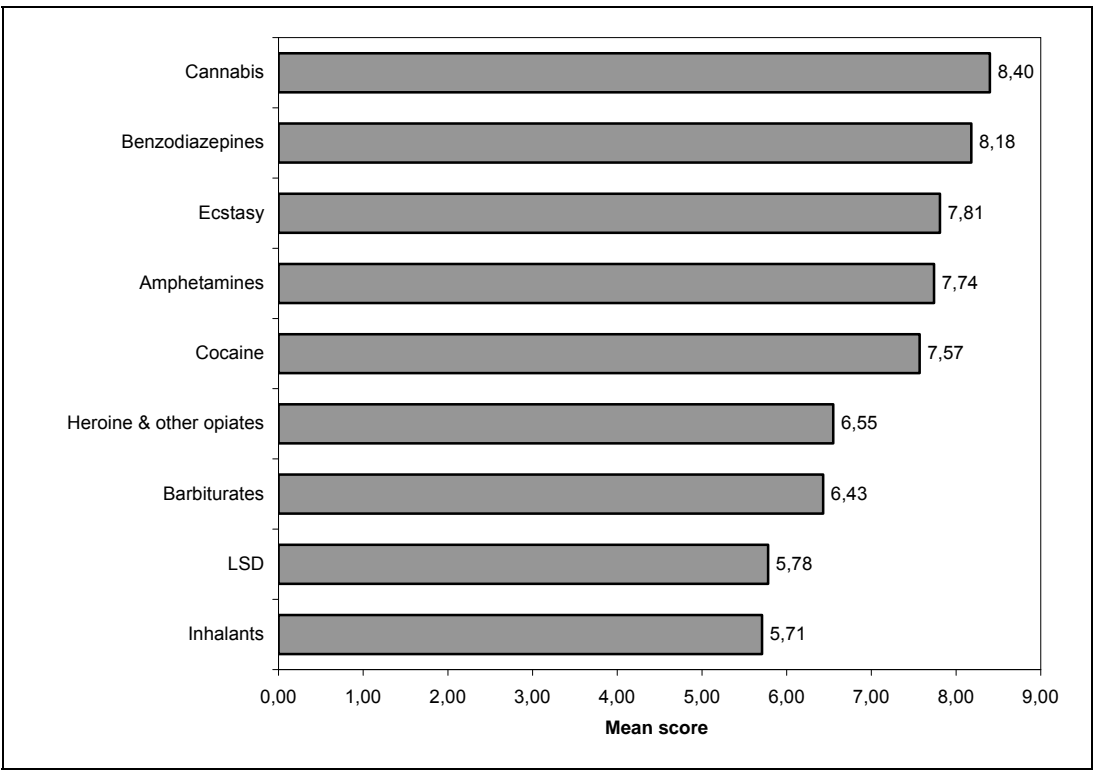


Figure 7. Mean scores for substances on the importance of each group of drugs when developing drugs and driving campaigns (10 maximum score).

- **Question 5: An informative campaign on MEDICINES and DRIVING should, in your opinion, analyse: All the groups of medicaments as a whole or each group of medicaments separately.**

This question was answered by 155 experts.

69.0% would carry out the informative campaign distinguishing between the different groups of medicines and 31.0% would deal with all the medicines together (Figure 8).

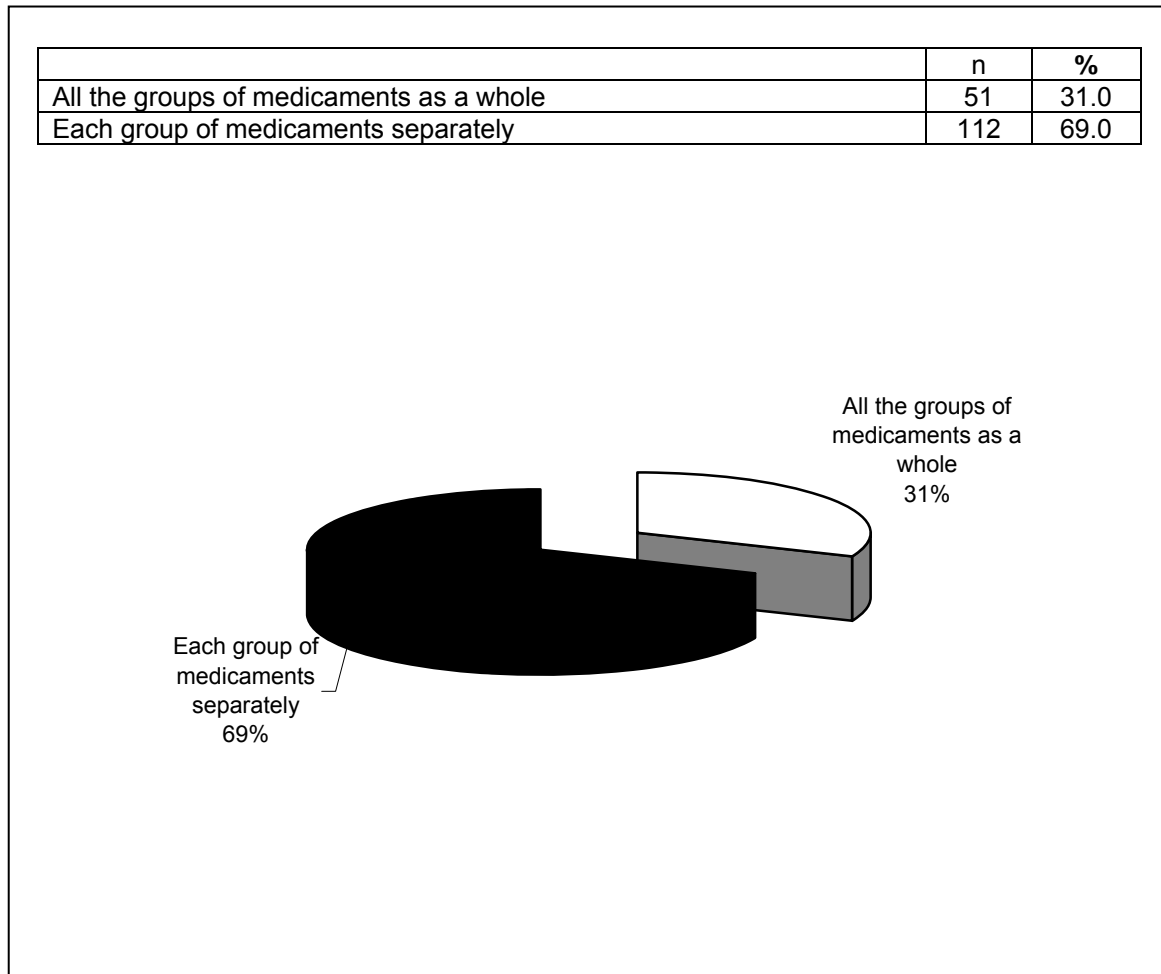


Figure 8. Responses to the question: An informative campaign on MEDICINES and DRIVING should, in your opinion, analyse: All the groups of medicaments as a whole or each group of medicaments separately.

- **Question 6: On a scale of 1 to 10 (where 1 is the least and 10 the most), mark the importance you feel a campaign on MEDICINES and DRIVING would have with respect to the following groups of medicines**

This question was answered by a total of 155 people, although in some cases a lack of knowledge concerning the effects of a particular substance, or its effect on driving was admitted to.

Table 2 shows the mean (\pm SD) of the scores obtained for each group of substances and the number of people (n) who gave a score to each substance. Figure 9 shows, in decreasing order, the average scores given to each group of substances.

The list of the groups of medicines is shown in Table 2. Experts were asked to rate the importance of 22 different groups of medicines. The selection of the groups of medicines was based on those that can impair the ability to drive safely. To select these groups, we used the information recorded on DRUID deliverable 4.1.1. (Pil et al., 2008). The medicinal groups were named as in the ATC classification system.

The medicines used in general anaesthesia were the ones that received the highest average score (8.47 out of 10), followed by analgesics (8.11), hypnotics and sedatives (7.90), ophthalmologics and anti-epileptics (7.57), and anti-psychotics (7.42). Anxiolytics (7.30), drugs used in addictive disorders (7.24) and psycho-stimulants (7.0) also scored 7 or more out of 10.

It should be pointed out that such groups of medicines as antihistamines for systemic use, antidepressants and anti-Parkinson drugs obtained a low score (below 7).

Table 2. Average scores obtained for the question: the importance you feel a campaign on MEDICINES and DRIVING would have with respect to the following groups of medicines:

| Medicinal Drug Group | n | Mean \pm SD | Range | |
|---|-----|-----------------|---------|---------|
| | | | Minimum | Maximum |
| Anti-obesity preparations | 119 | 5.11 \pm 2.73 | 1 | 10 |
| Insulin and drugs used in diabetes | 137 | 6.62 \pm 2.77 | 1 | 10 |
| Antihypertensives | 129 | 5.81 \pm 2.81 | 1 | 10 |
| Diuretics | 126 | 4.83 \pm 2.59 | 1 | 10 |
| Beta blocking agents | 124 | 5.44 \pm 2.64 | 1 | 10 |
| Calcium channel blockers | 118 | 4.75 \pm 2.51 | 1 | 10 |
| Agents acting on the renin-angiotensin system | 114 | 4.81 \pm 2.49 | 1 | 10 |
| Anti-neoplastic substances | 110 | 4.71 \pm 2.53 | 1 | 10 |
| Anti-inflammatory and anti-rheumatic products, non-steroids | 131 | 5.25 \pm 2.85 | 1 | 10 |
| Psycho-stimulants (methylphenidate) | 138 | 7.00 \pm 2.69 | 1 | 10 |
| Anti-dementia drugs | 137 | 6.86 \pm 2.87 | 1 | 10 |
| Drugs used in addictive disorders | 140 | 7.24 \pm 2.65 | 1 | 10 |
| Antihistamines for systemic use | 132 | 6.61 \pm 2.80 | 1 | 10 |
| Ophthalmologic | 141 | 7.57 \pm 2.59 | 1 | 10 |
| Hypnotics and sedatives | 139 | 7.90 \pm 2.64 | 1 | 10 |
| Anaesthetics, general | 144 | 8.47 \pm 2.27 | 1 | 10 |
| Analgesics | 142 | 8.11 \pm 2.35 | 1 | 10 |
| Anti-epileptics | 129 | 7.57 \pm 2.57 | 1 | 10 |
| Anti-Parkinson drugs | 128 | 6.13 \pm 2.92 | 1 | 10 |
| Anti-psychotics | 134 | 7.42 \pm 2.64 | 1 | 10 |
| Anxiolytics | 136 | 7.30 \pm 2.58 | 1 | 10 |
| Antidepressants | 123 | 6.19 \pm 2.81 | 1 | 10 |

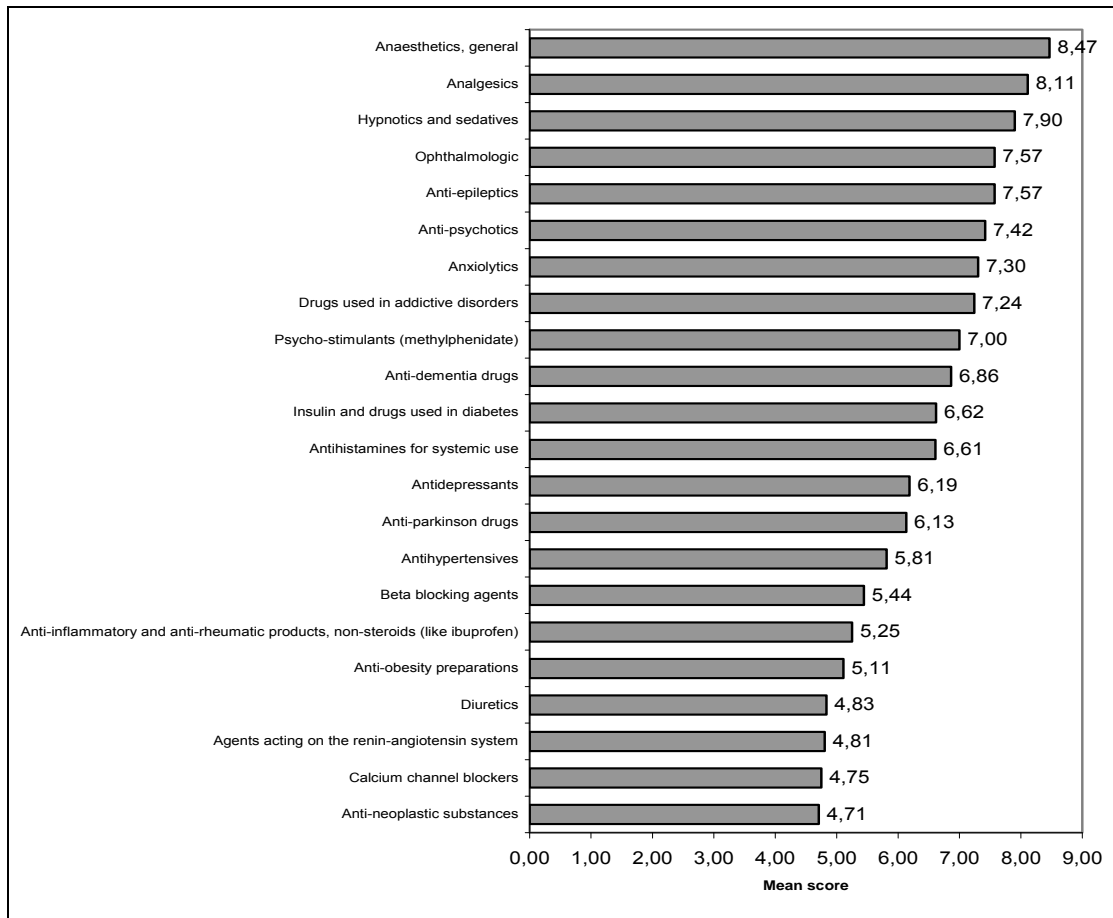


Figure 9. Mean scores for substances on the importance of each group of medicines when developing campaigns on medicines and driving (10 maximum score).

- **Question 7. On a scale of 1 to 10 (where 1 is the least and 10 the most), evaluate the following media according to their effectiveness, in your opinion, of an informative campaign on DRUGS and DRIVING:**

This question was designed to obtain information about how the experts evaluate each of the media proposed, in a general sense and independently of the target group at which the campaign on illicit drugs and driving was aimed.

There were 154 replies to this question.

As can be seen in Table 3 and Figure 10, according to the experts' evaluation, the media with the greatest effectiveness for this type of campaign are posters (8.55), followed by web pages (6.86), television (6.32) and radio (6.27).

Table 3. Average scores obtained for the question: On a scale of 1 to 10 (where 1 is the least and 10 the most) evaluate the following media according to their effectiveness, in your opinion, of an informative campaign on illicit DRUGS and DRIVING:

| Campaign | n | Mean ± SD | Range | |
|----------------------|-----|-----------|---------|---------|
| | | | Minimum | Maximum |
| Posters | 154 | 8.55±2.27 | 1 | 10 |
| Web pages | 154 | 6.86±2.49 | 1 | 10 |
| TV | 154 | 6.32±2.40 | 1 | 10 |
| Radio | 154 | 6.27±2.33 | 1 | 10 |
| Press adverts | 154 | 5.91±2.30 | 1 | 10 |
| Text messages (SMS) | 154 | 5.71±2.23 | 1 | 10 |
| Explanatory leaflets | 154 | 5.08±2.73 | 1 | 10 |

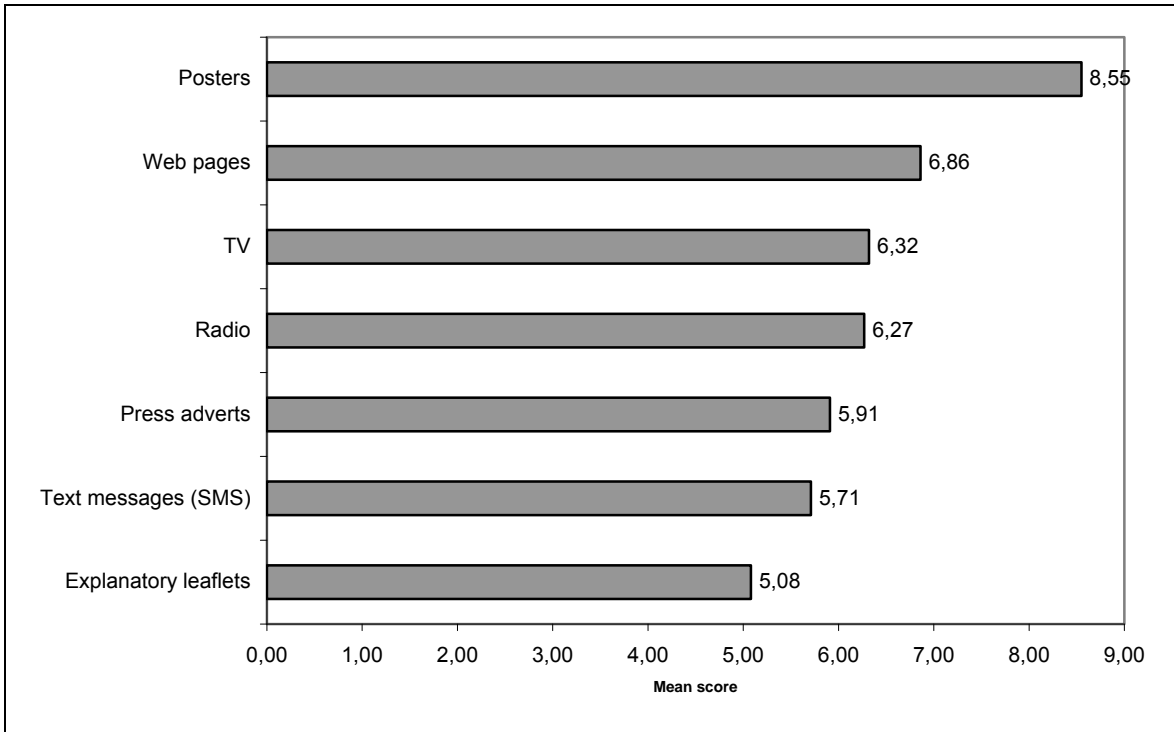


Figure 10. Mean scores for the media on the importance of developing campaigns on illicit drugs and driving (10 maximum score).

- **Question 8. Mark the media you feel would be most effective for the campaign DRUGS and DRIVING for each target group (mark the THREE most important in each case).**

There were 151 replies to this question.

Please, note that experts are allowed to give up to three answers for each target group.

The perception of the media's effectiveness changes noticeably when the target group to which the campaign is aimed is taken into account (Table 4):

- ✓ For a campaign aimed at the "general public", 97.4% of the experts pointed to the television as the most effective media for the campaign on illicit DRUGS and DRIVING, followed by the radio (53.6%) and press adverts (35.1%).
- ✓ For "drivers as patients", the top three were the television (65.6%), explanatory leaflets (59.6%) and radio (36.4%).
- ✓ For the "younger public", the top three were television (76.2%), web pages (65.6%) and SMS (55.6%).
- ✓ For "physicians/pharmacists", explanatory leaflets (81.5%), web pages (65.6%) and posters (35.1%).
- ✓ For the "policy makers", TV (57.0%), explanatory leaflets (56.3%), web pages (47.7%) and press adverts (47.0%).

It should be pointed out that there is a certain degree of inconsistency between the answers to the previous question (number 7) and this one (number 8). We believe the answers to question 8 are more relevant, as they refer to the most effective media for each target group.

Table 4. Responses to the question: Mark the media you feel would be most effective for the campaign on illicit DRUGS and DRIVING for each target group (mark the THREE most important in each case).

| | TV | | Radio | | Explanatory leaflets | | Posters | | Web pages | | Press adverts | | SMS | |
|-------------------------|-----|------|-------|------|----------------------|------|---------|------|-----------|------|---------------|------|-----|------|
| | n | % | n | % | n | % | n | % | n | % | n | % | n | % |
| General public | 147 | 97.4 | 81 | 53.6 | 29 | 19.2 | 28 | 18.5 | 33 | 21.8 | 53 | 35.1 | 7 | 4.6 |
| Drivers as patients | 99 | 65.6 | 55 | 36.4 | 90 | 59.6 | 43 | 28.5 | 42 | 27.8 | 26 | 17.2 | 19 | 12.6 |
| Younger public | 115 | 76.2 | 48 | 31.8 | 14 | 9.3 | 23 | 15.2 | 99 | 65.6 | 9 | 6.0 | 84 | 55.6 |
| Physicians, pharmacists | 36 | 23.8 | 7 | 4.6 | 123 | 81.5 | 53 | 35.1 | 99 | 65.6 | 50 | 33.1 | 5 | 3.3 |
| Policy makers | 86 | 57.0 | 33 | 21.8 | 85 | 56.3 | 33 | 21.8 | 72 | 47.7 | 71 | 47.0 | 3 | 2.0 |

- **Question 9. What kind of information would you include in the campaign DRUGS and DRIVING for each target group?**

There were 148 replies to this question.

It should be noted that the experts could mark as many options as they considered opportune. The percentages shown in Figure 11 have been calculated for an number of 148.

The experts were asked about 6 types of content:

- The size of the phenomenon (that is, epidemiology data)
- The effects of the illicit drugs on driving
- The risk associated with driving while under the influence of the illicit drug
- The current legislation
- How the police can detect a driver on drugs
- The sanction for driving while under the influence of illicit drugs

As can be seen in Figure 11:

- ✓ Most of the experts consider that, for all the target groups, it is important that the informative campaign should contain the risks and the effects the substances can have on driving.
- ✓ For the “general public”, “driver as patients” and “younger public”, over half the experts consider that an informative campaign should include information on sanctions.
- ✓ For “physician/pharmacists” and “policy makers”, over three quarters believe that it should include information on the size of phenomenon and over half that it should include current legislation.

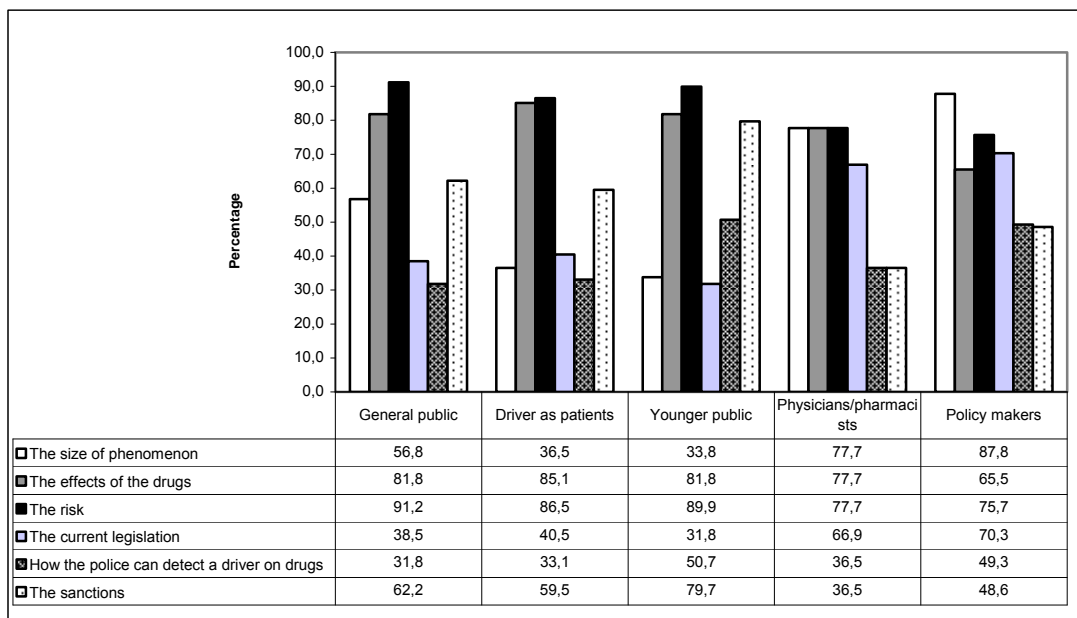


Figure 11. Percentage of experts who would include each type of information in the campaign on illicit DRUGS and DRIVING, according to target group.

• **Question 10. Any other questions**

Question 10 (an open question), the experts were given the chance to offer ideas concerning the contents that should be included in a campaign on illicit DRUGS and DRIVING.

Below are the considerations of the experts as they appeared in the questionnaire:

1. Difference between risk and possible damage
2. Difference between long term (e.g. cognitive impairment or permanent brain damage) versus short term effect (e.g. slower reaction time)
3. I am sceptical to the effects of campaigns in general, but it depends on what is meant by a campaign. Campaigns may be effective if enforcement or other activities are included. If the campaigns only include information, they can only be effective if the problem is lack of information.
4. The consequences of consume drugs in young people, what shall we happen at the end of your life
5. Warning signs, so the driver can estimate that his driving is dangerous.
6. Some questions difficult to answer for non medical-professionals.
7. Coffee shop owners.
8. Drivers as patients are not a separate group, but fall under the general public with respect to illicit drug use.
9. Types of drugs that have the highest impairing risks.
10. Concerning general public, drivers as patients, and younger audiences: Include information on potential harmful effects on relevant others (girlfriends/boyfriends, close relatives put at risk when driving under drug influence) --> appeal to social norms as persuasion strategy.

We could perhaps take special note of comments 7 and 10, which refer to the possibility of the intervention with distributors (in this case of cannabis) and the convenience of informing those who drive under the effects of substances of potential harmful effects on those around them (friends, relatives, etc.).

- **Question 11. On a scale of 1 to 10 (where 1 is the least and 10 the most), evaluate the following media according to their effectiveness, in your opinion, of an informative campaign on MEDICINES and DRIVING:**

As for question 7 concerning a campaign on drugs and driving, question 11 was designed to obtain information about experts' evaluation for each of the proposed media both in general and independently of the target group at which the campaign was aimed.

There were 142 replies to this question.

As can be seen in Table 5 and Figure 12, according to the experts' evaluation, the most effective media for these campaigns are the TV (8.58 points, average score), followed by the radio (6.91), press adverts (6.31) and web pages (6.30).

Table 5. Average scores obtained for the question: On a scale of 1 to 10 (where 1 is the least and 10 the most), evaluate the following media according to their effectiveness, in your opinion, of an informative campaign on MEDICINES and DRIVING

| Media | n | Mean ± SD | Range | |
|----------------------|-----|-----------|---------|---------|
| | | | Mínimun | Maximum |
| TV | 142 | 8.58±2.30 | 1 | 10 |
| Radio | 142 | 6.91±2.47 | 1 | 10 |
| Explanatory leaflets | 142 | 5.99±2.35 | 1 | 10 |
| Posters | 142 | 5.35±2.21 | 1 | 10 |
| Web pages | 142 | 6.30±2.45 | 1 | 10 |
| Press adverts | 142 | 6.31±2.33 | 1 | 10 |
| Text messages (SMS) | 142 | 4.66±2.63 | 1 | 10 |

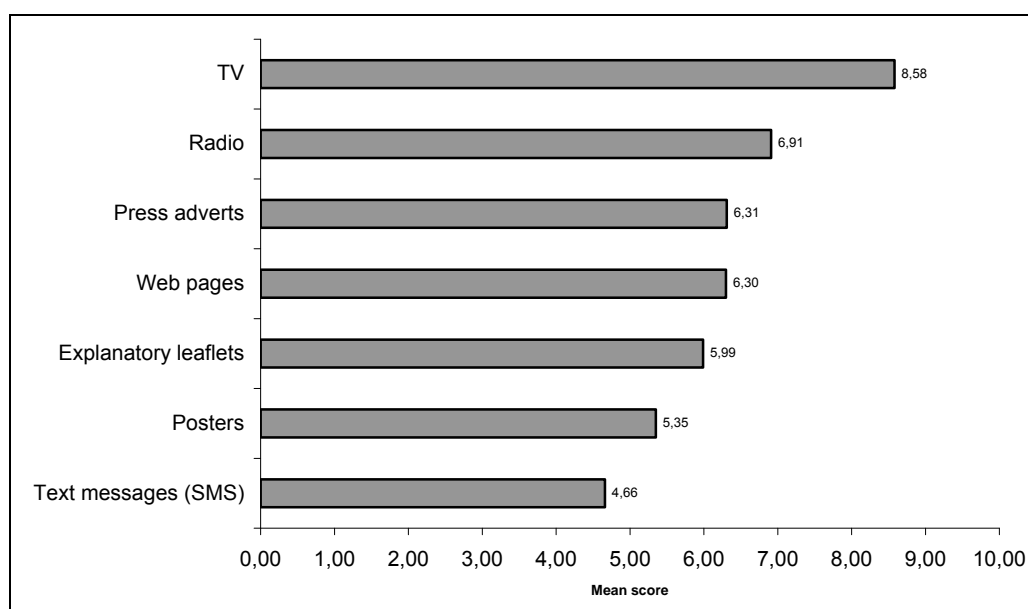


Figure 12. Mean scores for media on their importance when developing campaigns on medicines and driving (10 maximum score).

- **Question 12. Mark the media you feel would be most effective for the campaign MEDICINES and DRIVING for each target group (mark the THREE most important in each case).**

There were 138 replies to this question. Please, note that experts were allowed to give up to three answers for each target population.

In general, the evaluation of the different media by the experts for the campaign MEDICINES and DRIVING (Table 6) is very similar to that carried out for a campaign on illicit DRUGS and DRIVING (Table 4). For all target groups, the most important media are the same in both campaigns (the percentages are also very similar). There is only one exception, in the target group “physicians/pharmacists”, where third place is now taken by the television, while for the campaign on illicit DRUGS and DRIVING, posters occupied the third place:

- ✓ For a campaign aimed at the “general public”, 98.6% of the experts said that the TV was the most effective media for the campaign on MEDICINES and DRIVING, followed by the radio (57.2%) and press adverts (37.7%).
- ✓ For “drivers as patients”, the top three are television (76.8%), explanatory leaflets (58.7%) and radio (40.0%).
- ✓ For the “younger public”, television (81.2%), web pages (68.1%) and SMS (50.0%).
- ✓ For “physicians/pharmacists”, explanatory leaflets (83.3%), web pages (69.6%) and TV (38.4%).
- ✓ For the “policy makers”, explanatory leaflets (60.1%), TV (58.0%), and press adverts (44.2%).

Table 6. Percentages of opinion for the question: Mark the media you feel would be most effective for the campaign MEDICINES and DRIVING for each target group (mark the THREE most important in each case).

| | TV | | Radio | | Explanatory leaflets | | Posters | | Web pages | | Press adverts | | SMS | |
|------------------------|-----|------|-------|------|----------------------|------|---------|------|-----------|------|---------------|------|-----|------|
| | n | % | n | % | n | % | n | | n | % | n | % | n | % |
| General public | 136 | 98.6 | 79 | 57.2 | 30 | 21.7 | 27 | 19.6 | 40 | 29.0 | 52 | 37.7 | 6 | 4.3 |
| Driver as patients | 106 | 76.8 | 55 | 39.9 | 81 | 58.7 | 40 | 29.0 | 49 | 35.5 | 25 | 18.1 | 12 | 8.7 |
| Younger public | 113 | 81.9 | 49 | 35.5 | 18 | 13.0 | 17 | 12.3 | 94 | 68.1 | 13 | 9.4 | 68 | 49.3 |
| Physicians pharmacists | 53 | 38.4 | 14 | 10.1 | 115 | 83.3 | 51 | 37.0 | 96 | 69.6 | 37 | 26.8 | 2 | 1.4 |
| Policy makers | 82 | 59.4 | 36 | 26.1 | 82 | 59.4 | 32 | 23.2 | 72 | 52.2 | 62 | 44.9 | 2 | 1.4 |

- **Question 13. What kind of information would you include in the campaign MEDICINES and DRIVING for each target group?**

As already pointed out for question 9, the experts could answer as many options as they saw fit. The percentages shown in Figure 13 have been calculated with an number of 134.

The experts were asked about 6 types of content:

- The size of the phenomenon (that is, epidemiology data)
 - The effects of the medicine on driving
 - The risk associated with driving while under the influence of the medicines
 - The current legislation
 - How the police can detect a driver on medicines
 - The sanction for driving while under the influence of medicines
- ✓ As with question 9 for the campaign on illicit drugs and driving, most experts consider that, for all target groups, it is important to include information on the risks and on the effects of the substances on driving.
- ✓ For the “general public”, “driver as patients” and “younger public”, more than half the experts consider that the campaign should include information on sanctions (almost three out of every four in the case of the “younger public”), while in the case of the “general public”, more than half also believed it is important to include information on the size of the phenomenon.
- ✓ For “physicians/pharmacists” and “policy makers”, most of the experts thought that information on the size of phenomenon should be included, while more than half thought information should also be included on the current legislation.

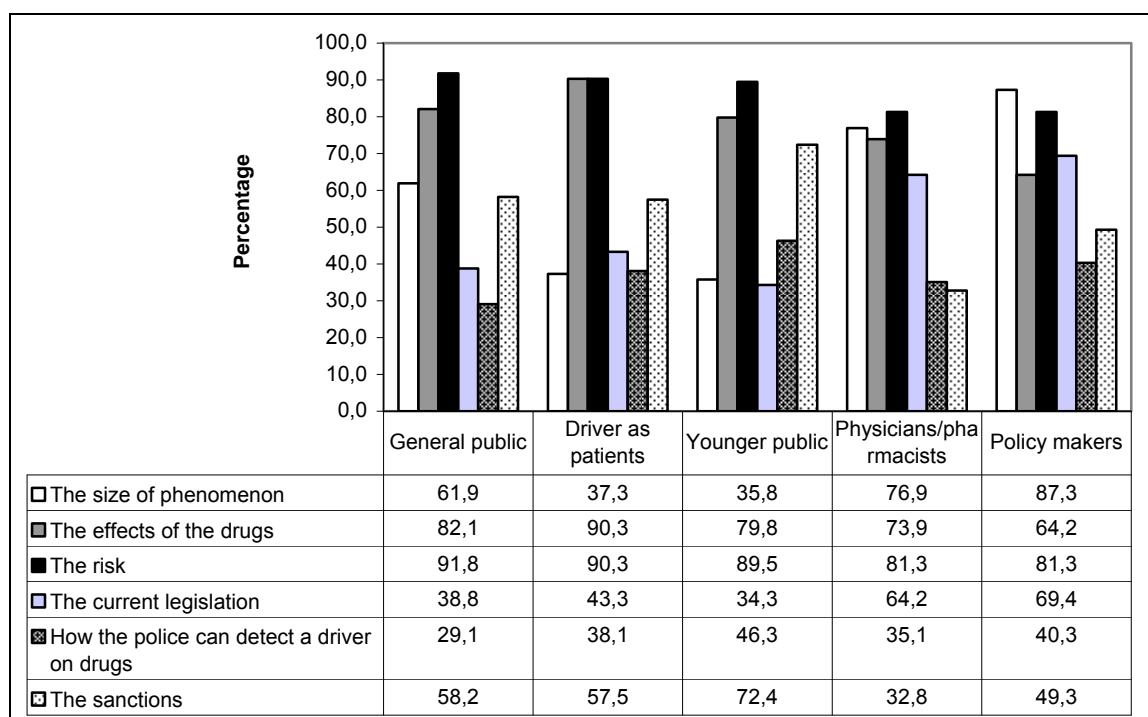


Figure 13. Percentage of experts who would include each type of information in the campaign MEDICINES and DRIVING, depending on the target group.

• **Question 14. Any other questions**

As with question 10 for a campaign on illicit DRUGS and DRIVING, question 14 (also an open question) offers experts the chance to give ideas about the contents that should be included in a campaign on MEDICINES and DRIVING.

Below are the proposals and/or comments made by the experts as they appeared in the questionnaire:

1. Long term and short term effects
2. Warning signs (see drugs)
3. In your opinion, which medicines have the worst effects while driving: - anti-inflammatory products - hypnotics - antidepressants - antihistamines - anxiolytics - analgesics - anti-psychotics – antihypertensives
4. Never combine it: drug users are conscious offenders of the law; medicine are obliged to use and are mainly not conscious offenders
5. The effectiveness of a media type is not simply to be answered. F.e. with radio you can reach a lot of drivers, but the impact of the message on the behaviour is minimal unless you combine with other media. So this questionnaire is a little bit suggestive.

- **Question 15. Do you remember any publicity campaign related to the consumption of ILLICIT DRUGS and/or MEDICINES and driving that made a particular impact on you?**

- **Question 16. Do you remember any part of the said campaigns that particularly attracted your attention? Please specify:**

The design of a campaign is vital for achieving the desired aims. In addition to the media that divulges the campaigns and fitting the message to the target group, there are elements that can make a campaign's effect fleeting or memorable.

Questions 15 and 16 hope to identify the type of message, image, situation, music or other elements which can make campaigns stay in the memory of the consulted experts.

Some of the answers to question 16 are directly related to the answer in question 15. To facilitate understanding, Table 7 shows the experts' replies to each question in columns.

Table 7. Publicity campaign and part of the said campaigns related to the consumption of illicit DRUGS and/or MEDICINES and driving best remembered by the consulted experts.

| Question 15. Publicity campaign | Question 16. Part of the said campaigns |
|---|---|
| Belgian campaign (information for professionals bij the Belgisch Instituut voor Verkeersveiligheid) Dutch campaign ("Tania is onder invloed maar ze weet het niet"; translated "Tania is under influence, but she doesn't know it") | Information brochure (Belgian campaign; before the internet was popular !) Poster of the Dutch campaign. |
| A skeleton with an injection needle | The picture of the skeleton |
| Radio programme during summer | Songs and jokes |
| DGT campaign, in Spain, about anti-histamines for allergy and their effect on driving | ... if you're taking anti-histaminics for allergy diseases it can affect your level of attention when driving. Ask your physician about potential effects of the medicines you're taking on driving ... |
| I think that FAD campaign, about drugs consumption are really good, but we have to include the relation with driving. | One of young people who aspired a worm like a cocaine and the worm arrive to his brain |
| IBSR-BIVV - Belgium | |
| Campaign from IBSR-BIVV in cooperation with BTL "Wist U dat geneesmiddelen een effect kunnen hebben op uw rijvaardigheid..." (translation: "Did you know that medicines can have an effect on your driving ability...") | |

| | |
|--|--|
| Live slide presentation as an emergency physician | tv |
| Belgian campaign on drugs and driving (2000) | The slogan: "driving under the influence of drugs = a bad trip" The visual: a curved line of white powder on a black surface, creating an impression of the white central line of a curved road |
| 2 verres ca va | |
| On alcohol; effects of causing an accident | See earlier |
| BOB: It was a project on drunk driving Currently shown spot on television in Germany | The idea and the commercial. And it was a high media point. It was on TV a lot It brings again into mind how fast a trip can end deadly. |
| TV and press information (ADAC) and pharmacy brochure | |
| Posters of the German B.A.d.S. | Information about the size of the Problem Statistics of traffic accidents Problems to get driver license after to have lost it |
| A poster with an elderly man surrounded by medicines and alcoholic drinks with the car keys in his hand | Taking medicines and/or alcohol can affect driving |
| It was a TV advertisement of around 1 minute, it was not specifically for driving, but it was to convince younger people to not use drugs. The motto was "I want to live". | Somebody was asking a young male if "he wants..." and the young male was answering "No, I want to live". |
| Don't drink and drive | Immediate and later consequences |

Figures 14-16 below show some images of the campaigns that experts remembered:

Figure 14 shows the campaign of the FAD (Spain, July 2004) referred to by one of the experts. The motto of this campaign was “Ten cerebro, pasa de la coca” (Keep your head, say no to cocaine) and was aimed at young people aged between 15 and 25. The media used for this campaign were the radio and television; the aim: to prevent the consumption of cocaine, especially during the months of August and September, since consumption usually increased in summer. These radio and TV adverts can be seen at: http://www.fad.es/Campanas?id_nodo=3&accion=1&campana=37.

Figure 15 shows an image of the campaign of the DGT (Spain 1986) with the singer Stevie Wonder. “Si bebes no conduzcas” (Don’t drink and drive). The video can be seen at: <http://www.youtube.com/watch?v=C5h7dqwnmuM>.

Figure 16 corresponds to the campaign from IBSR-BIVV: <http://www.ikbenvoor.be/uploadedFiles/IkBenVoor/Burgers/Nieuws/08%2001%20Bob%20definitieve%20resultaten.pdf>



Figure 14. Campaign “Ten cerebro, pasa de la coca”

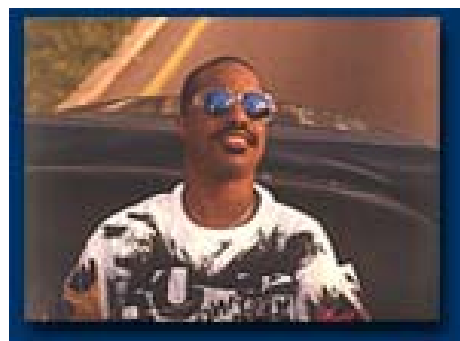


Figure 15. Campaign: “Si bebes no conduzcas”



Figure 16. Campaign from IBSR-BIVV: BOB

- **Question 17. The information requested below is purely for statistical purposes and will only be used anonymously to formulate the results of this survey.**

Question 17 takes up sociodemographic data of the experts who replied to the questionnaire on-line: sex, age, country and professional group to which they belong.

Only 129 experts gave their sociodemographic data, and of these 54.3% were male and 45.7% female. Table 8 shows the percentages of experts in each professional category.

Table 8. Professional category of experts.

| | n | Percentage |
|---------------------------------|----------|-------------------|
| Public transport administration | 13 | 10.1 |
| Public health administration | 8 | 6.2 |
| Researcher | 52 | 40.3 |
| Psychologist | 15 | 11.6 |
| Physician/pharmacist | 20 | 15.5 |
| Policy makers | 3 | 2.3 |
| Police | 5 | 3.9 |
| Others | 13 | 10.1 |
| Total | 129 | 100.0 |

5. Limitations of the study

The following aspects should be taken into account when interpreting the results of this deliverable.

The results are based on a study of the opinions of experts. It is possible that not all expert sectors have been identified, and that others may not in fact be experts in the matter.

What is more, less than a third of the experts answered the questionnaire (first question = 29.8%). In addition, the immense majority of experts identified came from European countries. Of the respondents, a noticeable part belongs to Belgium (20) and Spain (16), please see next section 7, acknowledgements. The fact that those who did not answer or that those who came from other geographical areas may have different opinions cannot be excluded.

The on-line questionnaire should have been easy to answer, but some experts mentioned having difficulties and diverse problems when trying to answer the questionnaire.

Despite these limitations which must be taken into account, the results of the study are clear and we believe that they will be of assistance for designing informative campaigns on illicit drugs – medicines and driving. However, this is not the only source of information. As will be analyzed later on part II of this deliverable, the information from the CAST project is very valuable and cover other opinions and a systematic gathering of information on that topic.

6. Conclusions and recommendations for designing the prototype documents for information regarding psychoactive substances and driving

According to the opinions of the experts consulted, the following conclusions can be extracted:

6.1. Medicines and illicit drugs should be addressed separately

The experts consider that, when creating publicity campaigns on illicit drugs and / or medicines and driving, the following would be adequate:

- ✓ **To deal with illicit drugs and medicines separately**, especially if the campaign is aimed at the:
 - general public,
 - drivers as patients and
 - younger public.
- ✓ For physicians/pharmacists and policy makers almost half the experts believe that both groups of substances can be dealt with together or separately.

6.2. Target groups and specific age groups: Much more attention than expected paid to the older (> 65) population

As to whether informative campaigns should be aimed at some specific age groups, the experts' opinion was that:

- ✓ In the campaigns aimed at the public in general, 60.1% would dedicate a special campaign to younger people (already included within the 5 target groups) and 45.2% to the over 65s. We would, therefore recommend that within the campaigns aimed at the general public **special attention should be paid to the elderly driver**.
- ✓ 62.5% of the experts would dedicate, within the actions aimed at drivers as patients, a campaign aimed at the over 65s. It would, therefore, seem opportune to carry out a campaign aimed specifically at **aged patients who drive**.

6.3. Illicit drugs and medicines and driving campaigns should be done by substance group

With respect to both illicit drugs (6 out of 10) and medicines (7 out of 10), experts agree that campaigns should address the issue of illicit drugs and medicines by groups (for example, stimulant group of drugs –cocaine, amphetamines, synthetic drugs and among medicines, - antidepressants, anti-Parkinson).

6.4. Key substances to be included in the informative campaigns.

- ✓ For the campaigns on illicit DRUGS and DRIVING by substance group, the preferences are clear and predictable on the basis of the available scientific information: epidemiological studies, risk assessment, performance studies.
 - The greatest relevance to be given to cannabis in a campaign on illicit DRUGS and DRIVING followed by benzodiazepines and stimulants such as ecstasy, amphetamines and cocaine.
- ✓ For the campaigns on MEDICINES and DRIVING by substance group, the results are complicated to interpret on the basis of the available scientific evidence: epidemiological studies, risk assessment, performance studies. We believe that, in their evaluation of the importance of the different groups of medicines on driving, the experts may have taken into account the possible importance of the illness for which these medicines are used. That is, however, only our own personal interpretation. Even so, we believe that this evaluation by the experts should be used when creating the different campaigns on medicines and driving.
 - In a campaign on MEDICINES and DRIVING priority should be given at least to the medicines used in anaesthesia (general anaesthetics) followed by analgesics, hypnotics and sedatives, ophthalmologic medicines and anti-epileptics and anti-psychotics, anxiolytics, drugs used in addictive disorders and psycho-stimulants, groups of medicines that scored 7 or more out of 10.

6.5. Effectiveness of the media in informative campaigns on substances and driving

- ✓ In campaigns aimed at the “general public”, for both illicit DRUGS and DRIVING and MEDICINES and DRIVING, the experts consider that the **television** is the most effective media, followed by the **radio** and **press adverts**.
- ✓ If the campaigns are aimed at “drivers as patients”, the most effective media, according to the experts, are: **television, explanatory leaflets**, and **radio** in that order.
- ✓ In campaigns aimed at the “younger public”: **television, web pages** and **SMS**.
- ✓ For “physicians/pharmacists”, **explanatory leaflets, web pages** and **posters**.
- ✓ For the “policy makers” **TV** or **explanatory leaflets** (depending on whether the campaign is on illicit DRUGS and DRIVING or MEDICINES and DRIVING), **web pages**, and **posters**.

6.6. Type of information to be included in the informative campaigns on illicit drugs, medicines and driving

- ✓ For all the target groups, the publicity message should give information on the **risks** and **the effect of the substances on driving**.
- ✓ For the “general public”, “driver as patients” and the “younger public”, over half the experts consider that the campaign should include information on sanctions.
- ✓ For the “general public”, over half also believe it to be important to include information on the size of the phenomenon (data on epidemiology).

- ✓ For “physicians/pharmacists” and “policy makers”, information should be included on the size of the phenomenon and current legislation.

The following Table 9 summarizes the findings (combined results by both groups, illicit drugs and medicines).

Table 9. Type of information to be included in the informative campaigns on illicit drugs, medicines and driving. Summary of the findings.

| | General public | Drivers as patients | Younger public | Physicians / Pharmacists | Policy Makers |
|--|----------------|---------------------|----------------|--------------------------|---------------|
| The size of the phenomenon (that is, epidemiological data) | XXX | | | XXXXX | XXXXX |
| The effects of the drugs on driving | XXXXX | XXXXX | XXXXX | XXXXX | XXXX |
| The risk associated with driving while under the influence of the drug | XXXXX | XXXXX | XXXXX | XXXXX | XXXXX |
| The current legislation | | | | XXXX | XXXX |
| How the police can detect a driver on drugs | | | XXX | | |
| The sanction for driving while under the influence of drugs | XXXX | XXX | XXXXX | | |

- XXXXX = very high priority (referred to by > 70% of experts)
- XXXX = high priority (referred to by 60-70% of experts)
- XXX = priority (referred to by 50-59.9% of experts)

7. Acknowledgements

We would like to express our gratitude to all the experts who collaborated by answering the questionnaire. Below is a list of those who gave us their personal data in question 19 and who did not expressly manifestly the desire to remain anonymous (putting a cross in the correct place in question 18). We would also like to thank all those who perhaps could not gain access to or answer the questionnaire due to some technical problem for their interest.

Anja Knoche. BAST (Germany)
Antonio Lucas. RACE (Spain)
Asbjørg S.Christophersen. Norwegian Inst. of Public Health (Norway)
Benoit Godart. IBSR-BIVV (Belgium)
Carol Hawley. University of Warwick (UK)
Céline Danhier. Responsible Young Drivers (Belgium)
Chantal Leirs. Escapo C.V. (Belgium)
Christiane Hendrickx. Onze Apotheek (Belgium)
Cristina Costa. ACP (Spain)
Cristina Fernandez. Consejo Farmacia (Spain)
Cristina Monleón. University of Valencia (Spain)
David Pedrero. CIDAUT (Spain)
Dick de Waard. University of Groningen (Netherlands)
Eddy Quintín. Pharmacie public (Belgium)
Elke Raes. Ghent University (Belgium)
Eva Schnabel of Center for Traffic Sciences at the University of Wuerzburg (Germany)
F. Javier Álvarez. University of Valladolid (Spain)
Francisco López-Valdés. European Center for Injury Prevention
Guy De Wit. Police (Belgium)
Guy Gineyt. INRETS (France)
Han De Gier. University of Groningen (Netherlands)
Hilde Hartman. Verslavingszorg Noord Nederland, Voorlichting & Preventie (Netherlands)
Ignacio Pare. INTRAS (Spain)
Jan Saevels. APB (Belgium)
Jan Weinberger. Centrum dopravního výzkumu, v.v.i. (Czech Republic)
Janet Veldstra. University of Groningen (Netherlands)
Jean-François Pace, University of Valencia (Spain)
Jesús Monclus. CDTI (Spain)
Juan Carlos González- Luque. DGT (Spain)
Klaus Menges, BfArM (Germany)
Kristof Pil. Ghent University (Belgium)
Lars Akkermans. IBSR-BIVV (Belgium)
Lars Englund. Swedish Road Administration (Sweden)
Leonora Grandia. KNMP, Drug Information Centre (Netherlands)
Lieve Van Daele. Federal Science Policy (Belgium)
Lila Gaitanidou. CERTH/HIT (Greece)
Liset van Dijk. NIVEL (Netherlands)
Ludo Kluppels. Belgian Road Safety Institute (Belgium)
Luis Montoro. Valencia University (Spain)
M^a Trinidad Gómez-Talegón. Facultad de Medicina (Spain)
Maria Kala. Institute of Forensic Research (Poland)
Marie-Laure Bocca. UFR de Médecine, Université de Caen (France)
Mário Dias. Instituto Nacional de Medicina Legal (Portugal)
Marta Ozcoïdi Val. Sociedad Española De Medicina De Tráfico (Spain)
Michel Willekens. FEDERAL POLICE (Belgium)
Mike Pinckaers. ANWB Royal Dutch Automobile Club (Netherlands)
Mónica Colás. DGT (Spain)
Myriam Adriaensen. IBSR-BIVV (Belgium)
Nina Griese. ABDA (Germany)
Oscar Quintela. University of Santiago de Compostela (Spain)

Patricia Courange. Brussels Region Ministry (Belgium)
Peter Silverans. Belgian Road Safety Institute (Belgium)
Pierre Denise. Université de Caen Basse-Normandie (France)
Piotr Engelgardt. (Poland)
René Mathijssen. SWOV Institute for Road Safety Research (Netherlands)
Service for Criminal Policy. Ministry of Justice (Belgium)
Simone Klipp. BASt (Germany)
Sofie Boets. IBSR-BIVV (Belgium)
Susanne Rösner. IFT (Germany)
University Hospital of the Saarland, Forensic psychology and Psychiatry (Germany)
Uta Meesmann. IBSR-BIVV (Belgium)
Werner De Dobbeleer. IBSR-BIVV (Belgium)
Wolf-Rüdiger Nickel. DGVP (Germany)

8. References

Alvarez FJ, Del Río MC. Medical drugs and driving: European experience with dissemination and information to physicians, pharmacists, patients and the public. En: Alcohol, drugs and Traffic Safety –T'2000, Vol 4. Laurell H, Schlyter F eds. Stockholm: ICADTS, 2000, pp: 1205-1209.

Alvarez FJ, Del Río MC. Medicinal drugs and riving: from drug-categorisation to driver information. The Spanish experience. In: Road Traffic and Psychoactive substances. Strasbourg: Council of Europe, Pompidou Group, 2004, pp: 333-351.

EMCDDA. Drugs and driving. Lisbon: EMCDDA, 2007a.

EMCDDA. EMCDDA publishes review on “drugs and driving”. Drugnet Europe October-December 2007b, pp: 4

Pil K, Raes E, Van den Neste T, Goessaert AS, Veramme J, Verstraete A. Deliverable 4.1.1. Review of existing classification efforts. Cologne: Druid Project, BAST, 2008.

Raes E, Pil K, Van den Neste T, Verstraete A. Deliverable 7.1.1. Review of guidelines, booklets, and other resources: state of the art. Cologne: Druid Project, BAST, 2008.

Siebers A, Meindorfner C, Koerner Y, Krueger HP. The necessity of a differential prevention concerning alcohol, illegal drugs and medication in traffic. In: Road Traffic and Psychoactive substances. Strasbourg: Council of Europe, Pompidou Group, 2004, pp: 323-327.

Part II.

Derived criteria for the development of prototype documents

Authors

Boets Sofie, Uta Meesmann (IBSR-BIVV, Belgian Road Safety Institute, Belgium), Kristof Pil (UGent, Ghent University, Belgium), F. Javier Alvarez (UVa, University of Valladolid, Spain)

1. Introduction

Part II of the DRUID deliverable D7.3.1 is mainly based on information presented by the EU project Campaigns and Awareness-raising Strategies in Traffic Safety (CAST).

CAST is a Specific Targeted Research Project (STREP) set up with the support of the European Commission, to meet the Commission's needs for enhancing traffic safety by means of effective road safety campaigns. Developing and assessing an evaluation tool for road safety campaigns is aimed at. The CAST handbooks enable the EC to design and implement future campaigns (Delhomme et al., 2009) and to evaluate their (isolated) effect on traffic accidents and other performance indicators (Boulanger et al., 2009). The project was carried out by a consortium of 19 partners, coordinated by the Belgian Road Safety Institute (IBSR-BIVV) and ended in the beginning of 2009 (CAST, 2009).

One of the first CAST tasks was to collect information on main characteristics of campaigns (Boulanger et al., 2007). The aim of D7.3.1 (see page 12 of this Deliverable) is the development of prototype booklets, not campaigns. Although DRUID Task 7.3 does not aim at developing full-scale campaigns, some of these characteristics can be used to provide a practical guidance for the development of the DRUID prototype booklets. On each of these characteristics CAST provides general guidelines and recommendations (Delhomme et al., 2009).

The following points are the selected characteristics and recommendations that may be relevant on individual booklet level. The general information on the characteristics is mainly based on the results of the CAST project. Furthermore, relevant links with DRUID are provided for each selected characteristic (Annex I of the DRUID Core Contract, selected DRUID deliverables of WP 1-7, and results of the web survey (Part I, D7.3.1)). Results from the web survey give indications for developing prototype documents but should be interpreted and used on the primary background of scientific results (e.g. interpretation of the result from question Nr. 11 (Part I, p. 42, D7.3.1)).

Part II of this deliverable thus provides a theoretic frame and top-down assistance – restricted to CAST and DRUID input – for the development of prototype documents, which is described in Part III (p. 68-92, D7.3.1).

2. Target group

A key factor of success of road safety communication strategies is the identification of the target audience since this enables defining the best way to reach the targeted individuals (Delhomme et al., 2009: p. 113-122). Moreover, segmenting the target audience enhances the likelihood of success of the message and strategy in reaching and involving the intended audience. Identifying a target audience for a road safety communication campaign using segmentation techniques requires three steps (Delhomme et al., 2009: p. 170):

- Segmentation according to demographic, geographic, psychographic, behavioural variables or theoretical model(s).
- Evaluation, selection and prioritisation of the segments according to factors affecting the allocation of resources or the strategy, effectiveness and efficiency scores, etc.
- Choice of one or more segments for targeting.

Once the target audience is defined, it is very important to find out and to know what the audience wants and what their needs are, as well as what will have the greatest effect on changing their behaviour. The aim is to know as much as possible about the segment(s) or target audience(s) because it helps developing the best communication means and strategies to reach them (e.g., choice of the message content and style that involve the target audience, choice of the media according to the degree of familiarity with the target and its preferences) (Delhomme et al., 2009: p. 170).

As some communication messages consider or refer to more than one target group at the same time, specific campaign strategies taking specific group interrelations and interactions into account can be used. In a two step approach, for example, an awareness campaign aimed at health professionals on medication and driving could be followed by a campaign aimed at the general public or patients. This would allow health professionals to have an active part in the awareness campaign aiming at patients and drivers.

2.1. Link to DRUID

The main target groups for DRUID booklets dissemination are predefined in Annex I of the Core Contract (DRUID 2005, p. 110-111):

- The general public
- Drivers as patients
- A younger public
- Physicians/pharmacists
- Policy makers and other public bodies

Further segmentation of the main target groups based on age was proposed in the results of the web survey (D7.3.1, Part I) question Nr. 2: “Would it be useful to have a campaign on medicines and/or illicit drugs and driving aimed at specific age groups?”

Table 10. Result of question Nr. 2: “Would it be useful to have a campaign on MEDICINES and/or ILLICIT DRUGS and driving aimed at specific age groups?” (D7.3.1, Part I, p. 30)

| Target group | Possible subgroups |
|------------------------|--|
| General public | Young driver; +65 |
| Driver as patients | +65 |
| Physicians/Pharmacists | No age related subgroups considered relevant |
| Policy makers | No age related subgroups considered relevant |

3. Background (analysing the situation)

The background of a campaign refers to results from the: in-depth analysis of the problematic behaviour and possible solutions; identification of the target group at risk and how to reach and influence them; translation of the overall campaign goal into specific objectives (Delhomme et al., 2009: p. 201-219). Possible sources of information can be (Delhomme et al., 2009: p. 206):

- Studies.
- Past campaigns and evaluations.
- Theoretical models: these can for instance explain underlying motivations.
- Marketing studies on target group: what are the relevant characteristics of the groups and how can we reach/influence them

3.1. Link to DRUID

The following DRUID deliverables contain relevant information on characteristics of drivers under influence of alcohol, drugs and medicines: WP2 (D2.1.1 State of the art of the problem of impaired drivers; D2.2.1 Motives behind risky driving; D2.4.1 Synthesis report: Driving under the influence of psychoactive substances: Who and how much, risk and responsibility); WP5 (D5.1.1 Report on state of the art).

WP7 (D7.1.1) provides information of previous campaigns.

An in-depth analysis (surveys) of patients on driving under influence of medicines and of physicians/pharmacists on prescribing/dispensing medicines with possible effect on driving ability is performed in WP7 (D7.4.2).

At the moment of finalisation of current D7.3.1 the following DRUID information is available: D2.1.1 State of the art of the problem of impaired drivers, D5.1.1 Report on state of the art, D7.1.1 Report + CD or DVD with examples of previous campaigns and the results of the in-depth surveys, which are part of D7.4.2.

4. Message

An effective message strategy, based on the communication objectives, is essential for the success of a campaign. It can be subdivided into content strategy (what will be said) and execution strategy (how and by whom it will be said)(Delhomme et al., 2009: p. 123-136).

4.1. Message content strategy

The message content strategy is directly related to the communication objectives, according to the problem behaviour and its main predictors, the safe behaviour and its main predictors, and the target audience (Delhomme et al., 2009: p. 170-172).

A selection of steps and guidelines that can be considered here: (Delhomme et al., 2009: p. 225).

- The message refers to the central idea that the campaign will convey (the slogan is how the message is translated in the campaign).
- Main elements to be taken into account when developing the content of the message are: the objectives and target group characteristics, the perceived benefits and costs of adopting the safe behaviour and the place and time where the safe behaviour should be adopted.
- Qualitative studies like individual interviews, focus groups or creative brainstorm sessions can be used to develop the content of the message and its execution strategy.
- The message should be as concrete and understandable as possible.
- campaign identifiers (mascots, brands, logos, spokespersons) bring consistency and identity into a campaign.
- Pre-testing of the message enables to learn more about its strengths and weaknesses, and is required to make sure that it reaches the target group, is understood and will have effects on the target's knowledge, beliefs and/or behaviour, etc. (Delhomme et al., 2009 : p. 133-136)

4.1.1. Link to DRUID

Annex I of the DRUID Core Contract specifies the content for selected target groups as follows (DRUID 2005, p. 110-111):

- The general public: basically, information regarding medication and driving.
- Drivers as patients: basically, information regarding how diseases/medication can affect driving.
- A younger public as a prevention strategy (e.g. especially regarding multiple drug use, e.g. cannabis in combination with alcohol or ecstasy).
- Physicians/pharmacists: basically, information about counselling the patient-driver regarding medication and driving.
- Policy makers and other public bodies (no specification in the text)

It should be noticed that for the young public a prevention strategy is aimed at, which refers to a more integrated approach of informing and persuading.

Within this part all main DRUID WP results have to be taken into account: WP1 (D1.3.1 Concentration-impairment functions for the most relevant psychoactive substances based on experimental and epidemiological research; D1.4.1 Synopsis on thresholds – different approaches), WP2 (D2.4.1 Synthesis report: Driving under the influence of psychoactive substances: Who and how much, risk and responsibility), WP3 (D3.3.1 Cost-benefit analyses of drug driving enforcement by the police), WP4 (D4.4.1 Classification of medicinal drugs and driving: a synthesis report), WP5 (D5.2.4 Validation of existing RH schemes), WP6 (D6.2.1 Final

version of recommendations) and WP7 (D7.4.2 Report on the implementation, evaluation and new technologies of practice guidelines and information materials).

At the moment of finalisation of current D7.3.1 only the final report of WP5 (D5.2.4 Validation of existing RH schemes) is available.

The results of the web survey regarding the message content strategy can be summarised as follows (D7.3.1, Part I, p. 51 ff.):

Based on the results concerning question Nr. 1 the authors conclude, that a campaign aimed at general public, drivers as patients and younger public should deal with illicit drugs and medicines separately (D7.3.1, Part I, p. 52).

Illicit drugs and medicines and driving campaigns should be done by main substance group (D7.3.1, Part I, p. 52).

The greatest relevance in an informative campaign on illicit drugs and driving should be given to cannabis, followed by illicit use of benzodiazepines and stimulants such as ecstasy, amphetamines and cocaine. In a campaign on medicines and driving the web survey results indicated the highest priority for medicinal drugs used in anaesthesia (anaesthetics, general) followed by analgesics, hypnotics and sedatives, ophthalmologics, anti-epileptics, anti-psychotics, drugs used in addictive disorders and psycho-stimulants (D7.3.1, Part I, p. 52). With regard to prioritised types of drugs in campaigns it should be indicated though that epidemiological and experimental study results are the primary information sources.

Finally, the web survey indicated that all information campaigns (for all target groups) should give information on the "risks" and the "effects" of the substances on driving. Information on "sanctions" should be considered in campaigns for the general public, drivers as patients and younger public. The size of the phenomenon (data on "epidemiology") should be included as information in campaigns for the general public, physicians/pharmacists and policy makers; and information on the current "legislation" should be provided in campaigns focussing on physicians/pharmacists and policy makers (D7.3.1, Part I, p. 53).

4.2 Message execution strategy

The message execution strategy should be elaborated after defining the message content, relying on factors of persuasion that are able to influence the target audience behaviour. The elements of the message execution strategy are the message structure, the type of approach (e.g. emotional versus rational), the style of the message (e.g. cognitive and rational or emotional and non-factual, depending on the objectives and target audience characteristics) (Delhomme et al., 2009: p. 124-132).

More examples of approaches are: hard-shocking-fear, confronting, informative, family responsible, moralising-paternalism, emotional, humorous, satire, symbolic, positive-soft.

Fear-appeal messages (Delhomme et al., 2009: p. 128-130) for instance are found in a special type of campaign that tries to induce fear in targets by e.g. showing shocking images of car crashes. The impact of these campaigns is strong, but can go in both ways (fail or succeed), which can be explained through the Extended Parallel Process Model (EPPM). This model states that a reaction to fear (in this case induced by a fear-appeal message) can be:

- Danger control: e.g. change behaviour leads to no danger.
- Fear control: e.g. deny the danger leads to no fear.

Whether an individual goes through a fear control process or a danger control process depends on the balance between 'perceived efficacy' and 'perceived threat'. Since a fear-appeal message can have a profound contra-productive result, caution is advised. When someone

chooses to design such a campaign, it should be pre-tested using the Risk Behaviour Diagnosis Scale to determine the balance of perceived threat and efficacy.

The importance of a correct (persuasive) message can be explained through the ELM (Elaboration-Likelihood Model, see: Delhomme et al., 2009: p. 70). The ELM describes two routes in which a change in attitude can occur: central and peripheral attitude change:

- In central attitude change, there is a high elaboration of the audience. People actively think about a message, critically judge and evaluate it and link the content to their existing knowledge.
- In peripheral attitude change, elaboration of the target is lower. E.g. if the information is given by an expert, sometimes people just accept it without actively evaluating the information.

Before a campaign can be effective, the target needs the 'ability to process' the message and should be 'motivated to process' the information. Persons can for example be motivated when they perceive it as relevant for them or when they feel a high degree of personal responsibility. Cognitive ability to understand the message is also relevant underlining the comprehensibility requirement of the message.

A study by Elliott et al. (1993) (see Delhomme et al, 2009., p. 100) showed that:

- Campaigns with deliberate persuasive attempt are more effective than campaigns with informative attempt.
- Campaigns with specific instruction for behaviour are more successful.

4.2.1. Link to DRUID

Appeal of message is essentially relevant for the target groups general public, drivers as patients and younger public. Booklets for health care workers and policy makers are basically informative and persuasion here essentially derives from aspects like the quality of the guidelines and recommendations (e.g. scientific background sources).

Examples of slogans in T7.3 are:

- Drugs lead you to death; do you have to drive there? (CERTH-HIT)
- Who is driving, you or the illicit drugs? (UVa)

D7.1.1 and the presented results regarding questions Nr. 15 and 16 of the web survey (D7.3.1, Part I, p. 46-48) provide examples of existing campaigns on this matter.

5. Means and features (media)

Target segments' factors as well as media-related factors should be taken into account when choosing the type(s) of communication and media. Target audience factors include aperture (or opening), which is the audience's general habits, general interests and media habits. Media-related factors include the ability of media vehicles and combined actions to reach the target audience, and the communication capacity of media vehicles and combined actions (Delhomme et al., 2009: p. 137-149, p. 172).

Main advantages and disadvantages of some types of audiovisual media are: see Table 11 (for a complete overview, see Delhomme et al., 2009: p. 141-143).

Table 11. CAST: Main advantages and disadvantages of flyers, leaflets, brochures, and internet websites.

| | Flyers, leaflets, brochures | Internet websites |
|---------------------------------|--|--|
| Reach and selectiveness | High selectivity (+) | High selectivity (+) Low impact (-) Audience controls exposure (-) |
| Information capacity, attention | Allows complex messages (+) Low attention (-) | Interactive, flexible (+) Allows complex messages (+) |
| Cost | Low cost (+) | Low cost (+) |

The need for the correct choice of type of media can also be explained through the ELM (Delhomme et al., 2009: p. 70). The ability to process a message also requires that the message should be delivered to the target group in a way and at a time where the target is ready to accept the message.

Boulanger et al. (2007), in their typology of campaigns, collected information on the media plan (media types + specification). Their survey form included: (Boulanger et al., 2007: p. 73-74).

- Internet (internet-site; number of visitors available or not)
- Television/national broadcast (emission-programme or spot; timing: inside or outside primetime)
- Television/regional broadcast (emission-programme or spot; timing: inside or outside primetime)
- Radio/national broadcast (emission-programme or spot; timing: inside or outside primetime)
- Radio/regional broadcast (emission-programme or spot; timing: inside or outside primetime)
- Press/advertising (national or local-regional newspaper; periodicals; specialised press-publications)
- Press/free (national or local-regional newspaper; periodicals; specialised press-publications)
- Billboard posters/banners (number; location: highway, national roads, local roads, only in cities, towns; on public transport)
- Commercials in cinemas (timing)
- Posters (location, one poster with general info/warning/links or several posters with more specific medicine info/risks?)
- Brochures (number distributed; destination and location)
- Pamphlets/circular flyers (location)
- Stickers (location of distribution)
- Gadgets (description, location)
- Local events (stands at markets, special actions for school/pre-school, special actions for enterprises)

5.1. Link to DRUID

Annex I of the DRUID Core Contract predefined that media of choice should be “brochures”: “Prototype documents for information regarding psychoactive substances and driving will be produced. These European Traffic Safety brochures should have the potential to be easily understood and designed to be multilingual at a later stage.” (DRUID, 2005, p. 110)

Moreover, the web survey (D7.3.1, Part I, p. 53) summarizes (Table 12) the opinion of experts on effective media in informative campaigns on substances and driving for different target groups.

Table 12. Conclusion on effectiveness of the media in informative campaigns on substances and driving (D7.3.1, Part I, p. 53).

| Target group | Most effective media (top three) |
|-------------------------|--|
| General public | TV, radio, press adverts |
| Driver as patients | TV, explanatory leaflets, radio |
| Younger public | TV, web pages, sms |
| Physicians/ Pharmacists | Explanatory leaflets, web pages, posters |
| Policy makers | TV, explanatory leaflets, web pages |

Detailed results on the media of choice for campaigns regarding illicit drugs and medicines can be found in D7.3.1, part 1, chapter 4.2 (illicit drugs questions Nr.7-8, p. 37-39; medicines questions Nr. 11-12, p. 42-43).

The DRUID WP7 team agreed in the WP7 meeting in Lisbon (10.11.2008) that the following prototype documents should be produced for each target group:

- Poster
- Leaflet
- Radio script
- TV script
- Multimedia design

It was decided that exceptions from this agreement have to be specified in the description per target group in part III of this deliverable.

6. Communication objectives

This refers to the translation of the general goal of the campaign (based on the problem analysis) into the expected effects (objectives). It should be defined which behaviour (= primary objectives) is to be adopted by the target group to realise the general goal of the campaign. Furthermore, the factors that can contribute (i.e. knowledge, beliefs, attitudes ... = secondary objectives) to reaching the primary objectives can be defined. (Delhomme et al., 2009: p. 214-216).

Objectives can be set at different levels: (Boulanger et al., 2009: p. 84-85)

- Increase knowledge and/or awareness.
- Change social-cognitive variables (attitudes, intentions...).
- Change behaviour (observed, reported).
- Decrease accident rate.

The specific campaign objectives are used during the evaluation of a campaign. Therefore, objectives should be clearly defined with their levels of accomplishment (e.g. % increase of knowledge) in order to evaluate the success (effectiveness). For the evaluation purpose, the objectives should be 'transformed' into measurable variables. Based on the objectives, items in baseline and post-measurements (questionnaires, interviews, focus groups...) can be developed, and based on the baseline results the effectiveness (success) criteria can be established (e.g. baseline results show that only 10% of Medical Doctors provide information on medicinal effects on driving to patients, then the objective (success criterion) in the post-measurement for this behaviour could be for instance an increase to 75% of the Medical Doctors (Boulanger et al., 2009).

6.1. Link to DRUID

Since the DRUID WP7 team will not evaluate the effectiveness of each prototype booklet in T7.4, the description of objectives in T7.3 is only theoretical.

The evaluation study target groups objectives (patients, health care workers, young drivers) can be defined though in D7.3.1, Part III.

7. References

Boulanger A, Divjak M, Orozova-Bekkevold I, Zabukovec V. CAST Deliverable 2.1: Typology of evaluation methods: Current practices and campaign evaluation. Final version. Public. Contract No TREN-05-FP6TR-S07.59641-019520-CAST. Sixth framework programme. Brussels: IBSR-BIVV, 2007.

Delhomme P, De Dobbeleer W, Forward S, Simões A, Adamos G, Areal A, Chappé J, Eyssartier C, Loukopoulos P, Nathanail T, Nordbakke S, Peters H, Phillips R, Pinto M, Ranucci M-F, Sardi GM, Trigos J, Vaa T, Veisten K, Walter E. Manual for Designing, Implementing and Evaluating Road Safety Communication Campaigns (P. Delhomme., W. De Dobbeleer., S. Forward, S. & A. Simões, Eds.), CAST Project, Contract No TREN-05-FP6TR-S07.59641-019520-CAST. Sixth framework programme. Brussels: IBSR-BIVV, 2009.

Boulanger A, Daniels S, Divjak M, Goncalves I, Meng A, Moan IS, Nathanail T, Orozova-Bekkevold I, Schepers P, Tamis K, Van den Bossche F, Zabukovec V. Evaluation tool for road safety campaigns (A. Boulanger, Ed.), CAST Project, Contract No TREN-05-FP6TR-S07.59641-019520-CAST. Sixth framework programme. Brussels: IBSR-BIVV, 2009.

CAST. Campaigns and Awareness-raising Strategies in Traffic Safety (CAST). Brussels: IBSR-BIVV, 2009. Available at: <http://www.cast-eu.org/> [downloaded 06.05.2009].

DRUID. Core Contract, Annex 1 "Description of Work". Driving under the Influence of Drugs, Alcohol and Medicines (DRUID). Integrated Project 1.6. Sustainable Development, Global Change and Ecosystem . 1.6.2: Sustainable Surface Transport . Cologne: DRUID Project, BAST, 2005.

Part III.

Description of the prototype documents

The expert survey (part I) and CAST information (part II) provide the general lines for the content, style and approach of the prototype documents to be developed in this Deliverable for the different target groups. As the primary objective of the information documents is to inform the people on the relevant DRUID results though, the specific content input should directly derive from the scientific project results (literature reviews, experimental and epidemiological studies, best practice results etc.). As most of the DRUID results are only available at the end of the project though, at this stage only reference can be made to them in the prototype documents (cfr. Links to DRUID in part II). Meanwhile though, available scientific literature can already be used as a background to guide the currently required developments.

Moreover, literature focussing on relevant characteristics of the different target groups that influence the way they should be approached with information in order to be effective, anyway provides relevant input at this stage.

Taking several information sources currently available within and outside DRUID into account, in part III of this Deliverable, the developmental process, including how the parts I and II were considered together, and the proposed content of the prototype documents for the different target groups is explained.

1. General public

Authors

UVa (University of Valladolid), IBSR-BIVV (Belgian Road Safety Institute),
LMU (Ludwig-Maximilians-Universität München, Institute for Forensic Medicine)

1.1. General information

These prototype documents are addressed to the general public. That meant the target population could be current drivers or not, and could be people taking medicines or not. For that issue regarding medicines and driving the general aim was just provide information and no slogan has been proposed.

For young people it applies the same: could be current drivers or not, and could be users of illicit drugs or not. Again the main aim was just informative. However a slogan was proposed: "who is driving, you or the illicit drug?".

These two prototype documents have been elaborated in connection with those for the driver as patient (please see the following section 2) and the young drivers (please see the following section 3). The consideration done in these respective sections applies to this one related to the general population.

The different aspects set out in part II have been taken into account for the production of the documents aimed at the general public:

i) Target groups and the objectives for each target group are described in Annex I of the Core Contract of the DRUID project (p. 110-111).

ii) The various considerations concerning the message and the aims of the document, and

iii) The results of the expert survey Booklets (D.7.3.1): part I

According to the expert survey, the most effective way to tackle the campaign for the "general public" would be to deal with illicit drugs and medicines separately (63.0% of the experts shared this opinion).

Most of the experts (61.6%) considered that a campaign on illicit drugs and driving should be done by substance group.

69.0% of the experts would carry out the informative campaign on medicines and driving distinguishing between the different groups of medicines.

The type of information to be included in the informative campaigns on illicit drugs, medicinal drugs and driving, are summarized in Table 13:

Except for some psycho-medicines, it is difficult to include information about the effect of each medicine on driving. Only general information is included. For the same reason, information concerning the risks is included only in a qualitative sense: increased danger/less safety.

In addition, a detailed study (Raes et al., 2007; DRUID D7.1.1.) of the existing graphic material on campaigns concerning "drugs and driving" and "medicines and driving" has been carried out in different countries, with respect both to the contents and the form of the presentation.

Table 13. Type of information to be include in informative campaigns on illicit drugs, medicinal drugs and driving.

| | |
|--|--|
| Information: | |
| The size of the phenomenon (that is, epidemiological data) | priority (referred to by 50-69.9% of experts) |
| The effects of the drugs on driving | very high priority (referred to by > 70% of experts) |
| The risk associated with driving while under the influence of the drug | very high priority (referred to by > 70% of experts) |
| The sanction for driving while under the influence of drugs | high priority (referred to by 60-70% of experts) |

1.2. Description of the prototype documents

The content of the prototype documents (general public, young people, driver as patients, younger drivers) are presented in a tabulated format in order to make the contents easy to read. It should be noted that this should not be misunderstood as a suggested design of these prototype documents, as design questions are out of the scope of Task 7.3.

Notice that yellow marked text, refers to <country specific information>

1.2.1. Prototype brochure for the general public: medicines & driving

It was considered that a slogan could target the campaign towards one specific group, so a general informative title was finally decided upon.

Three informative messages are then included:

- Some medicines can affect the ability to drive safely. This brochure informs you and provides tips.
- Always check the information <on the medicine box and> <country specific> in the package insert.
- Do not hesitate to ask your doctor and/or pharmacist if you have any questions.

The brochure included the following sections: “how can medicines affect the ability to drive safely?”, the “groups of medicines that can impair the ability to drive safely”, “Medicines and Driving: When to pay special attention?”, and some “key points to remember”.

It was considered relevant to include a section on “Where can I find more information about medicines and driving?”. This could include also country specific information.

1.2.2. Prototype brochure for the general public: illicit drugs & driving

As earlier mentioned, together with the informative general title, illicit drugs and driving, a slogan could be proposed. One proposal is: “Who is driving, you or the illicit drugs?”.

The brochure included the following sections: “How do illicit drugs affect driving?”, the consequences of “mixing drugs”, “key points” and “getting home safely”.

As for medicines and driving, It was considered relevant to include a section on “where I can find information on illicit drugs and driving?”. This section could include also <country specific information>.

It was also considered relevant to include a section on legal issues (“what does the law say?”). This section could include also <country specific information>.

2. Drivers as patients

Authors

UGren (University of Grenoble, Centre Régional de Pharmacovigilance), IBSR-BIVV (Belgian Road Safety Institute), RUGPha (University of Groningen).

2.1. General information

Following the experts' on-line survey on the criteria design for prototype documents for information regarding psychoactive substances and driving (Deliverable 7.3.1), some key elements can be taken into account:

- Medicines and illicit drugs should be addressed separately.

For drivers as patients 72.9% of the experts believe that those two groups of substances should be dealt with separately.

- It would be useful to have a campaign on medicines and/or Illicit drugs and driving aimed at specific age groups.

For drivers as patients 62.5% of the experts would have a campaign aimed specifically at the older age group (>65 years). 41,7% of the experts would have a campaign aimed specifically at the younger age group (<30 year).

- Effectiveness of the media in informative campaigns on substances and driving.

For drivers as patients in general, TV (65.6%), explanatory leaflets (59.6%), radio (36.4%) are considered the most effective.

- Type of information to be included in the informative campaigns on illicit drugs, medicines and driving.

For drivers as patients, the message should give information on the effect (90.3%), on the risks (90.3%) of the substances on driving. The message could also include information about sanctions for driving while under the influence of drugs (57.5%).

The documents referring to the side effects of medicines for patients who are driving or who conduct similar tasks requiring safety, should need to face several criteria.

- They cannot be written in the same way, depending of the importance of the treatment and on the possibility of adaptation, stopping this treatment or changing its hour of administration (e.g. documents' contents depend on specificities and context of the treatment, such as the importance of the treatment, the possibility of adapting or stopping the treatment or changing the moments of intake).
- In the modern world where mobility is crucial, where alternative systems of transport are not always possible, and where economy, family and social issues may require to keep driving autonomy, a medicine can not simply be prescribed with the message to not to drive anymore, and neither can a patient stop taking his/her medicine without risk with regard to the pathology.
- Differently from other target groups' prototype documents, it is not possible to elaborate a single document for all types of medicines.

- The documents should inform on the risks and effects of medicines, while keeping a balance with the effects of the pathology.

The content may differ between:

- A medicine prescribed for a chronic disease which can be stopped for a few hours or days, or taken at another hour of the day (e.g. cholesterol treatments)
- A medicine prescribed for a chronic disease for which intake can not be stopped or changed to another hour (e.g. anti-epileptics, antidepressants)
- A medicine used for a short period of time, with generally a higher risk during the first days, and for which a limitation of driving is more important (e.g. hypnotics, pain killers).

Information may also be different depending on:

- the medicine being the main or only treatment of the pathology or disease (e.g. epilepsy).
- the medicine providing only a contribution to the treatment (e.g. local treatment for allergy, physiotherapy in back pains)

The documents on medicines should avoid any confusion with illicit drugs and alcohol but could refer to the risk of addiction with some medicinal drugs like benzodiazepines.

Information about the regulation and recommendations concerning driving can be very different as a basis of the medical treatment (e.g. substitution treatment, anaesthetic, hypnotics), and pathology (e.g. diabetes, epilepsy)

It is impossible to write a common European document due to the differences in regulation, legal issues, and medical recommendations which are often country specific.

This part is thus based on a general content and on three examples of documents.

Each Member State and medical community will be able to develop its own documents just by adaptation of the general content to the target population and to the medical purpose.

These documents can be addressed to different subgroups of patients, e.g. coming for:

- Medical follow-up
- Medical care for injuries or diseases
- Medical examination prior to the driving license (all categories)
- Occupational medicine
- Elderly people still driving
- Associations of patients

2.2. Description of the prototype documents

On a general approach, any document for patients driving related to medicines should not only include the effects of the medicine, but should integrate all aspects of the treatment and effects of the disease itself, and furthermore, give a kind of guide to the patient either to treat his/her pathology correctly, and to avoid most of the risks due to the treatment.

Any document devoted to patients who drive or conduct similar tasks may include the following points:

- General introduction
- Therapeutic classes
- Therapeutic indications

- Doses: how many intakes, when to take the treatment?
- Side effects and consequences on driving
- How to manage the beginning of the treatment?
- Other advices
- Level of management
- Regulation and responsibilities
- Useful addresses and websites

As that information is very specific to each category of disease and therapeutic group of medicines, a strict selection of sentences has to be performed, to reach a short content able to catch the interest of the patient. In some cases, longer booklets could be proposed as “management manual” for chronic diseases. Three examples of leaflets for patients are attached in the annex.

2.2.1. General Introduction

Many medicines can induce side effects which can affect driving ability. Non all patients can stop their treatment without a risk, and not all drivers can stop driving without a risk for their social integration.

If use of alcohol or illegal drugs or illegal use of medicines can be simply forbidden for drivers, driving fitness related to prescribed medicines should be evaluated by measuring the balance between benefits and risks.

Many diseases require a medicinal treatment in order to allow driving even if there is some risk of side effect. Other pathologies induce unnecessary long-term treatment and can lead to addiction problems (psychotropic medicines).

The healthcare professionals should be trained to evaluate driving risk of the medicines they prescribe or deliver and to give appropriate advices to the patient. They should check that the medicines chosen for the driving patient is the least able to induce side effect among the therapeutic class concerned.

Practitioners also should pay special attention to old drivers and to patient receiving different treatment. They should always give advices concerning long-term driving, night driving and associations with alcohol or other substances.

With regard to the laws and regulations, the patient is always the first responsible in term of driving fitness. In most of the Member States, the driver has to ensure himself that he/she is fit to drive and that any disease or medicine is not dangerous for him/her-self and other road users.

This liability is increased in case of professional driving, and, of course, of transport of people or dangerous goods.

2.2.2. Therapeutic classes

All medicines are classified into several pharmaceutical classes combining different types of pathologies.

For example, the usual classes concern all cardiovascular diseases, neurological and psychiatric diseases, infections, metabolism, respiratory and digestion diseases, rheumatology, and ophthalmology. These classes are subdivided into pharmacological categories linked with their chemical structure and physiological action.

Thus, depending on the therapeutic class of a medicine and the potential side effects involved, it might be easy or more difficult to prevent the impairment of the drivers fitness to drive.

This is the place for indicating the level of risk of the medicine regarding the medicines categorisation system for driving derived from DRUID project (please see WP 4, <http://www.druid-project.eu>.)

As many patients only know the commercial name of their medicine, this information should shortly provided in the document too.

Examples:

Diclofenac 75 mg (Voltarène ®), medicine for rheumatology or inflammation, belongs to the class of non steroid anti inflammatory drugs, causes minor adverse effects on driving and requires caution from the patient (risk level 1), including reading the package insert and taking care of side effects.

Fluoxetine 20 mg (Prozac ®), medicine for neurology and psychic diseases, belongs to the class of antidepressants, causes moderate adverse effects on driving (risk level 2), and requires the advice of a healthcare professional.

Zolpidem 7,5 mg (Stilnox ®), medicine for neurology and psychiatric diseases, belongs to the class of hypnotics, causes severe effects on driving (risk level 3), and require a medical advice

2.2.3. Therapeutic indication

The therapeutic indications in Summary of Product Characteristics and the package insert specify the diseases for which the medicine can be prescribed. They also describe the precautions for use of the medicine: how and when to use the medicine as a function of age, sex, other diseases and /or treatment.

The information about the therapeutic indication is the legal base of any liability of the patient as well as of the medical practitioner. Only the registered therapeutic indications allow the prescription and the delivery of the medicine to the patient.

Many medicines are sometimes used in other diseases than the registered indication. In this case, the liability of the practitioner can be engaged (e.g. Rivotril ® in pain).

2.2.4. Doses: how many intakes, when to take the treatment

Specific recommendations can be given to the driving patient regarding the doses, how many intakes, and when to take the medicine with respect to driving hours and pharmacokinetics.

If the medicine can be taken in the evening, or if side effects are less important if the dose is divided, such advice can be given.

Can be taken into account:

- The dosage
- The way of use (oral, intravenous, transdermal)
- The maximum daily dose
- The minimum time interval between 2 successive doses
- The number of intakes per day: one or more times a day
- The time for taking the medicine (e.g. in the evening)
- The combination of medicines

The patient should be advised to ask his/her physician whether it is possible to adjust the treatment based on his/her professional or personal activities, by varying the dosage, the number of intakes per day, the time of intake, etc.

The documents could not focus only on driving related effects, but may also integrate other aspects of the treatment's management (other side effects, general advices).

2.2.5. Side effects and consequences on driving

A number of side effects can have a direct impact on driving a vehicle or similar tasks requiring safe operation.

Even if they correspond to clear scientific definition, a lay language should be used in the documents for patients. Among the most troublesome ones are:

- Drowsiness or insomnia
- Decreased alertness
- Confusion and dizziness
- Feeling of weakness
- Difficulty concentrating
- Headache
- Irritability, aggression
- Nausea, vomiting
- Tremor
- Visual disturbances
- Contractures, stiffness, involuntary movements
- Sweating
- Paradoxal anxiety...

The frequency of these side effects may vary from patient to patient but also depending on how the medicine is taken (dosage, hours taken, number of intakes per day...). It is advised, if possible, to discuss with the physician or pharmacist to tailor the treatment based on expected risk. For example, a patient using an anxiolytic (moderate adverse effects on driving, risk level 2) can be advised by his physician to take the treatment, if possible, at the end of the day.

2.2.6. How to manage the beginning of the treatment

Medicines that may affect ability to drive a vehicle and/or operate machinery can be "tested" in advance by the patient.

Thus, according to the level of risk associated with a drug, and in agreement with the physician, the start of the treatment can be organized to determine the negative effects that the patient experiences. Sometime a less impairing medicine is available and can be used to avoid more risk.

On the other hand, it is important to note that some medicines cause side effects more likely during the first days or weeks of treatment and therefore special attention should be paid at the beginning of treatment, and a temporary limitation of driving is to be considered regarding to the interest of the driver patient.

The physician and the patient should then determine the best time to start the treatment (weekend, vacation, sick leave...) and the recommendations to be followed during this first phase of treatment.

In some chronic diseases, training courses can be proposed to patients to manage their chronic treatment. Such possibilities can be explained in the patient documents.

2.2.7. Other advices

Medicines able to induce side effects are increasing the risk for the patient who is driving. The risk can be accepted if limited and if the patient is informed and can compensate by a stronger attentional effort, an adaptation of his/her driving style and attitude, and a limitation of difficult driving context/situation (e.g. long distances, night driving, etc.).

Of course, any other impairing substance like alcohol or illegal drugs must be avoided.

The “zero tolerance” for any other psychotropic substance is a crucial point of the ability to drive for patients receiving a medical treatment with effects on driving.

It is important, in documents for patients, not to trivialize the use of these products and/or alcohol, for which effects on driver behaviour and impaired ability to drive have been widely demonstrated.

The documents for patients should also consider the other medicinal drugs that the patient could use and a priority level should be defined among the different treatments.

Advices like “focus on the main treatment of your disease and avoid any other medicine or ask to your practitioner” can be included.

The risk of addiction linked with some medicine should be explained to the driving patients, especially in case of professional driving and a specific follow-up can be proposed to control the duration of the treatment (e.g. benzodiazepines or some pain killers).

Although sometimes is unclear on the distinction between illicit drugs and diverted medicines from their clinical use, this (clinical use of a medicine and diverted use of a medicine) can be distinguished according to their clinical effects:

Advices can also be given regarding to the use of stimulant medicines or substances (caffeine) that are sometimes proposed to compensate sedative effects of medicines. It can be useful to explain the consequences of stimulants on sleep and risk of residual fatigue

2.2.8. Level of management

The categorisation of medicines regarding to the effects on driving is based on a four level system, linked with a level of management of the risk and of decision about driving (DRUID WP 4). Table 14 shows the French categorization system of medicines, and Table 15 the DRUID categorization system.

The documents for patients should to complete this warning system with specific advices regarding to the target population.

A professional driver, a bus driver, should always be advised to evaluate with his/her practitioner the management of any medicine with a warning level 1, 2 or 3 (minor, moderate or severe effects on driving).

A patient taking a level 3 hypnotic medicine should be advised to consider a sufficient duration of sleep before driving again.

Old patients should be managed in a specific way through documents explaining specific aspects/effects related to age (common combination of medicines, slower elimination of the drug). Practitioners should be advised that many older persons still drive and need to drive even if retired. As aging population is increasing in developed countries, may be this is a very specific issue that requires the development of specific documents for the older driving population.

Table 14. French categorization system of medicines.




| Warning and level | Warning for patients | Decision | Consequence for driving |
|---|---|---|---|
| Level 0 | [no warning needed] | Patient | None |
|  | <p>Warning level 1</p> <p>Do not drive without having read the relevant section on driving impairment in the package insert.</p> | Patient | Limitation of other risk factors: distance driven, avoid use of other substances (alcohol, illicit drugs). |
|  | <p>Warning level 2</p> <p>Do not drive without advice of a health care professional. Read the relevant sections on driving impairment in the package insert before consulting the physician or pharmacist.</p> | Health care professional (practitioner, pharmacist, nurse...) | Limitation of other risk factors: distance driven, avoid use of other substances (alcohol, illicit drugs). Pay attention to the use of other medicines by the patient and the suffering of other diseases. Especially attention should be paid to professional drivers. |
|  | <p>Warning level 3</p> <p>Do not drive. Seek medical advice after a period of treatment about the conditions to start driving again.</p> | Medical doctors | No driving during a certain time |

Table 15. DRUID Categorization system

| | | |
|---|--|--|
| Information for physicians and pharmacists | | Warning for patients <with warning symbols and standard descriptions per country> |
| Description of categories with levels of impairment | Information on how to advise their patients | |
| <p>Category 0</p> <p>Presumed to be safe or unlikely to produce an effect on fitness to drive.</p> | <p>Confirm that the medicine will be safe for driving, provided that combinations with alcohol and other psychotropic medicines are excluded.</p> | [no warning needed] |
| <p>Category 1</p> <p>Likely to produce minor adverse effects on fitness to drive.</p> | <p>Inform the patient that impairing side effects may occur especially during the first days and that have a negative influence on his/her driving ability. Give the patient the advice not to drive if these side effects occur.</p> | <p>Warning level 1</p> <p>Do not drive without having read the relevant section on driving impairment in the package insert.</p> |
| <p>Category 2</p> <p>Likely to produce moderate adverse effect on fitness to drive.</p> | <p>Inform the patient about the possible impairing side effects and the negative influence on his/her driving ability. Advise the patient not to drive during the first few days of the treatment. If possible prescribe a safer medicine, if acceptable by the patient.</p> | <p>Warning level 2</p> <p>Do not drive without advice of a health care professional. Read the relevant sections on driving impairment in the package insert before consulting the physician or pharmacist</p> |
| <p>Category 3</p> <p>Likely to produce severe effects on fitness to drive or presumed to be potentially dangerous.</p> | <p>Inform the patient about the possible impairing side effects and the negative influence on his/her driving ability. Urgently advise the patient not to drive. Consider prescribing a safer medicine, if acceptable by the patient.</p> | <p>Warning level 3</p> <p>Do not drive. Seek medical advice after a period of treatment about the conditions to restart driving again.</p> |

2.2.9. Regulations, liability

Regulations:

The documents for patients as drivers should include references and a short description of the regulations applied in the Member State and their consequences on driving (e.g. fines, withdrawal of the driving licence, etc.).

Right of information of the patient:

In correspondence to the law of 2002 in France, many Member States have a law defining the right of the patient to receive from his/her practitioner, clear, complete and understandable information about his/her disease and his/her treatment. Such law should be explained first.

Driving licence regulation:

Most of the Member States follow the European regulation but with national adaptations. In France, even if one holds a driving license, every driver is supposed to ensure him of his/her ability to drive in the event of disability, disease or medical treatment (e.g. anti-epileptic treatment).

This regulation is not always known and applied by patients.

Some diseases require an opinion of the medical driving commission (physicians) under penalty of criminal liability for accidents, and a partial loss of insurance cover.

Applicants for the French driving license must complete a short statement indicating some medical history (epilepsy, glasses, disability pension). Patients are required to report to the driving licence administration the development of any disease that could impair their driving ability. Moreover, in France the professional drivers such as truck drivers, bus drivers, drivers of taxis, ambulances, pickups and driving school teachers, undergo a medical examination periodically and prior licensing.

In some Member States, the medical examination is performed by certified medical doctors or medical commissions for driving licences. In other Member States, they are performed by the family practitioner.

Insurance regulation:

In most of the Member States, insurance regulation requires that the patients report to their insurance company any disability, disease or medical treatment with the potential to modify their ability to drive in a significant way. In case of no reporting, a part of the reimbursement can be cancelled as well as the insurance contract.

Medical responsibility and ability to drive:

In the context of driving, whether private or professional, the driver remains primarily responsible for his/her actions and decisions.

Thus, in terms of driving ability, each driver should, in relation to the regulation of the driver's license, report to the administration and its insurance company any disease or disability likely to affect his/her ability to drive and therefore to modify the terms of the contract he/she signed.

Even if the first responsibility lies with the patient, the health care professional can also be involved by justice investigation.

In some Member States, it is the responsibility of the physician not only to inform his/her patient, but also to show the evidence that he/she properly performed his duty of informing the patient (according to the French ruling of 25 February 1997: "The physician has a special obligation to the patient information and he must prove that he performed that duty)". The responsibility of

the pharmacist can also be involved, especially in case of combination of medicines prescribed by different practitioners or in case of substitution of the original prescribed medicine.

Useful addresses and websites:

The patient documents should include some relevant addresses and websites: e.g.

- National Medical Agency, National Health authority or any administration or agency in charge of the management of medicines regulation (e.g. AFSSAPS in France), of defining medical good practice (e.g. HAS in France).

- Associations of patients or any other structure able to give information to the patient about his/her disease and treatment.

- Links to any websites able to give useful information (e.g. in the Netherlands: <http://www.rijveiligmetmedicijnen.nl/>).

3. Younger drivers

Authors

UGent (Ghent University), CERTH-HIT (Centre for Research and Technology), LMU (Ludwig-Maximilians-Universität München, Institute for Forensic Medicine)

3.1. General information

Main background information sources for the development of the prototype booklets for the younger people were: expert survey (Part I), the CAST project (Part II), DRUID WP1 and WP2 outcomes, DRUID Deliverable 5.1.1 with regard to the literature review on “different types of DUI/DUID offenders” (Boets et al., 2008) and DRUID Deliverable 7.1.1 (Raes et al., 2007).

In the web survey, 60.1% of the experts indicated that this group should receive special attention. The results clearly indicate that the focus should be on illicit drugs. Cannabis and stimulants were found to be the priorities.

As not all young people can be addressed in the same way about different aspects of Driving Under the Influence (DUI), a segmentation of the target audience in separate groups can help in producing a more effective message strategy.

As a basis of the place where the young people can be informed, four sub-groups can be identified:

- young people in general
- young people prosecuted for DUID or with other problems with illicit drugs
- young people in driving schools
- young people at parties

This kind of segmentation is relevant as ‘the place’ is one of the key elements for the effectiveness of a campaign: if the person is not addressed at a place and time where he/she has the ability to process the information, the campaign can never be successful.

- young people in general can be reached at schools (during regular school hours) in a special lesson
- young people in driving school: can be reached by incorporating the information in learning books of the driving schools
- young people at parties can be reached at the entrance
- young people prosecuted can be reached during rehabilitation

Of course other segmentations are also of interest, for instance a segmentation based on psychological characteristics (e.g. the five types of young people in the disco-study, Schulze, 1999). In this study, two types seemed to be of special interest with regard to DUI/DUID: “Action type” – drivers who were found to consume alcohol several times a week, drinking high amounts and also consuming marijuana several times or regularly; and “Looking for a kick” type – drivers who drive less often, but have more frequent driving accidents as they often tend to violate norms and rules. The latter group had the highest percentage of marijuana consumers and highest amount of alcohol consumption of 18 to 24 years olds. In function of such lifestyle-related subgroups different campaign characteristics may be more efficient. Moreover, the (psychological) profile may also differ as a basis of the type of drugs being used and campaigns could therefore require different specific targeted approaches (e.g. cannabis users less sensitive to authority, thus such an approach may not attract their attention).

Based on the ELM model explained in Part II, it is clear that the correct type of information is vital. If irrelevant information is given to the target, it will both lower the ability and the motivation to process the message. The primary objective of the communication to young drivers is not to mix drugs and driving. To make people adapt this behaviour, four types of information can be considered especially important to deliver:

- The effects of the different illicit drugs
- The risks of DUI of drugs
- Possibilities for enforcement by the police
- Current legislation

All types of information are in a way relevant to each subgroup. However some clear focuses exist as a basis of different subtypes of young people:

- Information on risks is relevant to everyone, since young people in general underestimate risk (Kelly et al., 2004; Matthews et al., 1986; Parker et al., 1992). But there can be a specific focus on prosecuted young people since these individuals have an even higher underestimation of DUI risk (Guppy et al., 2004).
- Within risk communication, the focus could be on 'risk of being arrested', 'risk of crashing', 'risk of injuring others' and 'risk of losing your license' since a study showed that these are the main motivations to avoid DUI (Span, 1995).
- Also, it could be useful to make a comparison between the risk of DUI of alcohol compared to the risk of DUID since it has been shown in several studies that young people in general and young people with drug related problems in particular do not understand the relative risk of these behaviours:
 - The knowledge about DUI of alcohol is higher than DUID (Van Vlierde et al., 2007; Krüger et al., 2002).
 - DUI of stimulants is considered less dangerous than drink driving (Löbmann et al., 2000).
 - Alcohol is thought to be equally impairing as heroin (Albery et al., 2000).
 - Cannabis is thought to be only slightly impairing. Frequent users think it improves driving (Terry et al., 2004)
- The effects of the drugs are especially relevant for the young people at parties since these are most likely to be confronted with these effects.
- Information on the country-specific enforcement procedures is relevant to all young people, since a study showed that the possibility to get caught is a significant factor in refraining DUID in all types of drivers (Turrisi et al., 1992).
- Information on the existing legislation is especially relevant for young people at driving schools (since these people are already in a mindset to learn regulations) and to young people who are prosecuted for DUI (since they are directly confronted with the issue).

3.2. Description of the prototype documents

3.2.1. Prototype brochure for the young drivers: illicit drugs and driving

It was chosen to develop an example printed on one recto-verso paper that can be folded in three parts to make a booklet.

- On the front page, a slogan should be used in combination with a graphically attractive picture. This should lead to an increased chance to persuade the less interested members of our target group to have a look at the rest of the booklet.

- As Elliott (1993) showed that campaigns requesting/instructing a specific behaviour are more successful than ones that are more general, example slogans like “Drugs lead you to death, do you have to drive there?”, “Be clever: drugs and driving, never !” or “All drugs are dangerous behind the wheel. Cannabis too. Make an arrangement who will drive home” can be used as these give clear advices.
- On the back side, a summary of the entire booklet can be presented in the form of ‘did you know?’ questions. The risks could be represented in an easy graph here. In this way, people with low interest in the message can still understand the main aspects of the problem by only looking at the front and back of the booklet.
- The inside of the document contains the majority of the information:
 - The main objective is clearly stated at the top “If you use drugs, do not drive”. To increase the perceived self-efficacy (Extended Parallel Process Model) of the individuals to adapt this safe behaviour, tips on how to adapt this behaviour are given in the bottom left corner:
 - On the left, it is first stressed that all drivers who use drugs are impaired, even the most experienced drivers. For each drug group, a small list of effects is presented (cannabis and stimulants first).
 - On the right, the risks are mentioned in different ways:
 - Compared to alcohol
 - Relative risks from DRUID WP1 and WP2
 - Risks expressed as a number of fatalities per year
 - In the bottom right corner, references could be made to the different aspects of the campaign. It could for instance be (and is recommended) that a campaign is composed out of different small campaigns. A reference could for instance be made towards an accompanying website.
- On the remaining 1/3 of a page, information on the existing enforcement procedure and legislation can be mentioned. A picture of a roadside police check (or oral fluid screening where applicable) can be inserted.

4. Physicians and pharmacists

Authors

RUGPha (University of Groningen), UGren (University of Grenoble, Centre Régional de Pharmacovigilance), UVa (University of Valladolid)

4.1. General information

In order to develop the prototype documents for physicians and pharmacists, the experts' opinions about the type of information regarding psychoactive substances and driving that is addressed to specific target groups are taken into consideration. The following web survey results (see also Part I) are important for developing the content of the brochures for physicians and pharmacists:

- **Medicines and illicit drugs should be addressed separately**
For “physicians/pharmacists” a slight majority of the experts (51.4%) believe that campaigns addressed to these groups of health care professionals should inform about medicines and drugs separately.
- **Illicit drugs and medicines and driving campaigns should be done by substance group**
With respect to both illicit drugs and medicines, a majority (61.6%) of experts agree that campaigns should address the issue of illicit drugs and medicines by groups (for example, stimulant group of drugs – cocaine, amphetamines, and synthetic drugs and among medicinal drugs, -antidepressants, anti-Parkinson).
- **Effectiveness of the media in informative campaigns on substances and driving**
For “physicians/pharmacists” experts have indicated that explanatory leaflets (81.5%) and web pages (65.6%) are the most effective media to use. Posters were mentioned as the third most important medium, but it is unclear how this medium can be applied, addressed to the patient visiting the pharmacy or the physician’s office, or that the poster will address the health care professionals themselves.
- **Type of information to be included in the informative campaigns on illicit drugs, medicines and driving**
According to the experts the type of information for “physicians/pharmacists” should focus on the risks (77.7%) and the effect of the substances on driving (77.7%).

For “physicians/pharmacists” information should be included on the size of the phenomenon (77.7%) and current legislation (66.9%).

With reference to these considerations, there is an opportunity to develop a brochure with the content that is indicated by the outcomes of the web survey.

Another source of information to illustrate what the target groups would like to receive as guidance for their prescribing and dispensing practices, are the results of a small scale study conducted by BAST as part of Task 7.4 (BAST 2009). In this study in-depth interviews with general practitioners and community pharmacists were applied to obtain more insight into their knowledge and attitudes, experiences in daily practice and suggestions for improving guidance during prescribing and dispensing of driving impairing medicines. In total 22 physicians and 20 pharmacists were interviewed in Belgium, Germany and the Netherlands.

About their daily practice experiences the following conclusions were derived:

- For two thirds of the pharmacists the impairing effects on driving performance play a major role in their daily routines while counselling patients, whereas this is the case in third of the physicians.
- Informing every patient is part of a standard routine in most pharmacies, half of the physicians wait until the patient comes up with a question.
- Very often physicians and pharmacists are afraid, that their advice not to drive will be ignored.
- The majority of pharmacists think that it is easy to inform a patient properly, whereas the majority of physicians believe that this is a difficult task.
- During dispensing prescribed driving impairing medication pharmacists usually do not look for safer alternatives, whereas with Over-the-Counter medicines this is a common routine in about half of the pharmacies.
- A lack of proper instructions and detailed information about legal issues and increased accident risk estimates is often regretted.
- Physicians generally give their information verbally, whereas pharmacists tend to give additional information by using brochures and warning labels on medicine boxes.
- In most cases there is no structured communication between physicians and pharmacists about the instructions to patients.
- The most common reason for not giving detailed information to patients is prescribing and dispensing repeat medication followed by lack of time.

The suggestions by the respondents to improve their prescribing and dispensing practices are relevant information for developing brochures for these professionals, and were given as follows:

- Posters, brochures are suggested, but for physicians additional materials have no high priority.
- Most often mentioned as highly useful are medicines lists, official websites (to recommend to patients), synoptical tables and labels (stickers) to provide individual advice/warnings.
- Warning labels are welcomed by a majority of the respondents, but suggestions are made about more detailed additional information (e.g. optimal time for drug intake, with respect to driving)
- Pop-up warnings and instructions in computer systems are appreciated by about one half of the respondents.

Prescribing and dispensing recommendations should also address the issue of valid 'evidence'. Practitioners do not have a universal view or a common understanding of this, therefore it is recommended to increase the credibility by involving national bodies, and to use simple and systematic presentation. Dissemination should target the practitioners' perceived needs, improve ownership and get things right in the first implementation attempt (Rashidian et al, 2008).

Psychological research shows that concrete and precise guidelines are more likely to be carried out than those which contain vague and non-specific descriptions (Michie and Johnston, 2009). There are more recommendations for improving the adherence to guidelines. It is better to specify in precise behavioural terms such as what, who, when, where, and how. In the prototype document for physicians and pharmacists these recommendations will be followed.

Another factor needs to be discussed in developing prototype brochures, in particular their effectiveness of changing the health care professionals behaviour based on brochures with guidelines to change daily practice. Despite awareness of problems related to driving under the influence of medicines, the process involved in changing practices can only be supported in part by brochures with practice guidelines, whereas more factors in response to guidelines will determine how adherence to those guidelines can be achieved (Cabana et al, 1999). Barriers to adherence are:

- Lack of awareness: a substantial proportion of health care professionals will not be aware of the guideline even if the guideline has achieved wide awareness within the profession
- Lack of familiarity: in most cases lack of familiarity is more common than lack of awareness.
- Lack of agreement: this seems to be less common.

- Lack of self-efficacy: it is a common barrier but mostly due to lack of confidence or lack of preparation.
- Lack of outcome expectancy: if health care professionals do not believe that the recommendations will lead to an improved outcome, they will be less likely to adhere.
- Inertia of previous practice: health care professionals may not have the motivation to change their behaviour. After adoption of the guideline recommendations the readiness for change can be described based on models that focus on different steps (precontemplation, contemplation, preparation, action and maintenance) as described several decades ago by Prochaska and DiClemente (1986).
- External barriers: time limitations, lack of reminder system, lack of staff, increased liability but also guideline-related and patient-related barriers may prevent health care professionals from adhering to recommendations in guidelines

It is obvious that prototype documents can only be effective if one considers the context and all factors that might influence the change of professional behaviour based on the recommendations presented. Therefore effective implementation strategies are needed that are multifaceted, include interactive education with actively engaged health care professionals and clinical reminder systems. This approach will be followed in designing the studies for evaluating and disseminating DRUID outcomes in WP 7.

4.2. Description of the prototype documents

4.2.1. Prototype brochure for physicians and pharmacists: medicines and driving

An important source of reference in developing the prototype brochure for physicians and pharmacists is the brochure that has been developed in the Netherlands (<http://www.geneesmiddeleninhetverkeer.nl/zorgverleners.html>). In October 2008 both Dutch Ministries of Transport and Health and Welfare, in collaboration with many professional organizations of pharmacists and physicians and information providers in health care, have launched a national campaign aimed at the general public. In preparation of this campaign the responsible organizations have distributed brochures, posters and documents for different target groups (patients, physicians and pharmacists). Since most of the issues that are presented above are also covered in this recent Dutch campaign, the document for physicians and pharmacists could serve the purpose of a good example in preparing the prototype document for physicians and pharmacists within the context of DRUID.

The content of the brochure is adjustable in the sense that it needs country specific parts for meeting the needs of the physicians and pharmacists in a particular country. However, the information included in the prototype document for physicians and pharmacists (addressing both groups together) should include references to:

- The risk of accident involvement after using impairing medicine
- Categorization system
- General advice for applying the categories
- Advice for the health care professionals
- Professional drivers
- Sources of information
- Legal aspects
- Documenting the decision-making process
- Fact Sheets on Medicines & Driving
- Advice per medicine
- Package insert
- National agreement between physicians and pharmacists organizations
- Training of specific groups, such as pharmacy technicians and/or occupational physicians
- Patient information

The prototype brochure developed for physicians and pharmacists could have the slogan: "Select the safest medicine for your patient as driver" in the cover page, together with the DRUID and the 6th framework programme logos.

The choice whether the content will be presented as a short leaflet (for attracting attention) together with a more extensive brochure is dependent upon the decision how to address the target group in the most effective way. It is not decided in this Deliverable how this will be accomplished.

The brochure has the same layout and information as the leaflet. However, the information is distributed in more pages, depending on the size of the paper.

5. Policy makers

Authors

LMU (Ludwig-Maximilians-Universität München, Institute for Forensic Medicine), **BASt (Bundesanstalt für Straßenwesen)**, **UGren (University of Grenoble, Centre Régional de Pharmacovigilance)**, **IBSR-BIVV (Belgian Road Safety Institute, Belgium)**

5.1. General information

The DRUID WP7.3 team decided to develop prototype documents for policy makers on a later state, as the aim of these documents is purely the dissemination of the scientific DRUID results, which are not yet available. Nevertheless, a short description on some generalities regarding the development of these prototype documents can already be presented.

The prototype documents for policy makers are mainly aimed at the European Commission, European and national Parliaments, National Traffic Ministries and Authorities and Traffic Safety Organisations.

The message content strategy involves the dissemination of the main DRUID results and recommendations aimed at consideration in future legislative directives/recommendations. More in detail this could mean:

- To present a short informative overview about basic knowledge and results from the DRUID project (e.g. DRUID WP4 categorisation system),
- To indicate differences between countries: incidence of DUI/DUID, controls, sanctions and effective countermeasures (which may be limited to “good practice” examples, as otherwise this becomes too extensive and confusing) (e.g. DRUID T5.2 good practice recommendations), and
- To present an estimation of benefit, statistically and monetarily (e.g. DRUID D3.3 cost-benefit analysis results; e.g. lives saved and injured drivers saved).

As WP5 is the only Work Package already finalised at the moment of writing Deliverable 7.3.1., its main recommendations towards policy makers can already be presented here (Boets et al., 2008; Bukasa et al., 2008; Klipp & Bukasa, 2008; Schulze, 2009):

- The DRUID Work Package 5 results strongly support a preventive driver rehabilitation concept which is compatible with the overall objective of mobility of European citizens without endangering traffic safety. A main recommendation is that driver rehabilitation measures should be an integrated part of a comprehensive secondary prevention countermeasure system against intoxicated driving in Europe. Participation should be legally regulated in order to systematically bring offenders to intervention.
- A linkage of driver rehabilitation participation and the licensing procedure is also considered important. Formal criteria for directly assigning DUI/DUID offenders to driver rehabilitation (or at least to counselling) should be established in order to initiate problem awareness and screen for a severe alcohol or drug problem. Driver assessment prior to driver rehabilitation should be obligatory in case of suspicion of addiction in order to match offenders to the appropriate treatment. Driver rehabilitation participation should be mandatory for high-risk offenders, repeat offenders and young (novice) drivers.
- DUI/DUID offenders are a heterogeneous group but there is general agreement on the relevance of identifying various types of DUI/DUID offenders with regard to their different needs and opportunities for rehabilitation. As a general rule it can be stated that the

intensity of intervention should increase with the severity of the problem behaviour. Two groups, non-dependent and dependent offenders, should minimally be distinguished as they require different interventions. Driver assessment is necessary to identify dependent offenders. The European standard group interventions can be recommended as a good practice example for non-dependent DUI/DUID offenders, whereas DUI and DUID offenders should not be mixed. Psychological and therapeutic approaches with educative elements are the most promising ones.

Regarding means and features (choice of media) the web survey concludes, that best media to reach policy makers would be TV, explanatory leaflets, web pages and posters.

The primary objective of prototype documents for policy makers should be that policy makers consider DRUID results and recommendations in future legislative directives/guidelines.

5.2. Description of the prototype documents

As agreed by the WP7 partners, this will be produced in Deliverable 7.3.2

6. References

Albery I, Strang J, Grossom M, Griffiths P. Illicit drugs and driving: prevalence, beliefs and accident involvement among a cohort of current out-of-treatment drug users. *Drug and Alcohol Dependence* 2000; 58: 197-204.

BASt. Baseline interviews with physicians and pharmacists: results from Belgium, Germany and the Netherlands. Presentation during the WP 7 meeting in Lisbon (4-5 May 2009).

Boets S, Meesmann U, Klipp S, Bukasa B, Braun E, Panosch E, Wenninger U, Rösner S, kraus L, Assailly J.-P. State of the Art on Driver Rehabilitation: Literature Analysis & Provider Survey. DRUID Deliverable 5.1.1 (386p.). Cologne: DRUID Project, BASt, 2008.

Bukasa B, Braun E, Wenninger U, Panosch E, Klipp S, Escrihuela-Branz,M, Boets S, Meesmann U, Roesner S, Kraus L, Gaitanidou L, Assailly, J.-P. Development of an Integrated Evaluation Instrument for Driver Rehabilitation Measures. DRUID Deliverable 5.2.2. (150p.), Cologne: DRUID Project, BASt, 2008.

Cabana MD, Rand CS, Powe NR, Wu AW, Wilson MH, Abboud P-AC, Rubin AR. Why don't physicians follow clinical practice guidelines. *JAMA* 1999; 282: 1458-1465.

Elliott B. Road Safety Mass Media Campaigns: A Meta Analysis. Canberra: Federal Office of Road, 1993, p. 138.

Guppy A, Clay D, Albery I. Risk perception and risk-taking in relation to drink-driving frequency. Paper presented at the International Conference on Traffic and Transport Psychology, Nottingham: UK, 2000.

Kelly E, Darke S, Ross J. A review of drug use and driving: epidemiology, impairment, risk factors and risk perceptions. *Drug and Alcohol Review* 2004; 23: 319-344.

Klipp S, Bukasa B. EU-Projekt DRUID: Erste Ergebnisse - Rehabilitation Alkohol- und drogenauffälliger Fahrer. *Zeitschrift für Verkehrssicherheit* 2009; 55: 59-63.

Krüger HP, Vollrath M. Substance consumption and willingness to drive – a comparison of illegal drugs and alcohol. Proceedings of the 16th International Conference on Alcohol, Drugs and Traffic Safety. Montréal, Canada: ICADTS, 2002; pp. 1041-1047.

Löbmann, R. & Krüger, H. P. (2000). Factors predicting driving under the influence of illegal drugs. In: *Alcohol, drugs and traffic safety T2000 : proceedings of the 15th ICADTS International Conference on Alcohol, Drugs and Traffic Safety*, Stockholm, Sweden, May 22nd - 26th,. Stockholm, Sweden: ICADTS, 2000, Volumes 1-4, 7p. Source: Borlänge, Swedish National Road administration SNRA, 2000. Available at: <http://www.icadts.org/proceedings/2000> [22.01.08].

Michie S, Johnston M. Changing clinical behaviour by making guidelines specific. *BMJ* 2004; 328: 343-345.

Matthews M, Moran J. Age differences in male drivers' perception of accident risk: the role of perceived driving ability. *Accident Analysis and Prevention* 1986; 18: 299-313.

Parker D, Manstead A, Stradling S, Reason J. Determinants of intention to commit driving violations. *Accident Analysis and Prevention* 1992; 24: 117-131.

Prochaka JO, DiClemente CC. Towards a comprehensive model of change. IN; Miller and Heather N (Eds). *Treating addictive behaviours: Processes of change*. New York: Plenum Press, 1986.

Raes E, Pil K, Van den Neste T, Verstraete A. Deliverable 7.1.1. Review of guidelines, booklets, and other resources: state of the art. Cologne: Druid Project, BAST, 2008.

Rashidian A, Eccles M, Russell I. Falling on stony ground? A qualitative study of implementation of clinical guidelines' prescribing recommendations in primary care. *Health Policy* 2008; 85: 148-161.

Schulze H. Risikobereites Fahrverhalten Jugendlicher – Ausdruck jugendlichen Freizeitstils. In: Tully, C (Ed.) (1999). *Erziehung zur Mobilität. Jugendliche in der automobilen Gesellschaft*. Campus Verlag, 1999.

Schulze, H. (2009). DRUID - Second Intermediate Status Report. Fit to Drive Congress, Tallinn, June 4th 2009. Available at: http://www.fit-to-drive.com/downloads/07_Dr%20Horst%20Schulze.pdf [06.08.09].

Span D. Research on knowledge, attitudes and reported behaviour on drink-driving in New South Wales. In: *Alcohol, drugs and traffic safety: proceedings of the 13th International Conference on Alcohol, Drugs and Traffic Safety*. Adelaide, Australia. ICADTS, 1995; pp. 153-158.

Terry P, Wright K. Self-reported driving behaviour and attitudes towards driving under the influence of cannabis among three different user groups in England. *Addictive Behaviours* 2004; 33: 619-626.

Turrisi R, Jaccard J. Cognitive and attitudinal factors in the analysis of alternatives to drunk driving. *Journal of Studies on Alcohol* 1992; 53: 405-414.

Van Vlierden K, Lammar P. Drugs en medicijnen in het verkeer. Literatuurstudie. Steunpunt Verkeersveiligheid, Diepenbeek, 2007, Rapportnummer RA-2007-107, p. 134. Available at: <http://www.steunpuntmowverkeersveiligheid.be/modules/publications/store/130.pdf> [06.08.09].

Annex

Prototypes documents

Various prototype documents are presented in the following part.

The content is presented in a tabulated format in order to make the content easy to read. It should be noted that this should not be misunderstood as a suggested design of these prototype documents, as design questions are out of the scope of Task 7.3.

Notice that yellow marked text, refers to <country specific information>

If these contents are used in any campaign, please include the following logos referring to the DRUID project as well as the 6th framework programme.



1. General public

Authors

UVa (University of Valladolid), IBSR-BIVV (Belgian Road Safety Institute), LMU (Ludwig-Maximilians-Universität München, Institute for Forensic Medicine)

Brochure for the general public on medicines and driving

MEDICINES AND DRIVING

Some medicines can affect the ability to drive safely. This brochure informs you and provides tips.

Always check the information **<on the medicine box> –country specific- <and>** in the package insert.

Do not hesitate to ask your doctor and/or pharmacist if you have any questions.

How can medicines affect the ability to drive safely?

Some medicines (prescribed, over-the-counter and herbal medicines) can impair the ability to drive safely because they may cause a variety of reactions in your body.

Below you can see some of the possible side effects of medicines on your body which have an impairing effect on your ability to drive safely.

You should be aware of the following side effect:

- Drowsiness
- Difficulty in concentrating or remaining alert
- Blurred or double vision
- Dizziness
- Slow reactions
- Reduced coordination, feeling shaky
- Fainting, being lightheaded

You may not always notice that the medicine has affected your ability to drive safely. Not all people react in the same way and with the same intensity to the same medicine.

For this reason, whenever you start taking a new prescribed or over-the-counter medicine you should always ask your doctor or pharmacist if it is safe to drive while taking the medicine.

Groups of medicines that can impair the ability to drive safely

Several groups of medicines, either prescribed or over-the-counter, can impair the ability to drive safely.

Among these, the following are worth mentioning

- Hypnotics
- Anxiolytics
- Antipsychotic drugs (anti-schizophrenia drugs)
- Antidepressants
- Antiepileptic
- Antiparkinson drugs
- Analgesics
- Anaesthetics
- Stimulants
- Anti dementia drugs

- Antiallergic drugs
- Drugs for colds, coughs
- Some treatments for heart disorders

NOTICE that not all of them, even within the same therapeutic group, may impair the ability to drive safely to the same extent.

Always ask the advice of your doctor or pharmacist if you are taking any of these medicines.

Medicines and Driving: When to pay special attention?

When should you be especially vigilant?

- **Start of treatment or change of dose:** During the first few days of treatment, or when doses are increased, there is a higher likelihood of suffering these impairing effects on driving.
- **Polypharmacy:** Many patients, especially older people, take various medicines at the same time. The more medication you are using, the higher the risk there is of having negative effects on the ability to drive safely.
- **Alcohol:** As a rule never take alcohol (in any quantity) when taking medicines. Alcohol can potentiate the unwanted effects of medication on the central nervous system, increasing the risk of accidental injury.

Where can I find more information about medication and driving?

Country specific

- Look for this symbol on the packaging and consult the insert.



Conducción: ver prospecto

For further information you can visit the following sources:

- The Spanish Ministry of Health:
<http://www.msc.es>
- Agencia Española de Medicamentos y Productos Sanitarios:
<http://www.agemed.es>
- The DRUID project: Information on categorization and labelling for existing medicinal drugs at the European Union level.
<http://www.druid-project.eu>

Key point to remember

- Ask your doctor or pharmacist if it is safe to drive while taking the medicine.
- Read the package insert section dealing with the effect of the medicine on driving and using machines.
- Please avoid driving during the first few days after starting treatment or receiving increased doses.
- Use the medicine (dose and timing) as prescribed by your doctor/pharmacist.
- Monitor how you react to the medicine: Do you feel sleepy? Do you feel weak and slow? Do you have blurred vision?
- If the medicine you are taking affects your driving, stop driving. Do not stop taking your medicine without informing your doctor/pharmacist.
- Avoid drinking alcohol when taking medicines. It is best to drink no alcohol at all.

Brochure for the general public on illicit drugs and driving

Illicit drugs and driving

Who is driving, you or the illicit drugs?

Illicit drugs alter the normal functions of the brain and body, interfering with even the most skilled and experienced driver's ability to drive safely.

The "come down" effects after using drugs may also impair a person's driving ability.

If you intend to consume drugs, the safest option is not to drive.

How do illicit drugs affect driving?

The effects of illicit drugs on driving differ depending on how they affect the brain, how much they are used, how they are taken, how strong and pure the drugs are. Other factors, such as a person's mental and emotional state and physical health, can also influence the effects of illicit drugs.

There are many illicit drugs and they can act as a depressant, a stimulant or they may alter perceptions.

Cannabis (marihuana, hash):

Driving after smoking joints or bongos, or taking any form of cannabis

- Means you take longer to respond.
- Alters your distance and time perception.
- Lowers your concentration, coordination alertness and ability to react.
- Narrows or blurs your field vision.

Opiates (heroin, morphine, methadone), GHB and sedative/tranquillizer medicines:

Driving after using depressant drugs

- Reduces coordination and slows reaction times.
- Slows information processing ability, causes confusion and impaired thinking.
- Changes visual, auditory, time and space perception.

Cocaine, speed, ice, crystal meth, amphetamines or ecstasy:

Driving after using a stimulant

- Can cause you to become over-confident when driving, which can result in your taking unnecessary and dangerous risks.
- They can lead to poor concentration, attention difficulties and a tendency to fidget. They can also cause a lack of coordination. and may make you feel disorientated.
- They can lead to aggressive and dangerous driving.
- They can cause drowsiness (the driver can fall asleep as the drug wears off).

LSD, ketamine, hallucinogenic fungi:

Driving after using a hallucinogen leads to

- Altered perception, such as seeing or hearing things that don't really exist, or that are distorted.
- Confusion, loss of self-control, loss of a sense of reality.

Mixing drugs

Mixing drugs/alcohol/medicines increases the effects even more and makes driving under the influence even more dangerous. So if you intend to use drugs/alcohol the safest option is not to drive.

What does the law say?

<Country specific>

<It is an offence to drive a motor vehicle whilst impaired through the use of illicit drugs and if found guilty you will be:

- Disqualified from driving.
- Fined.
- And even condemned to a prison sentence.>

Key points

- Driving under the influence of any illicit drugs is a serious accident risk. If you take drugs, do not drive.
- Mixing drugs/alcohol/medicines impairs even more your driving skills, so it becomes even more risky.
- Drugs impair the ability to drive safely. You can feel all right but: one thing is your perception of reality and reality itself quite another.
- Waiting for the effects to wear off is no solution. They can take a very long time to disappear.
- There is no such thing as safe drug taking. If you take drugs, do not drive.

Getting home safely

If you have taken any drug do not drive:

- Use a safe means of transport such as public transport or a taxi.
- Travel with someone you know has not taken any type of substance.

Where I can find information on illicit drugs and driving

Country specific

The DRUID project: information on illicit drugs and driving <http://www.druid-project.eu>

2. Drivers as patients

Authors

UGren (University of Grenoble, Centre Régional de Pharmacovigilance), IBSR-BIVV (Belgian Road Safety Institute), RUGPha (University of Groningen).

Brochure for patients using sleeping pills

What to know about sleeping pills?

You suffer from a sleep disorder

- Sleep is essential to our natural balance and health. There is nothing like a "normal" sleep.
- Everybody has his/her own rhythm and the length of sleep decreases naturally with age.
- If you have difficulties to fall asleep, if the duration of the sleep is much shorter or if the quality of your sleep has deteriorated, you suffer from a sleep disorder.
- Sleep disorders can induce drowsiness and increase fatigue at work and on the road BUT the use of sleeping pills can also induce risks.

What to do? Tips for a good sleep

- Go to sleep every day at the same time and wake up at the same hour
- Do some physical exercise during the day (e.g. 1/2-1 hour walk)
- Sleep in a cool room
- Avoid consumption of stimulants such as: coffee, tea, cola drinks...
- Avoid multiple naps during the day
- Do not watch television or stay on the internet too late as it stimulates your alertness

Benefits of sleeping pills

- Sleeping pills (hypnotics) help to fall asleep and to regulate sleep duration
- Sleeping pills affect you very fast (15-30 minutes after intake)
- You should only take such pills when you are lying down.

If the pill you have taken does not show any effect, **do not take others.**

Contact your doctor who will adapt your treatment.

Side effects of sleeping pills

Sleeping pills, as many other medicines, can lead to side effects. It is important to be aware of them. If side effects are severe or disturbing, inform your doctor.

- **Fairly common mild side effects**
 - Daytime sleepiness or reduced alertness
 - Difficulties with concentrating
 - Sensation of muscle weakness or fatigue
 - Confusion, dizziness
- **Rare mild side effects**
 - Headaches
 - Metallic taste
 - Nausea, vomiting

If uncomfortable effects occur, contact your doctor

- Driving a vehicle or performing any task requiring attention might be impaired until several hours after intake of sleeping pills.
- **If your sleeping pill is categorised as likely to produce severe effects on driving:**
 - Inform your doctor about your driving activities (e.g. professional driver or not; type of vehicle; how many km/ year; night driving...) and discuss possible alternatives (e.g. only daytime driving, avoid long distances, other modes of transportation). **You should not drive before having talked to your doctor.**
 - Follow the intake instructions and recommendations of your treating doctor. If he/she thinks you can drive, you can drive, and no further medical examination is mandatory.
 - Avoid any use of alcohol or other drugs during the treatment. Even a small dosage of alcohol increases the negative side effects on perception and concentration.
 - Do not combine with excessive doses of stimulants like coffee. This does not help to decrease the side effects.
 - Do not combine with any other medicine without asking your doctor's advice.
 - Check with your occupational medicine unit if your work activity should be adapted and/or if your employer should be informed.
 - Stop driving when you experience any side effect (sleepiness, decreased concentration ...), also if it is not perceived by yourself but by your passengers.
 - In case of any doubt of side effects, inform your doctor.

Prolonged use of sleeping pills can lead to **addiction** and cause **memory loss**.
The use of sleeping pills should therefore be limited in time.

The combined use of sleeping pills and alcohol can lead to mental confusion and loss of self control and therefore to extremely dangerous behaviour.

But, do not interrupt your treatment by your own initiative.
Talk to your doctor who will guide you.

Only you can explain what you feel, and only your doctor knows how medicines are optimally used.

Cooperation is essential.

Write down the questions/topics you want to discuss with your doctor during your next consultation:

Your sleeping pill is:.....

For more information:

<www.reseau-pic.com>

Brochure for patients using antidepressants

What to know about antidepressants?

You suffer from depression

- Depression is a disease that can affect everybody.
- Various reasons can cause depression and it can lead to a lot of suffering: losing the taste for life, feeling sad, tired, useless, abandoned and sometimes guilty for this state. It makes it difficult to continue your normal daily life...
- Depression decreases your performance. It can impair your ability to work and to concentrate on any task, including driving.

This disease must be treated seriously

Treatment can include antidepressant medications and psychotherapy. Antidepressant medications treat symptoms and improve the mood. They can also treat certain anxiety disorders and obsessive-compulsive disorder.

The benefits of antidepressants

- Your general practitioner or psychiatrist/neurologist will select the most appropriate antidepressant for your condition (there are different types of depression and there are several types of antidepressant medicines).
- Antidepressants do not affect you immediately; they require a period of 2-3 weeks to be effective.
- Even if you do not feel the benefits immediately, **you should take your medication regularly without changing the prescribed dose.**

Never stop your treatment abruptly, even if you feel better. You may not be healed

Your doctor will help you to decide when and how to stop your treatment.

The average duration of depression treatment is 6-12 months.

Side effects of antidepressants

Modern antidepressants have generally little side effects compared to old ones. However you may experience some side effects, but mainly at the start of the treatment. Most side effects are not severe.

You should be aware of the side effects and inform your doctor when you experience them.

While starting the treatment: fairly common mild side effects

- Gastrointestinal disorders: nausea, vomiting, diarrhoea or constipation...
- Headache, vertigo, dizziness
- Dry mouth
- Transpiration
- Drowsiness or insomnia

Most of these effects diminish or disappear after a few days. Be patient; do not stop your treatment.

Rare side effects

- Sexual dysfunction
- Difficulty urinating
- Tremor
- Rash, itching
- Agitation, irritability or aggressive feeling

**Contact your doctor.
He/she will adapt your treatment.**

What you should know about driving during your treatment...

If your antidepressant is categorised as **likely to produce moderate adverse effects** on driving:

- Inform your doctor about your driving activities (e.g. professional driver or not; type of vehicle; how many km/ year; night driving...) and discuss possible alternatives (e.g. only daytime driving, avoid long distances, other modes of transportation).
- Follow the intake instructions and recommendations of your treating doctor. If he/she thinks you can drive, you can drive, and no further medical examination is mandatory.
- Avoid driving during the first days of the treatment, when doses are increased or when changes in the medicine are prescribed; check if side effects occur.
- Be very careful while driving and avoid long distance and night driving.
- Avoid any use of alcohol or other drugs during the treatment. Even a small dosage of alcohol increases the negative side effects on perception and concentration.
- Do not combine with excessive doses of stimulants like coffee. This does not help to decrease the side effects.
- Do not combine with any other medicine without asking your doctor's advice.
- Check with your occupational medicine unit if your work activity should be adapted and/or if your employer should be informed.
- Stop driving when you experience any side effect (sleepiness, decreased concentration ...), also if it is not perceived by yourself but by your passengers.
- In case of any doubt of side effects, inform your doctor.

Only you can explain what you feel, and only your doctor knows how medicines are optimally used.

Cooperation is essential.

Write down the questions/topics you want to discuss with your doctor during your next consultation:

Your antidepressant medicine is:.....

For more information:

<www.reseau-pic.com>

Brochure for senior drivers

What to know about fitness to drive of elderly patients?

Decreasing fitness to drive

The fitness to drive naturally decreases with old age. Longer reaction time, slower decision making or fatigue are typical examples of impaired driving performance in old age.

Compensation is possible

Your driving experience and adaptations in your driving habits can compensate for these impairments (e.g. reduced speed or no driving in rush hours or on busy roads).

As long as you have the feeling that you can compensate for impairments you should keep driving regularly. Occasional drivers have a higher risk of accidents.

Decrease your risk by improving your fitness to drive

- Check your vision, have new glasses if necessary.
- Check your hearing.
- Attend a driving school session (your driving test was long time ago, and regulation might have changed).

DO YOU KNOW that...?

Among <9000><country specific> different medicines available in France, <1500-1700> <country specific> can induce side effects which impair the fitness to drive:

- The most used medications which are impairing the fitness to drive are: tranquillisers, sleeping pills, antidepressants, cardiac treatments, cold and cough medicines, painkillers.
- The most frequent side effects of these medicines are: drowsiness and effects on vigilance, but they can also affect vision, coordination and behaviour.
- A sleeping pill can affect you for about 12 hours!
- Even a small amount of alcohol can increase effects of medicines on driving performance.

Never stop your treatment abruptly.

Your doctor will help you to decide when and how to stop or adapt your treatment.

If you have any doubt about the effects of your medications on your fitness to drive

Ask your doctor or your pharmacist, if the medication can impair your driving performance.

The doctor and the pharmacist have the duty to give you clear and complete information.

Many diseases require a pharmacological treatment. Medicines can improve your fitness to drive as they allow controlling your disease or the symptom. However, the same medicines can also produce some side effects that can impair your fitness to drive. For that reason you should always be alert and consult your doctor and/or pharmacist.

Always follow the prescribed dose and keep informed about interactions with other medicines that you take.

Medicines “over the counter”, have they also side effects on driving?

Your medicine is categorised in terms of negative effects on driving.

<Look for the pictogram on the box of your medicine:>

- < country specific> A yellow triangle (**level 1**) means that you should read the information in the package insert and take care of possible side effects like drowsiness, vision disturbance or any other impairment.
- An orange triangle (**level 2**) means that you should inform and discuss with your doctor your driving activities and possible alternatives (professional or not, car, motorcycle or other vehicles, how many km/ year, special condition as night driving, and, of course, alternative modes of transportation you can use). You are allowed to drive, after following those recommendations.
- A red triangle (**level 3**) means that you can not drive before having asked your doctor's opinion.
- Some medical treatments require an evaluation by a medical authority of your disease and its treatment (e.g. epilepsy, diabetes). Furthermore, even if you are legally allowed to drive, you always remain responsible for your fitness to drive. You should follow the opinion of your doctor and his/her recommendation.
- Avoid driving during the first days of the treatment, when doses are increased or when changes in the medicine prescribed, and check if side effects occur.
- Be very careful while driving and avoid long distances and night driving.
- Avoid any alcohol or other drugs during the treatment and do not combine with excessive doses of stimulants like coffee.
- Do not combine with any other medicine without asking your doctor's advice.

Most side effects decrease or disappear after a few days. Be patient; do not stop your treatment.

Only you can explain what you feel, and only your doctor knows how medicines are optimally used.

Cooperation is essential.

Write down questions/topics you want to discuss with your doctor during your next consultation:

Your medicine is:.....

For more information:

<www.reseau-pic.com>

3. Younger drivers

Authors

UGent (Ghent University), CERTH-HIT (Centre for Research and Technology),
LMU (Ludwig-Maximilians-Universität München, Institute for Forensic Medicine)

Brochure for young people on illicit drugs and driving

DRUGS LEAD YOU TO DEATH, DO YOU HAVE TO DRIVE THERE?

OR

BE CLEVER

**DRIVING AND DRUGS:
NEVER!**

IF YOU INTEND TO USE DRUGS, DO NOT DRIVE!

Illicit drugs affect the normal functions of the brain and body, interfering with even the most skilled and experienced driver's ability to drive safely.

Drugs can affect you in many different ways:

Cannabis :

- Slows down your reaction time
- Changes your perception of time and distance
- Lowers your concentration and coordination
- Blurs your vision

Stimulants like cocaine, speed and XTC:

- Make you feel over-confident, which can result in taking unnecessary and dangerous risks
- It can make you feel drowsy, and even make you fall asleep as the drug wears off
- Lowers your concentration and coordination

Depressants like heroine, morphine and GHB:

- Slows down your reaction time
- Changes perception of time and distance
- Slows down your information processing ability

Your driving ability is impaired not only during the 'high', but also during the 'crash' phase when the drug wears off. So the negative effect can last up to 24 hours.

What to do when you have used drugs or if you plan to use drugs:

- use public transportation
- assign a designated driver
- before you leave, plan how to get back home safely

It is well known that alcohol increases the chance of being involved in an accident. With 0.5 ‰ alcohol in your blood (=2 drinks) the chance to have an accident increases by two, with 0.8 ‰ the risk is even 5 times as big.

Drugs are even more dangerous!

<<Insert DRUID WP2 + literature results when available>>

....
....
....

When combining drugs and alcohol, the risk is enormous!

<<Insert DRUID WP2 + literature results when available>>

....
....
....

In France, each year 100 fatal crashes per year are attributable to cannabis use. (<< To be updated with DRUID information when available>>)

If applicable, references to other aspects of the campaign could be mentioned here.
E.g. if a website is made for this campaign

Enforcement

(country-specific)

Just like for alcohol, the police can control if you are driving under the influence of illicit drugs.

Insert Road-side procedure

....
....
....
....

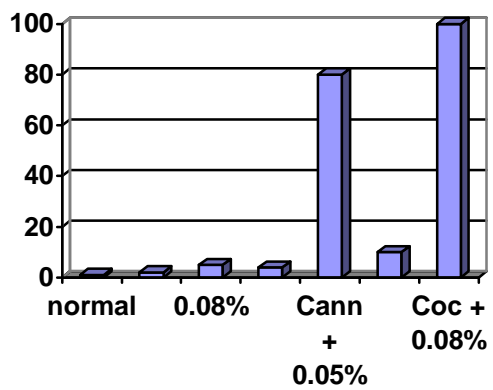
If you get caught, the consequences are severe:

Insert punishments

....
....
....
....

Did you know ?

- Drugs have an equal or even bigger influence on your driving skills than alcohol?
- When you combine drugs and alcohol, the risk of crashing is even bigger?
- The police can test if you have used drugs by using a rapid saliva test?
- If you get caught, you loose your license, get fined and can even be sent to prison?



4. Physicians and Pharmacists

Authors

RUGPha (University of Groningen), UGren (University of Grenoble, Centre Régional de Pharmacovigilance), UVa (University of Valladolid)

Brochure for Physicians and Pharmacists

Introduction

About 10 percent of all road-users take medicines, which affect their driving ability. Although they are generally well informed about the risks involved in driving while medicated, more than 50 percent does not adjust their driving behaviour.

As a general practitioner, specialist, occupational physician or pharmacist you have an important role and the responsibility to inform the patient about the influence that medicines can have on one's driving ability. In practice this can lead to problems and questions. What is the extent of these responsibilities? Is there enough information at hand? Are there any alternatives in medicine or time of use? What kind of information is available in writing? Do professional drivers require specific advice or information?

This brochure offers you current information on medicines that are hazardous in traffic. Also legal issues are discussed and some supporting tools for professionals are mentioned.

The risk of accident involvement after using impairing medicines

Benzodiazepines (BZs) are the most extensively studied medicines regarding risk assessment in traffic. Particularly long half-life BZs, in higher therapeutic doses and/or at the start of treatment are most likely to cause an increase in crash risk. For other frequently used medicines, such as sedative antidepressants and sedative antihistamines, similar risk estimates have been reported, although less extensively studied than the BZs.

Categorization system

In general patients read about their medicine that may affect their driving ability in the package insert (or leaflet) or receive verbal information provided by their physician or pharmacist. However the effect of different medicines on driving ability may vary, due to different pharmacodynamic and pharmacokinetic properties. For this reason medicines that is hazardous in traffic is divided in four categories (see following Table). This categorization is a result of a European Project DRUID (DRiving Under the Influence of Drugs, alcohol and medicines), which enables a European wide application of the same categories.

The four categories are assigned to medicines based on reviewing various sources of information. In general these categories relate to the (acute) effect of the medicines at the start of the treatment. For a limited number of, but most frequently used, psychotropic medicines (particularly BZs and antidepressants), this effect is determined in a standard driving test, in which weaving of the car in the traffic lane is recorded when the driver is medicated. In this test the medicine is used in a normal, therapeutic dose for adults. Additional information from performances studies under laboratory conditions is used to complete the data set used for categorizing the medicines. Furthermore information on the profile of side effects and their frequency, as well as the pharmacokinetic and pharmacodynamic data are used in the categorization of the medicines on driving.

Warning levels for patients have been derived from the categories and will be used in package inserts or package leaflets and in the labelling of medicines (only when mandatory in a particular country).

Table. DRUID Categorization system

| | | |
|---|--|--|
| Information for physicians and pharmacists | | Warning for patients <with warning symbols and standard descriptions per country> |
| Description of categories with levels of impairment | Information on how to advise their patients | |
| <p>Category 0</p> <p>Presumed to be safe or unlikely to produce an effect on fitness to drive.</p> | <p>Confirm that the medicine will be safe for driving, provided that combinations with alcohol and other psychotropic medicines are excluded.</p> | [no warning needed] |
| <p>Category 1</p> <p>Likely to produce minor adverse effects on fitness to drive.</p> | <p>Inform the patient that impairing side effects may occur especially during the first days and that have a negative influence on his/her driving ability. Give the patient the advice not to drive if these side effects occur.</p> | <p>Warning level 1</p> <p>Do not drive without having read the relevant section on driving impairment in the package insert.</p> |
| <p>Category 2</p> <p>Likely to produce moderate adverse effect on fitness to drive.</p> | <p>Inform the patient about the possible impairing side effects and the negative influence on his/her driving ability. Advise the patient not to drive during the first few days of the treatment. If possible prescribe a safer medicine, if acceptable by the patient.</p> | <p>Warning level 2</p> <p>Do not drive without advice of a health care professional. Read the relevant sections on driving impairment in the package insert before consulting the physician or pharmacist</p> |
| <p>Category 3</p> <p>Likely to produce severe effects on fitness to drive or presumed to be potentially dangerous.</p> | <p>Inform the patient about the possible impairing side effects and the negative influence on his/her driving ability. Urgently advise the patient not to drive. Consider prescribing a safer medicine, if acceptable by the patient.</p> | <p>Warning level 3</p> <p>Do not drive. Seek medical advice after a period of treatment about the conditions to restart driving again.</p> |

General advice for applying the categories

If possible choose a medicine in category 1 (likely to produce minor adverse effects on driving ability) or a medicine that has no effect on driving performance related skills. This is even more important if the patient uses his car (or another motorized vehicle) more frequently (e.g. professional drivers).

Circumstances that can also determine the influence on the driving ability like starting or stopping a medicine, adjusting the dose or time of use during the day should be taken into account.

Advice for the health care professionals

Any prescription for a patient will be the result of considering clinical needs and the risk-benefit ratio of treatment. In case psychotropic medicines are prescribed some extra attention is needed. In order to allow a selection of the best possible choice of medicines for a patient as driver, the following five-step approach is recommended.

Five step approach:

1. Assess the clinical history. Is the patient a driver?.
2. Select the medicine which has the least impairing on psychomotor performance.
3. Assess the factors that influence the effect a medicinal drug can have on ability to drive.
4. Choose the most adequate prescribing pattern.
5. Inform patients and their families.

It is important to provide both verbal and written information about the influence of a medicine on a patient's ability to drive. When doing so you must consider the following:

- Advise not to combine psychotropic medicines with the use of alcohol, because this may increase the effect on the patient's reaction ability.
- Check whether the patient is willing to follow the treatment plan and if he thinks he is able to, discuss alternative treatments with the patient.
- Advise the patient to be aware of possible side effects, such as drowsiness, dizziness or sleepiness in the first period of treatment. If these side effects occur the patient should not drive.
- Advise the patient not to drive for a long period of time (not more than 2 hours). The patient could also take a passenger along to check for signs of unusual driving behaviour.

Alternatives

In case a medicine causes problems with the patient's driving ability, there are a few possible alternatives at hand.

- If possible prescribe a similar medicine with little or no influence on the patient's driving ability
- Advise the patient not to drive in the first period of medicine use. For example in case of clomipramin the patient should not drive in the first week.
- Adjust the dose of the medicine. For example in case of amitriptylin the advice changes to a more strict advice if the dose is higher than 75 mg a day.
- Advise the patient to take his medicine at night.
- Avoid combinations with other medicines that might influence a patient's driving ability. If combined, they may have a greater influence than separately.
- Consider non-medical advice (about meals, drinking before going to sleep, etc). This is especially a good advice in case of sleep-medicines (benzodiazepines).

Professional drivers

Professional drivers, who take part in traffic for longer periods of time, may be responsible for passengers and may be at risk because they often drive large vehicles. Therefore it is very important to underline the risks involved when driving under the influence of medicines. The general practitioner can advise the patient to contact his occupational physician for advice and to make special working arrangements.

Sources of information

<In this section the sources of information that are available nationally could be summarized>

Legal aspects

What legal aspects concern you as doctor or pharmacist?

<In this section the existing relevant legal provisions can be summarized, for example the Road Traffic Act, a Medical Treatment Act and regulations on driver requirements for holding a driving licence.

The first might review the legal issues for a driver who is under the influence of a psychotropic medicine.

The second might involve both the General Practitioner and pharmacist. They have the obligation to inform the patient about the possible side effects of the prescribed medicines and the possible alternatives. The influence on a patient's ability to drive is one of these side effects. A doctor or pharmacist is accountable if he does not give this information. If the patient has received the information about how the medicine may affect his driving abilities, it is his own responsibility when he decides to drive. The doctor or pharmacist has no responsibility when a well informed patient takes part in traffic.

The last might address the case of certain disorders that could influence driving ability itself, for example in case of epilepsy.

The driving licensing authority judges a driver's physical and mental ability to drive a motorized vehicle in accordance to ministerial requirements. These requirements are listed in the national regulations, and can probably be downloaded from country specific website.>

Documenting the decision-making process

In case you are working with patients at risk for litigation documentation of the decision-making process is strongly advised. Specifically related to your responsibilities and possible penal proceedings in the event of accidents occurring after a positive decision from your side that driving is possible in a responsible manner. You can manage that risk by documenting not only what was done in assessing fitness to drive and instructing the patient, but also the assessment of the patient's decision-making competence, patient's understanding of impairing properties of the medicine.

It is also advised to document the careful weighing by yourself and patient of the risks and benefits of alternative courses of action to achieve fitness to drive, for example a change in medicines by selecting less impairing medicines and / or discussing instructions how to take the medicine in the most appropriate way in order to avoid the possible impairing effect.

Legal provisions instruct doctors to document their decisions in a patient record. The decision whether or not to drive remains at the patient who is well advised.

Documentation is advised of the following items:

1. Tests done and / or information gathered in assessing fitness to drive
2. Assessment of patient's decision-making competence based on advices given
3. Patient's understanding of impairing properties of the medicine
4. Specific interventions (changes in medicine or instructions for use)
5. Follow up visit for evaluation of interventions (advices given, self-assessment of patient)

Fact Sheets on Medicines & Driving

There is a source of information on specific medicines within a therapeutic class that have an effect on driving ability. The website for this information is: <www.....>

In general information will be provided with respect to the following issues:

- Relevant studies on the effects on psychomotor performance and risk studies
- The categorization assigned to the medicine, if possible depending upon dosage, dosing schedule, time after administration and route of administration (e.g. for hypnotics)
- Advices to the patient which should include information about:
 - The extent to which the medicine has an influence on the driving ability: minor, moderate or major.
 - Whether the advice is not to drive, and for how long.
 - Safe alternatives for driving (if possible)
 - The most important side effects that may influence driving ability.

<The information provided in the fact sheets is also made available in the software packages.....and.....For more information please contact your software supplier.>

Advice per medicine

The information is available for the following drug classes:

<selection of drug classes to be decided nationally>

- <Benzodiazepines
- Antidepressants
- Antihistamines
- Amphetamines
- Antiepileptics
- Antipsychotics
- Parkinson's medicines
- Opioids>

Package insert or package leaflet

Be aware that the advice in the package insert can be less specific than the advice in the fact sheets. Especially if you refer to the section on driving impairment and the information is vague or illogical, you need to explain that this problem is caused by the lack of information on the categorization in older package inserts, and that this will be improved for newer ones in the future.

<National Agreement between physicians and pharmacists organizations>

<When do you give what type of advice to the patient? And what is the task of the doctor and pharmacist? All this is described in the National Agreement by the national pharmacists and physicians organizations. This document advises doctors and pharmacists to give the patient both verbal and written information about risks of medicines that may affect driving ability at the first and second dispensing. Besides this the document gives advice about adjusting the information to the needs of each individual patient.

It is recommended to discuss the activities at a joint local meeting with physicians and pharmacists.

Points of interest are:

Who gives what kind of information to the patient?

Does the pharmacist discuss the influence of the medicine if a medicine is repeated, or is this the task of the doctor?

When does the pharmacist contact the doctor about a safer alternative?

The document can be obtained from and can be downloaded at www......

<Training of specific groups, such as pharmacy technicians>

<The pharmacy technician has a crucial part in providing the patient with the information about medicine use and traffic safety to. The training “Medicine and Traffic Safety” gives the pharmacist-assistant the opportunity to put this advice in practice. For more information: [www.....>](#)

<Training of occupational physicians>

<The training “medicine, work and driving ability” has been renewed for the occupational physician and adapted to the most recent knowledge about this topic. You can sign up for this training at, see [www.....>](#)

Patient information

A new brochure to inform the patient has been developed by <.....>. This brochure can be provided by the general practitioner or at the community pharmacy. The patient brochure can be downloaded at [www.....](#)For ordering the brochure please contact <.....> or order by their website [www.....](#)