# IMPLEMENTATION OF EFFECTIVE INJURY PREVENTION POLICIES & STRATEGIES: A FEASIBILITY & CUSTOMIZATION STUDY

## A report based on experts' opinions

University of Athens
Department of Hygiene,
Epidemiology
& Medical Statistics

Center for Research and Prevention of Injuries
(CE.RE.PR.I)

APOLLO

**Edited by:**
**CEREPRI team:**
**I. Vlachantoni**
**E. Manti**
**A. Ntinapogias**
**E. Petridou**

**In Collaboration with APOLLO WP3 partners:**
**M. Barrow**
**M. Benyi**
**D. Kendrick**
**K. Kuhn**
**E. Negri**
**M. Segui-Gomez**
**S. Scavo Gallagher**

**Developed in the context of the APOLLO Project:**
**"*Strategies and Best Practices For The Reduction of Injuries*",**
**Working Package 3 - Under the Auspices of DG-SANCO**

**Developed by the Center for Research & Prevention of Injuries (CE.RE.PR.I)**
**Unit of Preventive Medicine, Department of Hygiene,**
**Epidemiology and Medical Statistics**
**School of Medicine,**
**Athens University, GREECE**

**Telephone: +30 210 746 2216**
**Fax: +30 210 746 2105**
**E-mail: apollo@med.uoa.gr**

## ACKNOWLEDGEMENTS

The authors gratefully acknowledge the participation of all injury experts, academics and professionals related to the public health field in this study and thank them for their valuable contribution.

More specifically they acknowledge the participation of the following organizations:

- International Lifesaving Federation of Europe
- World Health Organization (WHO)
- Ministerio de Sanidad y Consumo, Spain
- Ministry of Health of Latvia
- Department of Public Health of Latvia
- Croatian National Institute of Public Health
- Public Health Institute of Iceland
- Institute of Public Health of the Republic of Slovenia
- University of Cambridge
- School of Civil Engineering, National Technical University of Athens
- Servei de Prevenció i Atenció a les Dependències, Agència de Salut Pública de Barcelona
- Sociedad Anti-Alcoolica Portuguesa (SAAP)
- Vereniging voor Alcohol- en andere Drugproblemen (VAD) - Association for Alcohol and other Drug Problems, Holland
- Institute for Transport Sciences (KTI)
- Asociación Española de Carretera
- Occupational Safety Research Institute
- National Institute for Occupational Safety and Health (NIOSH)
- Centers for Disease Control and Prevention (CDC)
- Agency for Toxic Substances and Disease Registry (ATSDR**)**

- Occupational Safety Research Institute of Czech Republic (VÚBP)
- National Traffic Administration, Spain
- European Center for Injury Prevention (ECIP)
- National Centre for Healthcare Audit and Inspection, Hungary
- Consumer Safety Institute, NL
- The Royal Society for the Prevention of Accidents (ROSPA)
- Swimming Teacher's Association, UK
- Royal Life Saving Society

# CONTENTS

# Executive Summary

In the European Union and throughout the world, injuries are leading causes of death and disability. More than 250 000 people in the EU region of 27 die each year due to injuries and more than 3 million are left with some form of permanent impairment.

In addition, there are substantial disparities between member states with regards to mortality, morbidity and hospitalization rates. Therefore, there is high potential for prevention, particularly with regards to countries with the highest mortality and morbidity rates. Specifically, estimations showed that over 73 000 deaths per year could have been prevented in the EU, if all countries were to adopt the 'examples' of the countries with the lowest injury mortality rates.

## Purpose

The goal of the present report is to provide meaningful messages regarding ways to improve implementability of effective policies and to customize successful practices in injury prevention to various EU settings. In a continuing effort to integrate risk prevention into policy thinking the aim is to present our findings in a readable, useful format, so that the information can be easily shared with both policy makers and public alike.

## Key findings about feasibility of injury prevention policy implementation

Countries with relatively small population, together with new and non-EU member states received high total feasibility even though in practice may face more difficulties in implementing effective policies. Lack of financial resources was the most frequently mentioned barrier for the implementation of the suggested policies whereas countries with higher GDP (per capita) and lower alcohol consumption (per capita), who have a strong policy framework in place (as the EFTA countries and a few old EU MSs) received higher implementation feasibility scores, suggesting greater possibility of adoption of effective prevention policies.

Road traffic injury prevention policies received the highest total feasibility scores compared to the other types of injuries, namely alcohol, drowning and occupational-related injuries. Experts from new EU MS attributed low feasibility scores

to the majority of policy components such as awareness-raising, environmental modifications and legislative measures. Low feasibility scores were also attributed to the lack of human resources, limited support from organizations for the adaptation and/or the adoption of the proposed policies as well as to the insufficient financial resources. MS that address the issue of drowning acting on multiple levels are those where drowning prevention has been a priority issue in the last decades as opposed to other countries where this has been prioritized fairly recently. With regards to occupational injuries and more specifically to agriculture, low participation rates in the study suggests there is plenty of room for improvement in terms of collecting reliable data and understanding injury problems in rural areas.

## Key findings about customization of successful injury prevention interventions

A recurrent theme throughout the customization of successful case studies in injury prevention was the need to perform situational analyses prior to implementation and to target hard to reach age groups that are at risk of injuries, such as elderly and adolescents. Also preliminary work was deemed necessary in numerous cases, in order to persuade the general public on the effectiveness of intervention. A national situation analysis was proposed to map the most relevant types and locations of injuries to each country's reality and to adapt the intervention in a way to reflect ethnic diversity and evaluating the attitudes, beliefs and reactions of the target population. Finally, the enforcement of messages was suggested through cooperation of different disciplines (e.g., education, health system, police authorities).

## KEY RECOMMENDATIONS

### Policy implementation:

- Emphasis on the enforcement of existing policies before the development of new ones, is paramount especially when there is availability of resources and public acceptability
- Invest on injury prevention research which will help to identify appropriate interventions, and to monitor and evaluate effectively their implementation
- Develop prevention campaigns that act on multiple levels and use a systematic approach to policy implementation, rather than wasting resources on sporadic and less effective campaigns
- Prioritize concrete interventions over legislative measures and environmental changes as these are generally easier to implement
- To bring long-term change, keep injury prevention high on the agenda for a prolonged period of time
- Target groups of people with tailored policies that will make implementation easier and more affective
- Invest in education and training to build up a safety culture among toddlers and teachers

### Intervention customization:

For more effective injury prevention each intervention case-study should be customized in relation to

- Differences between the study objectives and the country's needs: make time (6 months – one year) for formative research before implementing the intervention as a whole or in part
- Perceived difficulties in relation to the methodological approach and program implementation, such as lack of support from voluntary organizations
- Perceived barriers in relation to the content and materials of the study (appropriateness, comprehensibility)
- Possible disapproval of the intervention due to cultural factors
- Lack of available resources: with the collaboration of both governmental and non-governmental parties successful implementation is possible even with limited resources
- Channels used to transmit the information in the initial intervention, for example transmission of information via trained staff as opposed to use of mass media
- Differences in the country's political agenda of important issues

# 1. INTRODUCTION:

## Magnitude of the problem

Although injuries constitute one of the most predictable and preventable causes of human death, more than 250.000 people in the European Union region of 27 (EU 27) die each year due to injuries[1]. Moreover, from the 60 million non-fatally injured people, approximately 7 million are admitted to the hospital and out of them, more than 3 million persons are left permanently disabled[1].

In addition, in the industrialized EU Region, the annual unintentional average mortality rates range from 16.8/100 000 (United Kingdom, the Netherlands, Germany) to 100.2/100 000 (Latvia, Estonia, Lithuania).[2] Similarly, a recent analysis of hospital discharge data from 18 EU countries has shown that the countries with the higher percentage of eligible hospitalisations were Latvia, Malta, Estonia, Slovenia and Czech Republic[3].

## Prevention potential

The wide variation of injury mortality rates[2] as well as hospitalisation rates[3] across different EU countries implies that there is a high potential for prevention especially to those countries with high mortality and morbidity rates. Indeed it has been estimated that over 73 000 deaths per year can be prevented in the EU, if all countries were to adopt the 'examples' of the countries with the lowest injury mortality rates.[4]

---

[1] New Injury Data Report: Injuries in the European Union 2003-2005, https://webgate.ec.europa.eu/idbpa/

[2] WHO Mortality Data: Injury Statistics Portal: http://www.euroipn.org/stats_portal/modules.php?name=mortalityDev

[3] Hospital Discharge Data (HDD) Injury related Hospitalizations in Europe, 2004. https://www.unav.es/preventiva/apollo/asistente/index.php

[4] Petridou ET, Kyllekidis S, Jeffrey S, *et al.* Unintentional injury mortality in the European Union: how many more lives could be saved? *Scand J Public Health* 2007;**35**:278-87

## The APOLLO Project

As intentional and unintentional injuries clearly constitute a leading cause of death in the EU, all member-states are now coordinating their efforts towards this common challenge. This conscious decision has been translated into the APOLLO Project aims at the reduction and ultimately the successful prevention of injuries at a European level.

European countries work closely together to collect evidence of good practice and already existing good policies from the European and international experience and invent appropriate ways to apply this knowledge successfully at a European level. The focus is not on the policy alone, but also on the implementation, attempting to identify the various barriers and success factors that influence the practices. Finally, the Project includes the communication and dissemination of its findings to the stakeholders and wider public.

Each of the APOLLO work packages focuses on different issues of this effort and WP3 addresses the issue of the available best practices and recommendations for the prevention of all types of injuries in all age groups aiming to the development of a concise European Code Against Injuries. It also identifies failure and success factors for the implementation of good practices and finally develops policy recommendations for overcoming barriers to the implementation of injury prevention practices.

All different types of injuries are included with a special emphasis on the injuries of the elderly and the vulnerable road users. These are being prioritised as areas linked to particularly high burden for which good measures of prevention do exist but have not yet been translated into effective measures. Nevertheless, other types of injuries have been identified as

important and are being examined separately, namely alcohol-related and occupational injuries and drowning.

## APOLLO REPORT

In injury prevention efforts, the lessons learnt from implemented effective prevention strategies and policies can serve as an extremely valuable tool in the hands of stakeholders and policy makers who wish to replicate such prevention initiatives. It is important though to keep in mind that due to considerable cultural variability between EU countries, each good 'example' must be studied thoroughly by injury experts, in order to assess how feasible is its implementation in terms of resources needed, organizational support, public acceptability and realization. At a second stage, injury prevention practices considered to be highly relevant should be customized to meet the unique population needs at a national level.

### Purpose of this report

The present report, as part of the APOLLO WP3, aims to summarize existing strategic and policy recommendations on injury prevention as well as to present key results of effective case studies. Specifically, the first part of the report includes a feasibility study carried out to assess the extent of implementability of the selected policies in a variety of EU settings. It analyses suggested options for establishing increased implementation of these policies in different EU states and concludes with recommendations regarding organization, funding, and evaluation of the implementation of injury prevention policies in the field of drowning, road-traffic, alcohol-related and occupational injuries. The second part of the report goes one step beyond by presenting a customization study of selected injury prevention practices - case studies - which in many cases constitute successful components of injury prevention policies. These case studies are customized by

several public health professionals who suggest specific adaptations in order each practice to meet the specific needs of each country.

Hopefully, the results and recommendations presented in the final part of this report can provide sufficient prerequisites for upcoming successful injury prevention initiatives at both EU and national level. Furthermore, the methodology and tools used for this study are expected to assist meaningfully public health professionals in similar future attempts, including the estimation of feasibility and appropriate adaptation of effective prevention policies and practices according to each country's needs. Finally, the research team hopes that both studies can put the foundations for alternative methods of implementing recommendations for injury prevention across different geographical and societal contexts as well as inspire further actions that could potentially improve the health and quality of life of EU citizens.

The objectives of this report are to:

(i) Describe the methodology used for the feasibility and customization studies
(ii) Present the results of the feasibility study
(iii) Present the single case studies and the results of the customization study
(iv) Formulate suggestions about feasibility of successful policies and customization tips of otherwise successful case-studies
(v) Make recommendations on how the implementation of existing effective injury prevention policies and practices could be fostered in the future in various EU settings

# 2. FEASIBILITY STUDY:

## BACKGROUND

### POLICY IMPLEMENTATION:

#### What is policy implementation?

The notion of policy implementation is tied to what has been called the 'textbook conception' of the policy process[5]. This conception assumes that the policy cycle may be divided into several clearly distinguishable phases, ranging from problem definition and agenda-setting to policy formulation, policy implementation, evaluation and finally to policy termination and re-formulation (see Fig 2.1). More specifically, policy implementation refers to the process of translating policy into action[6].

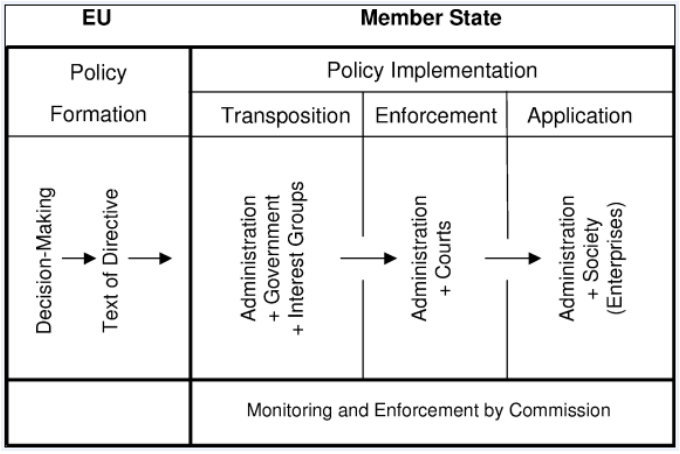



Figure 2.1: Policy phases (from Oliver Treib, Implementing and complying with EU governance outputs)

#### Policy implementation in the EU

In the context of policy implementation research in the EU, a recurrent notion used is that of 'Europeanization', which points

[5] Nakamura, RT (1987)
[6] Treib, 0 (2008)

to the effects of European integration in the member states. It is important to keep in mind that the implementation of policy in the EU usually entails some policy or institutional changes at a national level. These changes are essential because of existing differences in economic, cultural and social characteristics of each country. In this sense, policy implementation can act as an important mechanism of Europeanization and when studying policy implementation in an EU setting, the existing variability between EU states has to be considered.

### Why should we care about implementation?

Putting a piece of legislation or a governmental program into practice does not happen automatically, nor is it a purely technical or a political affair. The first step is to examine the extent to which a particular polity is able to solve the problems with the decisions and the nature of the resulting legal output, but also the way in which the law is executed in practice. This is particularly true in a large and complex polity like the European Union. Moreover EU legislation regularly leaves certain issues to the discretion of member states in order to take account of specific regional or local circumstances. In other words, crucial decisions that may decide on the success or failure of a particular policy are regularly taken at the implementation stage. In addition, the EU is marked by a highly decentralized implementation structure; it does not have its own administrative machinery to implement its legislation but has to rely on the member states to fulfill this task. These are additional issues to be considered when examining the degree of implementability of a policy in EU member states.

### Key factors to cause implementation failure

Numerous studies have attempted to highlight the problematic of implementation and to identify key factors deemed to contribute to what is perceived as 'implementation failure'[7].

[7] Barrett S (2004)

These factors have been researched and explicated and they include:

- Lack of clear policy objectives
- Room for differential interpretation and discretion in action
- Multiplicity of factors and agencies involved in implementation
- Problems of communication and coordination between the links in the chain
- Inter and intra organizational value and interest differences between actors and agencies
- Problem of different perspectives and priorities affecting policy interpretations and motivation for implementation
- Relative autonomies among implementing agencies
- Limits of administrative control

# METHODOLOGY

The feasibility study was conducted by the APOLLO WP3 team during the period February 2008 - December 2008. The methodology used to explore injury prevention policy implementation is described in the following steps:

Step 1: Identification of factors that affect feasibility
Step 2: Identification of existing effective policies
Step 3: Questionnaire development & selection of recipients

## Step 1: Identification of factors that affect feasibility

### Defining feasibility

The research team first explored feasibility as a general notion and then as a concept in the context of policy implementation. The aim was to identify the elements that needed to be addressed in the study. The term 'feasibility' was defined in the Dictionary as "*the quality of being doable, the ability of being accomplished or simply done*"[8], relating to a process that is logical and likely to happen. In the case of implementation, feasibility has the meaning of the ability to translate policy into practice that responds to the needs of the groups involved. This represented an initial and somewhat obvious explanation of the 'feasibility' notion.

Injury-related policy, though, has many different aspects and depends on such a wide range of factors that, if one aims to define and understand what feasibility of implementation means, has to complement and amplify the concept with a series of additional elements, as listed below:

- Financial resources
- Human resources

[8] wordnet.princeton.edu/perl/webwn

- Organizational support
- Public acceptability
- Technology necessary & materials
- Possibility to confirm realisation

In summary, the resources available to the body responsible to initiate, realise and finally deliver the implementation are the means that will make the implementation possible. Resources are needed not only in terms of financial means in one's disposition, but also in terms of human resources. Furthermore, any policy can only be feasible to be implemented if it is acceptable and understandable by the majority of the stakeholders involved. It also must have an appropriate legal framework that allows its realisation and has to allow for control of actual realisation. Finally, one has to highlight the importance of evaluation. Feasibility of implementation means evaluation of process or outcome, in order to secure the desirable, necessary or agreed degree of continuity and effectiveness. The research team selected six of the above-mentioned components that were deemed more appropriate to study in the context of injury prevention policy implementation which are analysed in the following chapter.

## I. Availability of financial resources

A policy recommendation may dictate a specific measure to be taken (in the case of injuries, a preventive measure, e.g., an environmental modification). To test the financial feasibility of the given policy means to essentially investigate whether the suggested preventive measure is affordable to the policy receiver and implementer. Naturally, this affordability depends on factors not always easy to calculate within a reasonably accurate range. One way to measure the affordability would be to calculate the cost percentage the measure suggested represents in comparison to the total cost of the action that

poses the risk of injury in the first place. For example, in the case of drowning prevention, where the building of swimming pool fences is recommended, it has to be examined what is the cost compared to having and maintaining a swimming pool in the first place, either for one private owner or a larger group of owners, e.g., a hotel business.

Conducting a cost analysis, to determine the average cost of the measure and the total cost of the use, could give valuable insight into whether the implementer has indeed the essential financial resources to make this implementation possible. If the percentage lies over a certain predetermined cut-off level, then the measure will be defined as non-feasible.

*Possible drawbacks*: As the EU consists of numerous member-states with heterogeneous characteristics; any cost analysis would have to be tailored to the financial possibilities and actual prices of each country. This could be facilitated by classifying EU countries in a limited number of groups on the basis of their financial data, with the scope to include in each group countries with common financial characteristics, with the same level of prosperity and ability to respond to their financial obligations.

**Issues to consider**

- What are the resource restraints of implementing the policy in economic terms?
- What are the development costs (development and purchasing costs, cost of development team, consultant fees, installation and conversion costs)?
- What are the on-going operational costs (system maintenance, personnel for operation, support, maintenance, supplies and on-going training costs)?
- Do the benefits outweigh the costs/ is the implementation worthwhile?

*Points to keep in mind*

- Benefits and costs could be intangible and hidden, or hard to estimate
- Tangible benefits, are the costs readily quantified in monetary values (e.g., increased sales, error reductions, increased efficiency, more effective use of staff time)
- Intangible benefits, are those more difficult to quantify (e.g., increased flexibility of operation, higher quality of services, better customer relations, improved staff morale)

## II. Availability of human resources

Human resources also play a central role in determining whether a policy may be feasible to be implemented or not and to what degree. It is essential to include adequately trained staff in order to participate (a) in the implementation stage, (b) in other capacities like the supervision or process evaluation of the implementation. Therefore, it may be useful to calculate the number, determine the nature of man-months spent on this task defined as the output of one person working for one hour and suggest the type of human resources that are necessary for each of the different measures suggested by the policy.


## III. Organizational support - Management

In order a policy to be implemented in a successful manner, it also needs to have the support of the body or group that is responsible for any stage of its implementation.

**Issues to consider**

- How do end-users and managers feel about the injury problem identified?
- Are they aware of the alternative solutions?
- Does the organization management support the proposed prevention policy?

- Which users or management will resist change and how will this problem be overcome?
- If the system is developed, will it be used by the organization?
- What are the possible human and social issues behind the policy implementation?
- Are there any potential labour objections?
- Are the any organizational conflicts?

## IV. Public acceptability

Any measure is feasible to be implemented only when the implementers accept it. A stakeholders' analysis must take place for every different measure separately, in order to identify clearly the target groups that will be subsequently asked on whether they find the measure acceptable. The users, investors or owners as well as the public opinion in general have to play a central role.

In this case a questionnaire could be an appropriate method to collect information on different opinions. After the target groups have been identified, and the questionnaire decided upon, a piloting has to take place on a sample that represents accurately the target groups in order to test it.

*Possible drawbacks*: some of the disadvantages of the questionnaires relate to (a) the misinterpretation of the questions, (b) large amounts of material requiring long time to process and analyse (c) superficial answers by the responders and lack of flexibility of the questionnaire format and content. Questionnaire pilot-testing could help to correct at least some of the abovementioned issues.

## V. Availability of necessary technology & materials

Depending on the nature of the measure that the policy refers to, the technical know-how necessary to actually implement it may present considerable variability. To facilitate the process of specifying correctly the level of technical knowledge and skills required, a suggestion would be to create up to four different semi quantitative categories of increasing level of technical knowledge beginning from the lowest level towards moderate, medium and finishing at a high level. The higher the level of technical skills required implementing the measure, the lower the degree of feasibility of implementation. Similarly, in the case of materials required the method of dividing the materials into different categories can be used. Depending on how available they are, starting from widely available to those acquired with more difficulty.

**Issues to consider**

- Is the proposed technology or solution practical?
- Are there the necessary technology/means currently available?
- Is there the necessary technical expertise (and is the schedule reasonable for this team)?
- What kinds of technology are going to be needed?
- Is the required technology available 'in house'?
- If the technology is not available, can it be acquired?


## VI. Possibility to confirm the realisation of implementation

Going back to creating different categories, this method could be proved to be useful in this case as well. After the measure has been implemented, it is important to be able to confirm its concluded realisation. A small number of categories can be created, going from "easy confirmation of realisation" to gradually becoming "very difficult to testify its realisation".

**Word of caution**

The APOLLO project includes a heterogeneous matrix of injury types and aims to create a common European Code for all member-states that share some characteristics but present, among others, significant differences on various cultural, financial, social and legal levels. Therefore, any attempt to test the implementation feasibility inevitably must be flexible, with an agreed and accepted degree of variation as well as adaptation. Otherwise it cannot serve its original and main purpose, namely injury reduction and prevention.

The questions answered by the study are the following:

- What are the most important reasons for low implementability of injury prevention policies?
- Which are the most feasible to implement injury prevention policies in the fields of drowning, road-traffic, alcohol-related and occupational injuries?
- What are the factors that facilitate the implementability of a policy?
- What are the chances of successful implementation of the proposed good policies for injury prevention?
- How could a policy recommendation meet EU needs?
- How should a policy be structured to ensure that it could fulfill its purpose, namely to prevent injuries?
- If any gaps are identified, what could be done to fill them?

In conclusion, the components previously analyzed, were selected as the feasibility components that were more likely to determine the degree of implementation of a given injury prevention policy (see table 2.1).

Table 2.1: Selected feasibility components for policy implementation

| | **Feasibility components** |
|---|---|
| 1 | Availability of financial resources |
| 2 | Availability of human resources |
| 3 | Organizational support |
| 4 | Public acceptability |
| 5 | Availability of necessary technology and materials |
| 6 | Possibility to confirm the realisation of implementation |

## Step 2: Identification of existing effective policies

At a preliminary stage of this study, during the period from September 2007 - May 2008 a literature review was carried out to identify existing effective injury prevention policies. The aim of this review was to explore the available evidence concerning effective policies for the reduction of injury burden. Injury priorities to be targeted were defined by the Apollo WP3 team as road traffic injuries, alcohol-related injuries, occupational injuries and drowning. More specifically, the goal of the research was to review published findings on policies aiming to decrease the burden of the above-mentioned unintentional injuries. The results of the systematic review were presented in the 'Results of a systematic review of effective policies for alcohol-related, road-traffic injuries, drowning prevention and occupational injuries' report of WP3 Module 1[9].

[9] APOLLO 2007 http://www.euroipn.org/apollo/documents/Good%20Policies_SLR.pdf

## Injury priorities

### I. Alcohol-related injuries

WHO outlines the causal relationship between alcohol consumption and more than 60 types of disease and injury, stating that "*Alcohol consumption is the leading risk factor for disease burden in developing countries, and the third largest risk factor in developed countries*".[10] Beyond the chronic and acute health effects, alcohol use is associated with widespread social, mental and emotional consequences. The global burden related to alcohol consumption, both in terms of morbidity and mortality, is considerable. As alcohol consumption is recognized as 'a significant contributor to the global burden of disease', more attention is needed from the public health community on this specific issue. Specifically, the WHO report[10] asserts that alcohol policy can reduce social harm and suggests that government measures to control supply and demand, minimize alcohol-related harm and promote public health are among the most important strategies to reduce such harm.

Research evidence shows that it is possible to develop and implement comprehensive and effective alcohol policies. Effective alcohol social policy can put into place measures that control the supply of alcohol and/or affect population-wide demand for alcohol beverages. Comprehensive policies address legal measures to: control supply and demand, control access to alcohol (by age, location and time), provide public education and treatment for those who need assistance, levy taxation to affect prices and to pay for problems generated by consumption, and harm-reduction strategies to limit alcohol-related problems such as impaired driving. However, their effectiveness depends on adequate enforcement. Passing a minimum drinking age law, for instance, will have little effect if it is not backed up with a

[10] World Health Organization 2004.

credible threat to remove the licenses of outlets that repeatedly sell alcohol beverages to under-aged people.[11]

The European Union directives concerning **alcohol control policies** that have so far been adopted specifically relate to three aspects of policy:

- Alcohol taxation
- Alcohol advertising
- Alcohol transportation (between Member States for personal use)

## II. Road Traffic injuries

The rapid development and expansion of the road network and the increase in number of motor vehicles have led to a substantial rise of both passenger and freight movement. Injuries resulting from road accidents continue to pose a serious public health problem and are the leading cause of death among people under the age of 25. Consequently, safety-related issues have emerged. The number of road accidents and fatalities has been growing in recent years, which call for concerted and multi-disciplinary preventive and remedial efforts. Without increased safety effort and appropriate action to match the growing number of motor vehicles in low to middle income countries, road traffic injury is predicted be the third leading contributor to the global burden of disease and injury by 2020[12,13].

Despite the growing burden of road traffic injuries, road safety has received insufficient attention at both international and national levels.[9] This has resulted in part from a lack of information on the magnitude of the problem and its preventability, a rather fatalistic approach to road crashes and a

[11] Harkin AM, et al 1995
[12] Murray CJL & Lopez AD (1996)
[13] World Report on Road Traffic Injury Prevention, World Health Organization Geneva 2004 www.paho.org/English/DD/PUB/Summary_World_report_Road_safety.pdf )

lack of the political commitment and multidisciplinary collaboration needed to tackle it effectively.[10] Road traffic injuries are indeed preventable and their consequences can be alleviated if all appropriate policies, strategies, road safety regulations and guidelines are put in place. Although prevention policies have been implemented, they need to be enforced fairly, firmly and consistently in order to be effective.

## III. Drowning

Drowning is the second cause of injury-related death globally, after road traffic accidents. Although it affects all age groups, certain groups are particularly vulnerable. Over half of the global mortality occurs among children less than 15 years of age.[14] But the problem is even greater. For each childhood drowning fatality, it is estimated that there are 1 to 4 nonfatal submersions serious enough to result in hospitalization. Nonfatal drowning can cause brain damage that result in long-term disabilities ranging from memory problems and learning disabilities to the permanent loss of basic functioning (i.e., permanent vegetative state).[15]

Nevertheless, the history of drowning statistics in many high-income countries (e.g., Netherlands) has shown that the impact of drowning on public health can be greatly reduced.[12] Effective prevention requires policies that address known risk factors. The purpose of the current report is to identify and present existing policies aiming at preventing childhood drowning.

## IV. Occupational injuries

The definition for occupational injuries used by the research team was the one provided by the Resolution concerning statistics of occupational injuries resulting from occupational accidents, adopted by the 16th International Conference of Labor

[14] Van Beeck EF et al (2005).
[15] National Center for Injury Prevention and Control (2006).

Statisticians (ICLS)[16i]. According to the Resolution, occupational injury is '*any personal injury, disease or death resulting from an occupational accident*'. According to European Statistics on Accidents at Work (ESAW), approximately 4.7 million accidents at work resulting in more than 3 days of absence from work occurred in the European Union (EU-15) in 2001[17] [work and health in the EU, a statistical portrait] which equates to approximately 4% of the workers experiencing an accident at work during the year. In practice, one European Union worker experiences an accident at work every 5 seconds and one worker dies every two hours because of an accident at work [17]. By conservative estimates, there are 270 million occupational accidents with the safety of work varying enormously between countries, economic sectors and social groups. The World Health Organization states that economic losses from workplace fatalities, injuries and illnesses involve an enormous and unnecessary health burden, suffering and economic loss amounting to 4-5% of GDP.

The primary focus of the literature review carried out by the research team was on the prevention of fatal occupational injuries. For this reason, the first of the criteria of the NACE report examined was the incidence rates of fatal accidents at work. The largest number of fatal accidents at work, for all workers, was observed in the fields of agriculture, construction and transport. In addition to the incidence rates of fatal accidents and in order to gain a more in depth view of the occupational injury health and safety field it was decided to take into consideration also other criteria. These were:

- the percentage of workers with a long standing health problem or disability caused by an accident at work

[16] ILO. Statistics of occupational injuries (1998) www.ilo.org/public/english/bureau/stat/download/16thicls/report3.pdf
[17] Work and health in the EU, a statistical portrait (2003)

- absence due to an accident at work
- incidence rates of non-fatal accidents at work
- percentage of workers feeling that their health is at risk because of work
- percentage of workers feeling at risk of injury because of work

Using the primary criteria as well as the additional ones, the occupational categories of Agriculture, Construction, Transport, Manufacturing and Electricity/Gas resulted to be repeatedly among the first three, causing more death, injury, disability and absence from work in the European Union countries. Therefore, the injury prevention policy measures that were considered in the literature review were related only to these five occupational fields.

**Search strategy**

The sources searched were policy documents, which contained a statement developed by an authority (e.g., European agency, governmental agency, local authority) with guidelines/instructions to meet its stated goals and objectives aimed at the prevention of the three causes of unintentional injury. A computerized literature search of MEDLINE, PubMed, SafetyLit, National Guidelines Clearinghouse, US National Guideline Clearinghouse, Google Search Engine, and other websites was carried out. Other electronic sources were searched also, such as injury-specific websites, related organizations, networks, and international injury prevention centres etc.

Among the above electronic sources the following lists of sources were browsed:

- The Community Guide (www.thecommunityguide.org/)

- World Health Organization (WHO), Department of Injury and Violence Prevention (www.who.int./violence_injury_prevention )
- The National Highway Traffic Safety Administration (www.nhtsa.dot.gov)
- Health and Safety Executive (HSE) (www.hse.gov.uk/alcoholdrugs/)
- Institute of Alcohol Studies (IAS) (www.ias.org.uk)
- Department for Transport (www.dft.gov.uk/)
- The Royal Society for the Prevention of Accidents (ROSPA) (www.rospa.com )
- National Center for Injury Prevention and Control (CDC) (www.cdc.gov )
- Alcohol focus Scotland: The national agency on alcohol misuse (www.alcohol-focus-scotland.org.uk)
- Alcohol concern (http://www.alcoholconcern.org.uk)
- Ministry of Economy and Finance (www.mou.gr)
- Dept for children, schools and families (http://www.dfes.gov.uk)
- The Royal Life Saving Society Australia (RLSSA) – Australia (www.royallifesaving.com.au)
- Center for Injury Prevention Policy and Practice – USA (www.cippp.org)
- World Congress on Drowning – Netherlands (www.drowning.nl)
- Drowning Prevention Foundation – USA (www.drownprevention.com)
- Foundation for Aquatic Injury Prevention (FAIP) – USA (www.aquaticisf.org)
- Consumer Products Safety Commission (CPSC) – USA (www.cpsc.gov)
- National Safety Council – USA (www.nsc.org)
- International Life Saving Federation – Belgium (www.ilsf.org)

- Canadian Red Cross – Canada (www.redcross.ca)
- American College of Emergency Physicians (ACEP) – USA (www.acep.org/webportal)
- ENA Emergency Nurses Association – Injury Prevention Institute/EN CARE – USA (www.ena.org/ipinstitute)
- Health & Safety Executive, HSE (UK) (www.hse.gov.uk)
- International Labour Organization, ILO (www.ilo.org)
- OSHA-Europa, European Agency for Safety and Health at Work (Europe) (www.osha.europa.eu)
- World Health Organization, WHO (www.who.int/en)
- Eurostat, Statistics on the EU and candidate countries (www.eurostat.ec.europa.eu)
- The National Institute for Occupational Safety and Health, NIOSH (USA) (www.cdc.gov/niosh)
- Centers for Disease Control and Prevention, CDC (USA)

### Operational definition

In the context of WP3, the term "policy" was operationally defined as a statement developed by an authority that may contain guidelines/instructions to meet its stated goals and objectives aimed at preventing a priority injury.

### Key words

Keywords and selection criteria used for the literature reviews are listed in tables 2.2 & 2.3 respectively.

Table 2.2: Database search terms: Injury prevention policies

| Term | Search terms |
|---|---|
| Alcohol-related injuries | Injury, accident , fatal , non-fatal , alcohol , alcohol-related, alcohol-use , alcohol-abuse , drink AND prevention , policy , recommendation , standard , legislation , guideline , rule , strategy , plan , procedure. |
| Road traffic | Injury , accident , fatal , non-fatal , road traffic , mot, vehicle |

| | |
|---|---|
| injuries | , car , automobile , transportation , pedestrian , road vulnerable users , cyclists , two-wheelers AND prevention , policy , recommendation , standard , legislation , guideline , rule , strategy , plan , procedure. |
| Drowning | Injury , accident , fatal , non-fatal , drowning , submersion , water accident , water safety , pool safety , aquatic safety , bathtub , bathing area , fresh water AND prevention , policy , recommendation , standard , legislation , guideline , rule , strategy , plan , procedure. |
| Occupational | Policy , prevention , recommendation , guideline , plan , procedure , legislation , rule , strategy , standard AND injury , injure ,, wound, , damage, , wrong , hurt , harm , grievance , hazard , trauma , traumatic , impairment , lesion AND work , workplace , work-related , work-site , workforce , workstation , employee , employer , job AND fatal , lethal , mortal , fatality , fateful , deadly AND occupational health , accident fatal , non-fatal |

**Data extraction**

The data presentation was realized via a comprehensive and user-friendly constructed Access database by 4 reviewers (one for each topic), who were familiar with this particular program. More specifically, for each policy paper the following information was included:

- Information regarding the location of the policy document [title; type of publication; author(s); website or other sources where the document was found; date of publication]
- Information regarding the policy document [title and identification number of the policy document; authors; date of release (announcement)]

**Critical appraisal**

The included policy documents were thereafter assessed for their quality according to evaluation and rating criteria, developed by Apollo WP3 experts and CEREPRI (table 2.3). Evaluation and rating criteria were applied to the included documents after the fist screening/assessment.

Table 2.3: Literature review selection criteria

| | Criteria | Details |
|---|---|---|
| 1 | Date of Publication | Published between 1996-2006 |
| 2 | Study population | Children (0-14)<br>Adolescents/young adults (15-24)<br>Adults (25-64) and elderly (65+) |
| 3 | Language of publication | English, Italian, Greek |
| 4 | Injury topic | Injury priorities selected by the APOLLO team: alcohol-related injuries, road traffic injuries, occupational injuries and drowning |
| 5 | Authority developing the policy | European agency, Governmental agency, local authority |

Evaluation criteria for policies included: current status of the policy (active, inactive, etc), existence of agent that is monitoring/inspecting the policy enforcement, character of the policy (e.g., mandatory, optimal, incentive-based), target group(s), type of the policy (e.g., general principles, recommendations, legislation, standards, code of practice, health plan), setting(s) covered (e.g., home, work, school, leisure, road, health and social care, community, public place), level of implementation (e.g., international, EU wide/region, country/region, community, organization), aims of the policy (primary aim and secondary aims) and a short description of policy.

## Step 3: Questionnaire development & selection of recipients

### Why use a questionnaire?

Because of the large geographical area and large sample size involved in this study the use of questionnaires was deemed appropriate as a cost-effective method to retrieve data compared to face-to-face interviews. Their key advantage was

feasibility thanks to easy administration, relatively low cost, and limited personnel required.

In order to present the results of the review in the most clear and understandable way, and taking into consideration the great number of the policies found, a selection had to take place of only a limited number of policies. For this reason, it was decided to present in the questionnaires only policies with the highest scores, covering each of the eight injury fields (Table 2.4).

Table 2.4 Included policies in the feasibility questionnaires

| | |
|---|---|
| Agriculture 1 | HSE (Health and Safety Executive) 2007, Why fall for it? Preventing falls in agriculture |
| Agriculture 2 | Agriculture at risk, A report to the Nation, Agricultural, Occupational and Environmental health: Policy strategies for the future |
| Agriculture 3 | US Department of Labor, Occupational safety & Health Administration (OSHA), 2005, 29 CFR Part 1928-Occupational safety and health standards for agriculture, Protective Frames for wheel-type agricultural tractors-test procedures and performance requirement |
| Alcohol-related 1 | National Alcohol Strategy 2006-2009: towards safer drinking cultures (Ministerial Council on Drug Strategy, Canberra, Australia) |
| Alcohol-related 2 | Alcohol in Europe: A Public Health Perspective (Institute of Alcohol Studies, 2006) |
| Alcohol-related 3 | The effects of 0.08 BAC laws (Apsler et al. 1999) |
| Alcohol-related 4 | Prevention Policy for Employees (South-eastern Louisiana University) |
| Constructions | Department of Health and Human Services CDC, NIOSH, 1986, last updated 1997, Preventing Worker Injuries and deaths caused by falls from suspension scaffolds |
| Drowning 1 | Australian National Water Safety Plan (2004-2007) (Australian Water Safety Council) |
| Drowning 2 | "Australian National Water Safety Plan (1999-2003)"(a) [created by the Australian Water Safety Council-1998] |
| Electricity | Statutory instrument No 635, Health and Safety, 1989, prepared 2000, 'The Electricity at Work Regulations' |
| Manufacturing | Statutory Instrument 1998 No. 2306, The provision and use of Work Equipment Regulations |
| Road traffic 1 | Speed control in developing countries: issues, challenges, and opportunities in reducing road traffic injuries (Afukaar, 2003) |
| Road traffic 2 | Police enforcement strategies to reduce traffic casualties in Europe (ETSC, 1999) |
| Transport 1 | NIOSH publication No 2003-119: work-related roadway crashes-Challenges and opportunities for prevention |
| Transport 2 | Driving of Commercial Motor Vehicles (49 CFR 392) |

As the majority of policies consisted of more than one message, each policy was broken down into brief messages (see Table 2.5). For example the policy entitled "Australian National Water Safety Plan" included the following messages:

- National Safety Standards for "learn to swim & water safety" programs
- Appropriate safety services at all aquatic recreation locations
- Mandatory use of personal floating devices by all persons on board boats crossing off-shore sand bar

The questionnaire consisted of tick boxes available to respondents to score each policy message for each of the feasibility components from a minimum of 1 (standing for poor feasibility of implementation) to a maximum of 5, for high feasibility of implementation. An additional box was provided for each of the policy messages to allow respondents to provide personal views and comments where needed. A model copy of the questionnaire can be found in the Annexes section (ANNEX 1).

Table 2.5: Selected policies and their components

| Injury type | | Policies | Policy components |
|---|---|---|---|
| OCCUPATIONAL | Electricity | A | 10 |
| | Agriculture | A | 7 |
| | | B | 1 |
| | | C | 9 |
| | Construction | A | 10 |
| | Traffic | A | 7 |
| | | B | 9 |
| | Manufacturing | A | 9 |
| TRAFFIC | | A | 5 |
| | | B | 16 |
| ALCOHOL | | A | 17 |
| | | B | 1 |
| | | C | 1 |
| | | D | 6 |

| | | | |
|---|---|---|---|
| DROWNING | | A | 10 |
| | | B | 7 |
| | | C | 6 |

**Cover letter**

A cover letter prepared by the project team was included with the questionnaire explaining the reasons why the research was taking place and providing instructions on how to complete correctly the questionnaire.

**Recipients**

Survey recipients were selected among public heath institutes, academic institutions (universities), international and national NGOs working in the field of injuries and key policy bodies and organizations. An effort was carried out towards many different directions to find appropriate recipients for the study. Previous and current collaborators within EU in public health projects were contacted, as well as all APOLLO leaders, WHO focal points and collaborators within the University of Greece. The questionnaire was sent out to recipients between May 2008 and September 2008 by e-mail. The respondents were given a two-week period to return the completed questionnaire by e-mail and in case of delayed return reminders were sent. The average time for the completion of 1 questionnaire was approximately 25-30 min.

**Respondents**

185 requests - invitations were sent out from CEREPRI during a period of 5 months. During the months of ongoing study the research team remained in close communication with the study's recipients for more information, extra clarifications, and request for forwarding our invitation to more appropriate recipients through the web. Fourteen recipients of the questionnaire expressed the opinion that the injury field related to the questionnaire received was not their competence, and 8 of them

accepted to forward the questionnaire to colleagues of theirs with an expertise in injury prevention. Telephone communication and meetings took place, when needed, particularly regarding the representatives of local authorities and NGOs in Greece.

The study yielded a response rate of 28%, which was deemed satisfactory by the research team as the topic treated in each questionnaire was rather specialized and also because of the questionnaire length. Fifty-one questionnaires were received from experts from 19 countries, namely, Albania, Belgium, Czech Republic, Croatia, Cyprus, Denmark, Finland, Germany, Greece, Hungary, Iceland, Latvia, Norway, Portugal, Slovenia, Spain, Sweden and the USA (Table 2.6). Information regarding the organizational position of the respondents was not for all available but for those that have provided, it varied from National focal points, to managers, academics, scientists or researchers (table 2.6).

Table 2.6: Questionnaire respondents of the feasibility study

| **Injury topic** | **Country** | **Organization** | **Position** |
|---|---|---|---|
| **Drowning** | | | |
| | Germany | International Lifesaving Federation of Europe | President |
| | Norway | Center for International Climate and Environmental Research - Oslo (CICERO) | Interested Academic |
| | Spain | Ministerio de Sanidad y Consumo | D.G. Salud Pública S.G. Promoción de la Salud y epidemiología |
| | Latvia | Department of Public Health, Ministry of Health Latvia | Head of Division of Environmental Health |
| | Croatia | Croatian National Institute of Public Health, Chronic Mass Disease Epidemiology Service | Epidemiology Specialist |

| | | | |
|---|---|---|---|
| | | | |
| | Cyprus | WHO | National Focal Point |
| **Alcohol-related injuries** | | | |
| | Czech republic | National Institute of Public Health Coordination | Monitoring and research unit for alcohol and tobacco |
| | Spain | D.G. Salud Pública<br>S.G. Promoción de la Salud y Epidemiología<br>Ministerio de Sanidad y Consumo | |
| | Spain | Servei de Prevenció i Atenció a les Dependències<br>Agència de Salut Pública de Barcelona | |
| | Slovenia | Institute of Public Health of the Republic of Slovenia | Head of the Research projects services |
| | Portugal | Sociedad Anti-Alcoolica Portuguesa (SAAP) | |
| | Iceland | Public Health Institute of Iceland | Project manager, Drug and Alcohol abuse Prevention |
| | Belgium | Stafmember research<br>Vereniging voor Alcohol- en andere Drugproblemen (VAD) - Association for Alcohol and other Drugproblems | |
| | Latvia | Department of Public Health, Ministry of health Latvia | Head of Division of Environmental Health |
| | Cyprus | WHO | National Focal Point |
| **Road-traffic injuries** | | | |
| | Albania | WHO | Albanian Focal Point for Injury Prevention |
| | Hungary | Institute for Transport Sciences (KTI) | Head of Department |
| | Hungary | Head of Dept. for Road Safety and Traffic Eng.<br>KTI Institute for Transport Sciences Non-Profit Ltd | |
| | Latvia | Department of Public Health, Ministry of Health Latvia | Head of Division of Environmental Health |

| | | | |
|---|---|---|---|
| | | | |
| | Spain | Asociación Española de Carretera | |
| | Croatia | Croatian National Institute of Public Health, Chronic Mass Disease Epidemiology Service | Epidemiology Specialist |
| | Cyprus | WHO | National Focal Point |
| | Greece | School of Civil Engineering, National Technical University of Athens | Department of Transportation Planning and Engineering |
| **Occupational injuries (Transport field)** | | | |
| | Cyprus | WHO | National Focal Point |
| | Spain | Asociación Española de Carretera | |
| | Hungary | Institute for Transport Science (KTI) | |
| | Croatia | Croatian National Institute of Public Health, Social Medicine and Health Statistics Service | Occupational Medicine Specialist |
| **Occupational injuries (Manufacturing filed)** | | | |
| | Cyprus | WHO | National Focal Point |
| | Croatia | Croatian National Institute of Public Health, Social Medicine and Health Statistics Service | Occupational Medicine Specialist |
| | Czech Republic | Occupational Safety Research Institute | |
| | USA | Document Development Branch<br>Education and Information Division<br>National Institute for Occupational Safety and Health Centers for Disease Control and Prevention<br>U.S. Department of Health and Human Services | Physical Scientist |
| | Latvia | Department of Public Health, Ministry of Health | Head of Division of Environmental Health |

| | | | |
|---|---|---|---|
| | | Latvia | |
| **Occupational injuries (Electricity field)** | | | |
| | Czech Republic | Occupational Safety Research Institute | |
| | Cyprus | WHO | National focal point |
| | USA | Document Development Branch, Education and Information Division National Institute for Occupational Safety and Health, Centers for Disease Control and Prevention U.S. Department of Health and Human Services | Physical Scientist |
| | Latvia | Department of Public Health, Ministry of Health of Latvia | Head of Division of Environmental Health |
| **Occupational injuries (Construction field)** | | | |
| | Croatia | Croatian National Institute of Public Health, Social Medicine and Health Statistics Service | Occupational Medicine Specialist |
| | Cyprus | WHO | National Focal Point |
| | USA | Agency for Toxic Substances and Disease Registry | Visiting Environmental Health Scientist |
| | USA | Document Development Branch, Education and Information Division National Institute for Occupational Safety and Health, Centers for Disease Control and Prevention U.S. Department of Health and Human Services | Physical Scientist |
| | Latvia | Department of Public Health, Ministry of Health of Latvia | Head of Division of Environmental Health |
| **Occupational injuries (Agricultural field)** | | | |
| | Cyprus | WHO | National Focal Point |
| | USA | Agency for Toxic Substances and Disease | Visiting Environmental Health |

| | | | |
|---|---|---|---|
| | | Registry | Scientist |
| | Croatia | Croatian National Institute of Public Health, Social Medicine and Health Statistics Service | Occupational Medicine Specialist |

**Data analysis and elaboration**

Data from the completed questionnaires were entered onto a database and analysed using SPSS 13 for Windows. Open-ended answers were analysed thematically. Given the high number of policy messages, and in order to be able to form meaningful conclusions, the research team came up with six broad themes aiming to cover all areas where prevention may be realised. These were Information, Education, Legislation, Environment modification, Equipment, and Intervention/ Measure/ Practice specific interventions. Two of the researchers classified independently each of the policy messages into the six categories and then all points of disagreement were subsequently discussed to reach consensus.

Table 2.7: Number of Questionnaires received per injury priority

| Injury priority | N of questionnaires received |
|---|---|
| Alcohol-related injury policies | 10 |
| Drowning | 7 |
| Manufacturing occupational injuries | 5 |
| Electricity-related injury policies | 4 |
| Construction occupational injuries | 7 |
| Traffic-related occupational injuries | 6 |
| Traffic-related injuries | 8 |
| Agriculture occupational injuries | 3 |

# RESULTS

## ALCOHOL

### DESCRIPTION OF POLICIES

#### *Policy 1: Alcohol in Europe: A Public Health Perspective (Anderson, 2006)*[18]

The first policy consisted mainly of messages that belong to different categories, starting with education initiatives, such as the use of counter-advertising, warning labels on alcohol products and mass media public service announcements to bartender training programs and school-based education programs. Then, a second important part of the policy messages involve specific interventions such as community and safe ride programs as well as promotion of public transport use and designated drivers campaigns.

Specifically:

- Safer bar environment/containers; public transport
- Promotion/awareness raising: education; communication; training and public awareness; server training and civil liability; safe ride programs; school-based education courses; community programs for safe driving; mass media and counter-advertising; low risk drinking guidelines; warning labels on alcohol products; family and community interventions; responsible beverage service; community mobilization
- Random breath testing; lowered BAC limits; license suspension combined with treatment programs; lower BAC limits for young drivers; alcohol locks; designated drivers; minimum drinking age; enforcement of on-premise regulations

[18] Anderson, P. & Baumberg, B, 2006

- Brief advices provided at primary care settings; interventions for individuals; social welfare-based programs.

### *Policy 2: The effects of 0.08 BAC laws*[19]

The second policy involves a legislative measure, namely the administrative license revocation laws, with licenses being automatically suspended whenever a driver either refuses to submit to chemical testing or submits to testing and proves positive

### *Policy 3: Drug and Alcohol Abuse prevention Policy for Employees*[20]

The third policy involved only one message regarding education and counseling.

### *Policy 4: National Alcohol Strategy: Towards Safer Drinking* [21]

This policy involved a series of legislative measures including anti-DWI law, increase of alcohol taxation and requirement by law of DWI education before receiving a driver's license.

- Anti-DWI laws: lower BAC limits from .10 to .08 BAC limit; zero tolerance laws for young drivers; increased penalties or driving while licensed revoked for DWI; sobriety checkpoints; increased taxation; increase fines and penalties for service to minors
- Promotion/awareness raising: Require alcohol server education; Require DWI education before receiving driver licenses; alcohol server training.

[19] Apsler R et al, 1999
[20] Southeastern Louisiana University
[21] Ministerial council on Drug Strategy, 2006

**RESULTS**

Feasibility scores attributed to the four policies selected for this study range from a minimum of 1 to a maximum of 4, showing a rather increased range of variability. There was an increased number of missing responses for two of the policies, thus it has been difficult to draw meaningful conclusions from the answers received. Nevertheless, it became clear that Cyprus once again showed the lowest feasibility score, and experts from countries such as Norway, Denmark and Latvia reported also low scores. On the other hand, Slovenia, Spain, Croatia, Iceland and Czech Republic experts gave higher feasibility scores at thee or four alcohol-related injury prevention policies (fig 2.2). For a complete list of country abbreviations go to APPENDIX 2.

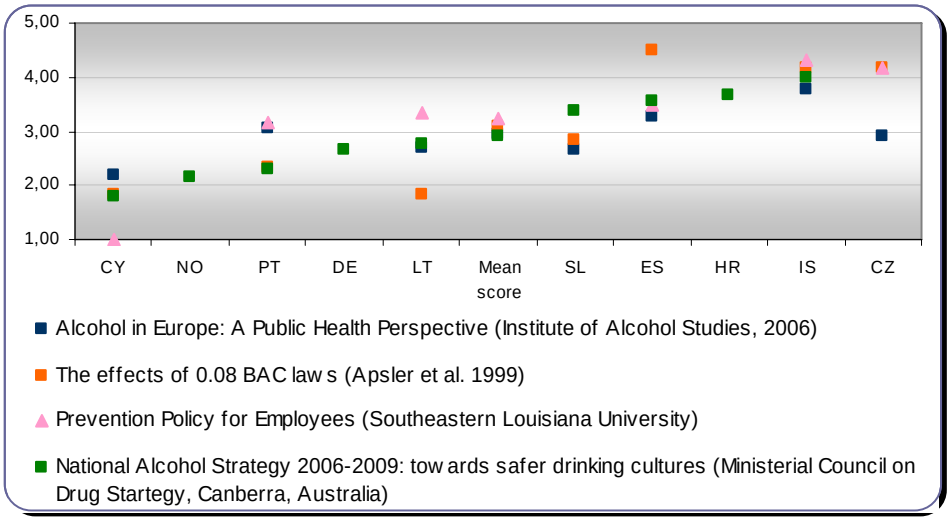



Figure 2.2 Mean feasibility scores in different EU countries per alcohol prevention policy

Most of the policy messages regarding alcohol-related injury prevention can be found under the category 'legislation', with numerous messages addressing the drink and driving problem and some messages relating to education promotion such as the safe ride programs. It is clear that the combination of alcohol and driving is a serious public health issue that needs to be addressed. The higher score received in countries such as Spain, Croatia and Iceland, could perhaps indicate that in these states

the law enforcement can be realized with a more feasible procedure in comparison to countries such as Denmark and Norway.

**COMMENTS OF THE RESPONDENTS:**

Iceland

- *In Iceland there is a 0.05 BAC and it seems to be working well.*

Spain

- *In Catalonia, there is a pilot study on screening and referral to treatment among offenders on alternative (to prison) measures*
- *The lower BAC limits are for novice drivers who are mostly young too*
- *A program sponsored by the alcohol industry is in place where assignated drivers, with 0 BAC, are assigned at discos and leisure areas*

Slovenia

- *There are not enough resources available at the moment for mass media campaigns although they have a high possibility of realization (foreseen in new action plan in the field of alcohol)*
- *In Slovenia the BAC limit for young drivers is 0.00*
- *There are sporadic discussions on the topic of alcohol locks, mostly by medical professionals and road safety experts*

## DESCRIPTION OF POLICIES

### *Policy 1: Speed control in developing countries: issues, challenges and opportunities in reducing road traffic injuries* [22]

This policy advocates that the reduction of vehicle speed limits and the traffic law enforcement may be some of the most effective policies to stem traffic crashes in low-income countries. Some of its components are:

- Environmental modifications (i.e., rumble strips, speed humps etc)
- Product modifications such as speed control gadgets
- Enforcement of speed limits by traffic police

### *Policy 2: Police enforcement strategies to reduce traffic causalities in Europe*[23]

This policy consists of nearly all components of the injury prevention initiatives such as Information, Legislation, Environment modification, Equipment, and specific practices. Some examples are:

- Information campaigns
- Enforcement of laws accompanied by publicity
- Construction of traffic calming zones
- Use of ignition interlock devices
- Use of random breath tests

## RESULTS

Traffic-related injuries represent a top killer in the majority of EU countries, including Spain where Injury deaths due to road traffic injuries are higher than those of the EU average. In most countries, despite the fact that there is no national plan for

[22] Afukkar, 2003
[23] ETSC, 1999

injury prevention in general, there is a national plan in place for road-traffic injuries.

The answers for the feasibility of the two selected traffic injury prevention policies show great variability, ranging from a minimum score of 1 to a maximum of 4. Both policies showed a similar pattern of estimated scores across different country ratings. For example, the expert from Cyprus attributed a low total feasibility score to both policies, whereas Hungary provided an equally high feasibility score for both policies. Overall, the majority of respondents attributed a score above 3, which indicates a fairly good degree of feasibility for both prevention policies (fig 2.3).

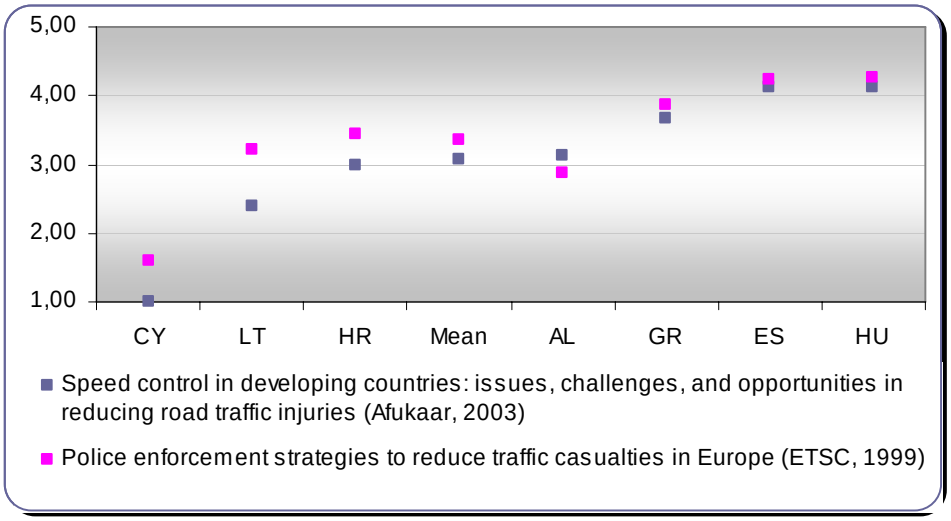



Figure 2.3 Mean feasibility scores per country and road traffic prevention policy

All of the replies given in this study attributed a slightly higher score to the European Transport Safety Council (ETSC) policy, which mainly consisted of police enforcement strategies using concrete interventions such as use of speed cameras and monitoring systems to prevent traffic injuries, as opposed to the second policy that proposed legislative measures and environmental modifications.

**COMMENTS OF THE RESPONDENTS:**

Spain

- *As far as environmental modifications go, great efforts are being made to implement these measures in Spain*
- *In recent years, campaigns of speed control have been reinforced and different administrations are working on removing black spots*
- *Studies are conducted and new systems are implemented for the reduction of speed in urban environments*
- *The use of reflective vests is compulsory and, of late, the control over the number of driving hours has been strengthened*
- *Multiple advertising campaigns on the use of seat belts are carried out and multiple checks are carried out on drivers regarding use of prescribed drugs*
- *Speed cameras are widely used in Spain but there is no initiative for red light*

Hungary

- *We do not recommend plantation of trees next to streets as this is considered to be particularly dangerous*

Albania

- *There is an enormous need for different types of campaigns for road traffic accident prevention in Albania but to this day these campaigns are sporadic.*
- *Red light cameras and driving hours limitations have not yet been implemented in our country*

**DESCRIPTION OF POLICIES**

### *Policy 1: Evaluation of the Australian National Water Safety Plan (1998-2003) (Franklin RC)*[24]

The first policy consists mainly of messages that encourage education of both children and teachers in water safety issues,

[24] Franklin RC, 2004

as well as improved access of water safety education to the general public. It also underlines the responsibility of both the State, addressing the issue of enforcement of national safety standards for water safety and the private sector, by stressing the need for safety audits and use of safety devices in all locations of aquatic recreation.

Specifically:

- Water familiarization programs for children established at appropriate age/developmental levels
- Appropriate level of accreditation for all Swimming Teachers and Coaches conducting programs to children aged 1-4 years old
- Access to Water Safety education by people in rural and particularly remote country locations
- Dissemination of Water Safety Information to all in-bound tourists and migrants
- Translation of key water safety messages in a variety of different languages and promotion of the translated messages to ethnic groups through Local Councils and through cultural specific publications)
- National Safety Standards for Learn to Swim & Water Safety programs conducted by Swimming School operators
    1. to ensure that if an aquatic facility is part of a development, or a development is proposed adjacent to an aquatic environment, the Building Application and Development Application must include an appropriate Safety Plan
    2. Appropriate Safety Services at all locations of aquatic recreation
    3. Mandatory use of PFD by all persons on board boats crossing off-shore sand bar
- Conduction of Safety Audits on all aquatic locations, especially on areas used as regular swimming locations - beaches, pools and inland swimming holes

### *Policy 2: Australian National Water Safety Plan (2004-2007) (Australian Water Safety Council)*[25]

The second policy also contains messages aiming at better education and provision of information on water safety issues, as well as environmental modifications, namely the construction of security fences on play areas of farms and rural properties. It is of interest that both policies contain messages that highlight the importance of information and education.

Specifically:

- Securely fenced safe play areas on farms and rural properties
- Water Safety lessons for children -established at appropriate age/developmental levels;
- Educational programs for recreational fishers and for males 16-35 years old against "risk-taking" behavior
- Publication of key water safety messages in a variety of different languages
- Water Safety information available for all Inbound Tourists and Migrants
- Accreditation of water safety teachers, instructors, coaches & all pool & beach lifeguards
- Lifejackets to be worn as a mandatory piece of Safety Equipment for all recreational boaters when under power and for children under 12 years of age in watercraft at all times
- Adoption of a Home Pool Inspection System
- Safety standards for all aquatic venues and facilities and for all surf beach locations and environs
- National Signage Standards for aquatic locations
- Use of standard uniform colors (red and yellow) for all lifeguards at aquatic locations
- Risk Management Plans for all regularly used aquatic locations

[25] Australian Water Safety Council, 2004

**RESULTS**

The highest age Standardized Death Rates (SDRs) by accidental drowning in 2005 were observed in the eastern European countries including Lithuania that presents a feasibility score along the average[26].

The replies given by EU experts differed greatly between countries, with the lowest score attributed to both policies by the Cypriot expert and the highest given by the Spanish expert. Overall, the two policies received similar feasibility scores by each respondent. Croatia, Norway, Latvia and Denmark received similar medium scores, whereas Germany and Spain received the two highest scores (fig 2.4).

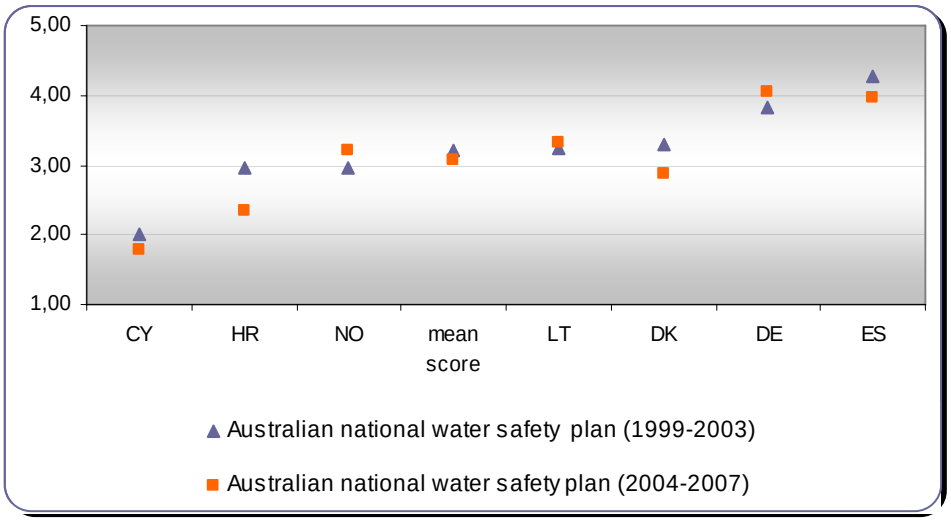



Figure 2.4 Mean feasibility scores in EU countries per drowning prevention policy

The two policies suggested rely heavily on education initiatives and interventions. The highest feasibility scores received from the respondents from those two countries could possibly indicate a solid education system already in place that permits the implementation of such policies. That is not to imply a lack of such initiatives in other states but rather their better possibility to successfully implement them.

[26] Institut de Veille Sanitaire, 2008

# WORK-RELATED INJURIES: AGRICULTURE

## DESCRIPTION OF POLICIES

### *Policy 1: Why fall for it? Preventing falls in agriculture*[27]

This policy mainly consisted of messages regarding use of equipment to ensure safety at work such as use of warning signs, suitable working platforms and fall arrest equipment

### *Policy 2: Labor, protective frames for wheel-type agricultural tractors-test procedures and performance requirements*[28]

This policy consisted of one message encouraging use of protective frame and overhead falling-object protection device

### *Policy 3: Agriculture at Risk, A Report to the Nation: Agricutural, Occupational and Environmental Health: Policy Strategies for the Future*[29]

The third policy consisted of two components: concrete interventions aimed at injury prevention such as creation of a national institute for agricultural and rural health and provision of funding to develop university-based centers for agricultural and rural safety and health. The second component consisted of initiatives related to education including incorporation of agricultural health and safety into the educational curriculum for targeted professionals and the promotion of collaborations between private and public sector in planning educational projects.

[27] Health & Safety Executive (HSE), 2007
[28] U.S. Department of Labor - Occupational Safety & Health Administration, 2005
[29] National Coalition for Agricultural Safety and Health (1988

**RESULTS**

The first characteristic of the part of the study that dealt with occupational injuries in the field of agriculture was the low participation rate at the study. Experts from only 3 countries responded, two of which from the EU area and one from the USA. In addition, their responses did not differ greatly as far as the feasibility of the injury prevention policies was concerned. Also, the feasibility scores for all three policies suggested for injury prevention received a rather low feasibility score, from just above 1 to just above three. Croatia and USA experts attributed similar scores just above 3, whereas Cyprus expert attributed a lower score of just above 1.

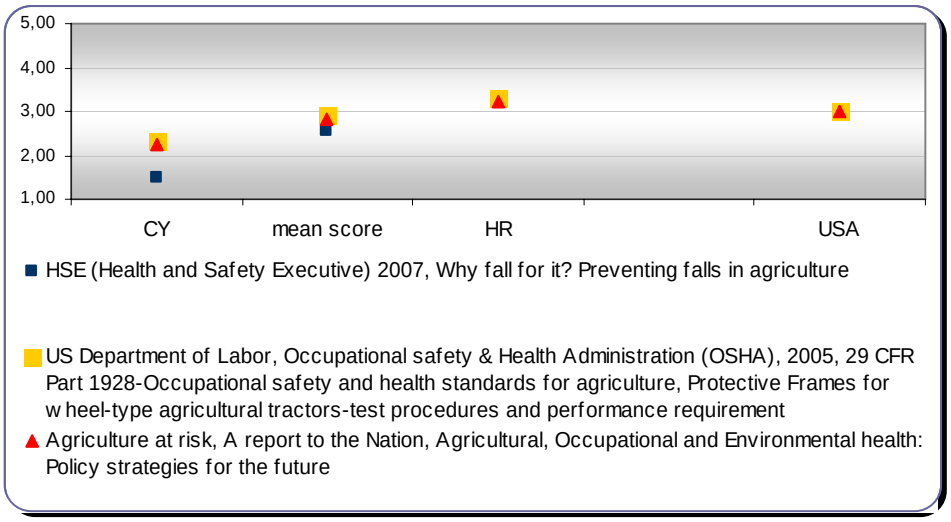



Figure 2.5 Mean feasibility scores for agriculture prevention policies

**Comment**

How much the economy Croatia and Cyprus, rely on agricultural economy?

**Croatia:** The agriculture sector constitutes nearly 6.62% of country's GDP in 2006. Croatia mainly produces wheat, corn, sugar beet, fruits, wine and olive oil.

**Cyprus:** In the past 20 years, the economy has shifted from agriculture to light manufacturing and services. Agriculture is responsible for 6% of GDP and 12% of the labor force. Potatoes and citrus are the principal export crops.

# WORK-RELATED INJURIES: TRANSPORTATION

## DESCRIPTION OF POLICIES

### *Policy 1: Driving of Commercial Motor Vehicles (49 CFR 392)*[30]

This policy mainly addresses issues relating to regulations that are to be dictated in the occupational field such as impediment of work for workers whose ability or alertness is impaired by fatigue and annual inquiries into the driving records of employed drivers by the employer.

### *Policy 2: Work-Related Roadway Crashes - Challenges and Opportunities for Prevention*[31]

This policy includes messages that have to do with education such as appropriate training for workers, on how for example to operate safely specialized equipment and how to manage fatigue. Also, a few messages rely on specific intervention such as establishment of schedules to allow drivers to obey speed limits and hours of service regulations.

## RESULTS

Despite the small number of injury experts that participated in the study, it is evident that the two policies for the majority of the respondents, with only one exception, obtain a similar feasibility score. The lowest feasibility score has been reported for Cyprus, whereas the prevention policy for transportation-related injuries in the occupational field would be more feasible in Croatia. For Norway, Hungary and Croatia the feasibility scores are higher than the average, whereas for Cyprus and Latvia they are below average.

[30] FMCSA, 1995
[31] NIOSH, 2003

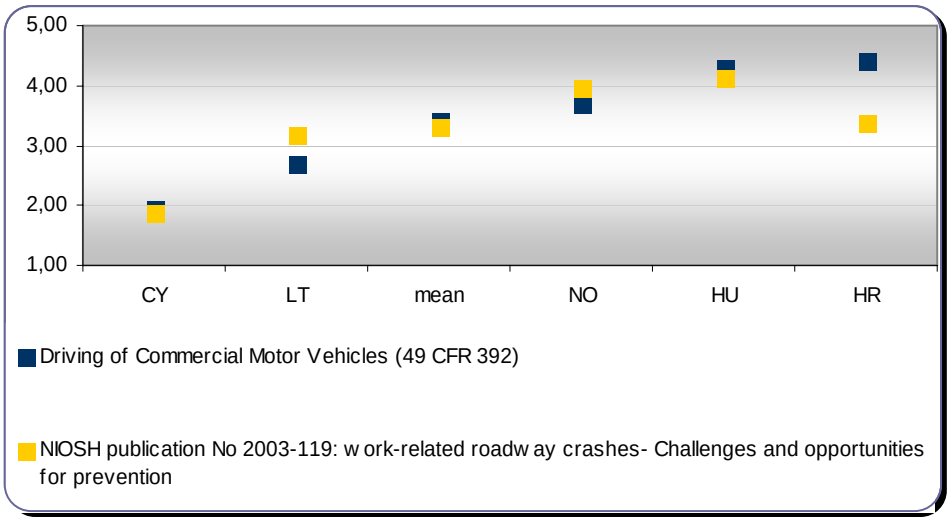



Figure 2.6 Mean feasibility scores for transport prevention policies

**COMMENTS OF THE RESPONDENTS:**

*USA*

- *Education and skill level is essential with all farm workers*
- *Ladders are used most frequently rather than safe platforms*
- *Enforcement would improve safety*
- *Enforcement is essential to encourage use and improve farm worker safety*
- *Children need protection and special training if they are to work safely*
- *Health material in kindergarden is essential and great for early awareness of health and safety issues in farm work*
- *A safety-related journal could be a web-based system for maximum use by all interested parties*

# WORK-RELATED INJURIES: CONSTRUCTION

## DESCRIPTION OF POLICIES

***Policy 1:*** The injury prevention policy for the field of construction[32] mainly addresses the issue of correct use of equipment such as fall protection equipment and use of structurally sound to anchor drop lines. Also the policy highlights the employers' obligation to consider OSHA requirements with respect to safe scaffold use and the need of inspection of equipment and scaffolds by a competent person to ensure that all damaged equipment is removed from service.

## RESULTS

The range of variability of answers regarding the feasibility of injury prevention policy implementation in the occupational field of construction is not great. Two countries show a rather low score, namely Latvia and Cyprus, whereas USA, Norway, Czech Republic and Croatia have similar feasibility scores, that are estimated around a total mean of 4 (fig 2.7).

[32] NIOSH, 1997

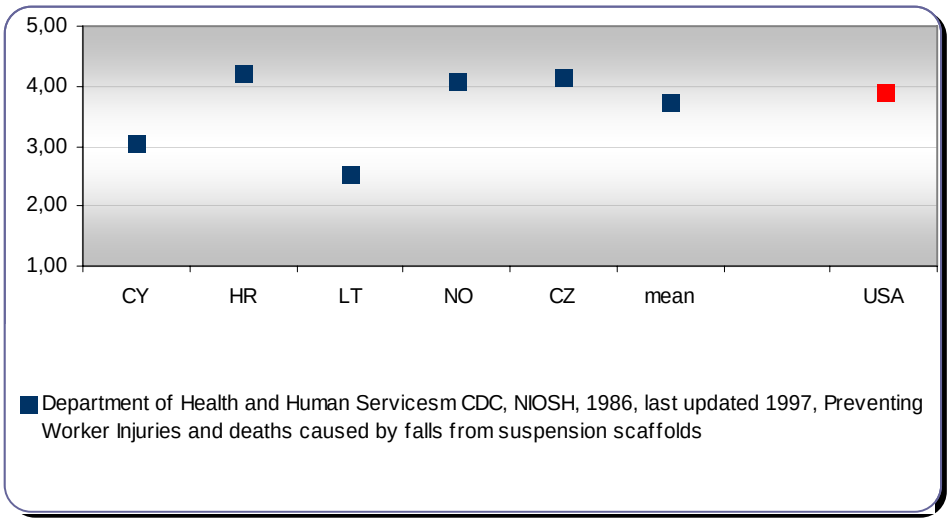



Figure 2.7 Mean feasibility scores for construction prevention policy

## COMMENTS OF THE RESPONDENTS

USA

- *The size of the construction site, the composition of workers and the educational level are important elements in construction site safety*
- *Educational and skill level varies within a working population. Both employers and workers need to trust and cooperate on this effort*
- *There is a need to identify a hazard and make necessary changes - training is important*
- *Unsafe construction sites exist and enforcement is needed to get improved safety*

# WORK-RELATED INJURIES: ELECTRICITY

## DESCRIPTION OF POLICIES

### *Policy 1: The Electricity at Work Regulations*[33]

The above policy relied on two components: the first was the correct use of equipment such as its protection from damage and suitable insulation of materials in a way not to pose a threat for the workers, and then on provision of information for the workers, on the precautions that are to be taken and the way they are to use any conductor or system of work that may be unsafe from an electrical point of view.

## RESULTS

The range of variability in feasibility score varies greatly for electricity-related injury prevention policies. Although the number of respondents is low, one can immediately observe the fact that two of the respondents, namely Cyprus and Latvia experts, attribute a rather low feasibility score, whereas the USA expert a particularly highs score, that approaches a total mean of 5.

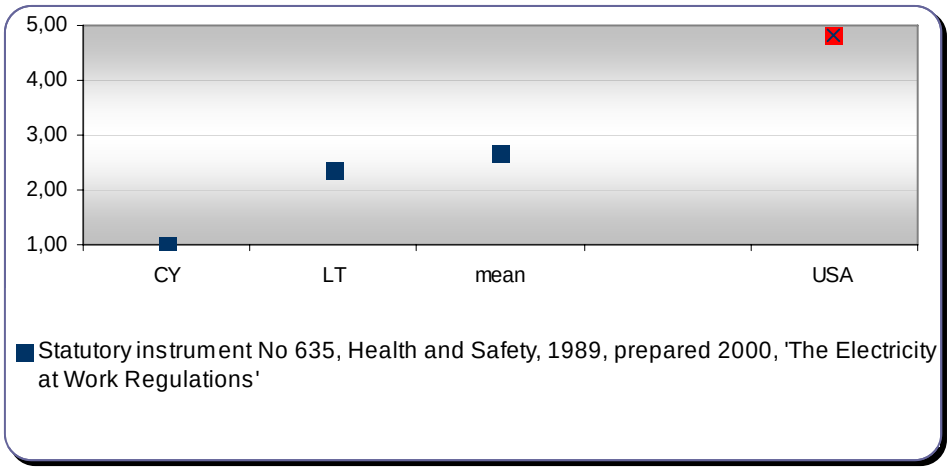



Figure 2.8 Mean feasibility scores for electricity prevention policy

[33] Office of Pubic Sector Information, 1989

## DESCRIPTION OF POLICIES

### *Policy 1: The provision and use of Work Equipment Regulations*[34]

The policy included a series of different messages form different categories. The main components of this policy related to the correct use of equipment and its maintenance according to existing standards, along with an updated log of its use. But issues such as the provision of correct information to the workers regarding instruction of use of their work equipment and adequate training for safety purposes were also mentioned, albeit briefly, in the policy.

## RESULTS

For this injury prevention policy within the field of manufacturing there has been a wide range of variability between the replies and feasibility scores attributed by the experts.

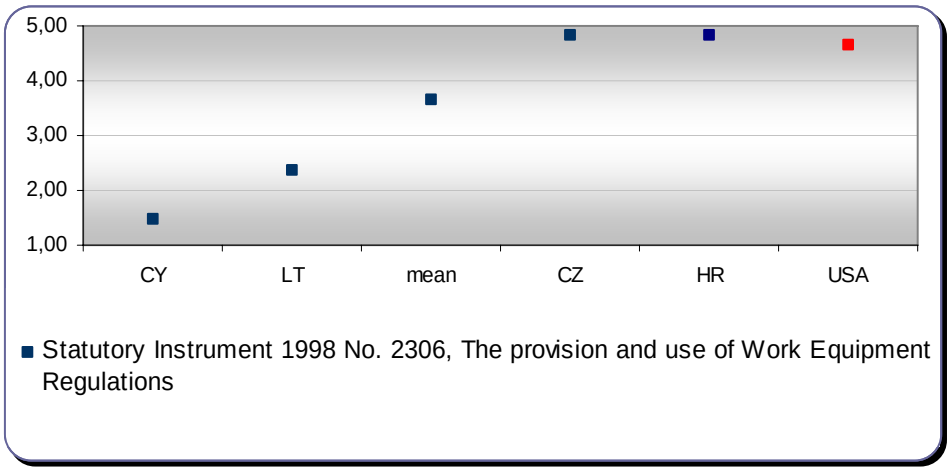



Figure 2.9 Mean feasibility scores for manufacturing injury prevention policies

[34] Statutory Instrument 1998 No 2306

Again, Cyprus and Latvia received the lowest feasibility scores being below average, whereas USA, Czech Republic and Croatia gave the highest feasibility scores that were indeed very similar to each other.

## COMPARISON OF EU COUNTRIES

In order to explore the feasibility of the included policies in relation to each country's political-economical background, the participating countries were divided into four groups on the basis of their position in the EU: old Member States (MS) (DK, DE, ES, PT, GR), New MS (HU, LV, CY, CZ, SI), Candidate or potential candidates MS (HR, AL) and European Free Trade Association countries or EFTA countries (NO, IS).

The figures below present the trends observed in three out of the four injury priorities of our study, namely, alcohol, road traffic and drowning related prevention injuries. These trends are presented by the abovementioned groups of countries in relation to the:

- Feasibility component (in terms of financial and human resources, public acceptability, organizational support, availability of technology and materials and possibility to confirm the policy implementation)
- Policy characteristic (whether the tested policy includes opportunities for awareness raising ("information"), capacity building ("education"), development/ improvement of infrastructure ("environmental modifications"), availability of necessary equipment ("equipments"), implementation of good practices ("Intervention-program-practice") or adoption of a legal measure such as law and regulation ("legislation")

### Alcohol-related policies:

With regards to the feasibility of policies that target alcohol-related injury prevention, EFTA countries, and more specifically, Iceland and Norway, appeared to be more positive towards the adoption of the policies in question. Taking all types of feasibility into account the EFTA countries attribute a rather high feasibility score (>3), which is also higher than the score of the other two groups of countries (fig 2.10).

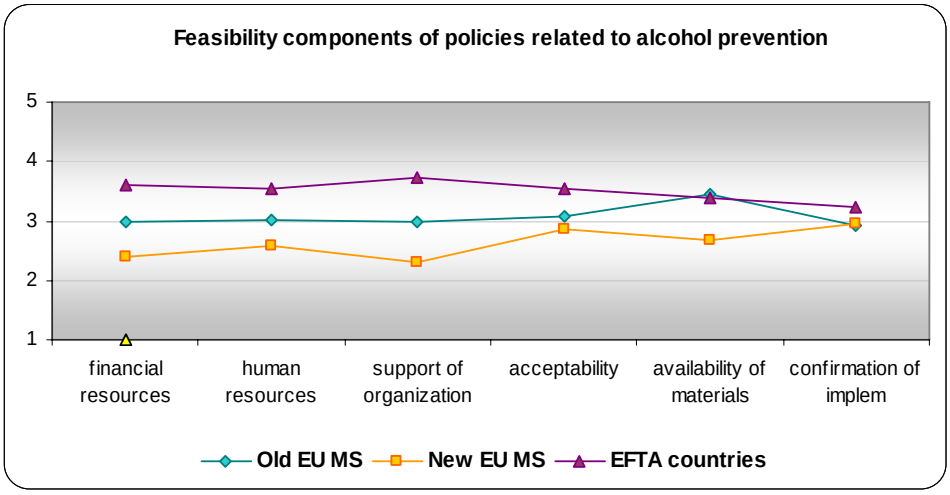



Figure 2.10 mean scores per feasibility component and country category for alcohol prevention policies

The above findings could be explained by the fact that Nordic countries are in general more sensitized towards alcohol-related health issues. It is an issue that has been high on the public health agenda in the last two decades with positive results, as the population drinking habits have indeed changed. Old EU MS present a more conservative position as experts from these countries estimated the policy implementation feasibility around the scale median except for one feasibility component, namely the availability of means (technology and materials). The group of New MS gave the lowest estimation for almost all types of feasibility, that is, lower than the scale median, which could

mean that they consider the policies in question are still not enough feasible for their countries.

As for the specific characteristics-types of the included policies, it seems that awareness raising and capacity building (information and education respectively) are reported by the experts as the most feasible policy characteristics for all participating countries. Environmental modifications, like development and improvement of related infrastructures and availability of equipment are considered as feasible (over the median of the scale) only by EFTA countries. Both old and new EU MS experts considered the environmental modifications as non-feasible whereas on the part of old EU MS the characteristics of the included policies related to equipment received a lower score. Moreover, the respondents from the new EU MS considered policy components relating to interventions, programs and practices as little feasible; instead, candidate EU MSs valued this specific component higher. Lastly, with regards to legislation components of the included policies for the prevention of alcohol-related injuries, EFTA countries and candidate EU MSs gave the highest value for its feasibility and new EU MSs the lowest (lower than the median of the scale).

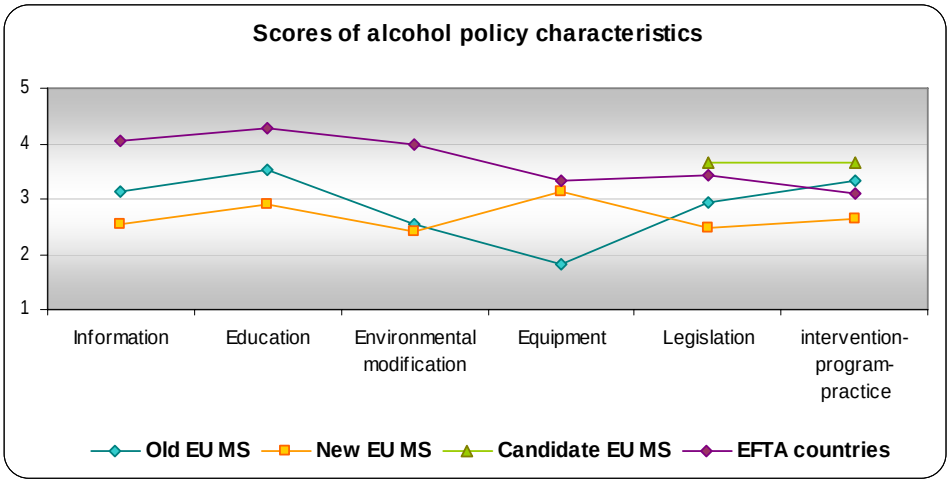



Figure 2.11 Scores per policy characteristics for EU countries

## Road traffic Policies

Experts from Old EU MS estimated the policies related to road traffic injury prevention as feasible, considering that there are sufficient technology and material as well as financial and human resources (fig 2.12). Furthermore, they estimated that their organization would support the included policies in their countries and that the adoption of these policies would be easy to be confirmed. Acceptability by the general public was also estimated positively by the Old EU MS experts as well as by experts from candidate countries. Experts from candidate countries were also positive concerning the support of their organization for the adoption of the proposed policies and the possibility of policy confirmation.

However, the experts from candidate countries considered that the financial and human resources as well as the available means for the adoption of the proposed policies were not enough in their countries. The pattern of answers of the experts from New EU MS was somewhat different: although they estimated that there were sufficient financial resources and means for the adoption of the policies under discussion, the scores for public acceptability, availability of human resources and support of their organizations, were rather low in comparison with the responses of the other countries.

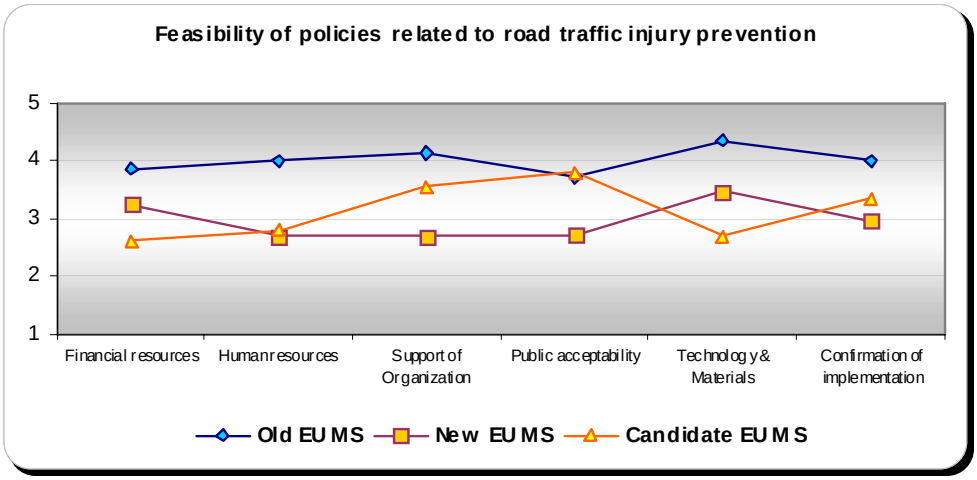



Figure 2.12 Mean scores per feasibility component and country category for road traffic injury prevention policies

The estimations in regards to the road traffic-related policy characteristics, seemed to be in agreement with the previous results. Old EU MS estimated as more feasible the policies relating to awareness raising, capacity building, legislation and implementation of good practices but less feasible the policy-types relating to availability of equipments. Identical was the pattern of the answers of experts from candidate countries, although the respective scores were lower. The responses from New MS were again different. Nearly all of the experts' estimations (but one) where slightly below the median of the feasibility scale, indicating a relative pessimism for policies relating to awareness raising, environmental modifications, legislation and implementation of programs or interventions.

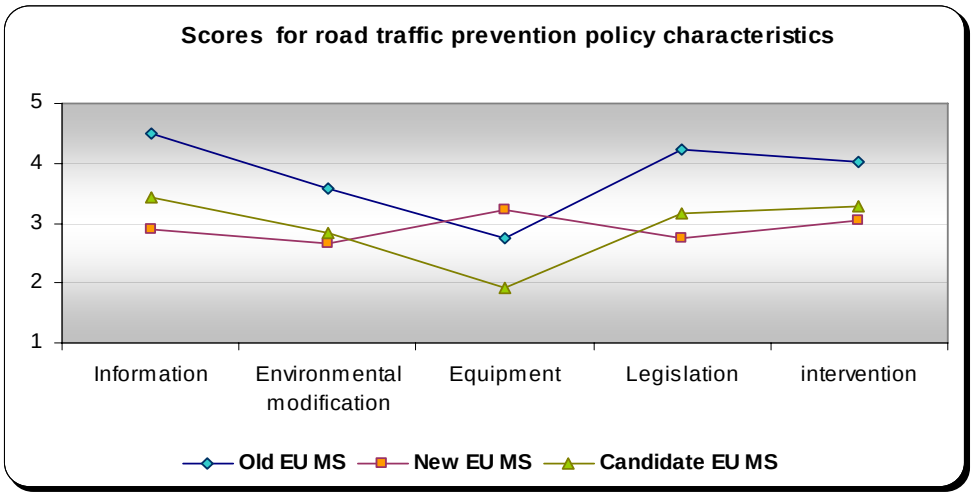



Figure 2.13 Scores per road traffic policy characteristics for different EU countries

## Drowning related policies

Regarding the feasibility of policies aiming at the prevention of drowning, the four groups of EU MS showed a considerable variability in the response patterns (fig 2.14). For example the old EU MS attributed the highest feasibility score to public acceptability as well as to possibility of implementation in terms of availability of human resources and materials. For the EFTA countries, the highest feasibility score was attributed to the support of organizations and the lowest to the availability of materials. The new and the candidate EU MS not only did they express a difficulty in policy implementation (fig 2.14) but they also showed greater heterogeneity regarding the feasibility of different types of policies (fig 2.15).

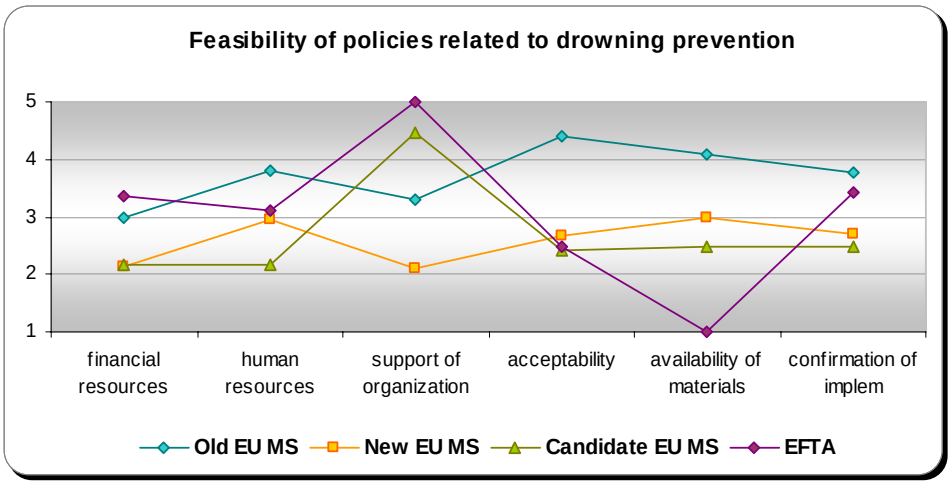



Figure 2.14 Mean scores per feasibility component and country category for drowning prevention policies

For example, information and education received a score below 3, but environmental modification as an injury prevention policy type proves very difficult to be implemented by the candidate MS.

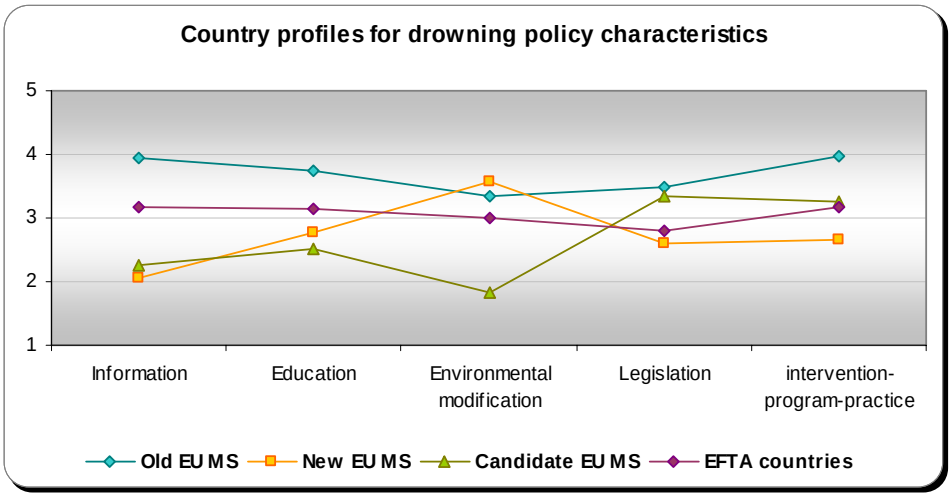



Figure 2.15 Scores per drowning policy characteristics for different EU countries

# SUMMARY FINDINGS

Results show that implementation is very much dependent on where the members of the country and target audience are coming from. The suggested policies differ substantially with regards to public acceptability and human resources required for their implementation and these differences depend on each policy type. Lack of financial resources appears to be the most frequently mentioned barrier for the implementation of a specific policy. Countries with relatively small population, together with new and non-EU member states received high total feasibility scores but often face more difficulties in implementing effective policies.

Despite the differences of the four selected injury fields, effective injury policies share a number of recurrent themes, which are recorded in the literature. As an example, a combination of approaches has proved to be more effective in preventing injuries compared to the use of single policy components. Moreover, within individual countries, factors known to increase injury risk change over time, as new ones emerge such as population ageing and migration, or new working patterns and living conditions.

With regards to alcohol policy implementation in Europe, prevention efforts have been increasing in the last two decades. During this time, four main contributing authorities were involved in the development of the European alcohol-related policy framework: science-generated policies, non-governmental organizations, the World Health Organization and the European Commission. The graph below (fig 2.16) presents a series of landmarks of this progress.

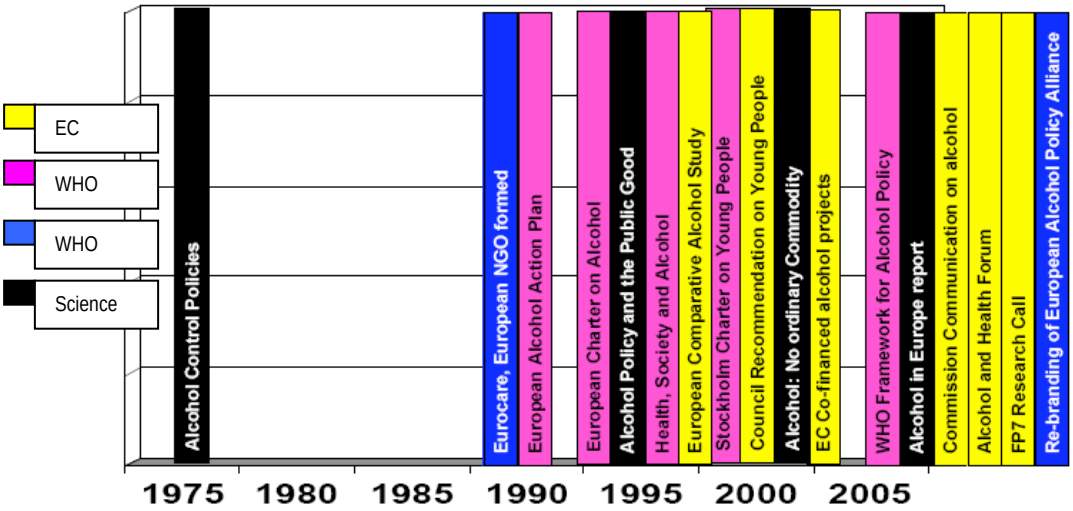



Figure 2.16 Landmarks in alcohol policy development in EU. Source: P. Anderson-Presentation 2008[35]:

From the present feasibility study it seems that there is room for further policy development regarding the prevention of unintentional injury due to alcohol. Two out of four alcohol related policies that were tested were estimated to be feasible by participating experts while the remaining two were labelled as almost feasible. Countries with higher GDP (per capita) (fig.2.18) and lower alcohol consumption (per capita), who have a strong policy framework (as the EFTA countries and a few old EU MSs) in place show higher implementation feasibility scores, suggesting easier adoption of effective prevention policies. On the other hand countries with higher alcohol consumption and lower GDP (per capita), as is the case of a few new EU MS, face more difficulties in injury prevention policy implementation

[35] www.ias.org.uk/buildingcapacity/apn/meetings/bled0907/apd-europe.pdf

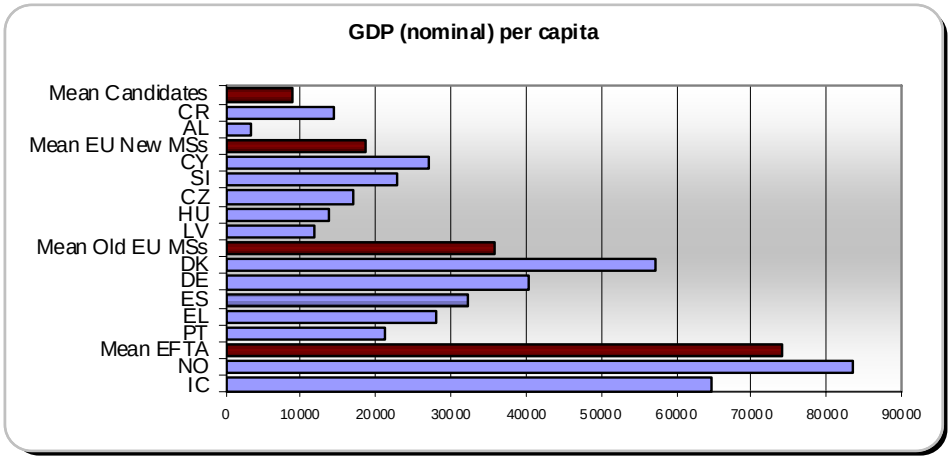



Figure 2.17 GPD estimations for included countries

It is interesting to note that the potential for policy adoption appears to be related to the consumption of alcohol in these groups of countries, as the Figure 2.18 shows below. Specifically, according to the WHO Global Status Report on Alcohol (2004), the two EFTA countries that participated in this APOLLO study have a lower per capita alcohol consumption mean compared to both old and new EU MS. The difference between old and new EU MSs is rather small but it seems that among the new MSs there is greater unrecorded alcohol consumption potential.

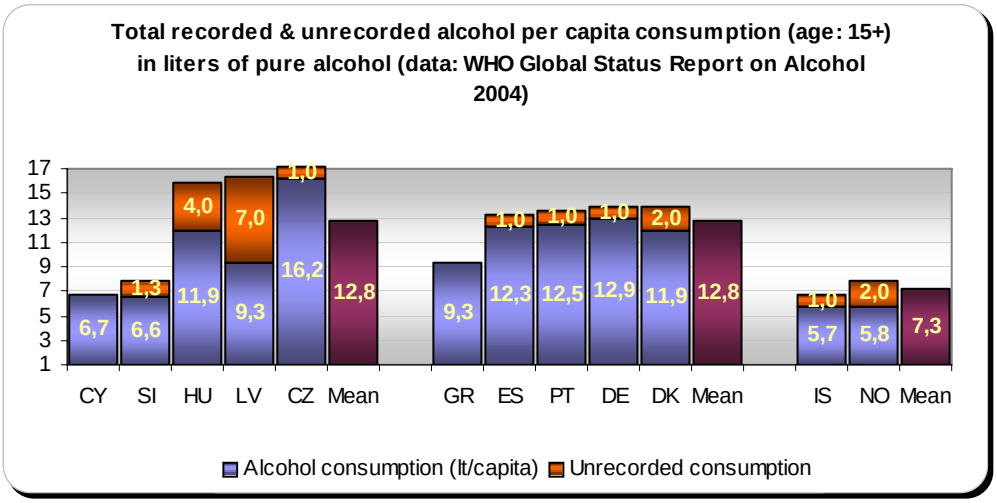



Figure 2.18 Alcohol consumption per country: Source WHO 2004

Road traffic injury prevention policies, in the context of the present feasibility study, were considered as the most feasible policies in comparison to the rest (i.e., alcohol, drowning and occupational related policies). Responses received from old EU MS and candidate countries followed a similar pattern, with the latter estimating in general lower to estimate lower the feasibility for the different components of the policy and the different types of feasibility

Experts from new EU MS attributed low feasibility scores to the majority of policy components such as awareness-raising, environmental modifications and legislative measures. Low feasibility scores are attributed to lack of human resources, limited support from organizations for the adaptation and/or the adoption of the proposed policies as well as to the insufficient financial resources.

Drowning in many EU countries is one of the leading causes of death for children under 14. The rate of drowning in different populations varies widely according to their access to water, climate and existing national swimming culture. It is a complex public health issue requiring a multifaceted approach using multiple prevention strategies, covering a variety of fields ranging from education of toddlers to environmental modifications (e.g., swimming pool fencing). MS that address the issue acting on multiple levels are those where drowning prevention has been a priority issue in the last decades as opposed to other countries where this has been prioritized fairly recently.

With regards to occupational injuries and more specifically to agriculture, low participation rates in the study suggests there is plenty of room for improvement in terms of collecting reliable data and understanding injury problems in rural areas.

**Possible reasons for reported differences in policy/strategy implementation in different countries**

- The background and experience of the respondent
- Having (or not) a knowledgeable leader/champion to orchestrate implementation
- Tradition and culture
- Where the country is regarding readiness to implement
- What organizations are on board with the implementation
- Involving (or not) the local community

## Word of caution

It is important to note that the scores of feasibility reported throughout this study are personal estimates of experts in various domains of injury prevention. In other words, they express subjective opinion and judgment. Because of the background and experience of the respondents it is hoped that these opinions may give a reasonably accurate image of the current situation in policy implementation feasibility in each country. The research team specifies this as in some cases, we can only base the country's information on only one or two persons' judgment and therefore results should be interpreted with caution. In addition, the conclusions based on the responses received are drawn by the authors of this report and do not necessarily represent the study participants' views.

## MOVING FROM INJURY PREVENTION POLICY TO PRACTICE:

The Report "Efficient strategies to reduce the Burden of Injuries in Europe and specific suggestions of policy measures to increase return on the investment" conducted in the context of APOLLO WP2 (D2.2) concluded with: "*it would be inappropriate to simply try to "transfer" any successful policy measure, in one country or region, to a completely diverse environment without the necessary customization that is needed in each case*". This conclusion is in accordance with the findings of the feasibility study on effective policy measures for injury prevention in four prioritized areas (road traffic-, drowning-, work- and alcohol-related) presented in the first part of this report.

Although a policy seems to be effective with regards to its outcome in a specific context (in our study in a specific country), EU experts' opinions showed that the potential of the adoption of the same effective policy is not equal among different countries. Differentiations with regards to the various aspects of feasibility (in terms of available human and financial resources, acceptability by the general public and by the organizations, availability of technology and material needed) were observed among different countries but also with regards to the responses for the different policy components in question. This is due to specific characteristics of the "*candidate*" countries to adopt an evidence-based effective policy over and beyond the injury priority targeted, such as the income level of the country and attitude of the population targeted towards injury prevention.

A customization study of five injury prevention practices related to the same priorities as the policies -namely practices related to alcohol use, road traffic, drowning and work environment and

was conducted. The aim of this study was to explore in a qualitative way how feasible is the implementation of specific evidence-based effective practices in different settings and the extent of customization and adaptation needed in order the practice to be adopted properly.

# 3. CUSTOMIZATION STUDY:

## BACKGROUND

### DEFINITION

Customization is defined as "the process of modifying specific products or services in order to meet the requirements of the interested parties".[36] In other words, customization involves *fit* and alterability and is based on understanding the commonality and variability (c/v) across different geographies and systems.[37] In the present study, customization of good practices would be the process of modifying-adapting accordingly specific injury prevention interventions (case studies) in order to meet the needs and requirements of different countries/regions of the EU.

### IMPORTANCE

A recent study aiming to assess the success factors and the barriers of effective program implementation had shown that program implementation of prevention practices was rather difficult unless the culture and attitude of the community was receptive to new programs and innovations.[38] For that reason, the implementers strongly suggested that in many cases, the methods and arguments of one potential intervention need to be customized accordingly in order to trigger the interest of the target groups in different settings.[19]

In addition, cultural and language barriers are suggested to additional impediments to effective communication during an

[36] http://dictionary.bnet.com/definition/customization.html
[37] http://www.research.ibm.com/journal/sj/381/leishman.html
[38] Success Factors and Barriers of Implemented good Interventions for the prevention of Injuries:http://www.euroipn.org/apollo/documents/APOLLO%20Deliverable%203.2_Success%20factors%20and%20barriers%20report.pdf

intervention's implementation, forcing implementers to design tailored intervention strategies.[19] Thus the implementation of selected interventions is more efficient if an assessment of the targeted needs of an individual country/ region is available beforehand.

In conclusion, the type of intervention chosen and described as "case study" should fit the results of each country's need assessment. The knowledge gained about the country from the need assessment via experts' response will also guide adaptation decisions in order for the implementation of the good practice to be feasible.

## METHODOLOGY

In brief, the methodology that was followed for the customization was a sequence of different approaches, namely:

1. Identification of effective prevention practices for the main injury priorities
2. Development of case studies of specific good practices
3. Development of a structured interview protocol to assess the feasibility for adoption/ replication of the proposed practices in the interviewed country/ region and identification of measures that should be followed in order the case studies to be customized:
    - definition of criteria/ indicators for the feasibility assessment
    - proposal of the customization of the case study
4. Participation of public health experts from different EU Member States

## Step 1: Identification of effective injury prevention practices

### Injury priorities

For the identification of the top injury prevention priorities in the EU, two main information sources were taken into account: the age adjusted World Health Organization (WHO) mortality data due to unintentional injuries (deaths per 100.000 people) elaborated via Injury Statistics Portal,[39] and the results of a Delphi survey conducted by Center for Research and Prevention of Injuries in the context of the "Secretariat" project.[40] In order to elaborate the results for the WHO mortality data and the Delphi survey and identify the main injury priorities of unintentional injuries, a matrix of specific criteria was set and a panel of APOLLO WP-3 experts attributed to each criterion a score (from 1- least important to 5- most important) and a weight (from 1- least important to 3- most important), that signified the perceived importance. The top priorities were identified based on a final score that resulted by the multiplication the "score" * "weight" for each injury priority.[41]

The results of this process showed that, for the children aged 0-14 year old, road traffic injuries and unintentional drowning were the top 2 unintentional injury priorities. For the adolescents and young adults (15-24 year old) as well as for the age group of 24-44 year old, the respective priorities were road traffic injuries, injuries related to alcohol use and occupational injuries.

[39] Injury statistics Portal
[40] Alexe D M, Skalkidis I, Petroulaki K, Petridou E. Delphi technique as a tool in assessing injury priorities and actions for injury prevention in the European Union African Safety Promotion: A Journal of Injury and Violence Prevention Vol. 4(1) 2006: 119-129
[41] http://www.euroipn.org/apollo/documents/Good%20Practices_SLR.pdf

**Good practices**

Based on the results of injury prioritization, the experts of WP3 conducted four systematic literature reviews and identified evidence-based practices for the four main injury priorities, namely, road traffic injuries (among vulnerable road users and young car occupants), drowning or nearly drowning, alcohol-related injuries & occupational injuries (see the list of identified practices in APPENDIX 4.1).

## Step 2: Development of the case studies

**Case studies**

Based on the results of the systematic literature reviews, the following 5 case studies were proposed aiming to target the needs of each age group:

i. bicycle helmet use (through safety promotion and legislation)
ii. promotion of child car restrains use for prevention of injuries due to motor vehicle crashes
iii. drowning prevention campaign
iv. drinking and driving prevention
v. prevention of work-related slips, trips, falls

Table 3.1 Selection of case studies according to the prioritized injuries per age group

| Injury Priority | Age group | Eligible case study |
|---|---|---|
| Road traffic (VRU)* | 0-65+ | Bicycle helmet use |
| Road traffic (car occupants) | 0-14 | Child restrains promotion |
| Drowning | 0-14 | Water safety education |
| Alcohol-related | 15-24 | Designated driver |
| Occupational | 25-44 | Fall Prevention at workplace |

* Vulnerable Road Users

The case studies were structured in such a way that the reader can have a synoptic view of the target groups, the methods used, the implementation process as well as the evaluation components. More information about the reasoning and the importance of each case study is detailed in the respective chapters below.

## Step 3: Development of Interview protocol

### Why Interview?

The conduction of standardized open-ended interviews is considered one of the most structured and efficient types of the qualitative interviewing techniques especially when the researchers want to compare the responses of different respondents. Moreover, this technique allows the participants to describe what is meaningful or important to him or her by using his or her own knowledge and expertise and at the same time reduces possibility of bias especially when several interviewers are involved in this process. Thus, given that the aim of the present customization study was to come up with suggestions regarding optimal ways to adapt specific injury prevention practices in different settings, this technique was judged as suitable.

### Interview protocol

In order to assess whether the interventions described in the case studies can be replicated in other countries/ regions, an interview protocol was developed (see APPENDIX 4.2). The interview consisted of 7 main questions related to the following topics:

- Objectives of the intervention
- Approach used (hypotheses, contributing factors, theory)

- Content (appropriateness, clarity)
- Level of acceptance or cultural appropriateness
- Available resources
- Channels used to transmit the information
- Intended actions

For example in order to assess whether the interventions' objective was in accordance with the country's needs the interviewee was asked:

a. "Do you think that the intervention's objectives fit the needs of your country/ region?" - If the answer is "partially" or "no", please explain: "How could the objectives of the described intervention be customized in order to fit the needs of your country/ region?"

Similarly, in order to examine the level of complexity, the educational level required by the participants, and the level of detail to ensure that the information provided is appropriate for the target group the interviewee was asked:

a. "To what extend do you think that the content/materials of the specific intervention would be appropriate for the target population of your country/ region in regards to comprehensibility, complexity etc." - If the answer is "not at all" or "partially", please explain: "What are your suggestions for potential ways of adaptation of the intervention for your country/region in order to simplify it?"
b. "How much effort do you believe that will be needed in order to adapt/ modify the intervention to the needs of your country/ region?" - If the answer is "moderate" or "a lot", please specify: "Who should be involved in order the necessary adaptations to take place?"

**Survey**

An effort was made to recruit an *ad hoc* group of experts from different EU Member States in order to assess the applicability of each case study for their own countries. To do so a group of experts in the field of injury prevention were invited by e-mail to participate to a brief interview. The e-mail was accompanied by a letter explaining the purpose of the study, namely to gather experts' views about the applicability and adaptability of the identified case study, along with the 1 case study that fitted each expert's area of expertise. In the following section the 5 developed case studies are presented, followed by the results of the customization study.

## RESPONDENTS

In total, out of the 50 e-mail requests to experts from more than 12 EU countries, 22 experts from 5 different EU countries agreed to participate in the customization study. The process that was followed was in brief the following: after having the experts read the description of the case study, a brief structured telephone interview was scheduled, during which the 7 questions relating to possible adaptations of the case study were asked. The duration of the whole process was approximately 30-40 minutes.

Table 3.2 Participants of the customization study

| Case study | Country | Expertise - organization | Years of experience in this area |
|---|---|---|---|
| **Helmet use** | | | |
| | NL | Implementation of injury prevention programs - children and youth (0-19) | 7 |
| | HU | Child Safety | 4 |
| | | Public health | 25 |
| | UK | SUSTRANS | -* |
| | | CYCLING ENGLAND | - |
| | | ROSPA | - |

| | | | |
|---|---|---|---|
| **Drowning prevention** | | | |
| | GR | Injury prevention | 6 |
| | | Injury prevention | 2 |
| | HU | Child safety | 4 |
| | NL | Implementation of injury prevention programs - children and youth (0-19) | 7 |
| | UK | Swimming Teachers' Association | 5 |
| **Designated Driver** | | | |
| | HU | Child Safety - Epidemiology | 4 |
| | | Public health | 25 |
| **Prevention of Occupational Falls** | | | |
| | HU | Work-related diseases | 25 |
| | | Epidemiology | 4 |
| | NL | Injury prevention | 8 |
| **Promotion of rear seat use** | | | |
| | GR | Child safety | 2 |
| | | Injury prevention | 4 |
| | ES | Road traffic injuries | 6 |
| | | Road crashes epidemiology | 11 |
| | | Road traffic injuries prevention | 18 |
| | | Injury prevention | 3 |

*not specified

### Structure of the report

In the proceeding sections, the reader will find the descriptions of the five case studies followed by the results of the interview for the customization study. Moreover, each case study is accompanied by an introductory section, which explains the importance and the burden of each injury category that the case study is targeting.

# 1 PROMOTION OF HELMET USE

## IMPORTANCE

Research has pointed out that cycling, as a normal daily activity, can yield improvements in physical performance similar to those of specific training programmes.[42] In addition, the benefits of cycling go beyond those of other physical activity, as cycling encompasses decreasing air and noise pollution and improving the quality of urban life in general.[43]

The implementation of transport and land-use policies, which create the appropriate conditions for safe cycling, is an optimal way to promote cycling as well as to protect people from injuries and physical harm[43]; yet, most of the times these policies are complex and non cost-effective as they require the involvement of multiple disciplines. Moreover, even in the cases of land-use policies, human adaptation and behavioural modification is required as the safety depends also on the individual and active adoption of safe behaviours.[44] In other words, even if environmental adaptations promote safety, other simpler measures such as promotion of helmet use are equally important.

## THE PROBLEM

The National Institute of Handicapped Research defines severe head injury as, a "serious traumatic injury to the brain requiring extensive services over an extended period of time."[45] Approximately 50 percent of the reported Traumatic Brain Injuries (TBIs) in the western countries is the result of motor vehicle, bicycle, or pedestrian-vehicle incidents. [46]

---

[42] Hendriksen, 1996
[43] WHO 2002.
[44] Gielen & Sleet 2003
[45] http://www.ibike.org/education/head-injury.htm
[46] http://enhs.umn.edu/current/6120/bicycle/index.html

With regards to bicycle-related injuries, although the overall risk of death is not so high in comparison to other types of injuries (figure 3.1) about 75% of all bicyclist deaths each year result from head injuries. In cases of non-fatal TBR injuries, many cyclists remain permanently impaired due to head injuries into curbs, poles or pavements. [47]

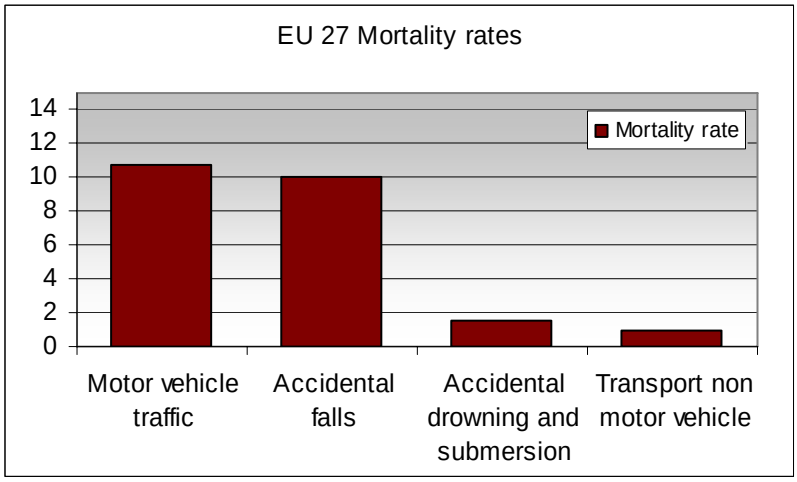



Figure 3.1 Mortality rates of several types of injuries in the EU 27: Source WHO mortality data: Injury Statistics Portal[48]

Interestingly, a study comparing the ratio of head injuries between categories of vehicle users in Sweden showed that hospital discharges were lower when helmet use was compulsory.[49] Bicyclists in jurisdictions with no helmet legislation had the highest rate of head injuries of all road users, whereas moped riders and motorcyclists (to whom mandatory restrictions were applied) had the lowest. [49,50]

For that reason a case study designed to promote mandatory use of helmets among cyclists at a national level is presented in the following section.

[47] http://enhs.umn.edu/current/6120/bicycle/index.html
[48] Injury statistics portal: http://www.euroipn.org/stats_portal/modules.php?name=mortalityDev
[49] Simpson et al., 1988
[50] Sweden's National Board of Health and Social Welfare, 1991

# CASE STUDY:
## A NATIONAL BICYCLE HELMET INITIATIVE

**Population at risk:** cyclists

**Target population:** cyclists in Sweden

**Goals/objectives:** to increase the level of helmet use in Sweden in order to achieve a substantial reduction in the number of head injuries and their medical consequences by the year 2000.

**Program design:** The Karolinska Institute and the National Institute of Public Health adopted the World Health Organization global programme to increase helmet-wearing among two-wheel riders in 1990. An intersectoral approach was used, establishing a Helmet Initiative Group including all agencies involved in safety promotion (e.g.,, Swedish National Institute of Public Health, Sweden's National Road Administration, National Boards for Consumer Policies and Occupational Safety and Health, the Swedish Road and Traffic Institute, The Child Environmental Council, the National Swedish Police Board, the Swedish National Society of Road Safety, the Swedish Cycling Society and Swedish Cycling Promotion, several research institutes and Universities and regional and local government authorities). This group met at least twice a year and established a number of working and task-force groups. Its principal tasks were to:

- review available literature on the size of the problem and the effectiveness of helmet-wearing initiatives;
- evaluate Swedish initiatives at a local and national level; and
- formulate objectives for different target groups.

These targets that were set by the Helmet Initiative Group in accordance to the National Traffic Safety Programme, were:

- by 2000, helmet use should be at least 85% among children aged 12 years and under
- by 2000, helmet use should be at least 75% among children and teenagers aged 13-18 years
- by 2000, helmet use should be at least 75% among adults aged 19-64 years
- by 2000, helmet use should be at least 85% among adults aged 65 years and over
- by 2000, helmet use should be at least 80% overall

The Helmet Initiative Group also set targets related to the development of positive attitudes towards helmet use and to the study of factors and processes determining helmet wearing behaviour. More specifically, the targets for developing positive attitudes include the improvement of knowledge concerning the severity of head injury consequences and the encouragement of people that these kinds of injuries are preventable.

A multi-faceted strategy to achieve the targets was employed including:

- **Surveillance of injuries** – use of national mortality data, nationwide hospital-discharge data and local in-patient and emergency outpatient surveillance systems to study trends in bicycle-related injuries before and after the beginning of the initiative.
- **Provision of information and advice** - 1,000,000 brochures with evidence-based facts, posters and videos, mainly designed for families, pre-school and school children, adults and the elderly were distributed, organising conferences and seminars. The design of the materials was initiated by researchers from the Karolinska

Institute alongside experts from the communication and media sectors.

- **Training** – conferences and seminars were organized, Helmet Initiative Group members lectured to students on undergraduate (e.g., at departments of public health sciences, social medicine, economics, etc.) and postgraduate (e.g., Master of Public Health and PhD courses in public health sciences) university courses in Sweden. The task force on bicycle safety for the elderly organized training events for pensioners' organizations throughout Sweden.
- **Monitoring** - helmet use was monitored through the National Road Administration survey of ~4000 households and the Swedish Road and Traffic Research Institute's observation studies of cyclists in 21 municipalities.
- **Environment and product improvements** - helmet campaigns were used to complement environmental change by extending the network of safe-cycle lanes and by promoting changes in transport structure. Moreover, because a respectable amount of accidents were caused by technical failures of the bicycles this policy included also the development of safer bicycles by monitoring the technical quality of bicycles.
- **Legislation** – advocacy for cycle helmet legislation by establishment of a special task force on legislation, which approached the Ministry of Transport, argued for legislation in the press, and organized seminars and conferences. Legislation has now been passed that from 1st January 2005, all children under 15 must wear helmets while cycling in traffic in Sweden.

**Duration of the programme:** 1991-2001

**Resources:** 10,000-50,000 Euros; 0.7 FTE staff; 1,000,000 brochures

**Process evaluation:** The precise number of people that were reached throughout the campaign and were provided with material concerning helmet promotion was not estimated. Nevertheless, the interested people came from different sectors including, big organizations, individuals that were reached in conferences, training nurses, university students and master course students.

**Impact evaluation:** Helmet use increased in all groups over the 10 years of the National Bicycle Helmet Initiative, with wearing rates that were much higher amongst children than adults (see Table 1). Nevertheless, the prevalence of helmet use between the years 1998 and 1999 did not increase; on the contrary, it presented a small decline. A possible reason to explain such a decline could be that after seeing the large response of the people in helmet use, the intensity of the promotion of this measure by the Road Traffic Administration declined, as it was no longer their first priority.

Table 1 Observation studies of bicycle helmet usage in Sweden (1988, 1998 and 1999)

| | Usage (%) | | |
|---|---|---|---|
| | 1988 | 1998 | 1999 |
| Children aged ≤10 years | 20.2 | 52.8 | 49.6 |
| Children at compulsory school | 5.0 | 35.6 | 32.9 |
| Adults (at place of work) | 1.7 | 13.8 | 12.5 |
| Cycle lanes | 2.9 | 13.5 | 11.2 |
| Adults aged 65 years or over | – | 14.2 | 11.6 |

Source: Svanstrom et al, 2002

**Outcome evaluation:** The incidence of head injuries requiring admission to hospital among children aged 14 years and under significantly decreased (by 3.4% per year) over the 10 year period of the National Bicycle Helmet Institutive, but increased (by 4.6% per year) significantly for adults aged 15-64 years, amongst whom helmet wearing rates were much lower. Figure 1 illustrates the increase of helmet use between the years 1991 and 2001 (implementation of the national bicycle safety program) and the significant increase in the years 2005 and 2006 because of the existence of legislation that the use of helmets is compulsory for children under 15 years old.

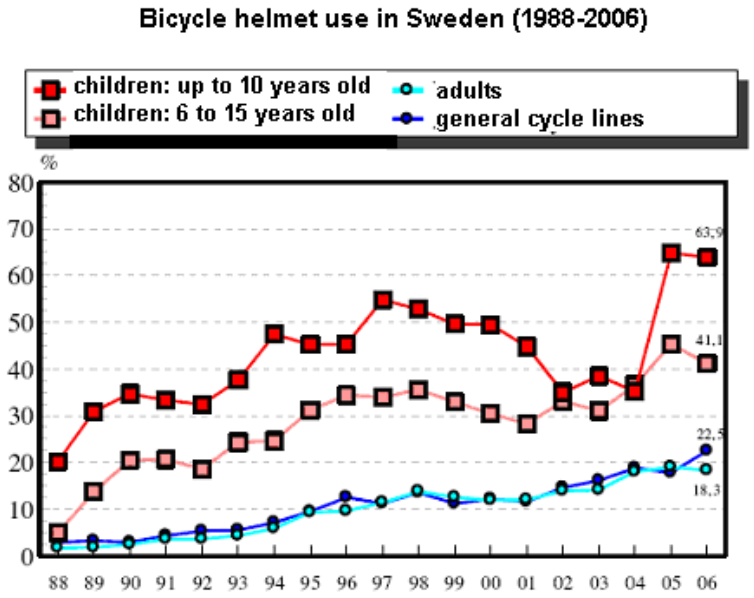



**figure 1: Diagram of bicycle helmet use in Sweden between 1988-2006. Significant change 2005 and 2006. (Preliminary report VTI, Swedish National Road and Transport Research Institute, Linköping, 2007)**

**Leading agency:** The leading agency that took the initiative to set up the campaign in Sweden in 1990 was the Department of Public Health Sciences, Division of Social Medicine of the Karolinska Institute in collaboration with the Swedish National Injury Prevention Program at the National Institute of Public

Health. This however was part of the international initiative taken by WHO.

**Other supportive agencies:** The National Road Administration sponsored the Swedish secretariat with a part budget.

**Factors that helped in implementing the National Bicycle Helmet Initiative**

A large range of factors were considered to be important in implementation. These included:

(a) financial support from the National Road Administration and the Public Health Institute;

(b) the use of multiple contacts with community stakeholders, national agencies, County and Municipal Governments, insurance companies and non-governmental organisations who disseminated information, ran national educational campaigns and sponsored national conferences to help increase public support for helmet wearing;

(c) inclusion of researchers and local journalists on the Helmet Initiative Group;

(d) the availability of information on injuries, which could be quickly disseminated from the local injury surveillance system or national data, to interested parties and use of associated unforeseen events (e.g., child deaths due to inadequate helmet locking mechanisms) to further promote helmet use with safer locking mechanisms.

(e) the development of effective public service messages which were popular with the media;

(f) the positive response of the media (e.g., radio, TV and press) to promote these messages;

The key factor that made the public-service messages popular was that the majority of the messages were stories from real life events which were voluntarily narrated by victims of bicycle-related injuries. An example of these messages was: "If I had

had a helmet when I crashed, I could have avoided being handicapped for the rest of my life".

**Factors that hindered in implementing the National Bicycle Helmet Initiative**

Several factors were found which hindered implementation of the National Bicycle Helmet Initiative. The lack of political support in a national level and the manufacturers' reluctance to develop new products such as safer locking mechanisms due to fear of litigation if it was found that their products had been responsible for injury. Potential obstacles to implementing a National Bicycle Helmet Initiative in other countries identified by the authors include the difficulty of promoting cycle helmets consistently across a range of public health agencies and organisations when there is no legislation to support this policy. Finally, there is a difficulty to promote helmets when individuals may perceive this as a threat to personal freedom or a decision which should be left to personal choice. Nevertheless, this threat can be overcome by using a sustained approach that will gradually change the behaviour of the majority of people thus the new habit will be perceived as a part of a natural behaviour.

See also:

- http://heapro.oxfordjournals.org/cgi/reprint/17/2/161

**Contact:**


Professor Leif Svanstrom
Karolinska Institutet
Department of Public Health Sciences
Division of Social Medicine, Norrbacka
SE-171 76 Stockholm
Sweden
Phone: +46 8 517 779 42
Fax: +46 8 33 46 93
E-mail: leif.svanstrom@phs.ki.se; Leif.Svanstrom@ki.se

Robert Ekman
PhD, Associate Professor
Dep. of Public Health Sciences
Division of Social Medicine &
Swedish Rescue Services Agency, NCO
Box 96014
SE-541 06 Skövde, Sweden
Phone: +46 54 135000/ +46 709 421585
Fax: +46 500 464030
Email: robert.ekman@ki.se
Email: robert.ekman@phs.ki.se

## HUNGARY (HU)

### A. Objectives:

**"Do the intervention's objectives meet the needs of Hungary?"**

As the rate of bicycle helmet use is low for both children and adults in Hungary and given that there is still no legislation for compulsory helmet use, the experts' opinion was that this intervention was very relevant to the priority issues related to injury prevention in Hungary.

### B. Core Components

**"Is it possible that the core components of the intervention are implemented in Hungary?"**

It was a common view that if the different agencies, institutes and organizations involved for the implementation of the helmet campaign were adapted to the specific needs of this campaign, then these core components would be feasible to be implemented in Hungary.

### C. Appropriateness

**"To what extend do the contents/materials of the intervention are appropriate for the target population in regards to comprehensibility, complexity etc?"**

The experts' opinion on this issue was that this particular intervention would be partially appropriate for Hungary. They suggested that situational analyses should be performed in Hungary before any implementation of materials. This was suggested because some changes would be needed due to the differences in geographic and weather conditions.

## D. Adaptation

**"How much effort would be needed in order to adapt / modify the intervention to the needs of Hungary?"**

According to the responders, the intervention should be moderately adopted to the needs of the country in terms of acceptability and familiarity. Thus, comparative information about the burden of this type of injury in Hungary and other EU countries should be provided, in order to persuade about the necessity and the effectiveness of helmet use. In order the necessary adaptations to take place, the following organizations were suggested: National Centre for Healthcare Audit and Inspection, National Institute of Health Promotion, Institute for Transport Sciences.

## E. Acceptability

**"To what extent would this intervention be accepted by the population in UK in regards to the cultural context?"**

The cultural issues that might prevent the implementation of the specific intervention are mainly related to the unfamiliarity of this particular measure, especially among the elderly. In rural areas bicycle is a source of local transportation for the elder population. However, there is no tradition for wearing bicycle helmet in this setting, and traditional behaviour can be hardly changed.

## F. Resources

**"Are there any available human and fiscal resources or any facilities that would make the implementation of the intervention feasible in the UK?"**

Human resources are available, but fiscal recourses would be definitely needed. Health Monitoring Programs of the European Union could serve as a tool for it. Regarding the delivery channels for the dissemination activities and the implementation

of the intervention the respondents agreed that the same channels, namely, multiple contacts from governmental and non-governmental as well as the media could be used also in Hungary.

## THE NETHERLANDS (NL)

### A. Objectives:

**"Do the intervention's objectives meet the needs of each country?"**

In the Netherlands every year 66.000 people are treated at the emergency department of hospitals after an accident on a bicycle. 40% of these injuries are located in the upper leg, 25% are head injuries. In the Netherlands however people cycle a lot in every day live (to work, to school, to do shopping, etc.) and they don't want to wear a helmet. Only little children when they sit on the back of their parent's bicycle or when they learn to cycle themselves, or people engaged in cycling as a sports activity wear helmets. In general, there is no positive attitude towards wearing helmets when cycling. Furthermore, an extended network of safe-cycle lanes exists throughout the country. Thus, although relevant, the present intervention does not meet the initial priorities of the country.

### B. Core Components

**"Is it possible that the core components of the intervention are implemented in NL?"**

According to the expert, if the time and the resources were ensured, then it would be possible to implement a similar campaign in the Netherlands, especially regarding the surveillance of injuries, provision of information, training, etc.

## C. Appropriateness

**"To what extend do the contents/ materials of the intervention are appropriate for the target population in regards to comprehensibility, complexity etc?"**

It was suggested that in the Netherlands people are not yet successful in using the inter-sectoral approach. For instance, the Dutch cycling society does not want to promote the use of helmets. Almost all Dutch people cycle and they do this with no helmet on. If it was to change the behaviour of all these people a cultural change would be needed. A question that was raised was: "How to communicate something that people don't want?" Thus, in the context of the Dutch culture, it would be more feasible to talk only about helmet-use for young children.

## D. Adaptation

**"How much effort would be needed in order to adapt/ modify the intervention to the needs of NL?"**

It was suggested that this intervention, would take a long time and a lot of effort in order to pass the compulsory use of helmets among the general population.

## E. Acceptability

**"To what extent would this intervention be accepted by the population in NL in regards to the cultural context?"**

As regards the young children (0–6) and the people that are involved in sports, helmet use is getting more and more accepted. All other cyclists feel they do not need and want to wear a helmet. In regards to fiscal recourses, it was not clear if the government would invest money for an issue that is not yet supported by the majority of people. Nevertheless, it was suggested that if such an initiative would take place, the same delivery channels that were used in Sweden could be all used in the Netherlands.

## F. Intended actions:

**"Do you think that the effects/key impacts of the intervention described in the case study match with the prioritized prevention goals of NL?"**

Road safety and prevention of injuries related to traffic are a major injury priority. Nevertheless, the expert could not tell whether the use of helmets is a measure that would be considered as a priority and thus be promoted in the Netherlands.

## UNITED KINGDOM (UK)

## A. Objectives:

**"Do the intervention's objectives meet the needs of UK?"**

There was a general agreement that the Swedish National Bicycle Safety Programme model is a robust approach that combines the key elements of multi-agency working, good presentation and scientifically based objectives. Key elements directly transferable to the UK are the initial review of available literature on the size of the problem, review of the effectiveness of past UK helmet-wearing initiatives and formulating objectives for different target groups. This concept of targeting different groups is well received. There was less support for evaluating Swedish initiatives at a local and national level as it is believed that Sweden starts from a culture of higher safety awareness than the UK.

## B. Core Components/methodology

**"Is it possible that the core components of the intervention are implemented in UK?"**

**Surveillance of injuries:** UK has fallen behind in this area. Safety professionals generally keen to extend use of national mortality data, nationwide hospital-discharge data and local in-patient and emergency out-patient surveillance systems to study trends in bicycle-related injuries before and after the start of the initiative. However, dearth of data sources & lack of government support are seen as difficulties.

**Provision of information and advice**: Distribution of brochures with evidence-based facts, posters and videos, designed for families, pre-school and school children, adults and the elderly - organising conferences and seminars – seen as a good idea, essential and feasible. Design of the materials by researchers from the Karolinska Institute alongside experts from the communication and media sectors would be replicated in UK by safety professionals plus cycling specialists e.g Sustrans, Cycling England.

**Training:** Essential to organise conferences and seminars, good support for lectures to students on undergraduate and postgraduate university courses in the UK but there are doubts if the response would be as good as in Sweden. Possibility of UK groups interested in welfare of elderly people taking lead on bicycle safety for elderly but further debate is needed whether elderly might cycle more if it was safer – this age group cycles less than other age groups.

**Monitoring:** Helmet use could be monitored through commercial surveys.

**Environment and product improvements**: Helmet campaigns would need to be devised to complement environmental change. UK is already extending the network of cycle lanes and by promoting changes in transport structure. Technical failures of the bicycles not identified as a big problem in the UK. Need to study whether monitoring the technical quality of bicycles is needed – maybe Swedish data could be used.

**Legislation:** Advocacy for cycle helmet legislation by establishment of a special task force on legislation is a good idea & might make progress.

## C. Appropriateness

**"To what extend do the contents / materials of the intervention are appropriate for the target population in regards to comprehensibility, complexity etc?"**

Content in general is seen as very good; however there might be also a menu of items from which a selection could be made. There is a perception that roads and cycling behaviour differ greatly across countries and cultures and messages for the UK would need more tailoring. Selection from the menu of possibilities used in Sweden would give a different mix and a different end product in the UK but the elements would be the same.

## D. Adaptation

**"How much effort would be needed in order to adapt / modify the intervention to the needs of UK?"**

The majority of respondents suggested that a lot of adaptation would be needed. There is still a debate in parts of the UK about the value of cycle helmets. This would need to be addressed with new material. It is possible that more preliminary work would be needed to persuade doubters and "get them on board". For example, Sustrans is our most powerful and important voluntary body in cycling, but they have a policy NOT to promote cycle helmets. It should be noted that cycling is now caught up in the Green Agenda and is seen as a route to saving the planet, reducing CO2 emissions etc. This aspect would have to be addressed & probably included in a new initiative.

**"Who should be involved in order the necessary adaptations to take place?"**

In the UK the main agencies responsible can be classified as:

- Sports
- Education
- Healthcare
- Young People
- Community

And all the above can be further subdivided into: central government, local government, national charities and voluntary bodies, local charities & voluntary bodies. The Swedish model of getting the agencies to work together is sound but the UK would be less receptive. There are already problems in the UK getting all the agencies to co-operate & a safety initiative would run against the same problems as other bodies. For the London Olympics in 2012 the UK government is trying to get better co-ordination in all sports areas but is already running into difficulties of co-ordination which illustrates how difficult it is. However, the government is bound to achieve a measure of success which could help any APOLLO initiative by providing a framework of co-operation and co-ordination.

Possibly the most important bodies to get on board in the UK would be the retailers, suppliers of cycles, voluntary bodies promoting cycling such as Sustrans. Some of these bodies are not enthusiastic about promoting cycle helmets: there is sometimes a view that these deter people from cycling & sometimes cycling suffers from a peculiarly British backlash against health & safety standards and legislation.

## E. Acceptability

**"To what extent would this intervention be accepted by the population in UK in regards to the cultural context?"**

The majority of the respondents thought that this intervention would be partially accepted. There is a general view that UK residents listen to safety messages but don't always take much action. They could be somewhat indifferent to this message which they have heard many times before, given that helmet usage is not perceived as big interest issue and there could be a passive non-reactive response. It is hard to get people in the UK interested in safety messages, the UK is inherently less health and safety conscious than Sweden. UK people can be anti-safety because there is a view that "health and safety" impinges on personal freedom. People don't like to be told to do things for their own good, as they see this as an intrusion on personal freedom. In the UK the public is more responsive to messages of this kind when is informed by voluntary bodies and charities which are more trusted than government. However, local government bodies are much more trusted than central government.

Culturally, in general UK and Sweden are quite close, British people admire the Swedes and associate them with safety through their cars (Volvo & Saab). There is an underlying sense of common cultural unity that could be helpful.

**"How could the intervention be customized in order to fit the cultural elements of UK?**

Revisit UK injury statistics and emphasise the long term health benefits of bicycle use and the fact that bicycling will likely have a positive impact on overall health. Moreover, counter negative opinions such as the misconception that bicycling is more

dangerous than travelling by passenger car, explain technical details of helmet protection – why the skull is so vulnerable etc.

## F. Resources

**"Are there any available human and fiscal resources or any facilities that would make the implementation of the intervention feasible in the UK?"**

There are lots of resources in the UK with some strong voluntary bodies such as Sustrans, but they are all not presently well co-ordinated for a new APOLLO type initiative. The voluntary/charity sector has areas of strength but government is more patchy. At present huge government interest is geared to the London Olympics in 2012 and additional sports funding is going into this; there is a climate of belief that sporting activities can contribute more to improving national health & safety. Government wants to get spin-off benefits from more sport, and wants to improve all areas of health education & get results. But there are many strong voluntary bodies with an interest in safer cycling, The door is ajar but not wide open for initiatives for safer cycling.

## G. Delivery channels

**"Do you believe that it could be feasible to implement the intervention in your country / region through the same proposed delivery channels included in the case study? (e.g., media, trained staff , community, etc?"**

In the UK the sports and health agencies do not always get on as well as we would like for this proposal. However, the general view of those interviewed was that we need to and can get agencies working together. The Swedish model is seen as an excellent target to aim at & we should not be deterred by the difficulties.

## H. Intended actions:

**"Do you think that the effects/key impacts of the intervention described in the case study match with the prioritized prevention goals of UK?"**

Although this is definitely not an area of high government interest, with a lot of effort it could be. Most agencies are keen but some are lukewarm, and this leads to raise the question: Who would have the new authority to get things moving? The UK government is trying to get sport back into education, this may be an opportunity. There is also a national mood in the UK to integrate sport and health, through public health initiatives. The prospect of the 2012 London Olympics is creating momentum for this to happen. There are questions about ownership and empowerment of any initiative: government, either central or local, has to be persuaded to take the lead, driving and motivating the voluntary sector. The voluntary sector will be listened to, but the Swedish model also shows that the voluntary sector has to have government support behind it.

**What key impact would be more important for your country and how could this be achieved?**

The key impact would be to persuade people about the benefits of helmet use. In addition, the hazards of helmet non- or misuse should be also addressed – "*safe behaviour is necessary to get the benefits*". It is a total holistic package. We may have to be radical and promote cycling, saying "you will still be healthier cycling without a helmet than not cycling, but healthier still if you cycle and wear a helmet". Then we could be seen as concerned for health and not obsessed with safety. Another radical approach would be to switch from promoting helmet wearing to "head protection" to counter eye injuries as well as skull injuries.

**GENERAL CONCLUSIONS**

After quantifying the answers of the experts in all three countries, it was indicated that the implementation of this intervention would be easier in Hungary and UK in comparison to the Netherlands. Thus, according to the experts' views, the present intervention would need more adaptations in terms of differentiating the aims and the target group of this specific practice in the Netherlands, rather than in the UK or Hungary. Specifically, the proposed suggestions for customization in each country were:

**Hungary** → Before the implementation of materials situational analyses should be performed. Focus should be turned on how to persuade older people to wear helmets

**Netherlands** → The focus should be first turned on the compulsory use of helmet for the age group of children (0-6 years), as it would be really difficult to try a persuade the general population

**United Kingdom** → Preliminary work would be needed in order to persuade those that still doubt about the role of bicycle helmets

# 2 DROWNING PREVENTION

## IMPORTANCE

Drowning is the second leading cause of unintentional injury death worldwide.[51] Although drowning affects all age groups, certain groups are particularly vulnerable, like, children and older people. More specifically, over half of the global mortality occurs among children less than fifteen years old and 97% of all deaths from drowning occur in low- and middle income countries.[51]

Drowning can occur in a variety of settings (e.g., sea, rivers, swimming pools, bathtubs) and in the course of many different activities (e.g., swimming, sailing, fishing, surfing etc). One could speculate that drowning incidents occur mainly in salt water, thus are more prevalent in places with easy access to seawater.[52] Nevertheless, in many EU countries (e.g., France, Denmark), the primary, fundamental risk factor of childhood drowning is access to swimming pools (both public and private), while in others (e.g., United Kingdom) drowning mortality is highest in fresh water (rivers, canals and lakes)[53].

Preventive measures aiming to reduce childhood drownings and near-drownings exist. These measures constitute notably passive prevention efforts as well as educational campaigns to reduce drownings, especially among children. However, due to the existing variability regarding the underlying causes of drownings among the EU member states, tailored prevention efforts that are designed to meet specific environmental or cultural components are indispensible.

[51] WHO, fact sheet
[52] Alexe et al., 2002
[53] Maurin et al., 2006

**THE PROBLEM**

During 2000, approximately 410.000 lives were lost worldwide due to drowning.[54] Within the European Union, more than seven hundred children younger than fourteen years old lost their lives during 2002 and approximately half of them were less than four years old.[48]

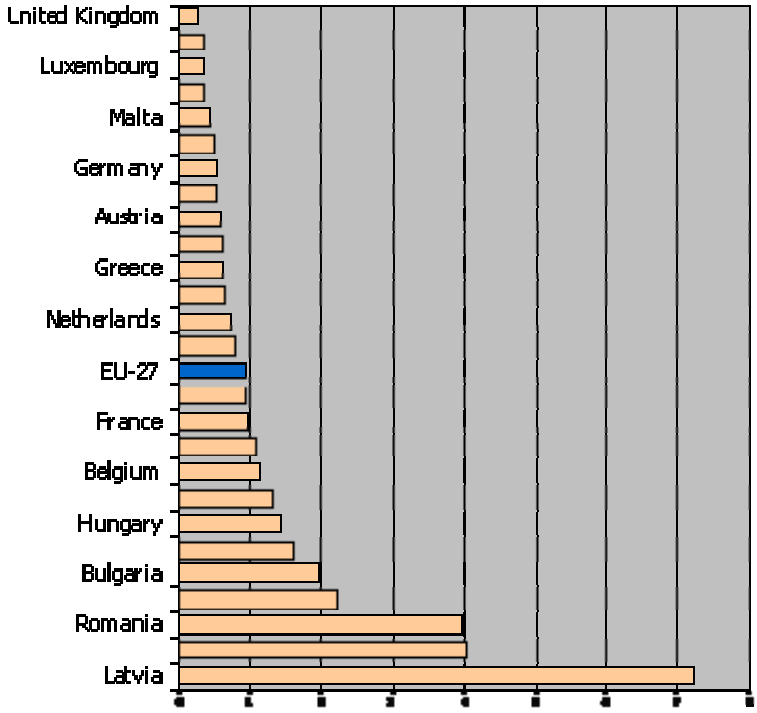



Figure 3.2: Drowning mortality rates per 100,000 children aged 0-14 by EU member state[55]

Given however, the large variability of the mortality rates of drowning in the EU countries from 0.2 in UK to 7.2 to Latvia (fig 3.2), it is implied that there is a high potential for drowning prevention, especially is specific countries.

The following case study describes an intervention that was successfully implemented in Illawarra, Australia, after taking into consideration the national statistics on the mortality rates due to drownings of preschoolers. This campaign-intervention, aimed to address all possible causes of drowning, with an attempt to sensitize and educate parents about this very important issue.

[54] WHO 2003
[55] Germeni et al (2008)

# CASE STUDY:
# "BE WATER WISE - SUPERVISE" CAMPAIGN

**Population at risk:** Children

**Target population:** 0-5 year old children living in Illawarra - Australia

**Background**

In the 1980s Australia had possibly the worst record in the world for accidental child drowning. It was largely seen that these deaths were associated with the excellent climate, the outdoor lifestyle, the importance of water activity in the national culture and of course the concomitant large number of private swimming pools. However, in the last two decades, the nation has rigorously addressed the problem of accidental drowning with well organised, planned and carefully implemented programmes covering the gamut from improved legislation to a mass of local initiatives. The Illawarra "Be Water Wise - Supervise" can thus be seen as an element in a successful series of national and local initiatives.

The Illawarra "Be Water Wise - Supervise" campaign was carried out under the WHO's Healthy cities programme, which aims at putting health high on the political and social agenda of cities with a concomitant movement for public health at the local level. The four key elements for action of the healthy cities programme are:

1. Explicit political commitment at the highest level to the principles and strategies of the Healthy Cities project
2. Establishment of new organizational structures to manage change

3. Commitment to developing a shared vision for the city, with
   a health development plan and work on specific themes
4. Investment in formal and informal networking and cooperation

A healthy city is not one, which has achieved a particular health status, but it is one that is continually creating and improving the physical and social environments and expanding the community resources that enable people to mutually support each other in performing all the functions of life and in developing to their maximum potential. WHO/Europe recommends a basic model for a healthy city that is described under their various publications of the Healthy Cities approach.

**The Illawarra Health Cities Campaign:** The "Illawarra Child Drowning Prevention Campaign" of October 1999 - February 2000, also known as "Be Water-Wise – Supervise" campaign, was one of many community projects carried out under the auspices of the Illawarra Healthy Cities Campaign.

**Goals/Objectives**: The main goal of the campaign was to reduce drownings among 0 to 5 year old children in Illawarra. The target issues identified by working party members as relevant to this campaign focused on public information and education and also included: poor consumer awareness of legislative requirements, allocation of Council resources and priority given to ensuring community compliance with legislation (including information provided).

**Design/Setting**: A Task Force was set up with a remit to develop and implement an Illawarra -wide child drowning prevention campaign focusing on the 0-5 year old age group during the higher risk summer months. Before commencing the campaign, statistics on drowning deaths and the latest literature available on child drowning issues and countermeasures were

reviewed by working parties of the Task Force. All the information was given detailed scrutiny and consideration and became the basis for planning the priorities and activities of the Illawarra campaign.

Targets were addressed through quality management structures within a formal governance framework. This aspect was crucial to the success of the initiative. Overarching responsibility for governance was provided by a Council of Reference, below this, management responsibility was assigned to Management Committees which ran a variety of Task Forces. Each Task Force was responsible for setting up and running a specific project. Many of the myriad of projects were themselves quite small – i.e., Decontamination of a swimming pool, improved lighting, a better bus shelter etc. The Healthy Cities Illawarra Campaign went beyond drowning issues and took a broad holistic overview of safety matters. More specifically it involved several target issues that addressed the following:

1. Rise community awareness regarding preschooler drowning
   via a number of presentations, press releases etc
2. Development and enforcement of a pool fencing legislation
   via several different strategies (i.e., development and distribution of a checklist to a number of pool owners, inspection programs ect).
3. Rise awareness regarding the risks of inflatable pools
4. Rise awareness regarding the risks of bathtub drowning
5. Promote learn to swim programs and Cardio-Pulmonary Resuscitation courses
6. Translation and promotion of all above programs to different ethnic backgrounds
7. Development of swim programs for populations with special needs

**Resources**: not itemised in the campaign report

**Involved units**: The Illawarra Health Cities Campaign followed the WHO guidelines extant at the time. It was initiatied by the Illawarra Child Injuries Prevention Taskforce (CIP) getting together Representatives from a number of key local organisations to participate in a working party. The bodies involved were the NSW Health Department, the four local government councils covering Illawarra, State and Federal Members of Parliament, the Commonwealth Department of Health and Family Services, the Road and Traffic Authority, the WHO, local businesses including service providers and sponsors, and the Illawarra Area Health Service (IAHS). In the case of the IAHS there was involvement from three critical departments: the Health Promotion Unit, the Public Health Unit, and Community Health Services. A particularly important component was the full support of the Board of the IAHS together with further enthusiasm from management and staff. The Illawarra project was initiated by the Australian Community Health Association, which was itself funded and sponsored by the Commonwealth Department of Community Services and Health. They decided on the idea of the Illawarra initiative in response to the Healthy City movement, which had itself emerged from the 1986 Ottawa Charter for Health Promotion.

**Outcome evaluation**: In terms of the overall impact of the campaign, it appears that there were no drownings in the Illawarra region in the 0-5 year age group during the period of the campaign. However, there are numerous possible factors, besides the present campaign, which may have influenced this outcome. During the campaign period, several different water safety advertisements were appearing on commercial television. Advertising campaigns, no doubt, play a powerful role in raising community awareness of the issues, however, for maximum impact, they should be co-ordinated with local drowning

prevention programs and be supported by community members. The success of the Illawarra "Be Water Wise - Supervise" project, was that local activities coincided with these statewide advertising campaigns.

**KEY COMPONENTS:**

1. Formation of steering group & taskforce, installation of sound management structure including command & communication protocols from outset.
2. Working party met regularly before, during & after the campaign, reporting back to the taskforce regularly and at the campaign's conclusion.
3. Before commencing the campaign, statistics on drowning deaths and the latest literature available on child drowning issues and countermeasures were reviewed as basis for action plan.
4. Information collected, analysed & reviewed; used as the basis for planning priorities and activities of the campaign.
5. Different target issues identified and priorities set by working party.
6. Specific issues addressed: statistics, consumer awareness, allocation of resources, compliance with legislation.
7. Sound follow-up and evaluation: campaign written up for future reference & use by 3rd parties.
8. Long term follow through.

**Contact:**

The "Be Water Wise - Supervise" Campaign
Illawarra, Australia 1999-2000
Healthy Cities Illawarra Child Injury Prevention Task Force (in collaboration with Wollongong City Council, Shellharbour City Council, Kiama Municipal Council, the Illawarra Area Health Service and the Royal Lifesaving Society - Illawarra Branch)
Manager: Katherine van Weerdenburg
Contact: manager@healthycitiesill.org.au, www.healthycitiesill.org.au
Healthy Cities Illawarra Inc. PO Box 864, DAPTO 2530

Available at:
www.healthycitiesill.org.au/hci/reports/drowning%20**campaign**%20report_internet%20copy.pdf

## GREECE (GR)

### A. Objectives:

**"Do the intervention's objectives meet the needs of Greece?"**

Since drowning constitutes a major public health problem in Greece, an intervention oriented towards the prevention of such injuries is more than welcome. Yet, it was suggested that in order the intervention to meet the exact needs of the burden of drowning in Greece, the age breadth of the intervention should be expanded from children 0-5 years old to 0-17 years old and 65+, by including in this way the adolescents as well as to the group of elderly (65+).

### B. Core Components/methodology

**"Is it possible that the core components of the intervention are implemented in Greece?"**

According to the experts, the main difficulty in promoting prevention campaigns in Greece is the multi-complex bureaucratic governmental system and the overlapping of authorities in topics that affect public health issues. In order to succeed in promoting the project's goals one should first ensure the active participation of the relevant ministries e.g., Ministry of Health or Ministry of Tourism.

### C. Appropriateness

**"To what extend do the contents/materials of the intervention are appropriate for the target population in regards to comprehensibility, complexity etc?"**

All materials were perceived as very appropriate and clear in order to be used in the Greek context and inform the parents

about the hazards of the sea or pools. However, these materials should also include topics that relate to other age groups. For example for the group of adolescents, the campaign should include information about the dangers of drinking and swimming or the dangers of various water-sports. Likewise, adaptations for the group of elderly should also be made.

## D. Adaptation

**"How much effort would be needed in order to adapt / modify the intervention to the needs of Greece and who should be involved to this effort?"**

It was agreed that the intervention would need a lot of effort in order to be adapted to the Greek reality. Organizations with experience in injury prevention along with the support of the relevant Ministries should be involved in such projects. Since national financial support in such efforts is somewhat problematic, one may suggest that the financial contribution from private sector is welcomed in order to accomplish the project's targets.

## E. Acceptability

**"To what extent would this intervention be accepted by the population in Greece in regards to the cultural context?"**

The project's design could fit with Greece cultural elements. However, one could suggest that designed actions based on voluntary public could reinforce the dynamic of such an implementation.

## F. Resources

**"Are there any available human and fiscal resources or any facilities that would make the implementation of the intervention feasible in Greece?"**

As described above, private sector should be involved in such prevention implementations in order to ensure the financial efficiency. Injury Prevention centres, non-governmental organisations' and Lifeguard associations along with authorities of relevant Ministries should be involved to promote the project's goals.

## G. Delivery channels

**"Do you believe that it could be feasible to implement the intervention in your country / region through the same proposed delivery channels included in the case study? (e.g., media, trained staff , community, etc)?"**

It was agreed that for the target group of children aged 0-5, the suggested delivery channels would be enough. Nevertheless, for the group of adolescents the information should be disseminated in a different way in order to meet the needs of this age-group and become more attractive and convincing. This could be achieved with the cooperation of different sponsors (i.e., non-alcoholic soft drinks) and campaigns that could be realised in the beach.

## H. Intended actions:

**"Do you think that the effects / key impacts of the intervention described in the case study match with the prioritized prevention goals of Greece?"**

As drowning accidents were amongst the accidents with the highest mortality rates in 2007, government have placed drowning prevention high in the political agenda, but still it is not among the highest priorities. Moreover, as Greece is a touristic country, safety especially in the sea, as well as in hotel pools should be prioritized. Still, more concentration should be given on accidents and drownings that happen in the sea among adolescents (i.e., drinking and swimming) as well as among the elderly people and the winter swimmers.

## HUNGARY (HU)

### A. Objectives:

**"Do the intervention's objectives meet the needs of Hungary?"**

Drowning is the second causative factor within external causes of death in Hungary and especially among children from 0-5 year old. Thus this intervention meets entirely the needs in terms of injury prevention in Hungary.

### B. Core Components/methodology

**"Is it possible that the core components of the intervention are implemented in Hungary?"**

It would be possible to implement the suggested core components by setting up a Task Force which would coordinate parallel interventions based on situational analyses. Inter-sectoral approach was viewed as an appropriate approach for Hungary.

### C. Appropriateness

**"To what extend do the contents/materials of the intervention are appropriate for the target population in regards to comprehensibility, complexity etc?"**

The experts thought that the proposed case study would be partially appropriate in terms of clarity to the target population. Geographic and cultural features and climate of Hungary is quite different. As a result, risk factors and characteristics of drowning vary. Some elements of the Australian program would be appropriate in Hungary as well, such as inflatable pools, bathtub drowning or the necessity of swim program and first-aid courses. Nevertheless, in Hungary most drowning cases are occurred in low SES families as a result of inappropriate parental governance and unsafe environment. A similar campaign should

be based on national situational analyses, mapping the most relevant types and locations of drowning. The institutions involved as the members of Task Force should also be adapted to the national situation.

## D. Adaptation

**"How much effort would be needed in order to adapt / modify the intervention to the needs of Hungary and who should be involved?"**

According to the experts' opinions, the present intervention would need moderate adaptations. To do so, experts from various areas of public health (epidemiology, health promotion, environmental health) should be involved along with experts of the education, media and communication.

## E. Acceptability

**"To what extent would this intervention be accepted by the population in Hungary in regards to the cultural context?"**

Parents are generally highly committed towards drowning prevention, so a campaign focusing on reduction of drowning incidences will be very much accepted.

## F. Resources

**"Are there any available human and fiscal resources or any facilities that would make the implementation of the intervention feasible in Hungary?"**

According to the European Child Safety Action Plan Report Card "Hungary has adequate human capacity to address child safety, however stronger leadership from government and support for infrastructure is required." Child is a common "treasure" and several ongoing initiatives such as the National Infant and Child Health program or the National Public Health program would serve as a framework for the implementation of such intervention.

## G. Delivery channels

**"Do you believe that it could be feasible to implement the intervention in your country/region through the same proposed delivery channels included in the case study? (e.g., media, trained staff , community, etc?"**

The experts found that it would be very feasible to use the same delivery channels that were used in Australia, in order to implement the adapted case study in Hungary as well.

## H. Intended actions:

**"Do you think that the effects/key impacts of the intervention described in the case study match with the prioritized prevention goals of Hungary?"**

For the Hungarian reality, the key impacts that were described on the intervention that has been materialized in Australia meet partially the indented actions of Hungarian government. The most significant impact of the case study was that during the campaign period there was no drowning in the targeted age group. There is no data on the sustainability of the effect, and the long-term reduction of drowning. Impact on a longer period of time should be even more important, as well as the methods of sustainability of the results achieved.

### THE NETHERLANDS (NL)

## A. Objectives:

**"Do the intervention's objectives meet the needs of NL?"**

As in the Netherlands there are few private swimming pools and the climate is poor, the suggested case study meets only partially the needs of NL in terms of water safety. In the

Netherlands drowning deaths in young children (0-4) are rare and occur mainly at home, in places such as bath tub, small inflatable swimming pools used in gardens, ponds in garden or in neighbour's garden and water in the direct area of the house like canals and ditches. In older children (4-8) drowning accidents occur in public swimming pools and at sea.

## B. Core Components/methodology

**"Is it possible that the core components of the intervention are implemented in NL?"**

The expert believes that the core components of the intervention would be possible to be also implemented in the Netherlands if this national campaign was also combined with other local activities.

## C. Appropriateness

**"To what extend do the contents/materials of the intervention are appropriate for the target population in regards to comprehensibility, complexity etc?"**

According to the expert, the materials are very appropriate: "The message is clear: supervise your child. We have done a national campaign on prevention of drowning in little children (0-4) focusing on drowning in or near the child's home. The message was "don't leave your child alone in or near water". We wanted to create awareness among parents. For instance on the fact that drowning happen silently, your child does not scream and shout like it would do when it would trip or fall. Then we provided parents with measures they could take (get rid of the pond in your garden, make a fence around your garden so your child does not wander off and play near the ditch, make sure you have all the towels, clothing, etc. at hand when bathing your baby in the tub, supervise your child when it is in the pool or the sea, etc.)."

## D. Adaptation

**"How much effort would be needed in order to adapt / modify the intervention to the needs of NL?"**

The intervention would need moderate modifications in order to be applicable in the Netherlands as different settings exist there. For example there are less recreation pools, but more water near people's homes (ponds, ditches, canals, sea, etc.).

## E. Acceptability

**"To what extent would this intervention be accepted by the population in NL in regards to the cultural context?"**

People in the Netherlands would be very acceptable in such an intervention that involves promotion of safety among young children.

## F. Resources

**"Are there any available human and fiscal resources or any facilities that would make the implementation of the intervention feasible in the NL?"**

According to the expert, if the intervention was implemented as a national campaign, then possibly, the human as well as the fiscal resources would be easily found.

## H. Intended actions:

**"Do you think that the effects / key impacts of the intervention described in the case study match with the prioritized prevention goals of NL?"**

Child safety is a priority in NL. Although the focus right now is on preventing injuries due to falls, in 2011 it is expected that the interest will focus again on drowning prevention among children.

## UNITED KINGDOM (UK)

### A. Objectives:

**"Do the intervention's objectives meet the needs of UK?"**

There was a general agreement that the Illawarra model is an open, flexible approach that has the right objectives. These objectives are right for the UK although we would be starting from a different point, the UK population being generally less familiar with water risks and water safety being less part of our culture than in Australia. Also it is felt within the UK that a campaign would be less specialised than just 0-5 years old, perhaps all children 0-11 or 0-15, and there would be more emphasis on teaching swimming skills which are more taken for granted in Australia.

### B. Core Components/methodology

**"Is it possible that the core components of the intervention are implemented in UK?"**

This is seen as very much tailored to the Australian environment and could not be replicated in all areas of detail in the UK. The "core component" is seen as the organisational infrastructure of mainly public bodies, in the UK the equivalent of these bodies are less used to working together. The UK has many voluntary bodies in this field who could substitute for some of the public bodies used in Illawarra. Most of the components are relevant. UK residents are believed to start with less familiarity with water safety issues than Australians & messages would have to start at a more basic level. It has been frequently mentioned that fear of water is a bigger issue in the UK than in Australia.

## C. Appropriateness

**"To what extend do the contents/ materials of the intervention are appropriate for the target population in regards to comprehensibility, complexity etc?"**

In the majority, the content was perceived as good and it was suggested that a menu of items from which a selection could be made existed. There is a perception that young people differ more across countries and cultures and messages for them would need more tailoring. Supervision is another area where cultures vary. The balance between educating parents and addressing young people and children would need rebalancing. Selection from the menu of possibilities used in Illawarra would give a different mix and a different end product in the UK but the elements would be the same.

## D. Adaptation

**"How much effort would be needed in order to adapt/ modify the intervention to the needs of UK?"**

The majority of experts thought that a lot of adaptation would be needed in order the intervention to meet the needs of UK. Agencies in UK are fragmented and overlap more than in Australia.

**"Who should be involved in order the necessary adaptations to take place?"**

In the UK the main agencies responsible can be classified as: Sports, Education, Healthcare, Childcare, and Community. All the above can be further subdivided into: central government, local government, national charities and voluntary bodies, local charities and voluntary bodies. The Illawarra model of getting the agencies to work together is sound but the UK would be less receptive. There are already problems in the UK getting all the agencies to co-operate & a safety initiative would run against

the same problems as other bodies. For the London Olympics in 2012 the UK government is trying to get better co-ordination in the swimming area but is already running into difficulties of co-ordination which illustrates how difficult it is.

## E. Acceptability

**"To what extent would this intervention be accepted by the population in UK in regards to the cultural context?"**

There was a general view that UK residents could be receptive to safety messages but are may be somewhat indifferent to this particular message – swimming & water safety – as, it is not perceived as big interest issue & there could be a passive non-reactive response. It is hard to get people in the UK interested in safety messages, the UK is inherently less health and safety conscious than Australia. Culturally, in general UK and Australia are very close as the Australian population is largely descended from UK emigrants and Australia is part of the British Commonwealth. There is thus an underlying cultural unity that would be helpful.

**"How could the intervention be customized in order to fit the cultural elements of UK?**

Probably more emphasis should be given on teenagers and pre-school children. Moreover, it would be helpful if an approach to reflect ethnic diversity of UK population was developed in order to address the fact that many immigrants appear to have little water safety awareness & indeed are driving the injury figures up. Finally, UK injury statistics should be revisited.

## F. Resources

**"Are there any available human and fiscal resources or any facilities that would make the implementation of the intervention feasible in the UK?"**

Surprisingly there are lots of resources in the UK but they are all not well organised for a new APOLLO type initiative. The voluntary/charity sector is generally well organised but government is more patchy. At present most government interest is geared to additional sports funding with a desire to get spin-off benefits from the London Olympics in 2012, and to education. Nevertheless, there are many strong voluntary bodies with an interest in safer swimming, although of course this presents a bias against other areas of water safety (e.g in bath, pond). The UK government is sponsoring national swimming programmes for older people as part of the Olympic interest in sport as a way to improve health thus there is probably an open door for initiatives for child water safety.

## G. Delivery channels

**"Do you believe that it could be feasible to implement the intervention in your country / region through the same proposed delivery channels included in the case study? (e.g., media, trained staff , community, etc?"**

The Illawarra initiative identified all the important delivery channels, but a different mix would be required in the UK. It was a common belief that Illawarra achieved a quite exceptional level of co-operation between agencies but the UK might not do as well. Both danger and opportunity are that in the UK any initiative would be biased towards the most co-operative and best organised agencies, thus the swimming parts would be done well but community programmes might be more difficult. There are lots of agencies in the UK and all state they do work well together and are keen to do even better. However, in the

UK the sports and health agencies do not get enough attention by the governmental parties.

## H. Intended actions:

**"Do you think that the effects / key impacts of the intervention described in the case study match with the prioritized prevention goals of UK?"**

This is definitely where the government wants to go. All agencies are keen but this leads them to raise the question: "what would be new & who would have the new authority to get things moving? "

The UK government is trying to get sport back into education, this may be an opportunity. There is also a national mood in the UK to integrate sport and health, through public health initiatives. The challenge however still is: "*would it be better to adapt to UK government initiatives to promote swimming safety and "ride on the coat-tails" of these, or non-governmental initiators should lead the way and try to shape the UK government initiatives*." However, this is vulnerable on the question of ownership and empowerment of any initiative: government, either central or local, has to be persuaded to take the lead, driving and motivating the voluntary sector. The voluntary sector will be listened to, but Illawarra demonstrates that the voluntary sector has to have government support behind it.

## GENERAL CONCLUSIONS

After quantifying the answers of the experts in all four countries, the general conclusion is that the Illawarra campaign was equally important and relevant to all countries but for different reasons. In brief, the specific customization tips that were suggested for each country were:

**Greece** → Broaden the target group and include adolescents and elderly

**Hungary** → Conduction of national situational analyses in order to map the most relevant types and locations of drowning in Hungary

**Netherlands** → Focus on dangers that are more relevant to the Dutch reality (rivers, canals, ponds rather than swimming pools)

**United Kingdom** → More emphasis on teenagers and pre-school children and adaptation in order to reflect ethnic diversity of UK population

# 3 PREVENTION OF WORK-RELATED SLIPS, TRIPS AND FALLS

## IMPORTANCE

It is estimated that every year over 1.1 million people worldwide die due to occupational injuries and work-related diseases; especially, workers in mining, forestry, construction and agriculture face increased risks as many of them suffer later in their lives from occupational injuries and diseases, which lead to disability and premature death.[56]

In fact, workplace fatalities, injuries and illnesses remain at unacceptably high levels and involve an enormous and unnecessary health burden and economic loss amounting to 4-5% of GDP. According to the latest estimates of the International Labour Organizations (ILO), each year, approximately 2.0 million work-related deaths are recorded.[57]

The ILO supports that work-related accidents can and must be prevented, throughout organized actions at international, regional and national levels, such as, better education, information and training, and promotion of vocational training courses as well as enterprise training programs.[57]

## THE PROBLEM

Injuries due to falls in the working environment such as slips from portable stairs, ladders, or at elevation are a very common cause of morbidity or mortality. In the USA, slips and falls were

[56] WHO – Occupational health
[57] ILO, 2005

found to be the leading reason for unintentional injury emergency department visits comprising 21% of such visits, back in early 90s.[58]

An investigation of the relationship between age and falls at work showed that fatality rates from falls increased for older workers beginning with the age group of 45-54, whereas fatal injury rates for other work-related causes did not increase until the age group of 55-64[59]. The figure below, shows the graphical representation of

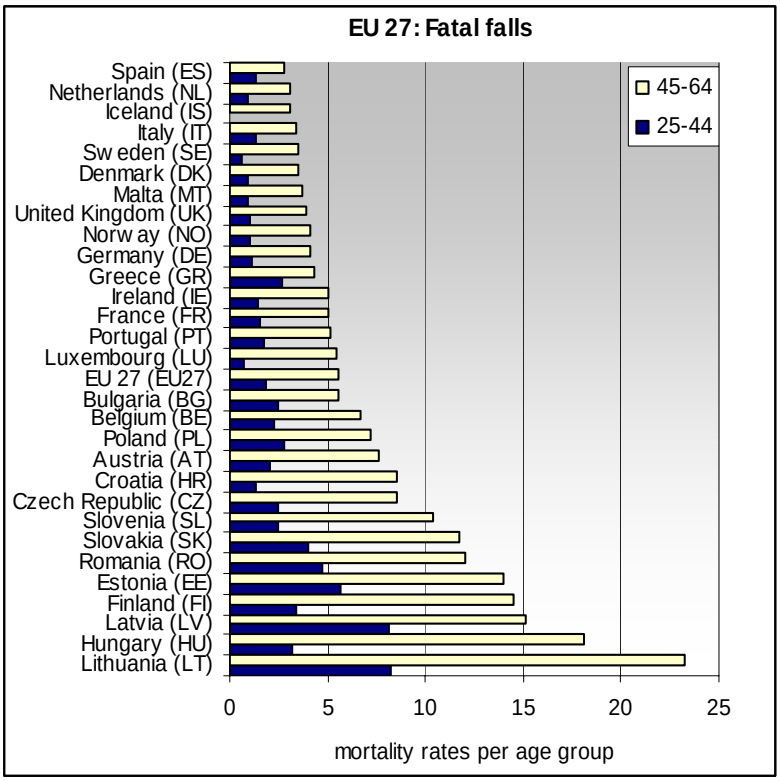



Figure 3.3 Mortality rates due to fall-related injuries among the economically active citizens of EU-27.[60]

the latter findings for the population of the EU 27 countries[29]. Indeed it is shown that fatalities related to fall injuries increased 2-3 times for the age group of 45 and above, in comparison to the younger workers. Moreover, the figure shows the differences between the mortality rates within the EU countries, with

[58] NSC, 1998
[59] Agnew et al, 1993
[60] ISP, CEREPRI

Lithuania presenting the highest mortality rate, while Spain exhibiting the lowest mortality rate. Similarly, the Occupational Safety and Health Administration (OSHA) have shown that falls from ladders accounted for 20% of fatal falls in workers aged 55 and over and this rate was significantly higher than the average of 9% of all falls for workers of all ages. [58]

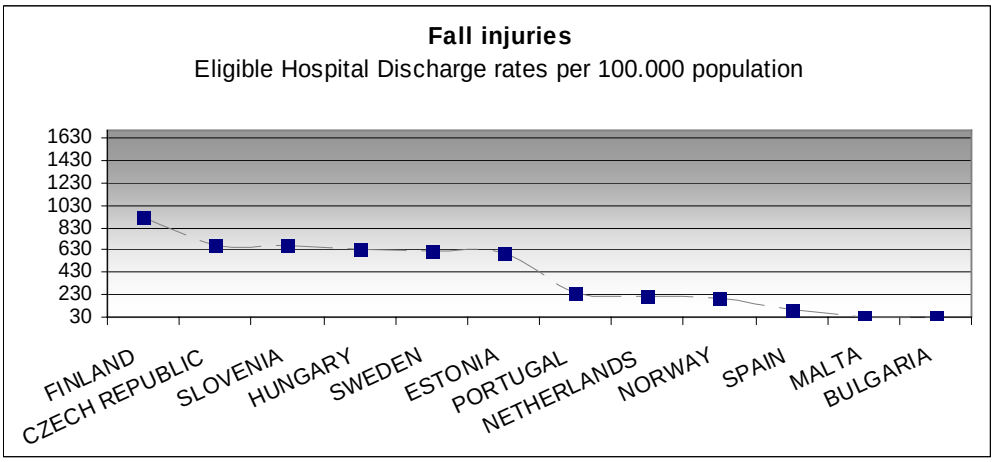



Figure 3.4: Hospital discharge rates per 100.000 population[61]

The figure above (fig 3.4) shows the hospital discharge rates per 100.000 people of 12 EU countries for all age groups. Finland, Czech Republic and Slovenia seem to report the higher morbidity rates of falls in comparison to other countries.

The "On the right foot" campaign was designed in Germany with the aim to reduce the incidence of unintentional falls at work at a national level and possibly sensitize other EU countries to follow this successful paradigm.

[61] HDD, 2004

# CASE STUDY 3
## "ON THE RIGHT FOOT" CAMPAIGN

**Target Population:** Workers

**Target group:** Workers in all sectors in Germany

**Background:** Accidents in Germany can only be covered by a private accident insurance. At present there are 26 Berufsgenossenschaften (institutions for statutory accident insurance and prevention) divided according to the branch of industry with which they are concerned. The law states that their prime responsibility is to prevent occupational accidents and diseases, to eliminate work-related health hazards, and, should an insured event occur, to compensate the injured person, the relatives or the surviving dependants.

The background of the campaign was a daily total of almost 1,000 occupational accidents in Germany caused by tripping, slipping or falling: a situation with huge economic relevance. Many of the accidents, which are frequently trivial, have severe consequences. Each year, some 50,000 of these accidents necessitated in-patient treatment. 5,000 of the accident victims suffered permanent injury, resulting in a BG disability pension. The annual costs to the BGs were in the order of 330 million Euro. With the campaign "On the right foot" ("Aktion: Sicherer Auftritt") the BGs have proved that prevention campaigns are successful[ii]. On 28 April 2003, the World Day for Safety and Health at Work, the BGs - the German institutions for statutory accident insurance and prevention - launched their national prevention campaign in Berlin under the heading "Sicherer Auftritt" ("on the right foot").

**Goals and objectives:** The aim of the campaign was to reduce slipping, tripping, and falling accidents at the workplace by 15 percent within two years and to shed light on the causes of these types of accidents. The BGs intended to concentrate more closely upon worker behaviour itself. Without pointing the finger, they aimed to raise awareness among employers and employees alike to the risk - one which is underestimated - of falling accidents.

**Target population:** Slips, trips and falls are the largest cause of occupational accidents in all sectors from heavy manufacturing through to office work. So all workers have been target population for the campaign.

**General design/setting:** Advertising images, designed to shock, are to address the broader public, and have been displayed for this purpose on 200 buses in over 90 towns and cities throughout Germany. At the same time, the BGs were launching sector-specific campaigns within companies themselves. 2,500 prevention experts (normally trained inspectors) have made some 700,000 visits to companies in order to present the subject in depth by a lot of different medial materials (audio, video, dvd etc), 400.000 employers, safety officers and employees have been informed of the campaign at 36 BG training centres. These measures have been supported by comprehensive information on the Internet at http://www.hvbg.de/d/pages/presse/archiv/archiv05/sturz1.html and in the BGs' publications, which have a national circulation of 4.3 million. A hotline, the "BG-Infoline", has been set up to deal with urgent inquiries.

Anni Friesinger, Olympic medallist in speed skating and several times world champion, was lending her support to the "Sicherer Auftritt" campaign. This was at this time the German

contribution to the worldwide campaign conducted by the United Nations, which supported the campaign by the German BGs through the International Labour Organization (ILO).

**Duration:** The campaign had started in 2003; because accident prevention is an ongoing activity the materials of the campaign are still used in preventive actions.

**Resources**: The campaign was launched and financed by the accident insurances of Germany. The statutory accident insurance constitutes an exception in the German Social security System: here contributions are paid by the employers only as the Berufsgenossenschaften accept liability for the companies' risks. The Berufsgenossenschaften or institutions for statutory accident insurance and prevention assume liability for the consequences of occupational accidents, commuting accidents and occupational diseases. Accidents that occur during leisure time can only be covered by a private accident insurance. The BGs perform their prevention tasks successfully, as the figures show:

- since 1970, the number of "reportable accidents" has decreased by 56% and the number of "fatal accidents" by 75%;
- at the same time, contribution rates fell from 1.51 to 1.16% of payrolls, making statutory accident insurance the only social security segment to see a sustained decrease in contribution rates; and
- the forecasts confirm that this trend is set to continue.

If the accident rate were still at the 1992 level, the BGs would have had to pay out around 800 million euros more in compensation for the occupational accidents in 2005 alone. The investment in the campaign is linked to expectations that successful prevention reduce the premiums further.

**Results (June 2005):**

26 percent fewer tripping, slipping and falling accidents: the outcome of the "Aktion: Sicherer Auftritt" ("On The Right Foot" campaign). All accidents have to be recorded; the decrease of recorded accidents was an excellent indicator about the success of the campaign. With this prevention campaign, the BGs have endeavoured over the past two years to address a particular focus of accidents in all sectors.

In absolute figures: the 191,000 occupational accidents during 2002 caused by tripping, slipping or falling, two years later, were barely 141,000. These figures might be a proof of the campaign's success.

**Evaluation: Behaviour Changes by short training courses:**

During the campaign the BGIA – a research institute of the BGs - has carried out a research project titled: "On The Right Foot": assessment of behavioural change among participants in short training courses. By observing the behaviour of the participants on a training parcour it was possible to gain information for behaviour changes.

The effect of the short training courses held during the "On The Right Foot" campaign upon the behaviour of the training participants was evaluated in a controlled study (systematic behavioural observation on an obstacle course). The study evaluated whether the knowledge had been transferred to everyday situations. Systematic behavioural observation was conducted comparing participants of the short training courses and untrained persons.

The present study found only limited evidence that the short training course influenced the actual day-to-day behaviour of the test persons. Observation of the individual stages of the

"obstacle course" revealed no significant differences in behaviour between persons who had followed such a course of training and those who had not. When all stages were considered together, however, significant differences in behaviour were observed. The desired behaviour was more evident amongst the group of persons who had received training. The principle followed on the training course, (i.e., encouraging participants to be proactive and raising their awareness of unsatisfactory arrangements) was found to be only partly effective as reflected in the observed behaviour.

Further results relate to the test persons' familiarity with the activities and to their behaviour. A correlation between these factors could not be confirmed: whether or not an individual frequently climbs and descends stairs has little demonstrable influence upon the use (or not) of the hand rail, as does whether their vocational activity is primarily mental or physical in nature. Nor was a significant correlation observed between age and safety-conscious behaviour. The study provided only limited evidence that a brief training course alone is sufficient to influence the actual behaviour of individuals in the circumstances stated, since behaviour cannot be modified by information alone.

The brief training courses comparable in their scale and structure and conducted as part of annual safety training in companies were found to be beneficial supplements to more comprehensive measures (actions on work site level) but not of themselves (i.e., to have a decisive influence upon human behaviour). On the assumption that the random sample studied consisted solely of individuals vocationally active in the area of occupational health and safety, action is needed at this point in order to exploit the model role of these groups of individuals.

**KEY COMPONENTS:**

Campaigning is a useful tool for injury prevention; the lessons learned from this campaign will be used in the frame of the new German OSH strategy in which the reduction of accidents by 25% to the year 2012 is demanded.

Lessons learned by the statutory accident insurance (BGs):

- Occupational safety and health (OSH) is a commitment, which must be fulfilled in and by enterprises. The statutory accident insurances use all suitable means to support employers and insured in the fulfillment of that commitment.
- Prevention policies should be designed to be effective and cost-efficient. They must adapt to the innovation processes and structural change in industry as well as to the impacts of new technologies and altered forms of work.
- The statutory accident insurances primarily base their joint and industry-specific prevention activities on an assessment of working conditions in the specific case concerned and align them, in particular, with the insights they gain and lessons they learn:
    - in their consulting work for and inspection of enterprises,
    - from patterns of accident and occupational-disease incidence,
    - in their rehabilitation and compensation activities and
    - from the experiences of the BGs' board of directors.
    - Small and medium-sized enterprises are extremely prevalent in German industry. The BGs develop prevention policies tailored to the needs of such companies, taking into account special features of the sectors in which they operate.
    - The constant decline in the number of accidents at work is attributable, above all, to successful

prevention. The prevention activities need to be designed and enhanced in a way, which tackles all of the major risks to life and health at the workplace. To this end, the BGs are increasingly using incentive systems.

- The BGs support joint institutions and cross-industry tasks in the field of prevention, e.g., prevention committees, priority activities and research.
- The BGs work with other OSH institutions, in particular, the governmental bodies and committees active in the area of prevention.

**More information**

http://www.hvbg.de/e/pages/presse/archiv/archiv05/sturz.html
http://www.dguv.de/inhalt/leistungen/index.html

## HUNGARY (HU)

### A. Objectives:

**"Do the intervention's objectives meet the needs of Hungary?"**

Occupational falls, slips and trips are a major public health problem in Hungary with high hospitalization costs and significant consequences in people's lives. Therefore an intervention for the prevention of falls in the working environment is of great relevance and importance.

### B. Core Components/methodology

**"Is it possible that the core components of the intervention are implemented in Hungary?"**

In Hungary occupational injuries are covered by the National Health Insurance Found. As a result, the component regarding the direct cost-effectiveness of the campaign for the company would be doubtful in Hungary.

### C. Appropriateness

**"To what extend do the contents/materials of the intervention are appropriate for the target population in regards to comprehensibility, complexity etc?"**

The general view is that the materials should be adopted and also pilot tested in order to assess clarity and see how this kind of intervention would work in real situations and under the Hungarian 'reality'.

## D. Adaptation

**"How much effort would be needed in order to adapt / modify the intervention to the needs of Hungary and who should be involved?"**

The case study would need moderate adaptations in order to be implemented in Hungary. Despite the participation of experts and/or any relevant organization, the governmental organization – i.e., the Hungarian Labour Inspectorate – should be also involved in order to approve those changes and promote it in the working environments.

## E. Acceptability

**"To what extent would this intervention be accepted by the population in Hungary in regards to the cultural context?"**

In general the safety at workplaces is not so widely accepted and people working in Hungary are not as conscious as people in Germany. Thus, bigger efforts would be needed for having successful implementation and desired outcomes in Hungary.

## F. Resources

**"Are there any available human and fiscal resources or any facilities that would make the implementation of the intervention feasible in Hungary?"**

It was reported that in Hungary there are some organizations for the promotion of work safety, and these organizations could dispose both human and fiscal resources for moving campaigns. Nevertheless, this would be achieved with difficulties.

## G. Delivery channels

**"Do you believe that it could be feasible to implement the intervention in your country / region through the same proposed delivery channels included in the case study? (e.g., media, trained staff , community, etc?)"**

Although the channels suggested in the case study are found to be partially relevant, it was suggested that it would be more appropriate if the program was implemented through channels that the workers in Hungary would suggest. Thus, it is implied that before the implementation of the intervention a field research would be

### H. Intended actions:

**"Do you think that the effects/key impacts of the intervention described in the case study match with the prioritized prevention goals of Hungary?"**

According to the respondents, occupational health and promotion of safety in the workplace is high in the political agenda, although similar initiatives are rare.

## THE NETHERLANDS (NL)

### A. Objectives:

**"Do the intervention's objectives meet the needs of NL?"**

It was reported that the intervention met partially the need for promotion of occupational safety in the Netherlands. The reason for that is that in NL there are a lot of work-related accidents due to falls (slips/trips/falls) but also working accidents related to other parameters such as machinery accidents or transport vehicles' accidents, etc. For that reason, the focus should broaden to the prevention of work-related accidents in general rather than only on falls.

### B. Core Components/methodology

**"Is it possible that the core components of the intervention are implemented in NL?"**

The core components and methodology of the intervention was viewed as relevant and possible to be implemented in the NL.

## C. Appropriateness

**"To what extend do the contents/ materials of the intervention are appropriate for the target population in regards to comprehensibility, complexity etc?"**

Regarding the materials of the proposed case study, it was reported that these were partially appropriate for the Dutch population. More specifically the sector specific approach, the internet use, the role model and the informative rather than judgmental nature of the intervention was regarded as very appropriate. However, concerns were raised regarding the presentation of shocking pictures and images to the workers.

## D. Adaptation

**"How much effort would be needed in order to adapt/ modify the intervention to the needs of NL?"**

Moderate effort was suggested for the adaptation of the intervention to the Dutch reality. The most important was considered the development of an appropriate key message to trigger the specific target group and the provision of support whenever needed.

## E. Intended actions:

**"Do you think that the effects/ key impacts of the intervention described in the case study match with the prioritized prevention goals of NL?"**

The intervention's impact, that is the reduction of work-related falls in Germany, is in line with the recommendations of the EC on the prevention of injuries and promotion of safety in EU. To

this end, the promotion of safety in the workplace has been a priority issue to NL too.

**GENERAL CONCLUSIONS**

The quantification of the results showed that although both countries require major adaptations of the suggested case study, Hungary would need fewer in comparison to the NL. Specific customization tips for each country were the following:

**Hungary** → Piloting of the materials prior to the realization of the campaign

**Netherlands** → Broaden the focus of the intervention by including other causes of working accidents as well

# 4 PREVENTION OF DRINKING AND DRIVING

## IMPORTANCE

Driving while either intoxicated or drunk is very dangerous as drivers with high blood alcohol content or concentration (BAC) are at increased risk of car accidents, highway injuries and vehicular deaths. [62, 63] Evidence shows that drivers with Blood Alcohol Levels around 0.02–0.05 g/100 ml are 3 times more likely to be killed in a single vehicle crash than drivers who have not consumed alcohol.[64] In spite of great progress, alcohol-impaired driving remains a serious international problem that tragically affects many victims annually.

Nevertheless, every single injury and death caused by drunk driving is totally preventable. Although the proportion of crashes that are alcohol-related has dropped dramatically in recent decades, there are still far too many of such preventable accidents, that still happen.

## THE PROBLEM

Road traffic accidents related to alcohol consumption are a major cause for concern. In EU-25, approximately 43,000 lives are lost every year due to RTA, corresponding to 21% of the total deaths due to injuries in Europe.[65]

About one accident in four can be linked to alcohol consumption, and at least 10,000 people are killed in alcohol-related road traffic accidents in the EU each year. Rates of alcohol problems

[62] http://www2.potsdam.edu/hansondj/DrinkingandDriving.html
[63] Peden et al., 2004
[64] Zador et al., 2000
[65] HOEGLINGER et al. 2007

are highest among young people aged 18-29.[66] Figure 4.4.1 shows the mortality rates due to road traffic accidents in the EU countries per age group. It is obvious that in the majority of countries, younger drivers are at greatest risk to be involved in fatal and serious traffic crashes compared to the rest age groups. Moreover, it is shown that although road traffic crashes constitute a major problem for all EU countries, the frequency of drinking and driving bahaviours may vary between countries.

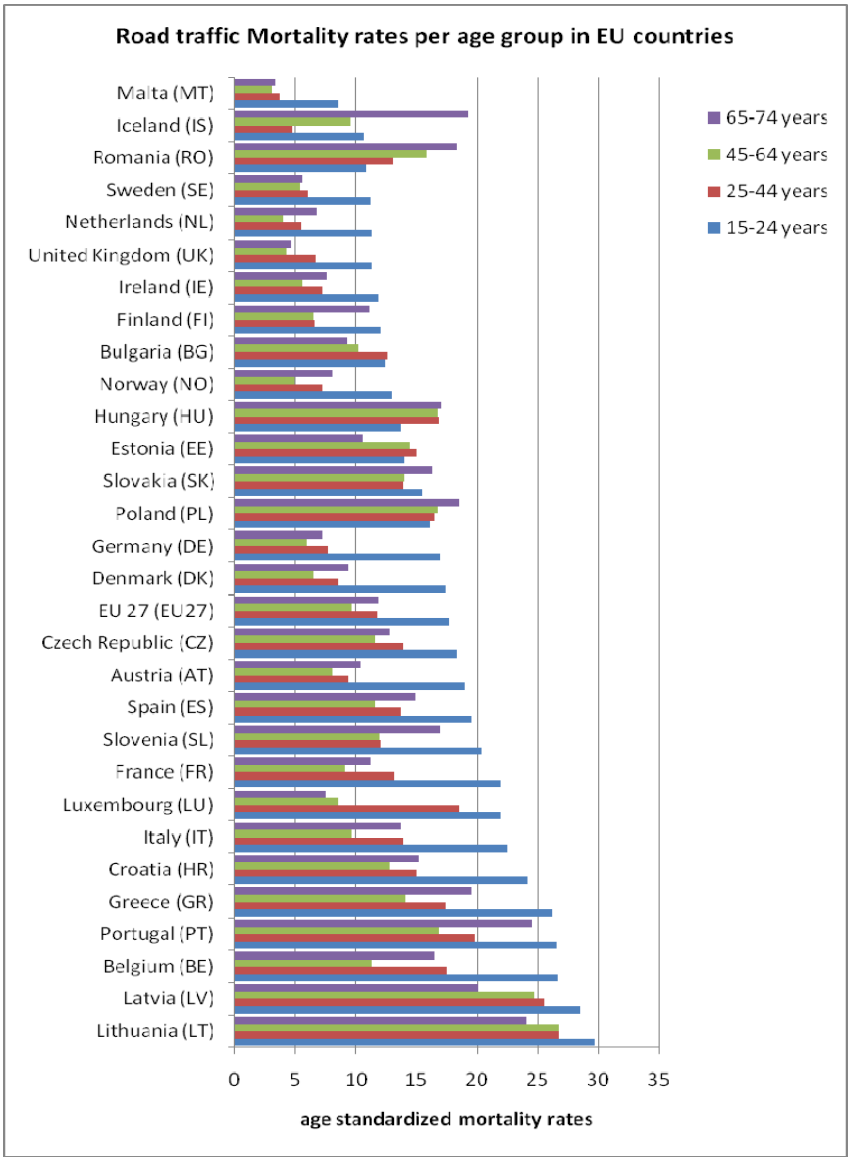



Figure 3.5 Mortality rates due to Road Traffic Injuries. Source: WHO mortality data adjusted by CEREPRI

The scientific literature and national road safety programmes concur that a package of effective measures is necessary to

[66] ISP, 2004

reduce alcohol-related accidents and injuries. Most European Member States have taken actions to reduce alcohol-related harm, and many of them have extensive policies in this field.

The case study described below, has been up to now a successful effort to sensitize young people in many EU countries about the risk and potential hazards of drinking and driving. Thus, it is presented in detail in order other EU countries to follow its paradigm.



# CASE STUDY
# "BOB" CAMPAIGN

**Target population:** general population

**Target group:** general population and younger age groups in Belgium, the Netherlands, Greece and France

**Background**

The "Bob" designated driver campaign was originally launched in Belgium in 1996 and aimed at raising awareness about the dangers of drunk driving. In subsequent years several subsequent campaigns evolved from the first one, aimed at discouraging drink driving in the Belgian population. Given the good results of the "Bob" campaign in Belgium, the European Commission adopted a document to extend the "Bob concept" to other EU member states, also providing financial support.

**Setting:** The 2001-2002 campaign was implemented in Belgium, the Netherlands, Greece and France. In each country the campaign was implemented during a period of a few months (about 1-5, depending on the country).

**Aim:** To reduce the number of road causalities related to drinking and driving, using a combination of awareness-raising by mass-media, police controls and local campaigns in bars and pubs.

**General design:** Distinctive of the campaigns is the figure of the designated driver "Bob", the person that does not drink when he has to drive, and who is responsible for driving the rest of the party home safely.

The idea is to have a strong common basic concept for all European partners involved, defined in a concise list of specification. The partners have a considerable degree of freedom to adapt the concept to local taste and sensibilities.
The project envisions the involvement and collaboration of official road safety organizations and of the drink industry in the conduction of the campaign.

**Target population:** Although some actions were targeted to the general population, specific actions were aimed at younger age groups, e.g.,, 15-24 in France and 18-39 in Greece.

**Implementation:** In the framework of the general design of the Bob campaign, implementations have differed in the various countries. To raise awareness, various means have been used, including TV and radio spots, Internet websites, advertisements in newspapers and on street panels, distribution of promotional material (posters, brochures and gadgets). In France, a specific campaign was conducted in discotheques. In Belgium and the Netherlands a "Bob van" was also used, i.e., a bus where people could have their alcohol levels tested free of charge, and use a driving simulator giving faithful imitation of the effects of alcohol on driving performance. In Greece an one-hour driving education course and a 30 minute educational video tape were developed.

**Evaluation:** The evaluation was based on interviewing samples of the target population in order to evaluate: 1) the visibility of the campaign, i.e., how well people recalled the campaign in the different media used, 2) awareness of the risk of drunk driving 3) behaviors, and changes in behaviors i.e., if people designated another person as designated driver, or if they had themselves acted as designated driver in some occasions.

Results of breath tests operated by the police in various time periods (during the campaign and in other periods) were also reported. Only in Belgium, however, comparative data were presented for the period of the Bob campaign and for other periods.

**Results:** In general, in all countries the initiatives to promote the Bob designated driver campaign were well remembered and were considered favourable by the target group. There were, however, substantial differences between countries in the results, in particular concerning awareness of the dangers of drunk driving, willingness to act as designated driver.

In Belgium, where the Bob campaign had been active for many years, the campaign conducted in 2001/2002 specifically convinced passengers, while a high percentage of drivers were already aware and convinced by previous campaigns. The number of drunk drivers detected by the police was lower during the period of the campaign, than during the rest of the year, highlighting the importance of a constant reminder of the risks of drunk driving. However, police controls decreased in Belgium as compared to the previous years, and simultaneously the number of positive tests increased. This shows how police enforcement is a fundamental component of any campaign aimed at reducing drunk driving, which cannot rely on awareness rising alone.

In France, the campaign had the greatest impact on the age group 15-24 years, which was specifically identified as the target group. Although appreciation for the campaign was wide, young people in general clearly preferred to designate another person as driver, rather than to be themselves the designated driver. The authors note that this was in contrast with one of the main messages of the campaign, which aimed

at presenting Bob – the designated driver – as a positive figure.

In Greece, the target group was people aged 18-39. The campaign messages was well remembered and considered convincing by the target group. However, an underestimation of the dangers of drunk driving also emerged (over 50% thought that driving after having drunk 2 or more drinks is not dangerous) and 6 out of 10 persons aged 18-39 years reported to having driven after drinking 2 or more drinks.

In the Netherlands the campaign was well known, and 4 out of 10 people declared to have improved their attitude in consequence of the campaign. In general, the campaign strengthened and improved the level of awareness that was already high at baseline.

**Resources:** The whole budget for the four countries was about 1,200,000 euros. Of this, about 16% was listed as staff assigned to the operation, 33% to subcontracting, and 45% was listed as "other allowable direct costs". The resources needed included the production of the TV and radio spots, videotape, posters, brochures, gadgets etc., the availability and customization of the Bob vans and the costs for renting advertising space on the various media. Voluntary work of interested parties was also exploited in some instances.

**Continuation:** The period 2001-2002 was the first stage of the European Bob campaign, which has been continued in subsequent years also. This first period of implementation has yielded country specific indications on how to shape the continuation, according to the local conditions in the various countries.

**Implications for further implementations:** The remembrance and acceptance of the campaign was very good in all countries, showing that the basic concept at the core of the Bob designated driver campaign is a useful tool for promoting avoidance of drunk driving.

An important point that has emerged from the first EURO Bob campaign is that it is necessary to tailor the action to the specific needs and sensibilities of the target population. This underlines the need to undertake a specific evaluation of the attitudes, beliefs and reactions of the target population in any further implementation of the campaign in other countries.

Another important point that has been highlighted by the results in Belgium is that awareness raising must be accompanied by a determined action of enforcement of the laws about driving under the effect of alcohol impairment, if the aim of decreasing drunk driving and, ultimately, alcohol related road traffic injuries has to be achieved.

**Info/Contact:**

"EURO BOB" European designated driver campaign against drinking and driving 2001-2002. Final Report, December 2002.

**Available online on**:
http://www.regione.pmn.it/trasporti/prss/biblioteca/dwd/progetti/uomo/eurobob1.pdf

## HUNGARY (HU)

### A. Objectives:

**"Do the intervention's objectives meet the needs of Hungary?"**

In 2007, the percentage of road traffic accidents under the influence of alcohol was 13,8% in Hungary, indicating a 2,9% increase of injury incidence in one year. Thus the BOB campaign is very relevant to the country's needs.

### B. Core Components / methodology

**"Is it possible that the core components of the intervention are implemented in Hungary?"**

According to the experts' opinion, this campaign would be easily implemented in Hungary. Moreover, the intervention would be especially timely, as the police enforcement regarding drunk driving has been recently intensified. However, organization and co-ordination among different agencies would be needed.

### C. Appropriateness

**"To what extend do the contents / materials of the intervention are appropriate for the target population in regards to comprehensibility, complexity etc?"**

The content/materials of the specific intervention should be adapted to the local circumstances of Hungary, as it is necessary to tailor the action to the specific needs and sensibilities of the target population. Therefore a specific evaluation of the attitudes, beliefs and reactions of the target population is of basic importance.

## D. Adaptation

**"How much effort would be needed in order to adapt / modify the intervention to the needs of Hungary and who should be involved?"**

According to the experts, the effort that would be needed to adapt accordingly the campaign would be moderate. A basic step would be to examine adolescents' as well as adults' attitudes towards drinking and driving and find "compatible" ways to pass on the message of BOB campaign. To this end, road safety education, health care and marketing experts should be involved.

## E. Acceptability

**"To what extent would this intervention be accepted by the population in Hungary in regards to the cultural context?"**

The whole general attitude should be changed entirely regarding this topic. Unfortunately in Hungary, the drunk driving is for some young people "trendy". Convincing these young people as well as involving strong police enforcement would be necessary. The latter is already the case in Hungary.

**"How could the intervention be customized in order to fit the cultural elements of your country / region?"**

According to the experts' opinion, famous pop stars, musicians or sportsmen would play a leading role in order to convince this activity. It is very important that they set good examples from people that they admire.

## F. Resources

**"Are there any available human and fiscal resources or any facilities that would make the implementation of the intervention feasible in Hungary?"**

It was reported that Hungary has the necessary human and fiscal resources for the implementation of this intervention. However, the methods and the efficiency of the usage of resources are not always appropriate.

## G. Delivery channels

**"Do you believe that it could be feasible to implement the intervention in your country/region through the same proposed delivery channels included in the case study? (e.g., media, trained staff , community, etc?)"**

The experts agreed that the proposed delivery channels would be also appropriate for Hungary.

## H. Intended actions:

**"Do you think that the effects/key impacts of the intervention described in the case study match with the prioritized prevention goals of Hungary?"**

"Our road safety situation is not satisfactory at all. The prevention of drunk driving is and should be one of the highest priorities".

## GENERAL CONCLUSIONS

Given that this case study has been successfully implemented in various EU countries, results for customization derived only from Hungary. In general this specific intervention was considered as very relevant and important for the youth of Hungary.

Nevertheless, due to some cultural boundaries it was suggested that:

**Hungary:** Before attempting implementation:

→ Situational analysis and formative research

→ Evaluation of the attitudes, beliefs and reactions of the target population

→ Pilot testing of materials in order to be properly adapted

# 5 PREVENTION OF MOTOR VEHICLE INJURIES IN CHILDREN

## IMPORTANCE

There is strong evidence that child safety seat laws reduce fatal and nonfatal injuries and increase child safety seat use.[67, 68] Rear seating for all children under 13 years old and the use of age-appropriate restraints, including child safety seats and belt-positioning booster seats is an evidence based effective measure.[69]

A recent study has revealed that, when child restraints were used properly, they were associated with a 28% reduction of death risk in children aged 2 through 6 years[70]. When however the cases of serious misuse were included, the effectiveness estimate was reduced to 21%, indicating that a big number of children could have been saved, if the instructions for the correct placement of the rear seats were followed. Indeed, there is strong evidence that multifaceted community booster seat education campaigns can significantly increase the correct use of child booster seats. [71]

Children are always better protected in the rear seat and they must use the adequate restraint system according to their age and size. For children of the age group of 0–4 years, the correct use of child seats reduces the probability of injury by around 50% for forward facing seats and around 80% for rearward facing seats. [72]

[67] Zaza et al., 2001
[68] Chipman, 2004
[69] Durbin et al., 2005
[70] Elliott et al., 2006
[71] Ebel et al., 2003
[72] Elvik & Vaa, 2004

## THE PROBLEM

The number of children injured or disabled as a result of road traffic crashes is estimated to be around 10 million worldwide each year. During 2004, road traffic crashes resulted to more than 260 000 deaths worldwide in children and youth.[73] In the United States during 2005, 1,335 children aged 14 years and younger died as occupants in motor vehicle crashes, and approximately 184,000 were injured; that is an average of 4 deaths and 504 injuries each day.[74]

Although the mortality rates due to road traffic injuries in EU countries are not as high as in other continents, there are still some countries, especially in the eastern parts of EU with very high mortality rates (fig 3.6).

The figure below (fig 3.6) shows the mortality rates of children in EU countries due to TRIs [75]. It is apparent that in some countries, like the eastern Mediterranean countries, the mortality rates due to road traffic injuries among young children are very high (>5). This might be explained by the fact that in low and middle-income countries children present much higher death rates due to RTIs, than children in high-income countries.[73,75]

[73] WHO & UNICEF, 2008
[74] NHTSA, Traffic Safety Facts 2006
[75] Peden et al., 2002 (WHO report)

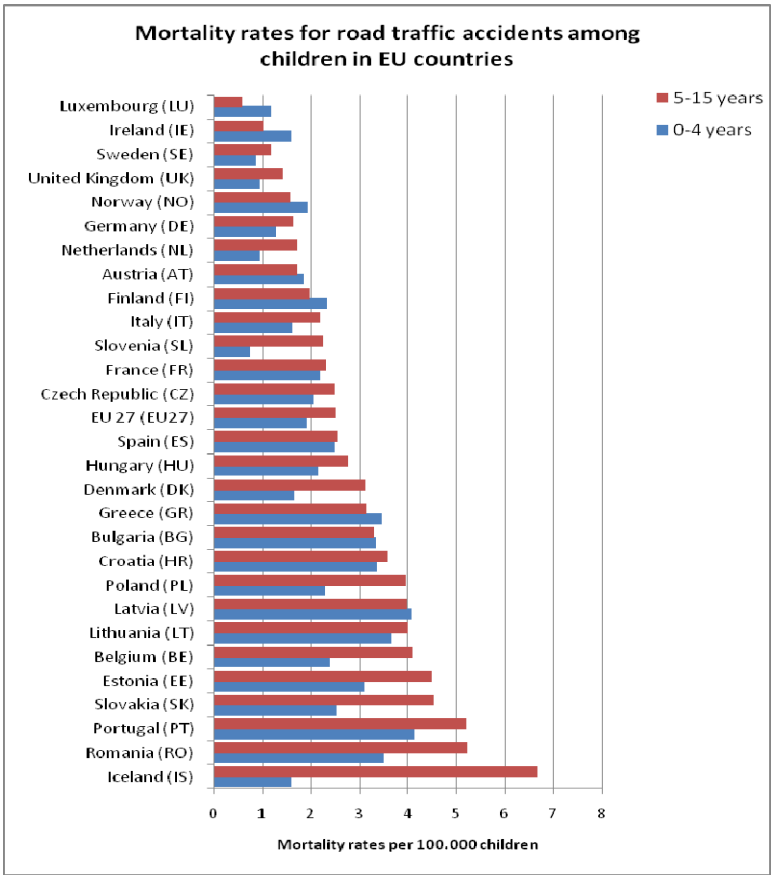



Figure 3.6: Age adjusted mortality rates due to road traffic injuries per 100.000 children in the EU 27 [76]

Although European engineers were the first to recognize the need of adapted safety measures for children in the cars by designing child restrain systems, it was USA in the late 70s that first enforced a child restraint law for all children under the age of four years.[73] As a result, incidence of deaths among child passengers was halved.

Recently new EU child safety protection laws have come into force making it compulsory for all children to travel in the correct child seats, booster seats or booster cushions[77]. Yet it is questionable whether this law will be adopted in all EU countries without the proper sensitization of the general population and especially of the minority groups. Although the promotion of seat belt use in rear seats has been a priority issue for many EU

[76] ISP, 2004
[77] http://www.babystuffhire.com/car_seat_law.php

countries[78], the sensitization of the public regarding the use of child restrains in the car has still not given such attention as in the USA[79]. Indeed USA has played a leading role in developing targeted campaigns for the promotion of child booster seats.

To date, the case study that is described below has been one of the most successful interventions to target the group of low-income people and immigrants of US. Given the variability in the reported mortality rates in EU countries, this case study was considered of great importance especially for those EU countries that present high morbidity and mortality rates due to RTIs among children.

[78] Skalkidou et al., 1999
[79] First Ride, Safe ride http://ftvdb.bfi.org.uk/sift/title/488912?view=credit

# Case study: "Kids in the back - Niños Atrás" Campaign

**Background:** Motor vehicle crashes are the leading cause of deaths among children younger than 12 years in the United States. Although research has proved the effectiveness of rear seating in terms on fatality risk reduction, there are still a lot of parents that put their children in the front seat. In 1997, the USA National Transportation Safety Board recommended that each state amend its child passenger safety laws to make child rear seating compulsory, but in 2004 there were only 7 states that actually had passed legislation mandating child rear seating.

**Setting**: "Kids in the Back / Niños Atrás" was implemented in Holyoke, Massachusetts, a low-income community with a high proportion of Hispanic residents.

**Aim:** The aim of the campaign was to increase the proportion of children aged younger than 12 years seated in the rear of motor vehicles in a predominantly low-income, Hispanic community, while reinforcing the message that all children should be properly restrained by a lap-/shoulder- belt system or child restraint device (e.g., infant seat, child safety seat, booster seat).

**Target population:** Residents in Holyoke, Massachusetts. This community is a low-income community with a high percentage of Hispanic/Latino people (41%) and with a 20% of population younger than 12 years.

**General design:** A community coordinator led the intervention. This coordinator was chosen from the own Holyoke community

and was specifically trained to become a child passenger safety technician. Then a community task force was established to identify community needs and development of materials. Findings from focus groups, interviews and baseline data were also used in the program.

Different strategies to promote rear seating of children were implemented in the community: from an incentive program rewarding families when all the children were travelling in the rear seats to community education and awareness strategies. This meant the development of both Spanish and English educational materials.

**Implementation:** The incentive program was implemented at locations chosen on the basis of high traffic volume and safe stopping points (e.g.,, schools, child care facilities, summer camps). When a family was found to travel with all the kids seated in the rear seat, every member of the family received a small reward. Rewards were not costly and varied for kids and drivers. These were determined by focus groups and community task force (e.g., raffle tickets for big prize of family membership to a theme amusement park that was nearby, dinner at family style restaurants, ice scrapers and coffee mugs, activity books regarding passenger safety targeted for third and fourth grade children and trinkets like bubble pens for younger kids, car seats, coupons for ice cream). Additional educational messages about restraining properly the kids were given when needed. As for those other families that were travelling with children seated in the front seat, they received verbal and written information on the importance of child rear seating.

The community Task Force and focus groups were emphatic that police and enforcement not be included in the intervention despite what the scientific literature recommends. Immigrants fear police for a variety of reasons, e.g., deportation, racial

profiling, etc. The knowledge gained during formative evaluation was used during implementation.

In addition to this, a number of educational bilingual materials were developed: 12,000 educational brochures and 2,000 activity books for children were distributed. The project held an information table at 25 community events. 300 posters were displayed throughout the community and a local media agency developed a public service announcement for the program in 3 different radio stations.

Free booster seats were one of the incentives and were donated through an initiative of the state health agency and the private sector. Intervention was repeated in a variety of ways – media, schools, Hispanic community organizations, community events, poster contest, boys and girls clubs, rewarding those drivers caught with children in rear seat, medical providers, and prescription pads saying children ride in the rear seat.

Publicity was done through NGO's who service immigrant populations.

**Evaluation:** Basically there were two different mechanisms to evaluate the intervention: roadside observations and driver interviews. Roadside observations were performed in 3 different cities of the state of Massachusetts: Holyoke (intervention city) and Lawrence and Brockton (used as control cities). There were two observations periods: spring and summer of 2000 and then, in the same sessions in 2002 (right after the end of the intervention in Holyoke). Observations were held at six intersections in each city susceptible of being travelled through by an important number of children. As for the interviews (n=500), there were both pre- and post-intervention interviews happening at fast food restaurants and grocery stores in Holyoke. These interviews started immediately following the

observations in each of the two periods. The goal of the interviews was to observe child seating patterns and to assess exposure (drivers were asked if they had heard about the campaign) and knowledge of rear seating safety benefits.

**Duration of the programme:** The campaign took place from August 2000 to March 2002.

**Resources:** $40,000 for community to be spent for the intervention over the three years. That included materials, posters, incentive prizes, bilingual translation, etc.

**Results:**

***Roadside observations***

In Holyoke, the percentage of motor vehicles with all children rear-seated increased from 33% to 49% during the period of 2000 to 2002. This increase was statistically significant ($p<0.0001$). A significant increase was also found in the control cities, however the increase in rear seating in Holyoke was significantly higher than in the control cities ($p<0.0001$).

In the case of Holyoke, there were differences in the success of the implementation depending on the part of the city. Lower-income areas increase in rear seating patterns (from 35% to 46%, $p<0.01$) was smaller than in higher- income areas (from 31% to 51%, $p<0.01$). In the control cities there was no difference between areas depending on income level.

***Driver interviews***

Two hundred fifty two motor vehicles pre-intervention and two hundred forty nine motor vehicles post-intervention were observed and the drivers accepted to participate in the program. Approximately half of the participants indentified themselves as Hispanic. Both pre- and post-intervention, about half of the motor vehicles observed in these interviews had all children

seated in the rear. Pre-intervention, there was not statistical significant difference in child seating between interview participants and non-participants. However, post-intervention, more interview participants had all children rear-seated compared to non-participants (55% vs. 40%, p=0.02). During pre- and post-intervention, more than the 90% of the drivers knew that the rear seat was safer than the front seat for kids. Post-intervention, 46% of the drivers reported some kind of exposure to the program. From the latter group, 68% of the drivers were observed with all children rear-seated, compared with 48% of those who were not exposed to the program (p=0.01). Multiple program exposures yielded a stronger association with rear seating.

From participants who reported to have heard about the program, the most frequent source of information was the school (32%), followed by the radio (21%), information at a doctor's or dentist's office (17%), from a friend or family member (17%) or through the television or print news (17%). The incentive program reached a smaller number of people (11%) than other aspects of the program. For both Hispanic and non-Hispanic participants, those exposed to the program were more likely to have all children rear-seated (62% vs. 51% for Hispanics, and 78% vs. 38% for non-Hispanics). This study was the first analyzing a community based intervention with a primary focus on child rear seating. The results show that the campaign affected positively child passenger safety behaviour, at least in the short term.

**Comments on further implementations:** The evaluation of the project indicates that community based efforts can have a significant effect in improving child passenger safety behaviour independent of legislation. A community-based intervention combined with supportive legislation could yield even stronger results.

***Child Passenger Safety Weeks***

Community based programs to promote children safety in motor vehicles are a common practice now in the US. This is the case of the program "Child Passenger Safety Weeks", a specific campaign to promote not only child rear seating practices, but also the use of appropriate restraints for kids travelling in motor vehicles.

Communities kick off Child Passenger Safety Week by hosting the first "Seat Check Saturday" inspection events nationwide. The National Highway Traffic Safety Administration provides at its website with a number of different materials to promote during this weeks the correct use of child restraint systems and/or booster seats at a community level. Marketing material, earned media tools and marketing ideas to be distributed to fit local needs and objectives can be found at NHTSA's website (see http://www.nhtsa.gov/childps/planner/index.cfm).

**Contact**

Greenberg-Seth J, Hemenway D, Gallagher SS, Ross JB, Lissy KS. Evaluation of a Community-Based Intervention to Promote Rear Seating for Children *(Am J Public Health.2004; 94: 1009-1013)*

Available at:
http://www.pubmedcentral.nih.gov/articlerender.fcgi?artid=1448381

## GREECE (GR)

### A. Objectives:

**"Do the intervention's objectives meet the needs of Greece?"**

As road safety is one of the top injury priorities for Greece, similar programs have been implemented in Greece (i.e., car-booster seats loan[80]; promotion of seat belt use in rear seats). Nevertheless, the specific orientation of this case study to immigrants, have never been addressed, and it would be definitely useful for many minority groups living in Greece. However, the intervention should be broadened not only to the use of rear seats (as the majority of immigrants might not have cars) but to communication of information regarding other important and basic road safety measures for children, such as seat belt use.

### B. Core Components/methodology

**"Is it possible that the core components of the intervention are implemented in Greece?"**

Some of the components like for example the rewards to families using the rear seats are somehow difficult to be implemented in Greece.

### C. Appropriateness

**"To what extend do the contents/materials of the intervention are appropriate for the target population in regards to comprehensibility, complexity etc?"**

80 www.euroipn.org/cerepri/modules.php?name=Campaigns&op=showSpeech&fileName=car_s eats.htm

**Child Car Restraint Loan Program-GREECE**

Initiated by CEREPRI in collaboration with the Alexandra Maternity Hospital in 1996, and being the first of its kind, this program increases awareness among young parents as well as informs them about the need for safe transportation of infants less than 8 months of age in automobiles through the provision of child car restraints. Car restraints are rented for a minimum fee to interested parents usually for a period of six months, providing them with a feasible alternative as car restraints can often be quite costly.

The program involves:

- Proper use of infant car seats is precisely defined, explained and presented by a specially trained health visitor to all participants.
- Specialists educate parents about the different types of car restraints dependent on the ages

Scientific contributions were given to the development of infant child restraints on a local basis to the Aegean Regional Health Authorities

The experience gained during these years points to the need for the development of highly personalized preventive interventions aiming to close socio-economic discrepancies in delivery of safety interventions.

This program is considered to be one of the most effective intervention methods of reducing childhood morbidity and mortality due to road traffic injuries.

In Greece, immigrants and in general other minority groups (i.e., Roma people) are usually low educated. For that reason, adaptation of the materials in terms of language use as well as consideration of various cultural factors would be indispensable. To simplify the instructions information should be provided with pictures and/or videos.

## D. Adaptation

**"How much effort would be needed in order to adapt/ modify the intervention to the needs of Greece and who should be involved to this effort?"**

A lot of effort would be needed. First of all, the exact groups to be included should be defined. Then, for the recruitment of people the cooperation of many specializations and organizations would be needed such as anthropologists, sociologists and many relevant NGOs - as well as people from the government (ministry of external affairs).

## E. Acceptability

**"To what extent would this intervention be accepted by the population in Greece in regards to the cultural context?"**

Some ethnic backgrounds (e.g., Roma) are completely unfamiliar with such safety measures – and in fact they might contradict with their everyday living. Moreover, many of the immigrants might not be able to buy the proposed booster seats; thus, the program should also include the loan of these boosters (see child car restrain loan program).

## F. Resources

**"Are there any available human and fiscal resources or any facilities that would make the implementation of the intervention feasible in Greece?"**

Even though some relevant NGOs would help, governmental or EC funding would be indispensable for the realization of such a campaign at a national level.

## G. Delivery channels

**"Do you believe that it could be feasible to implement the intervention in your country / region through the same proposed delivery channels included in the case study? (e.g., media, trained staff , community, etc)?"**

In order to assimilate a country wide campaign and include as many ethnicities as possible, media (TV, newspapers) would be a possible communication channel but not the only one. Field work, NGOs involvement as well as involvement of facilities that are used by immigrants should be also organized for a wider participation and representative recruitment. Moreover, in order to increase participation, the target group should be motivated by providing them some 'free' boosters for a certain rental period.

## H. Intended actions:

**"Do you think that the effects / key impacts of the intervention described in the case study match with the prioritized prevention goals of Greece?"**

There have been similar programs running for the general population of Athens region, but still such interventions are not implemented in this particular target group.

## SPAIN (ES)

### A. Objectives:

**"Do the intervention's objectives meet the needs of Spain?"**

The intervention fits with the Strategic Plan of Spain, though broader objectives should be proposed. It is not enough that children travel in the rear seat: they must be properly restrained as well. Second, this intervention can be more relevant in regions/communities where immigrants from developing countries are living, since it is clear that they are not familiar with these safety procedures (children in the rear and properly restrained).

On a more detailed analysis, legislation in Spain concerning child safety as car occupants established that children under 12 years old can travel in the front seats as long as they are using certified Car Restrains Seat (CRS). Due to this fact, the message of the campaign should be adapted since the primary goal of the analyzed campaign was the increase of the use of the rear seats and then the promotion of the use of CRS. If the direct adaptation of the campaign is tried in Spain, there will be a conflict between the message of the campaign and the current legislation. A possible adaptation could be:

- To diminish the frequency of children travelling in the front seats without using CRS.
- To increase the frequency of children travelling in the rear seats and using CRS.

Finally, regarding the incentive program of the intervention the following modifications were recommended: a small gift in case of correct use of CRS in the rear seat and a sanction (involving perhaps the Police in the project) in case of a child travelling in the front seat without the appropriate CRS. In the in-between situations (children correctly restrained travelling in the front seat or and children travelling in the rear seat without using CRS), the intervention could be just informative.

From a more general point of view, the priorities in Spain should be:

• To increase the correct use of CRS

• To increase the correct use of CRS among the older group of children (4-12 years old)

• To increase the use of the rear seats among those children older than 10 years.

## B. Core Components / methodology

**"Is it possible that the core components of the intervention are implemented in Spain?"**

It was suggested that economic and human resources for this intervention would be difficult to obtain. Moreover, in terms of the evaluation of the campaign it was suggested that there might be difficulties especially when considering the trips in both urban and rural areas and the focus on the weekend's displacements.

## C. Appropriateness

**"To what extend do the contents / materials of the intervention are appropriate for the target population in regards to comprehensibility, complexity etc?"**

The majority of experts agreed that there will be a need of a cultural and linguistic adaptation. When addressing at a higher income/education group, the materials should be adapted to them and vice versa.

## D. Adaptation

**"How much effort would be needed in order to adapt / modify the intervention to the needs of Spain and who should be involved to this effort?"**

There was a general view that the adaptation could be easily done, but the intervention and its enforcement seemed expensive and human-resources consuming. Moreover, it was suggested that the intervention should be adapted to reflect the regulation existing in Spain. Police Forces should be also involved in addition to health care centres (nurses, paediatricians, doctors), emergency services, school teachers, city halls, local newspapers and TV would be also of relevance. Finally the regional/national government should support the campaign.

## E. Acceptability

**"To what extent would this intervention be accepted by the population in Spain in regards to the cultural context?"**

In Spain there are two traditional problems that should be also addressed and considered when planning the specific campaign:

a. Children are not restrained by a CRS in the rear seat after the age of 4 years old.

b. Children are looking forward to travelling in the front seat once they are 10 years old (Spanish regulation allows children taller than 135 cm to use the front seat).

In addition, two groups of population that are currently more exposed to the misuse or non-use of the CRS are the Roma and immigrants. In these two cases, the intervention should involve representatives of these communities. In addition, one should consider the difficulty of implementing or monitoring the intervention in different areas (i.e., urban and rural areas), at different time points and on different days (weekdays and weekends) and different locations (such as health centers, shopping malls and parks). Last but not least, for the realization of this intervention different disciplines, namely education, health system and police authorities, should work together.

## F. Resources

**"Are there any available human and fiscal resources or any facilities that would make the implementation of the intervention feasible in Spain?"**

Although the participants responded positively regarding the availability of facilities that would make feasible the intervention, it was strongly suggested that private initiatives should also be involved in the program implementation. This is mainly due to the lack of adequate human resources on the part of public authorities.

## G. Delivery channels

**"Do you believe that it could be feasible to implement the intervention in your country/region through the same proposed delivery channels included in the case study? (e.g., media, trained staff , community, etc)?"**

Most of the respondents agreed that the same delivery channels could also be used in Spain. Moreover they suggested that the Health system could play an important role, for instance, through doctor counseling, but also the local free newspapers addressed to specific communities and health care centers could help the communication of the scope of the intervention.

## H. Intended actions:

**"Do you think that the effects/key impacts of the intervention described in the case study match with the prioritized prevention goals of Spain?"**

The promotion of child passenger safety is a priority goal of Spain. Yet, as the main message of this case study contradicts the existing regulations in Spain the key impact of this intervention should be the promotion of correct use of CRS.

## GENERAL CONCLUSIONS

**Greece**

➔ Broaden the goal of the intervention in order to include information regarding other important road safety measures for children

➔ Adaptation of materials according to the socio-cultural characteristics of each target group

**Spain**

➔ Change the main goal of the intervention from promoting the use of rear seats to increasing the correct use of Car Restrains Seats and broaden the age group (4-12 years old)

➔ Enforcement of the messages of the campaign through the cooperation of different disciplines (i.e., education, health system and police authorities)

# 4. RECOMMENDATIONS:

## A. Recommendations on how to improve policy implementation:

### Emphasize the enforcement of existing policies

As in many EU countries injury prevention policies exist already, it is of vital importance to reinforce them regularly either before or in parallel with issuing new policies. When policy implementation is feasible thanks to availability of resources and public acceptability, its reinforcement is a necessary step towards prevention and may well improve safety in a certain sector of the public or professional life.

### Invest in injury prevention research

In countries where injury prevention research is well defined and supported it is possible to come up with new interventions to minimize injury risk. These interventions are bound to respond better to the country's prevention potential and needs and will be more likely to be implemented successfully. Research may also be used to monitor and evaluate the impact of injury prevention policies after these have been implemented.

### Develop prevention campaigns that act on multiple Levels

Effective prevention results from a comprehensive approach to the issue of injuries which means that future implementers should use multiple policy components and should not just rely upon the most feasible and easiest to implement. For example in traffic injury prevention, where most member states have been successfully focusing their efforts, attention has been given

on environmental changes, use of specific interventions by the police, legislative measures and awareness-raising campaigns.

### Use a systematic approach to policy implementation

Sporadic campaigns are often the case, especially in countries that have limited human and financial resources to plan, implement and sustain effective injury prevention strategies. This has led in many cases to ineffective injury prevention in countries that already suffer form lack of resources. A planned and organised approach which will follow a time plan with specific objectives and proper evaluation is bound to be much more useful.

### Prioritize concrete interventions over legislative measures and environmental changes

Public health experts from both old and new member states have evaluated policies related to concrete and specific interventions to prevent injuries for traffic accident prevention to be quite feasible to implement. On the contrary, policies involving change in legislation and environmental modifications have been judged to take longer and be more difficult to implement. Nevertheless, such changes are a critical component for effectiveness and sustainability.

### Keep injury prevention high on the agenda for a prolonged period of time

It has been seen that experts from countries that have a certain injury issue high on the public health agenda, value policy implementation as more feasible as opposed to experts from countries where these issues have recently been introduced as important and necessary to resolve. Time works towards the accumulation of both experience to be taught from and skill obtained. One-shot quick approaches usually do not result in longer-term change.  Persistence works.

## Invest in training and education

In many cases education of both children and teachers is one of the most important platforms where prevention takes place. Although the human resources exist in many countries, the lack of financial resources limits the possibility to implement already existing policies and thus their effectiveness.

## Target groups of people with tailored policies

It has been shown that it is more feasible to implement injury prevention policy when this targets specific groups of the public, as for example the policy including a lower BAC limit for novice drivers in Spain that are usually also the youngest ones. This tactic not only facilitates policy implementation but also results in an increase in prevention effectiveness.

## Start with the little ones- early awareness is essential

Raising awareness of injury prevention during the very early years of a child's life can help future policy implementation. It contributes to getting the message across to children that it is important to avoid adopting risky behaviour. This gradually builds a safety culture, which increases the public acceptability that will facilitate injury prevention policy implementation.

## B: Recommendations on how to customize and adapt successful interventions:

As different countries or regions may have different demographic characteristics and needs in relation to already implemented injury prevention initiatives, adaptation of initiatives is often required in order to meet each country's unique needs. From the present study it was suggested that each case study could be customized in relation to:

### 1. Differences between study objectives and country's needs

Implementation is very much dependent on where the members of the country and target audience are coming from. That is why it is essential to make the time (6 months – one year) to do formative research before implementing many parts of the mentioned interventions.

### 2. Perceived difficulties in relation to the methodological approach and program implementation

An impediment to implementation in some countries seems to be the attitudes of voluntary organizations towards the main aim of a specific intervention (e.g. Dutch cycling society vs helmet use). This could mean that without their support, it would be difficult to implement the interventions, as the general public looks upon them as authorities on the topic. Therefore, formative research needs to include an understanding of which organizations the public perceives as having credibility on intervention topics and 'persuading' these organizations to participate in process implementation.

### 3. Perceived barriers in relation to the content-materials of the study (appropriateness, comprehensibility)

Materials that have been developed for one country may not be appropriate for another. For example the German images designed to shock, in the case study "on the right foot campaign" may not work for most cultures. To this end, stakeholder interviews, focus groups, observation studies, surveys and pilot testing need to be done in order to understand the current knowledge, attitudes, traditions, beliefs, and behaviours of different target audiences, test messages and materials and revise them before implementation. This is necessary for planning, targeting messages and not wasting resources in the long run.

### 4. Possible disapproval of the intervention due to cultural factors

Beliefs or values may lead people to either reject or accept the information that an intervention provides. Personal experiences, historical events, myths and misinformation, or cultural backgrounds can shape people's beliefs and values. In cases where an important intervention seems to be culturally inappropriate, there are many health communication theories that could be used to guide the development of formative research and design of customized interventions to understand and enhance the readiness and receptivity of the population and change the perceived benefit of adopting different behaviours. Where an intervention requires major cultural shifts given the long-standing practice of the country, there is need to phase in different elements of interventions over even a ten-year period.[81]

[81] Berfenstam R., 1995

## 5. Lack of available resources

From the responses of the customization study it does not seem that financial affordability is the major issue. It seems that success is bred by engagement of relevant key organizations and players with perhaps a champion to provide some leadership. Government role is to show leadership in bringing together a variety of players to work together and tackle problems. No organization can do it all. Implementers or policy makers should accept the fact that there is overlap among government bureaucracy and even NGO's. But still implementation can be successful with limited resources.

## 6. Channels used to transmit the information in the initial intervention

Many interventions are designed to be delivered in a specific way. For example, some are intended for small-group settings, thus information is transmitted via trained staff; while others are intended for entire communities, thus the use of mass media, campaigns etc are necessary. Their effectiveness may be dependent on that mode of delivery. Thus, the question is whether the replication of a specific intervention in the same way would be feasible for other countries as well.

Results show that delivery channels will vary depending on the age and culture of the population. We should not expect adolescents to be attracted to a brochure and standard health education delivery messages. Thus, there is a need to use new technologies – blogs, text messages, U-tube, etc. - and those they respect and want to emulate like media personalities/stars of movies and music videos. So the messengers for interventions need to be based on the targeted population.

## 7. Differences in the intended actions

The effects/key impacts of a specific intervention may not always match with the prioritized prevention goals of a country/

region. However, intervention implementation requires the political will to consistently enforce existing legislation and regulation, not just pass and implement new laws. Thus, there needs to be interventions directed at police, judges and policy makers so that they will be willing to elevate safety issues as more of a priority in comparison to other issues.

## LIMITATIONS

At best these studies give us some idea about feasibility and customisation of injury prevention strategies in the countries included, but it should be kept in mind that because the obtained information did not come from a wide range of agencies/ organisations/ individuals in each country, the views we have are highly selective; and as such are only a starting point for considering these issues. Thus, in order to make actual comparisons between countries we would need much larger and more comprehensive samples of respondents.

# 5. REFERENCES:


Afukaar FK (2003) Speed control in developing countries: issues, challenges and opportunities in reducing road traffic injuries. Inj Control Saf Promot, 10(1-2):77-81.

Agnew J, Suruda AJ. (1993) Human Factors: The Journal of the Human Factors and Ergonomics Society; 35(4): 731-736

Alexe D, Dessypris N, Petridou E (2002) Epidemiology of Unintentional Drowning Deaths in Greece. Book of Abstracts, World Congress on Drowning 2002 Amsterdam, The Netherlands, pp 26-28.

Anderson, P. & Baumberg, B. (2006) Alcohol in Europe. London: Institute of Alcohol Studies. Available at http://ec.europa.eu/health-eu/doc/alcoholineu_content_en.pdf

APOLLO (2007) "Results of a systematic review of effective policies for alcohol-related, road-traffic injuries, drowning prevention and occupational injuries" www.euroipn.org/apollo/documents/Good%20Policies_SLR.pdf

Apsler R, Char AR, Harding WM & Klein TM (1999) The Effects of .08 BAC Laws, Washington, DC: U.S. Department of Transportation, National Highway: Traffic Safety Administration, National Center for Statistics and Analysis, DOT HS 808 892.

Australian Water Safety Council (2004) Australian National Water Safety Plan (2004-2007) Available at: www.watersafety.com.au/Portals/0/Repository/NWSP_04-07_Nov_2004.4d1be0a2-021a-4b2d-969e-679f68e66de5.pdf

Barrett S (2004) 'Implementation studies: Time for a revival? Personal reflections on 20 years of implementation studies' Public Administration;82(2):249–262

Berfenstam R (1995) Sweden's pioneering child accident programme: 40 years later. Injury prevention;1:68-69.

Chipman ML. (2004) Side impact crashes-factors affecting incidence and severity: review of the literature. Traffic Inj Prev; 5: 67-75.

Department of Transportation (US), National Highway Traffic Safety Administration (NHTSA), Traffic Safety Facts 2006: Children. Washington (DC): NHTSA; 2008. [cited 2008 May 5]. Available from URL: Available at: www.nhtsa.dot.gov/pdf/nrd-30/NCSA/TSF2005/810618.pdf.

Durbin DR, Chen I, Smith R, Elliott MR, Winston FK (2005) Effects of Seating Position and Appropriate Restraint Use on the Risk of Injury to Children in Motor Vehicle Crashes. Pediatrics; 115: 305-9

Elvik R. & Vaa T. (2004) The handbook of road safety measures 1st ed. Amsterdam/Boston: Elsevier, 2004

European Transport Safety Council (ETSC) (1999) Police enforcement strategies to reduce traffic causalities in Europe. Available at www.etsc.eu/documents/strategies.pdf

Federal Motor Carrier Safety Administrator (FMCSA) (1995) Driving of commercial motor vehicles Available at www.fmcsa.dot.gov/rules-regulations/administration/fmcsr/FmcsrGuideDetails.asp?menukey=392

Franklin RC. (2004) Evaluation of the Australian National Water Safety Plan (1999-2003). Sydney, Australian Water Safety Council

Germeni E, Terzidis A & Petridou E (2008) "Be safe near water". In Petridou E. et al., The European Code Against Injuries, Archives of Hellenic Medicine; 25(Sup 1): 40-45

Gielen AC & Sleet D. (2003) Application of behaviour-change theories and methods to injury prevention. Epidemiol Rev; 25: 65-76.

Harkin AM, Anderson P, & Lehto J. (1995) Alcohol in Europe - A Health Perspective, WHO Regional Office for Europe, Copenhagen. Available at: http://whqlibdoc.who.int/euro/1994-97/EUR_ICP_ALDT_94.03_CN01.pdf

Health and Safety Executive (HSE) (2007) Why fall for it? Preventing falls in agriculture. Available at: www.hse.gov.uk/pubns/indg369.pdf

Hendriksen I. (1996) The effect of commuter cycling on physical performance and on coronary heart disease risk factors. Amsterdam, Free University

Hoeglinger S, Doppelhammer E, Bos N, Berends E, Yannis G, Evgenikos et al. (2008) Annual Statistical Report 2007 (based on data from CARE/EC). European Road Safety Observatory; Report No.: D1.16: Available at: www.erso.eu/safetynet/fixed/WP1/2007/SN-1-3-ASR-2007.pdf

Hospital Discharge Data (HDD): Web-query system. Available at: www.unav.es/preventiva/apollo/asistente/

Injury-related Hospitalizations in Europe, (2004) Report developed in the context of APOLLO WP2. Available at: www.euroipn.org/apollo/WP2

Injury Statistics Portal (ISP): WHO mortality Data adjusted by CEREPRI Available at: http://www.euroipn.org/stats_portal/

Institut de Veille Sanitaire (INVS) (2008) Drowning-related deaths in an enlarged European Union. Available at: www.invs.sante.fr/publications/2008/anamort/drowning_related_plaq_anamort_m7_eng.pdf

International Labour Organization (ILO) (1998) Statistics of occupational injuries. Sixteenth International Conference on Labour Statisticians. Available at: www.ilo.org/public/english/bureau/stat/download/16thicls/report3.pdf

International Labour Organization (ILO) (2005) Prevention: A Global Strategy, Promoting Safety and Health at Work, The ILO Report for World Day for Safety and Health at Work, Geneva

Lamb S, Jorstad SE, Hauer K, & Becker C (2005) Prevention of falls network Europe and outcomes consensus group. Development of a common outcome data set for fall injury prevention trials: The Prevention of Falls Network Europe Consensus. J Am Geriatr Soc; 53:1618–1622

Maurin C, Labourel H, Ladwig M, Menthonnex E (2006) Unintentional Drowning in Fresh Water. La Presse Medicale; 35 (6): 936-940.

Ministerial council on Drug Strategy (2006) National Alcohol Strategy: Towards Safer Drinking. Available at: www.alcohol.gov.au/internet/alcohol/publishing.nsf/Content/B83AD1F91AA632ADCA25718E0081F1C3/$File/nas-06-09.pdf

Mozer D. Bicycle Helmets: a.k.a. skid lid, crash cup, can, cranium catcher, skull insurance, brain bucket, frown crown, road rash repellent. Retrieved Oct 2008 at: www.ibike.org/education/head-injury.htm

Murray CJL & Lopez AD (1996) The global burden of disease: a comprehensive assessment of mortality and disability from diseases, injuries, and risk factors in 1990 and projected to 2020. Boston, MA, Harvard School of Public Health.

Nakamura, RT (1987) "The Textbook Policy Process and Implementation Research", Policy Studies Review, 7(1): 142–154.

National Center for Injury Prevention and Control (2006) Water-Related Injuries: Factsheet. Available online at: www.cdc.gov/ncipc/factsheets/drown.htm.

National Coalition for Agricultural Safety and Health (1988) Agriculture at Risk, A Report to the Nation: Agricultural, Occupational and Environmental Health: Policy Strategies for the Future. Available at: www.public-health.uiowa.edu/AgAtRisk/

National Institute for Occupational Safety and Health (NIOSH) (1997) Preventing Worker Injuries and deaths caused by falls from suspension scaffolds In CDC Alert - Department of Health and Human Service (Publication No. 92-108) Available at: www.cdc.gov/niosh/92-108.html

National Institute for Occupational Safety and Health (NIOSH) (2003) Work-Related Roadway Crashes - Challenges and Opportunities for Prevention [Publication No. 2003-119] Available at: www.cdc.gov/niosh/docs/2003-119/2003-119c.html

National Safety Council (NSC) (1998) Accident Facts (Itasca, IL: NSC).

New Injury Data Report: Injuries in the European Union 2003-2005, https://webgate.ec.europa.eu/idbpa/

Office for Official Publications of the European Communities (2004) Work and health in the EU, a statistical portrait, Luxemburg www.industrialsafety-tp.org/filedown.aspx?file=151

Office of Pubic Sector Information -UK (OPSI) Electricity at Work Regulations, Statutory instrument 1989 No 635, Health and Safety, Available at: www.opsi.gov.uk/si/si1989/Uksi_19890635_en_2.htm#mdiv1

Office of Pubic Sector Information –UK (OPSI) The provision and use of Work Equipment Regulations, Statutory Instrument 1998 No. 2306, Available at: http://www.opsi.gov.uk/si/si1998/19982306.htm

Peden M, Mcgee K, & Sharma G. (2002) The injury chart book: a graphical overview of the global burden of injuries. Geneva: World Health Organization, 19–26

Peden M, Scurfield R, Sleet D, Mohan D, Hyder Aa, Jarawan E et al. (2004) World report on road traffic injury prevention. World Health Organization, Geneva

Simpson A, Unwin PS, & Nelson IW. (1988) Head injuries, helmets, cycle lanes, and cyclists. British Medical Journal; 296: 1161–1162.

Skalkidou, A., Petridou, E., Stappa, M., Tsoufis I., Papadopoulos, F. & Trihopoulos D. (1999) Effectiveness of an integrated campaign to increase seat belt use in the Greater Athens area. Archives Of Hellenic Medicine; 16(5):464-472

Southeastern Louisiana University. Drug and Alcohol Abuse prevention Policy for Employees Available at: www2.selu.edu/documents/policies/empl/p2_drug_abuse_prevention_REVISED.pdf

Svanstrom L, Welander G, Ekman R, Schelp L. (2002) Development of a Swedish bicycle helmet promotion programme-one decade of experiences. Health Promot Int;17(2):161-9.

Treib, O (2008) Implementing and complying with EU governance outputs, Living Reviews in European Governance, 3, Ireg-2008-5. Available at: http://www.livingreviews.org/lreg-2008-5

U.S. Department of Labor - Occupational Safety & Health Administration (2005) Protective frames for wheel-type agricultural tractors- test procedures and performance requirements. N 1928.52 Available at: www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=STANDARDS&p_id=13076

Van Beeck EF, Branche CM, Szpilman D, Modell JH, Bierens JJ (2005) A New Definition of Drowning: Towards Documentation and Prevention of a Global Public Health Problem. Bulletin of the World Health Organization; 83 (11): 853-856.

WordNet. A lexical database for the English language. Available at: wordnet.princeton.edu/perl/webwn

World Health Organisation (2002) A physically active life through everyday transport with a special focus on children and older people and examples and approaches from Europe. Available at: www.euro.who.int/document/e75662.pdf

World Health Organization (2003). Facts About Injuries: Drowning. Available at:

www.who.int/violence_injury_prevention/publications/other_injury/en/drowning_factsheet.pdf

World Health Organization (2004) Global status report on alcohol. Geneva, World Health Organization. Available at: www.who.int/substance_abuse/publications/global_status_report_2004_overview.pdf

World Health Organization (2004) World Report on Road Traffic Injury Prevention, WHO library, Geneva. Available at: www.paho.org/English/DD/PUB/Summary_World_report_Road_safety.pdf

World Health Organization & UNICEF (2008) World report on child injury prevention, WHO library, Switzerland. Available at: http://whqlibdoc.who.int/publications/2008/9789241563574_eng.pdf

World Health Organization (2008) Occupational Health. Available at: www.who.int/occupational_health/en/

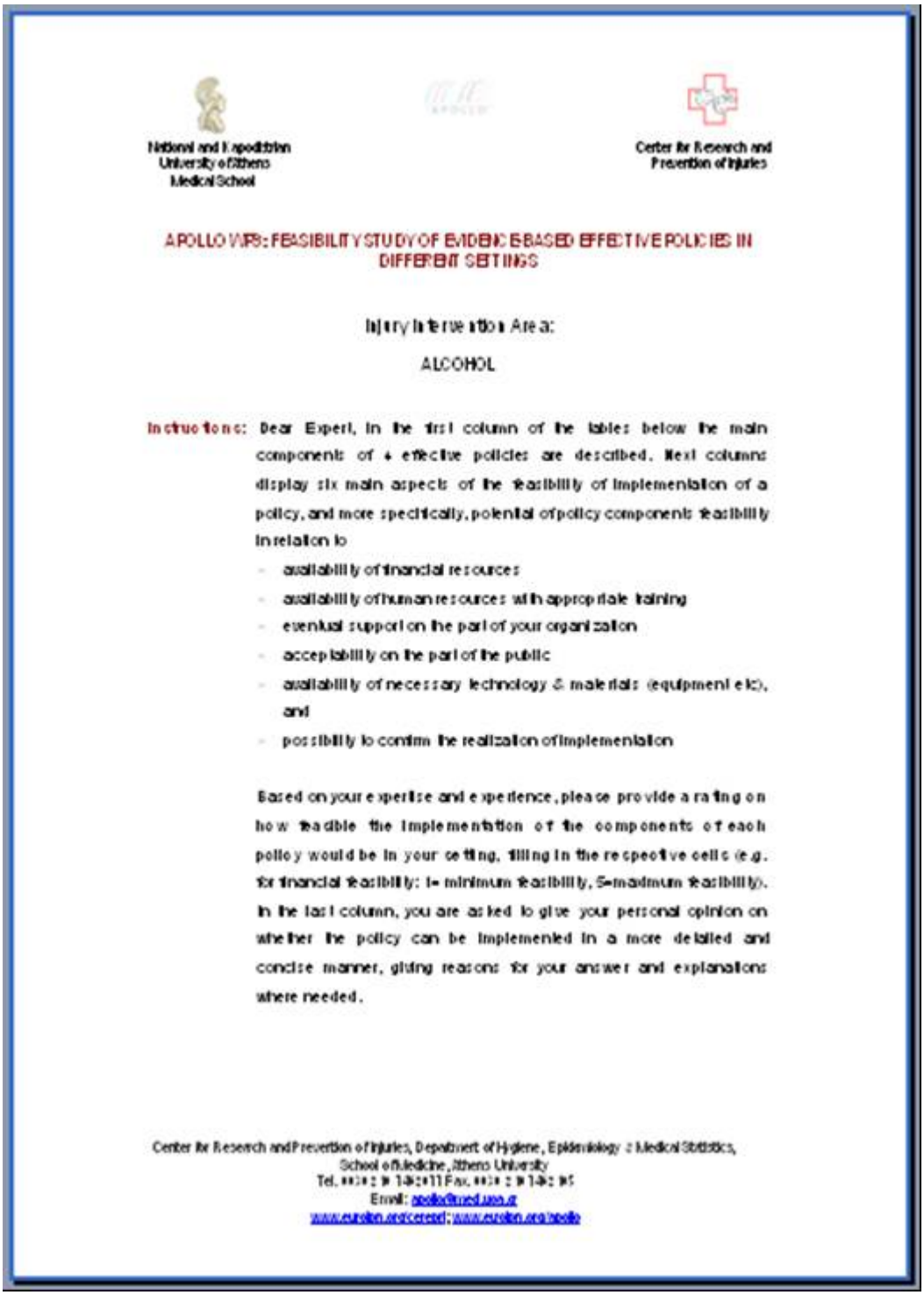
www.alcohol.gov.au/internet/alcohol/publishing.nsf/Content/B83AD1F91AA632ADCA25718E0081F1C3/$File/nas-06-09.pdf

Zador Pl, Krawchuk Sa, Voas Rb. (2000) Alcohol-related relative risk of driver fatalities and driver involvement in fatal crashes in relation to driver age and gender: an update using 1996 data. J Stud Alcohol; 61:387–395

Zaza S, Sleet DA, Thompson RS, Sosin DM, & Bolen JC, (2001) Task force on community preventive services. Reviews of evidence regarding interventions to increase use of child safety seats. Am J Prev Med; 21:31-47

# 6. APPENDICES:

**Appendix 1: Sample of Feasibility questionnaires** (for full version of the questionnaires go to www.euroipn.org/apollo/wp3)



National and Kapodistrian University of Athens Medical School

Center for Research and Prevention of Injuries

APOLLO WP3: FEASIBILITY STUDY OF EVIDENCE-BASED EFFECTIVE POLICIES IN DIFFERENT SETTINGS

Injury Intervention Area:

ALCOHOL

Instructions: Dear Expert, In the first column of the tables below the main components of 4 effective policies are described. Next columns display six main aspects of the feasibility of implementation of a policy, and more specifically, potential of policy components feasibility in relation to

- availability of financial resources
- availability of human resources with appropriate training
- eventual support on the part of your organization
- acceptability on the part of the public
- availability of necessary technology & materials (equipment etc), and
- possibility to confirm the realization of implementation

Based on your expertise and experience, please provide a rating on how feasible the implementation of the components of each policy would be in your setting, filling in the respective cells (e.g. for financial feasibility: 1= minimum feasibility, 5=maximum feasibility). In the last column, you are asked to give your personal opinion on whether the policy can be implemented in a more detailed and concise manner, giving reasons for your answer and explanations where needed.

Center for Research and Prevention of Injuries, Department of Hygiene, Epidemiology & Medical Statistics, School of Medicine, Athens University
Tel. [illegible] Fax. [illegible]
Email: apollo@med.uoa.gr
www.euroipn.org/cerepi; www.euroipn.org/apollo

**A. ALCOHOL POLICIES**

| **POLICY: A**<br><br>Alcohol in Europe: A Public Health Perspective (Institute of Alcohol Studies, 2006) | **Please rate**<br>**Min= 1 2 3 4 5 =Max**<br><br>How feasible is for each specific policy component to be implemented in relation to<br><br>availability of financial resources | availability of human resources with appropriate training | eventual support on the part of your organization | acceptability on the part of the public (alcohol consumers)? | availability of necessary technology & materials (equipment etc) | Possibility to confirm the realization of implementation | ***Comments*** |
|---|---|---|---|---|---|---|---|
| Safer bar environment/containers | 1 2 3 4 5 ☐☐☐☐☐ | 1 2 3 4 5 ☐☐☐☐☐ | 1 2 3 4 5 ☐☐☐☐☐ | 1 2 3 4 5 ☐☐☐☐☐ | 1 2 3 4 5 ☐☐☐☐☐ | 1 2 3 4 5 ☐☐☐☐☐ | |
| Promotion of public transport use | 1 2 3 4 5 ☐☐☐☐☐ | 1 2 3 4 5 ☐☐☐☐☐ | 1 2 3 4 5 ☐☐☐☐☐ | 1 2 3 4 5 ☐☐☐☐☐ | 1 2 3 4 5 ☐☐☐☐☐ | 1 2 3 4 5 ☐☐☐☐☐ | |
| Training programs for servers and bartenders to prevent impaired driving by identifying impairment, refusing service, providing transportation, discouraging over-consumption and encouraging alternative beverages | 1 2 3 4 5 ☐☐☐☐☐ | 1 2 3 4 5 ☐☐☐☐☐ | 1 2 3 4 5 ☐☐☐☐☐ | 1 2 3 4 5 ☐☐☐☐☐ | 1 2 3 4 5 ☐☐☐☐☐ | 1 2 3 4 5 ☐☐☐☐☐ | |
| Civil liability of alcohol retail establishments who serve alcohol to intoxicated customers | 1 2 3 4 5 ☐☐☐☐☐ | 1 2 3 4 5 ☐☐☐☐☐ | 1 2 3 4 5 ☐☐☐☐☐ | 1 2 3 4 5 ☐☐☐☐☐ | 1 2 3 4 5 ☐☐☐☐☐ | 1 2 3 4 5 ☐☐☐☐☐ | |
| Safe ride programs | 1 2 3 4 5 ☐☐☐☐☐ | 1 2 3 4 5 ☐☐☐☐☐ | 1 2 3 4 5 ☐☐☐☐☐ | 1 2 3 4 5 ☐☐☐☐☐ | 1 2 3 4 5 ☐☐☐☐☐ | 1 2 3 4 5 ☐☐☐☐☐ | |
| School-based education courses (instructional programs, peer interventions, social norming campaigns) | 1 2 3 4 5 ☐☐☐☐☐ | 1 2 3 4 5 ☐☐☐☐☐ | 1 2 3 4 5 ☐☐☐☐☐ | 1 2 3 4 5 ☐☐☐☐☐ | 1 2 3 4 5 ☐☐☐☐☐ | 1 2 3 4 5 ☐☐☐☐☐ | |
| Community programs for safe driving | 1 2 3 4 5 ☐☐☐☐☐ | 1 2 3 4 5 ☐☐☐☐☐ | 1 2 3 4 5 ☐☐☐☐☐ | 1 2 3 4 5 ☐☐☐☐☐ | 1 2 3 4 5 ☐☐☐☐☐ | 1 2 3 4 5 ☐☐☐☐☐ | |

**B. ROAD TRAFFIC RELATED POLICIES**

| **POLICY: A**<br><br>Speed control in developing countries: issues, challenges, and opportunities in reducing road traffic injuries (Afukaar, 2003) | **Please rate**<br>**Min= 1 2 3 4 5 =Max**<br><br>How feasible is for each specific policy component to be implemented in relation to<br><br>availability of financial resources | availability of human resources with appropriate training | eventual support on the part of your organization | acceptability on the part of the public (road users, pedestrians, drivers)? | availability of necessary technology & materials (equipment etc) | Possibility to confirm the realization of implementation | ***Comments*** |
|---|---|---|---|---|---|---|---|
| Environmental modifications should be carried out such as rumble strips, speed humps, roads that segregate high- and low-speed users, aided areas, narrowings and staggerings | 1 2 3 4 5 ☐☐☐☐☐ | 1 2 3 4 5 ☐☐☐☐☐ | 1 2 3 4 5 ☐☐☐☐☐ | 1 2 3 4 5 ☐☐☐☐☐ | 1 2 3 4 5 ☐☐☐☐☐ | 1 2 3 4 5 ☐☐☐☐☐ | |
| Product modifications such as speed control gadgets like speed governors in vehicles | 1 2 3 4 5 ☐☐☐☐☐ | 1 2 3 4 5 ☐☐☐☐☐ | 1 2 3 4 5 ☐☐☐☐☐ | 1 2 3 4 5 ☐☐☐☐☐ | 1 2 3 4 5 ☐☐☐☐☐ | 1 2 3 4 5 ☐☐☐☐☐ | |
| Enforcement of speed limits by traffic police with speed-check zones | 1 2 3 4 5 ☐☐☐☐☐ | 1 2 3 4 5 ☐☐☐☐☐ | 1 2 3 4 5 ☐☐☐☐☐ | 1 2 3 4 5 ☐☐☐☐☐ | 1 2 3 4 5 ☐☐☐☐☐ | 1 2 3 4 5 ☐☐☐☐☐ | |
| Enforcement of speed limits by traffic police with parked patrol vehicles | 1 2 3 4 5 ☐☐☐☐☐ | 1 2 3 4 5 ☐☐☐☐☐ | 1 2 3 4 5 ☐☐☐☐☐ | 1 2 3 4 5 ☐☐☐☐☐ | 1 2 3 4 5 ☐☐☐☐☐ | 1 2 3 4 5 ☐☐☐☐☐ | |
| Enforcement of speed limits by traffic police with police presence at known accident black spots (accident prone points) | 1 2 3 4 5 ☐☐☐☐☐ | 1 2 3 4 5 ☐☐☐☐☐ | 1 2 3 4 5 ☐☐☐☐☐ | 1 2 3 4 5 ☐☐☐☐☐ | 1 2 3 4 5 ☐☐☐☐☐ | 1 2 3 4 5 ☐☐☐☐☐ | |

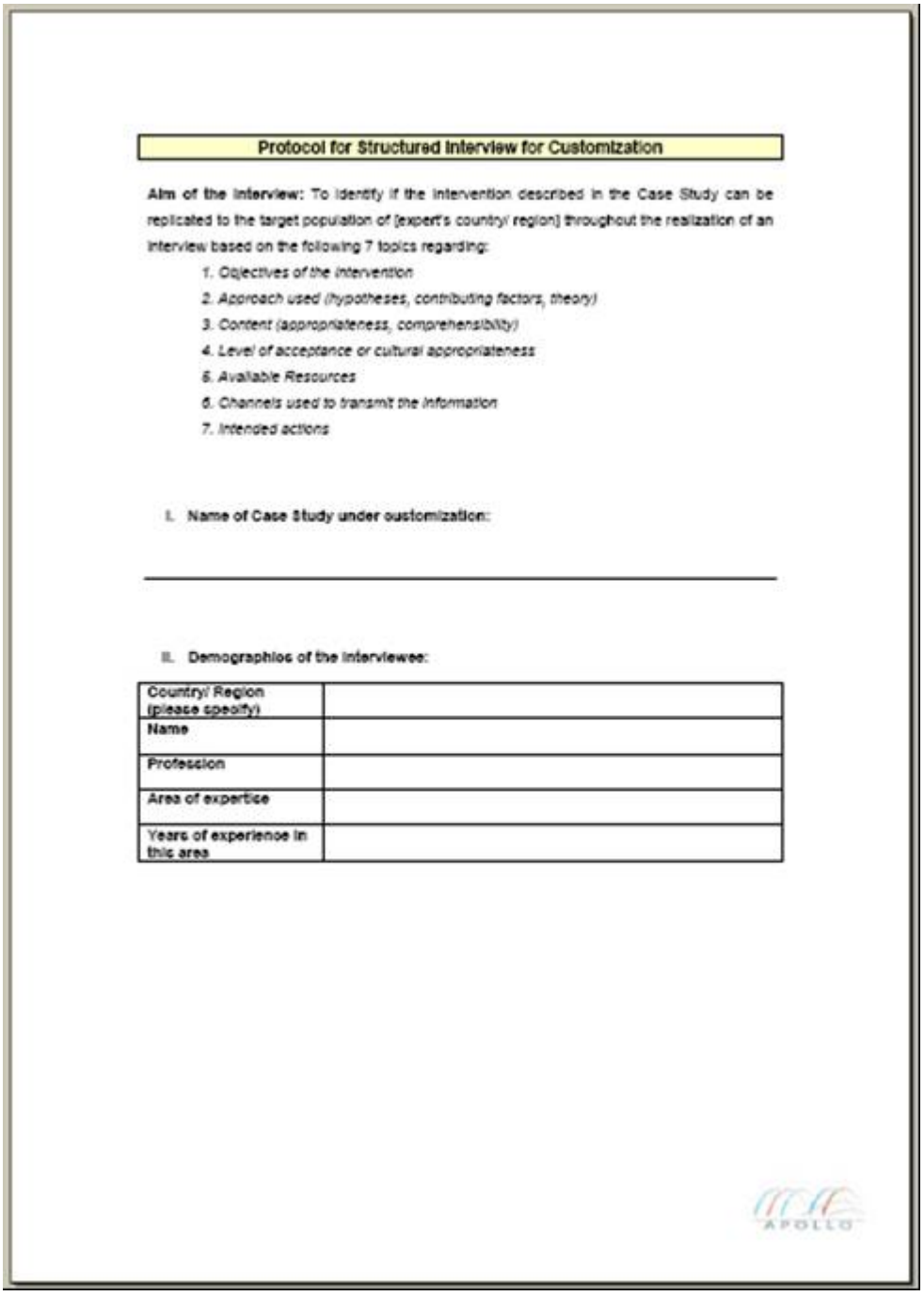
## C. DROWNING POLICIES

| **POLICY: A**<br><br>"Australian National Water Safety Plan (1999-2003)"(a)<br>[created by the Australian Water Safety Council-1998] | **Please rate**<br>**Min= 1 2 3 4 5 =Max**<br><br>How feasible is for each specific policy component to be implemented in relation to<br><br>availability of financial resources | availability of human resources with appropriate training | eventual support on the part of your organization | acceptability on the part of the public (parents, teachers, swimmers)? | availability of necessary technology & materials (equipment etc) | Possibility to confirm the realization of implementation | ***Comments*** |
|---|---|---|---|---|---|---|---|
| Water familiarization programs for children established at appropriate age/developmental levels | 1 2 3 4 5 ☐☐☐☐☐ | 1 2 3 4 5 ☐☐☐☐☐ | 1 2 3 4 5 ☐☐☐☐☐ | 1 2 3 4 5 ☐☐☐☐☐ | 1 2 3 4 5 ☐☐☐☐☐ | 1 2 3 4 5 ☐☐☐☐☐ | |
| Appropriate level of accreditation for all Swimming Teachers and Coaches conducting programs to children aged 1-4 years old | 1 2 3 4 5 ☐☐☐☐☐ | 1 2 3 4 5 ☐☐☐☐☐ | 1 2 3 4 5 ☐☐☐☐☐ | 1 2 3 4 5 ☐☐☐☐☐ | 1 2 3 4 5 ☐☐☐☐☐ | 1 2 3 4 5 ☐☐☐☐☐ | |
| Access to Water Safety Education by people in rural and particularly remote country locations | 1 2 3 4 5 ☐☐☐☐☐ | 1 2 3 4 5 ☐☐☐☐☐ | 1 2 3 4 5 ☐☐☐☐☐ | 1 2 3 4 5 ☐☐☐☐☐ | 1 2 3 4 5 ☐☐☐☐☐ | 1 2 3 4 5 ☐☐☐☐☐ | |
| Dissemination of Water Safety Information to all in-bound tourists and migrants | 1 2 3 4 5 ☐☐☐☐☐ | 1 2 3 4 5 ☐☐☐☐☐ | 1 2 3 4 5 ☐☐☐☐☐ | 1 2 3 4 5 ☐☐☐☐☐ | 1 2 3 4 5 ☐☐☐☐☐ | 1 2 3 4 5 ☐☐☐☐☐ | |
| Translation of key water safety messages in a variety of different languages and promotion of the translated messages to ethnic groups through Local Councils and through cultural specific publications | 1 2 3 4 5 ☐☐☐☐☐ | 1 2 3 4 5 ☐☐☐☐☐ | 1 2 3 4 5 ☐☐☐☐☐ | 1 2 3 4 5 ☐☐☐☐☐ | 1 2 3 4 5 ☐☐☐☐☐ | 1 2 3 4 5 ☐☐☐☐☐ | |

## Appendix 2: Feasibility questionnaire respondents

| | | | drowning | alcohol | traffic | occ traffic | occ agriculture | occ construction | occ manufacting | occ electricity |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Croatia | HR | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | |
| 2 | Norway | NO | ✓ | | | | | | | |
| 3 | Denmark | DK | ✓ | | | | | | | |
| 4 | Germany | DE | ✓ | | | | | | | |
| 5 | Spain | ES | ✓ | ✓ | ✓ | | | | | |
| 6 | Latvia | LT | ✓ | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ |
| 7 | Cyprus | CY | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 8 | Iceland | IS | | ✓ | | | | | | |
| 9 | Belgium | BE | | ✓ | | | | | | |
| 10 | Slovenia | SL | | ✓ | | | | | | |
| 11 | Portugal | PT | | ✓ | | | | | | |
| 12 | Czech Republic | CZ | | ✓ | | | | ✓ | ✓ | ✓ |
| 13 | Albania | AL | | | ✓ | | | | | |
| 14 | Hungary | HU | | | ✓ | ✓ | | | | |
| 15 | Greece | GR | | | ✓ | ✓ | | | | |
| 16 | United States of America | USA | | | | | ✓ | ✓ | ✓ | ✓ |

**Appendix 3: Interview protocol for the customization study** (for the full version of the interview protocol go to www.euroipn.org/apollo/wp3)



**Protocol for Structured Interview for Customization**

**Aim of the interview:** To identify if the intervention described in the Case Study can be replicated to the target population of [expert's country/ region] throughout the realization of an interview based on the following 7 topics regarding:

1. *Objectives of the intervention*
2. *Approach used (hypotheses, contributing factors, theory)*
3. *Content (appropriateness, comprehensibility)*
4. *Level of acceptance or cultural appropriateness*
5. *Available Resources*
6. *Channels used to transmit the information*
7. *Intended actions*

I. **Name of Case Study under customization:**

_____

II. **Demographics of the interviewee:**

| | |
|---|---|
| Country/ Region (please specify) | |
| Name | |
| Profession | |
| Area of expertise | |
| Years of experience in this area | |





APOLLO