Implementation of evidence-based interventions to prevent drowning: results from a WHO collaborative project

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Contact: mit@ecr.euro.who.int
34000 drownings/year in WHO European Region

Deaths per 100 000 population

Age group (years)

- Males
- Females

Other 25%
Road traffic 16%
Poisonings 14%
Falls 10%
Violence 8%
Fires 3%
Self-directed 19%
War and civil conflict 1%
Drowning 4%

34000 drownings/year in WHO European Region
A leading cause of death in children

<table>
<thead>
<tr>
<th></th>
<th>0-4</th>
<th>5-14</th>
<th>15-29</th>
<th>30-44</th>
<th>45-59</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perinatal</td>
<td>(87 536)</td>
<td>RTIs (4 185)</td>
<td>RTIs (39 278)</td>
<td>Ischaemic heart disease (56 952)</td>
<td>Ischaemic heart disease (279 189)</td>
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<tr>
<td>conditions</td>
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<tr>
<td>Lower</td>
<td>(34 484)</td>
<td>Drownings (2 432)</td>
<td>Self-inflicted</td>
<td>Self-inflicted injuries (41 011)</td>
<td>Cerebrovascular disease (111 901)</td>
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<tr>
<td>respiratory</td>
<td></td>
<td></td>
<td>injuries (29 548)</td>
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<tr>
<td>infections</td>
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<tr>
<td>Diarrhoeal</td>
<td>(32 400)</td>
<td>Lower respiratory infections (1 956)</td>
<td>Violence (14 899)</td>
<td>Poisonings (33 627)</td>
<td>Trachea, bronchus, h...</td>
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<td>diseases</td>
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<tr>
<td>Congenital</td>
<td>(25 782)</td>
<td>Leukaemia (1 680)</td>
<td>Poisonings (14 066)</td>
<td>RTIs (33 218)</td>
<td>Cirrhosis of the liver (69 915)</td>
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<td>anomalies</td>
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<tr>
<td>Meningitis</td>
<td>(5 360)</td>
<td>Congenital anomalies (1 390)</td>
<td>HIV/AIDS (7 009)</td>
<td>Tuberculosis (28 880)</td>
<td>Poisonings (41 597)</td>
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<tr>
<td>Upper</td>
<td>(2 998)</td>
<td>Self-inflicted injuries (1 288)</td>
<td>Tuberculosis (6 696)</td>
<td>Cirrhosis of the liver (27 376)</td>
<td>Self-inflicted injuries (41 425)</td>
</tr>
<tr>
<td>respiratory</td>
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<tr>
<td>infections</td>
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<tr>
<td>Drownings</td>
<td>(2 467)</td>
<td>Lymphomas, multiple myeloma (701)</td>
<td>Drownings (6 568)</td>
<td>Cerebrovascular disease (23 038)</td>
<td>Breast cancer (39 964)</td>
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<tr>
<td>RTIs</td>
<td>(1 735)</td>
<td>Epilepsy (649)</td>
<td>Ischaemic heart disease (4 615)</td>
<td>Violence (22 633)</td>
<td>Colon and rectum (31 163)</td>
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<tr>
<td>Endocrine</td>
<td>(1 648)</td>
<td>Cerebrovascular disease (594)</td>
<td>Leukaemia (4 252)</td>
<td>Inflammatory heart diseases (10 745)</td>
<td>Stomach cancer (28 056)</td>
</tr>
</tbody>
</table>

Source: GBD project, 2004
Drowning, the burden: an uneven distribution

35 fold difference between the countries with highest and the lowest rates (HFA data, Jan 2010)
9.2 fold difference between low- and middle income and high-income countries – 90% of lives (around 31000) could be saved (WHO 2006) – unpublished update: 6.5 fold difference
Children 0-9 yrs old: 7 fold difference between low- and middle income and high-income countries (WHO 2008)

A public health framework for action

- Develop national plans
- Improve national surveillance
- Strengthen national capacity
- Prioritize research in primary prevention and trauma care
- Promote good practice
- Support network of focal points for VIP
Web based:
- European inventory of national policies
- Monitoring and reporting tool (questionnaires and country assessments)
The WHO survey/1

• It is about:
  – Political support
  – Easy access to surveillance information
  – Multisectoral working
  – Changes in policy development in past year
  – Implementation of evidence-based primary prevention interventions
    • Calculation of country scores based on reported implementation of 99 effective preventive measures;
    • New questions on interventions for alcohol and socioeconomic factors.
The WHO survey/2

- Questionnaire distributed to national focal persons appointed by the Ministry of Health
- Response rate: 92% (47 out of 51 countries with a focal person)
- Results published in 2010 and presented in March at the 5th Ministerial Conference on Environment and Health held in Parma and at the European Parliament

74% of respondent Member States report in 2009 that the Resolution has helped catalyse action
National policies on preventing injuries

Whereas 95% have a national policy for road safety only 45% have this for fires, 40% for drowning (based on 46 countries)
Progress in developing national policies for injury prevention in 37 European countries

Progress has been made for unintentional injury and road safety policy but more needs to be done for other injuries.
Evidence-based interventions to prevent drowning

1. Ensuring immediate resuscitation
2. Conducting targeted awareness-raising on drowning
3. Safety standards for swimming pool
4. Properly trained and equipped lifeguards
5. Removing or covering bodies of water, such as wells
6. Introducing laws on 4-sided pool fencing
7. Enforcing laws on 4-sided pool fencing
8. Use of personal floatation devices
### Results from the survey

**Fig. 11.** Do you have in place any of the following programmes for preventing drowning or submersion?

<table>
<thead>
<tr>
<th>Programme</th>
<th>Yes, implemented nationally</th>
<th>Yes, implemented in some areas</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ensuring immediate resuscitation</td>
<td>48%</td>
<td>43%</td>
<td>10%</td>
</tr>
<tr>
<td>Conducting targeted awareness-raising on drowning</td>
<td>52%</td>
<td>33%</td>
<td>14%</td>
</tr>
<tr>
<td>Safety standards for swimming pools</td>
<td>68%</td>
<td>28%</td>
<td>4%</td>
</tr>
<tr>
<td>Properly trained and equipped lifeguards</td>
<td>52%</td>
<td>40%</td>
<td>8%</td>
</tr>
<tr>
<td>Removing or covering bodies of water, such as wells</td>
<td>32%</td>
<td>23%</td>
<td>45%</td>
</tr>
<tr>
<td>Enforcing laws on 4-sided pool fencing</td>
<td>13%</td>
<td>8%</td>
<td>79%</td>
</tr>
<tr>
<td>Introducing laws on 4-sided pool fencing</td>
<td>17%</td>
<td>13%</td>
<td>71%</td>
</tr>
<tr>
<td>Use of personal floatation devices</td>
<td>35%</td>
<td>26%</td>
<td>39%</td>
</tr>
</tbody>
</table>

Average scores of 32 countries for implementation of injury prevention measures

Better policy development has gone hand in hand by more interventions being implemented.
Implementation at subregional level

- Countries grouped according to location
- Low heterogeneity within groups (both in mortality rates than in implementation)

No implementation in LVA, 25% in LTU, 50% in EST
Highlights

• A very high implementation rate in the Nordic and in the Central European countries where some mortality rates are also high (for example, Finland, Hungary and Slovenia) – a good way to decrease mortality rates;

• Implementation rates are among the lowest in Southern countries but mortality rates are among the lowest too; and

• Implementation rates are among the lowest in the Baltic countries and mortality rates are high – an important area for improvement
Limitations/Interpretation

• The questionnaire itself – reliability and validity
• Responder bias – language, same assessment criteria?
• Comparison with previous years could have affected results
• The list of interventions selected
• Time lag for mortality data of 3 years – 2 countries had data for 2008
• Time scale for interventions: difficult to assign a date
• Interventions may have a latency period
• Responses in countries with a federal structure are difficult
• Geographical coverage may be variable
Conclusions and way forward

• Drowning a leading cause of death in children
• Survey has highlighted few countries have a national policy for drowning prevention
• Few countries implement programmes at a national level
• Sub-regional analysis has shown different patterns
• Baltic countries stand out as having high mortality but low implementation
• Survey developed with the direct input of National Focal Persons for VIP
• Opportunities ahead
  – More political commitment with policy development
  – Implementation of evidence-based programmes with scaling up of successful local pilot projects
  – Exchange good practice through networks such as health ministry focal people