Drowning and disasters: climate change priorities

The public health impacts of disasters are expected to increase as the climate continues to change. Drowning is a leading cause of death during floods and cyclones. Other extreme weather events lead to drowning among fishers, ferry passengers, and migrants, and heatwaves and drought are also associated with increased incidences of drowning. A growing recognition of the roles of health systems in global policies on climate change, and the establishment of a Loss and Damage Fund necessitate greater action on drowning prevention as a key strategy for climate change adaptation. A public health approach to drowning prevention offers multiple opportunities to synergistically benefit climate change risk reduction and drowning prevention.

The need to accelerate action to prevent drowning has been recognised by WHO and the UN in World Health Assembly and General Assembly resolutions, respectively, in the past 3 years. One of the ten priorities to address drowning in the UN General Assembly Resolution is to “encourage integration of drowning prevention within existing disaster risk reduction programmes” and to identify links between the global effort to prevent drowning and the Sendai Framework for Disaster Risk Reduction 2015–2030. Additionally, WHO urges those working at national and community levels to prevent drowning to “build resilience and manage flood risks and other hazards locally and nationally”, yet there remains a disconnect between the two fields.

Despite these acknowledgments and drowning being a major cause of death in water-related disasters, specific references to drowning remain conspicuously absent in the field of disaster risk reduction (DRR). Within the Sendai Framework and much UN guidance on DRR, there are no mentions of drowning prevention, either as a targeted outcome or as an indicator for monitoring and evaluation. The Executive Action Plan for Early Warnings for All announced by the UN Secretary General mentions health only in the context of Sustainable Development Goal 3 (good health and well-being) and its subsequent progress report has no reference to drowning. These documents miss an opportunity to reinforce DRR efforts by connecting them with directly related public health benefits, such as drowning prevention.

Research we conducted aimed to examine the presence of cross-referencing between the drowning prevention and DRR literature globally, both academic and grey (policy and practice resources). By use of text mining methods, 748 documents were interrogated. We found disaster to be a topic of some focus within drowning prevention literature, although drowning was found to have little prevalence within the DRR literature. Crossover was more prominent in the academic literature than policy and practice documents (see table).

There remain substantial barriers to greater mutual recognition and collaboration between the fields of drowning prevention and DRR. One of the main challenges is the inadequate visibility on drowning as a cause of death during disasters. Estimates place drowning as accounting for 75% of all flood disaster fatalities, although estimates were derived from documented disasters, more commonly in high-income contexts. An absence of early warning, evacuation, and rescue systems, and cause of death reporting is more likely to render this figure an underestimate in low-resource contexts. However, flood and other disaster-related drowning deaths are, to date, not captured in global drowning data provided by the Global Burden of Disease Study or WHO’s Global Health Estimates.

As a core component of the drowning prevention workforce traditionally tasked with recreational rescue responsibilities, lifeguards and lifesavers are increasingly responding in times of flood disaster, sometimes without appropriate training, equipment, or interagency cooperation. Those in the drowning prevention community need to better align with community and institutional efforts and apply their influence and capabilities to reduce the risks and effects of hazard events in line with local and national disaster risk management agendas (in addition to their vital roles in rescue and response).

<table>
<thead>
<tr>
<th>Document type*</th>
<th>Specific phrase</th>
<th>Including synonyms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drowning prevention Academic 241</td>
<td>Flood 56 (23.2%)</td>
<td>81 (33.6%)</td>
</tr>
<tr>
<td>Drowning prevention Grey 16</td>
<td>Flood 11 (68.8%)</td>
<td>15 (93.8%)</td>
</tr>
<tr>
<td>Disaster risk reduction Academic 451</td>
<td>Drowning 21 (4.7%)</td>
<td>90 (20.0%)</td>
</tr>
<tr>
<td>Disaster risk reduction Grey 40</td>
<td>Drowning 6 (15.0%)</td>
<td>36 (90.0%)</td>
</tr>
</tbody>
</table>

Data are n (%) unless otherwise specified. Grey documents are policy or practice documents. *Data are N.

Table: Documents with direct phrase matches and relevant synonyms from academic and policy or practice drowning prevention and disaster risk reduction literature
Decades, and in some cases, hundreds of years of experience in preventing drowning exist within drowning prevention and water safety organisations across the world. The World Conference on Drowning Prevention—held in Perth, Australia, in December 2023—further acknowledged the importance of drowning prevention in DRR, emergency response, and community resilience. The conference’s 750 global delegates specifically called for better integration of drowning prevention in DRR as part of multisectoral engagement to identify synergies between sectors and stakeholders.10

Whole of society collaboration and coordination among drowning prevention, disaster risk management, and climate communities are vital to prevent loss of life and other health effects in aquatic events of all scales, including disasters. Data, action, and funding for drowning prevention in emerging and ongoing local, national, and global initiatives related to loss and damage and multihazard early warning systems will be crucial to saving lives in climate-related events. In the face of a growing climate crisis, increased cross-sectoral collaboration and action on drowning prevention will be a matter of life and preventable death.

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