Accidental drownings are predictable and preventable
Mary E. Helander, Margaret K. Formica, and Alexandra Punch

Figure 1. Emergency medical system (EMS) 9-1-1 dispatches by hour of day: Drowning/Diving/SCUBA Accidents (2010-2019)¹

Accidental drowning is a worldwide public health issue. It is the 3rd leading cause of unintentional injury-related death in the world for all age groups.² Less frequently reported are the serious health consequences of nonfatal drownings, such as learning disabilities, memory complications, and loss of basic functioning associated with brain damage. Non-fatal drownings are more common than drowning deaths. In the U.S., five times as many children experience nonfatal drowning incidents compared to drowning deaths.²

According to national 9-1-1 dispatch data, drowning accidents peak around dinner time, with one third of all fatal and nonfatal drowning events occurring between 4 PM and 8 PM. Alcohol/drug use and gender play a significant role in driving temporal patterns in drowning, according to indicators such as alcohol containers and drug paraphernalia found at the scene.¹

¹ Data are from dispatches recorded in the National Emergency Medical Services Information System (NEMSIS), 2010-2019. https://nemsis.org. Swimmer image adapted from: https://creativecommons.org/licenses/by-nc/3.0/
Recommendations to prevent fatal and nonfatal drowning incidents and their serious health consequences include:  

- Avoid alcohol and drug use while recreating near water.
- Supervise children and weak swimmers, closely, attentively and constantly.
- Only swim where there are lifeguards.
- Develop water competency, including swimming skills as well as the ability to recognize when a swimmer is in danger.
- Wear a personal flotation device, i.e. life jacket, when boating. Children and weak swimmers should wear them when near open water.
- Learn cardiopulmonary resuscitation (CPR).

Accidental drowning is a public health risk that is preventable. Public awareness about the time of day most drownings occur, i.e. between 4-8 PM, can help people be more vigilant and avoid these preventable events. Community-wide awareness campaigns, and programs to enable access to swimming lessons and education for socio-economically disadvantaged youth and their families, are also recommended.

About the Authors

Mary E. Helander is a Social Science PhD student at SU’s Maxwell School, an MPH student at SU’s Falk College, and a Graduate Fellow at the Lerner Center for Public Health Promotion (meheland@syr.edu).

Margaret K. Formica is an Associate Professor of Public Health and Preventive Medicine and an Associate Professor of Urology at Upstate Medical University (FormicaM@upstate.edu). Alexandra Punch is the Associate Director of the Lerner Center for Public Health Promotion at SU’s Maxwell School (aepunch@syr.edu).

The mission of the Lerner Center for Public Health Promotion at Syracuse University is to improve population health through applied research and evaluation, education, engaged service, and advocating for evidence-based policy and practice change.

syracuse.edu | lernercenter.syr.edu

---