Drowning surveillance in Denmark: combining different data sources on drowning mortality

Bjarne Laursen
Sanne Pagh Møller

Luxembourg, October 3, 2019
Purpose

The aim is to provide national statistics to be used for prevention of drowning in Denmark

Statistics on:
- Intent (accident, suicide, homicide, unknown)
- Age and sex
- Place of drowning event, e.g. lake
- Activity before drowning, e.g. fishing
- Other information, e.g. alcohol and drugs, first aid, alone, life jacket

Used for prevention of drowning in cooperation with TrygFonden
Data sources

- Media (TrygFonden, Danish Council for Greater Water Safety)
- Death certificates, selected ICD-10 codes (drowning, hypothermia)+external cause of injury
- Registration by the Danish Maritime Safety Council
- Other, e.g. web searches
Selection process

- Registration
  - All information is collected and different sources are compared to avoid double counting

- Dead?
  - If media: is the body found? Did the person survive?

- Drowning?
  - If in doubt, assume it is drowning

- Intent?

- Coding of the remaining information
Combining data sources 2014-17

During 2014-17, a total of 341 people drowned in Denmark

- 189 by accident (55 %)
- 120 by suicide (35 %)
- 30 with unknown intent (9 %)
- 2 by homicide (<1 %)

Sources of information to the 341 drowning deaths:

- Death certificates: 267 (78%)
- Media: 225 (66%)
- Resque services: 43 (13%)
Unintentional drowning deaths in Denmark 2001-2017
Total number and incidence per 100,000
Unintentional drowning – place and activity mean annual number 2001-2017

- Place: Open sea/at sea, Harbour, Lake, Beach/coast, Swimming pool, Bridge, Bathtub, Stream/river, Other body of water, Unspecified place

- Activity: Bathing, Bathtub, Leisure boating, Fishing (occupational), Diving, Leisure fishing from shore, Traffic, Walking in harbour, Other activity, Unspecified activity

Annual number of fatal drownings
Conclusion

- Death certificates and media information are both incomplete, but both may be needed to obtain the full picture
- Combining data sources is not straightforward as information is uncertain