

PART 1

OVERVIEW OF DROWNINGS & OTHER WATER-RELATED INJURY FATALITIES & OF HOSPITALIZATIONS FOR NEAR DROWNINGS

The major categories of water-related injuries include drownings during boating, aquatic activities such as swimming and wading, bathing, and falls into water. Another source of drownings includes land and air transport, mainly travel by off-road vehicles such as snowmobiles and on-road vehicles such as cars. This chapter provides a summary of the numbers and rates of all water-related fatalities for males and females. While many risk factors are pertinent only for specific subcategories of drowning by activity, this chapter does include an overview of risk factors that are pertinent for all drownings, excluding land and air transport which are discussed separately in part 7. Subcategories of drownings are discussed in greater detail in later sections of the report.

Boating continues to be the largest single source of drownings, followed by aquatic activities and falls into water. Toddlers of 1-4 years old and males from 15 to 75 and older are the main risk groups for drowning. Alcohol, often at very high levels, is associated with at least one-third of drownings. For victims where swimming status was known, non-swimmers and weak swimmers accounted for more than half of the total in both age groups 5-14 years and 15 and older. Weak swimmers and non-swimmers are frequent among victims of drowning during wading or playing in water, from falls into water, and during swimming. On the other hand about 10% of victims during swimming and wading were reported to be strong swimmers.

About 60% of both infants less than one-year old, toddlers between 1-4 years old, and 5-14 year-old victims were alone or with a minor when they drowned. For all ages combined, most victims of bathtub drowning and falls into water were alone at the time of the incident. Because infants and toddlers tend to drown during a momentary absence of a caregiver, there is a higher percentage of acute rescue and resuscitation for these age groups than for older victims. A significant proportion, up to one third, of children 1 to 14 who undergo an acute rescue do not receive CPR.

Rivers are the most frequent location of drownings in Quebec and British Columbia, lakes are most frequent in Ontario and the Prairies, and the ocean in the Atlantic region. These differences reflect the geography and activities in the regions. The Northwest Territories and Yukon had the highest drowning rates in 1999, followed by the Atlantic region and British Columbia. The lowest rate was in Ontario.

The relative importance of drowning as a cause of unintentional injury death varies greatly by age. According to Statistics Canada data for 1997, among 0 to 24 year olds, drowning ranked second and among 25-44 year olds it ranked third. Overall among all age groups, drowning was the fourth most frequent cause of unintentional injury death. The male to female ratio of victims is highest for snowmobiling and boating, ranging from about 10 to 20 to 1. The only category where female victims equal or even exceed males in number is bathtub drownings. For aquatic activities and falls into water, the male to female ratio is about 4 to 1.

Water-related injury fatalities other than drownings, such as trauma from boating collisions, diving into shallow water, and immersion hypothermia without drowning, are much less frequent than drownings. There are about 30 to 40 water-related injury fatalities other than drownings in Canada each year. Although the primary cause of death is not drowning, drowning may have complicated another injury. Most occur during boating, during aquatic activities such as diving or scuba diving, and from falls into water or through ice during non-aquatic activities, including land and air transport. Injuries sustained

included head or spinal injuries, internal injuries, air embolism and hypothermia. Contributing circumstances include alcohol consumption, collisions involving boats and personal watercraft, overloading of boats, and adverse weather and light conditions.

In the case of hypothermia, only hypothermia deaths reportedly uncomplicated by drowning are included as non-drownings. Cases of hypothermia that were reported by coroners to be associated with drowning were classified as drownings complicated by hypothermia, irrespective of whether drowning was listed as the primary or the secondary cause of death. These cases are so-called immersion deaths, and in usual practice it is not always feasible to assess the relative contributions of drowning and hypothermia.

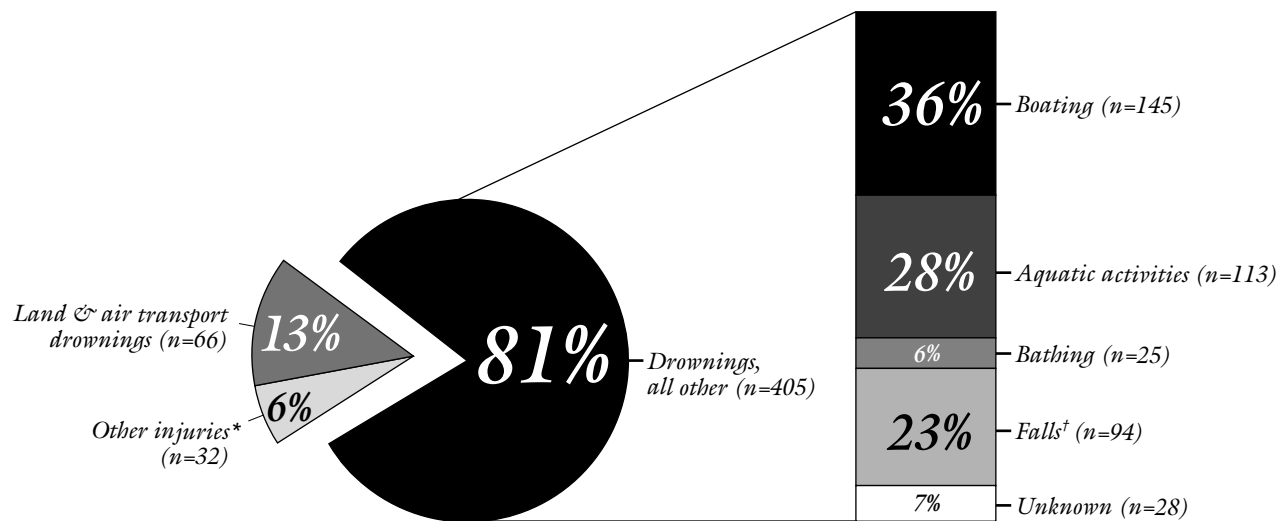
For more details about non-drowning fatalities, please refer to the sections at the end of each chapter and to the appropriate annexes.

Near drownings occur when a drowning victim is rapidly resuscitated and survives to reach hospital. There has been an average of less than one near drowning for every drowning in Canada during 1994-1999. Hence while the drowning rate has averaged about 1.5 per 100,000 population, the near drowning rate averaged 1.2. However, among infants, there are now about 15 times more near drownings than fatal drownings, and among toddlers 4 times more. The significant improvement in drowning rates in small children during 1995-1999 has not been observed for near drowning.

Near drownings are most frequent among children at home who fall into unprotected swimming pools or are left alone momentarily in the bath. Nevertheless, near drownings from boating incidents result in a much longer average duration of hospitalization; this may reflect greater delays before rescue and resuscitation of boaters. Some victims of near drowning are left with brain damage or die in the hospital.

The highest rates of near drowning are seen among toddlers, followed by infants and older children. While boating is infrequent as a source of near drowning among children, boating accounts for as many as half of all near drownings among older adults.

Figure 1.1 WATER-RELATED DEATHS BY TYPE OF INJURY & ACTIVITY, CANADA 1999 (n=503)



* Includes all injuries other than drownings

† Falls into water during non-aquatic activities such as walking or playing near water or on ice

Source: The Canadian Red Cross Society & the Canadian Surveillance System for Water-Related Fatalities, 2001

Table 1.1

**SUMMARY OF NUMBERS, PERCENTS* AND RATIOS FOR WATER-RELATED FATALITIES
BY SEX, CANADA 1999 (n=503)**

| | MALE | | FEMALE | | TOTAL | | MALE : FEMALE RATIO |
|---|------------|-----------|-----------|-----------|------------|------------|------------------------|
| | No. | % | No. | % | No. | % | |
| DROWNING (E910, E830, E832) (excludes land & air transport) | 331 | 81 | 74 | 80 | 405 | 81 | 4.5 |
| Boating | 133 | 40 | 12 | 16 | 145 | 36 | 11.1 |
| Recreational | 110 | 83 | 12 | 100 | 122 | 84 | 9.2 |
| ♦ Small open powerboat† (≤5.5m) | 38 | | 3 | | 41 | | 12.7 |
| ♦ Canoe | 16 | | 0 | | 16 | | — |
| ♦ Other boat‡ | 56 | | 9 | | 65 | | 6.2 |
| Daily living | 11 | 8 | 0 | 0 | 11 | 8 | — |
| Occupational | 9 | 7 | 0 | 0 | 9 | 6 | — |
| Rescue | 3 | 2 | 0 | 0 | 3 | 2 | — |
| Other/unknown | 0 | 0 | 0 | 0 | 0 | 0 | — |
| Aquatic activities | 90 | 27 | 23 | 31 | 113 | 28 | 3.9 |
| Recreational | 77 | 86 | 19 | 83 | 96 | 85 | 4.1 |
| ♦ Swimming | 58 | | 12 | | 70 | | 4.8 |
| – Home swimming pool | 2 | | 0 | | 2 | | — |
| – Other swimming pool | 5 | | 4 | | 9 | | 1.3 |
| – Other body of water | 51 | | 8 | | 59 | | 6.4 |
| ♦ Playing/wading in water | 6 | | 2 | | 8 | | 3.0 |
| ♦ Other | 13 | | 5 | | 18 | | 2.6 |
| Daily living | 0 | 0 | 0 | 0 | 0 | 0 | — |
| Occupational | 3 | 3 | 0 | 0 | 3 | 3 | — |
| Rescue | 9 | 10 | 4 | 17 | 13 | 12 | 2.3 |
| Other/unknown | 1 | 1 | 0 | 0 | 1 | 1 | — |
| Bathing in bathtub | 12 | 4 | 13 | 18 | 25 | 6 | 0.9 |
| Non-aquatic activities – falls into water | 74 | 22 | 20 | 27 | 94 | 23 | 3.7 |
| Recreational‡ | 50 | 68 | 16 | 80 | 66 | 70 | 3.1 |
| ♦ Swimming pool | 7 | | 4 | | 11 | | 1.8 |
| ♦ Other body of water‡ | 43 | | 12 | | 55 | | 3.6 |
| Daily living | 19 | 26 | 1 | 5 | 20 | 21 | 19.0 |
| ♦ Walking near water or on ice | 8 | | 1 | | 9 | | 8.0 |
| ♦ Other | 11 | | 0 | | 11 | | — |
| Occupational | 3 | 4 | 1 | 5 | 4 | 4 | 3.0 |
| Rescue | 1 | 1 | 0 | 0 | 1 | 1 | — |
| Other | 0 | 0 | 0 | 0 | 0 | 0 | — |
| Unknown | 1 | 1 | 2 | 10 | 3 | 3 | 0.5 |
| Unknown activities | 22 | 7 | 6 | 8 | 28 | 7 | 3.7 |
| LAND & AIR TRANSPORT DROWNING | 56 | 14 | 10 | 11 | 66 | 13 | 5.6 |
| On-road motor vehicle, on-road incident | 28 | 50 | 10 | 100 | 38 | 58 | 2.8 |
| On-road motor vehicle, off-road incident | 7 | 13 | 0 | 0 | 7 | 11 | — |
| Snowmobile§ | 17 | 30 | 0 | 0 | 17 | 26 | — |
| All-terrain vehicle | 0 | 0 | 0 | 0 | 0 | 0 | — |
| Other off-road vehicle | 2 | 4 | 0 | 0 | 2 | 3 | — |
| Aircraft | 2 | 4 | 0 | 0 | 2 | 3 | — |
| NON-DROWNING FATALITIES¶ | 24 | 6 | 8 | 9 | 32 | 6 | 3.0 |
| Boating | 9 | 38 | 3 | 38 | 12 | 38 | 3.0 |
| ♦ Collision between boats** | 2 | | 0 | | 2 | | — |
| ♦ Collision of boat with fixed object†† | 0 | | 1 | | 1 | | — |
| ♦ Collision, other‡‡ | 0 | | 1 | | 1 | | — |
| ♦ Immersion hypothermia§§ | 5 | | 1 | | 6 | | 5.0 |
| ♦ Propeller injury | 0 | | 0 | | 0 | | — |
| ♦ Fell out of boat¶¶ | 1 | | 0 | | 1 | | — |
| ♦ Rope struck victim*** | 1 | | 0 | | 1 | | — |
| Scuba diving with air embolism | 3 | 13 | 2 | 25 | 5 | 16 | 1.5 |
| Diving into water with head or spinal injury | 3 | 13 | 0 | 0 | 3 | 9 | — |
| Diving into water, other/unspecified injury | 0 | 0 | 0 | 0 | 0 | 0 | — |
| Jumping into water | 0 | 0 | 0 | 0 | 0 | 0 | — |
| Other aquatic activity | 0 | 0 | 0 | 0 | 0 | 0 | — |
| Falls with physical injury | 3 | 13 | 0 | 0 | 3 | 9 | — |
| Land and air transport with physical injury | 6 | 25 | 3 | 38 | 9 | 28 | 2.0 |
| ♦ Snowmobile, immersion hypothermia | 3 | | 2 | | 5 | | 1.5 |
| ♦ On-road vehicle, on-road incident | 1 | | 0 | | 1 | | — |
| ♦ ATV | 1 | | 0 | | 1 | | — |
| ♦ Aircraft | 1 | | 1 | | 2 | | 1.0 |
| Other/Unknown | 0 | 0 | 0 | 0 | 0 | 0 | — |
| TOTAL | 411 | 82 | 92 | 18 | 503 | 100 | 4.5 |

* Values in light shaded areas refer to dark shaded totals above; values in unshaded areas relate to light shaded areas above

† Includes open outboard motorboats & other open powered boats such as inflatables; excludes personal watercraft

‡ Sex unknown for 1 victim, imputed male § 1 incident was on-road ¶ Primary cause of death was injury other than drowning, although

drowning may have complicated another injury; in case of hypothermia, only hypothermia deaths reportedly uncomplicated by drowning are included here

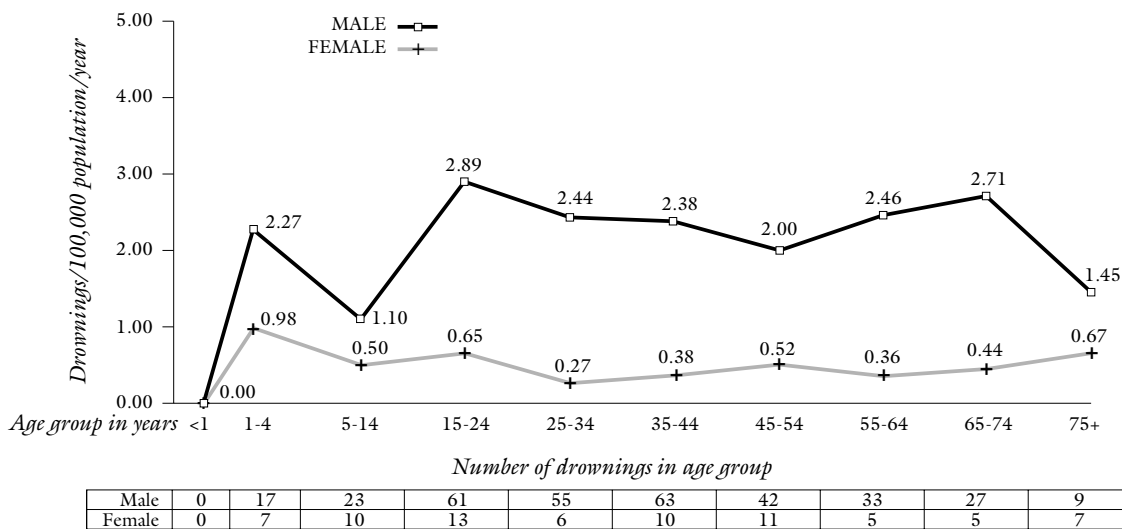
** Including large powerboat (>5.5m) †† Including personal watercraft ‡‡ Including powerboat size unspecified †

§§ Including small open powerboat (≤5.5m) 5, large powerboat (>5.5m) 1 ¶¶ Including non-powered inflatable †*** Including large powerboat (>5.5m) 1

Source: The Canadian Red Cross Society & the Canadian Surveillance System for Water-Related Fatalities, 2001

Figure 1.2

RATE AND NUMBER OF DROWNINGS* BY AGE & SEX, CANADA 1999
(n=405; 331 MALES & 74 FEMALES)†

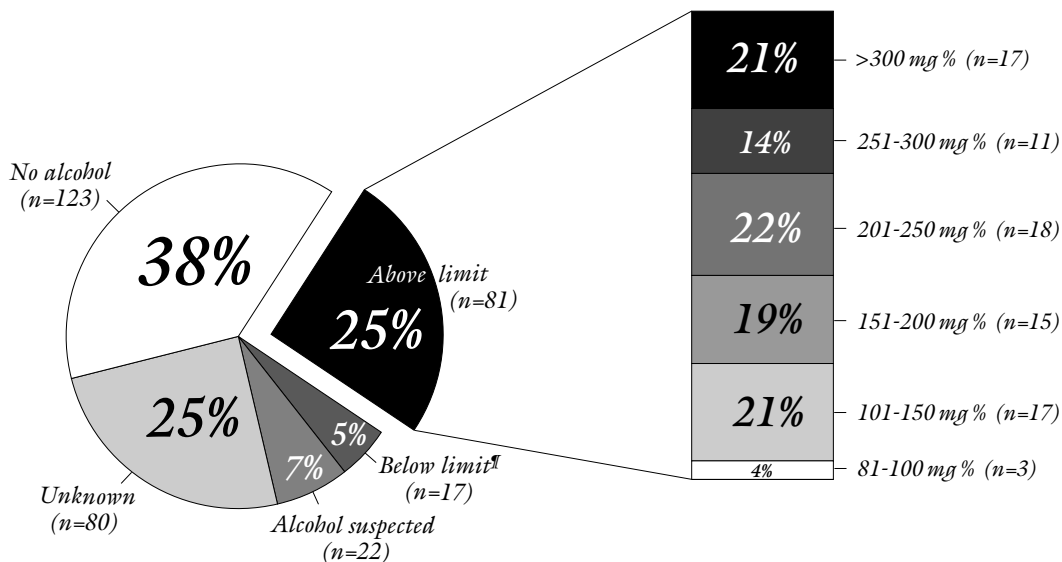


* Includes recreational, occupational & daily living drownings (E910, E830, E832); excludes land & air transport drownings
† Age unknown for 1 male victim; sex unknown for 2 victims, imputed male (2-year-old, 36-year-old)

Source: The Canadian Red Cross Society & the Canadian Surveillance System for Water-Related Fatalities, 2001

Figure 1.3

BLOOD ALCOHOL LEVELS* FOR ALL DROWNINGS,† CANADA 1999
(VICTIMS ≥15 YEARS OF AGE; n=348)‡§

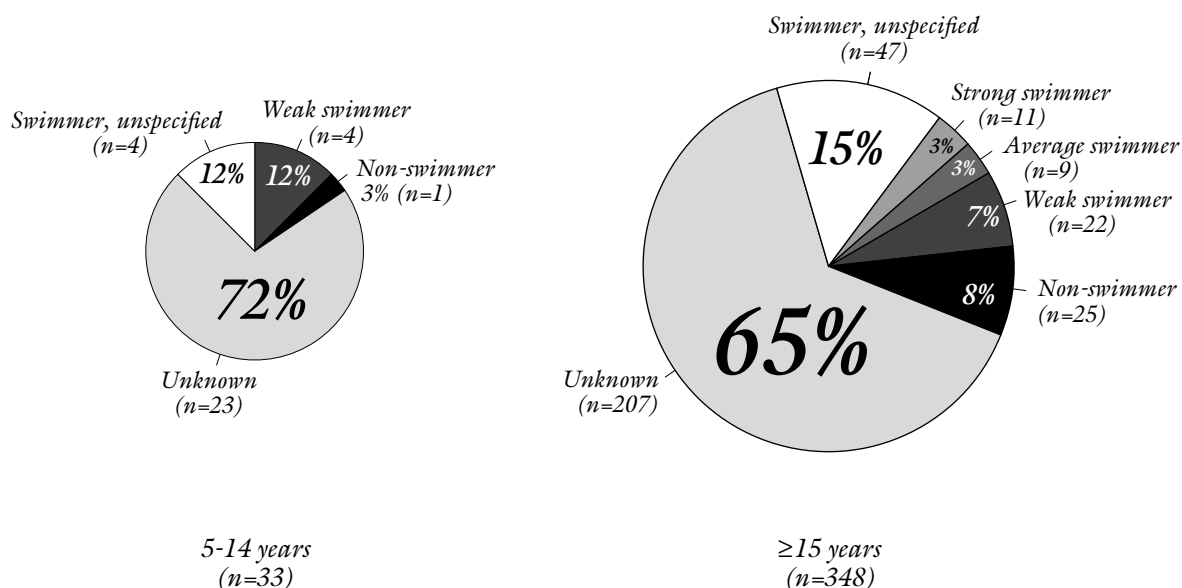


* Legal limit is 80 mg % † Includes recreational, occupational & daily living drownings (E910, E830, E832); excludes land & air transport drownings ‡ This figure excludes 25 victims; decomposition rendered blood alcohol unreliable § Age unknown for 1 victim, presumed adult ¶ 7 at 1-49 mg %, 10 at 50-80 mg %

Source: The Canadian Red Cross Society & the Canadian Surveillance System for Water-Related Fatalities, 2001

Figure 1.4

**DROWNINGS* BY SWIMMING ABILITY BY AGE, CANADA 1999
(VICTIMS ≥ 5 YEARS OF AGE; n=381)†‡**



* Includes recreational, occupational & daily living drownings (E910, E830, E832); excludes land & air transport drownings † Age unknown for 1 victim, presumed adult ‡ This figure excludes 28 cases where swimming ability was considered irrelevant (5-14 years 1, ≥ 15 years 27)

Source: The Canadian Red Cross Society & the Canadian Surveillance System for Water-Related Fatalities, 2001

Table 1.2

DROWNINGS BY TYPE OF RECREATIONAL ACTIVITY AND BY SWIMMING ABILITY, CANADA 1999 (VICTIMS ≥ 5 YEARS OF AGE; n=262)

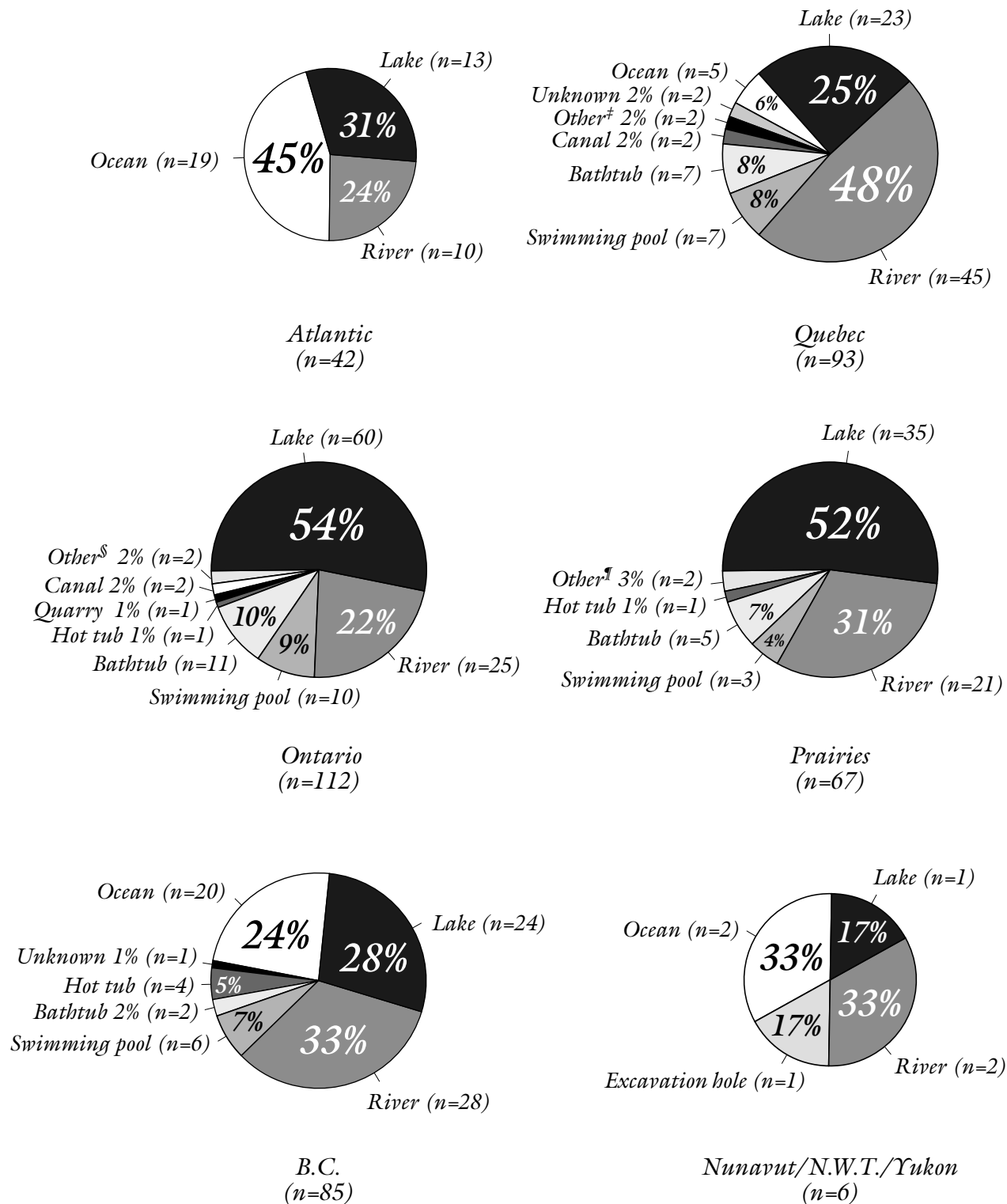
| ACTIVITY | SWIMMING ABILITY | | | | | | Total % |
|--------------------------|------------------|-----------|--------|-------------------------|---------------|-----------------------|---------|
| | Strong % | Average % | Weak % | Swimmer, unspecified* % | Non-swimmer % | Unknown/irrelevant† % | |
| Aquatic (n=96) | 7 | 6 | 15 | 36 | 4 | 26 | 100 |
| Swimming (n=70) | 9 | 7 | 16 | 43 | 3 | 23 | 100 |
| Playing/wading (n=8) | 13 | 0 | 25 | 13 | 13 | 38 | 100 |
| Other (n=18) | 0 | 6 | 6 | 22 | 6 | 33 | 100 |
| Boating (n=119) | 2 | 2 | 5 | 5 | 9 | 77 | 100 |
| Falls into water (n=47)‡ | 0 | 2 | 4 | 4 | 11 | 79 | 100 |

* Swimmer, level of ability unspecified † Irrelevant for 5 other aquatic victims ‡ Falls during walking, playing, etc.

Source: The Canadian Red Cross Society & the Canadian Surveillance System for Water-Related Fatalities, 2001

Figure 1.5

DROWNINGS* BY REGION & TYPE OF BODY OF WATER,† CANADA 1999 (n=405)



*Includes recreational, occupational & daily living drownings (E910, E830, E832); excludes land & air transport drownings

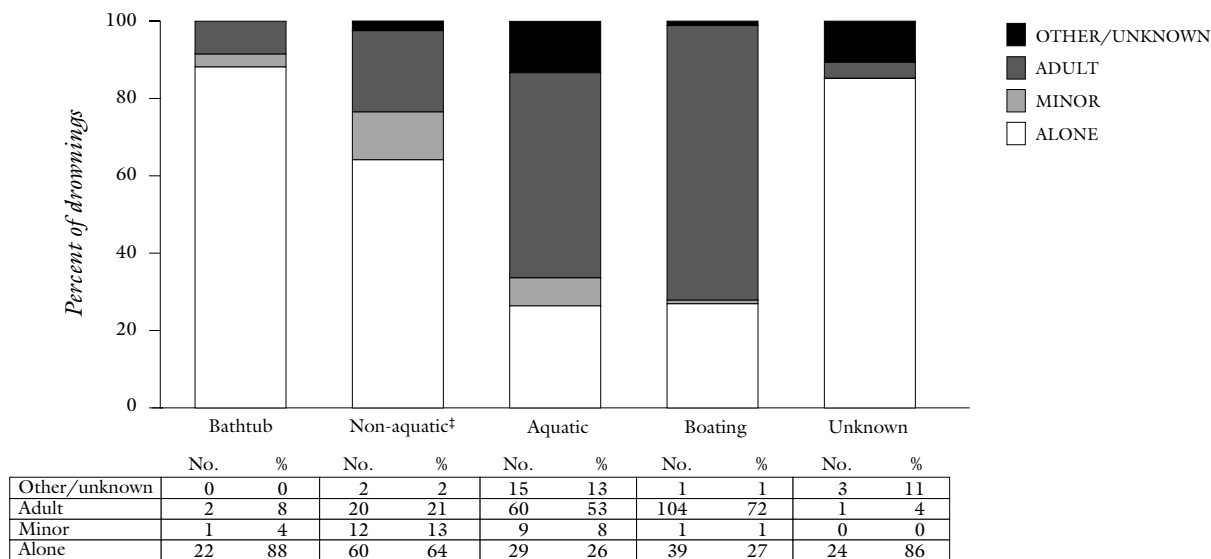
†“Lake” includes pond & reservoir ‡ Including ditch, rut

§ Including dam, cattle watering trough ¶ Including dam, shallow well

Source: The Canadian Red Cross Society & the Canadian Surveillance System for Water-Related Fatalities, 2001

Figure 1.6

DROWNINGS* BY ACCOMPANYING PERSONS† AND ACTIVITY, CANADA 1999 (n=405)



* Includes recreational, occupational & daily living drownings (E910, E830, E832); excludes land & air transport drownings

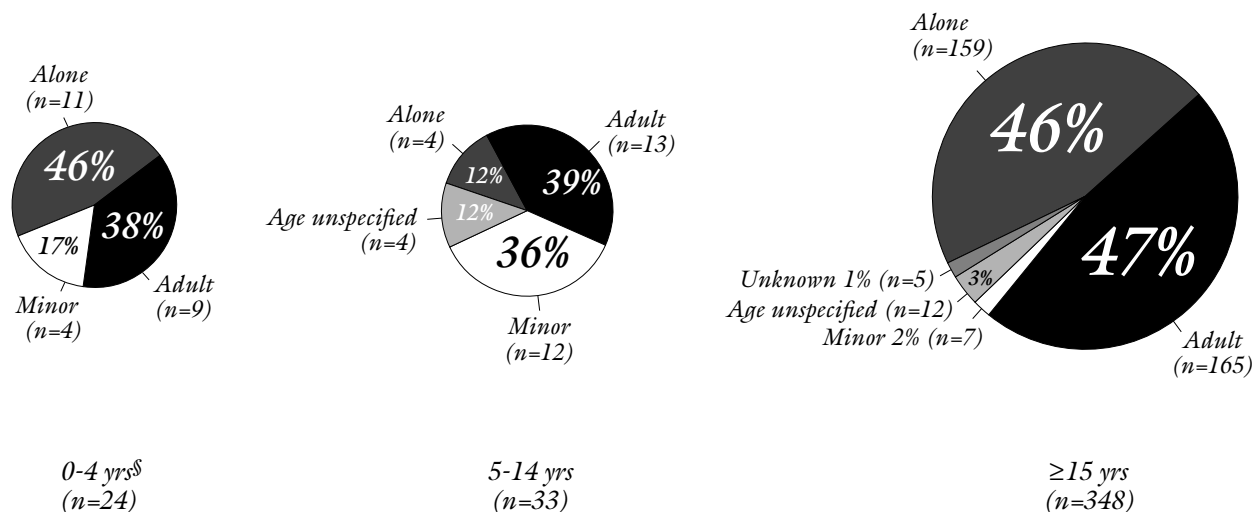
† “Adult” indicates that victim was accompanied by adult(s); does not exclude presence of minor(s) (<18 years);

“Minor” indicates presence of minor(s) only ‡ Falls into water

Source: The Canadian Red Cross Society & the Canadian Surveillance System for Water-Related Fatalities, 2001

Figure 1.7

DROWNINGS* BY AGE OF VICTIMS & ACCOMPANYING PERSONS,† CANADA 1999 (n=405)‡



* Includes recreational, occupational & daily living drownings (E910, E830, E832); excludes land & air transport drownings

† “Adult” indicates that victim was accompanied by adult(s); does not exclude presence of minor(s) (<18 years);

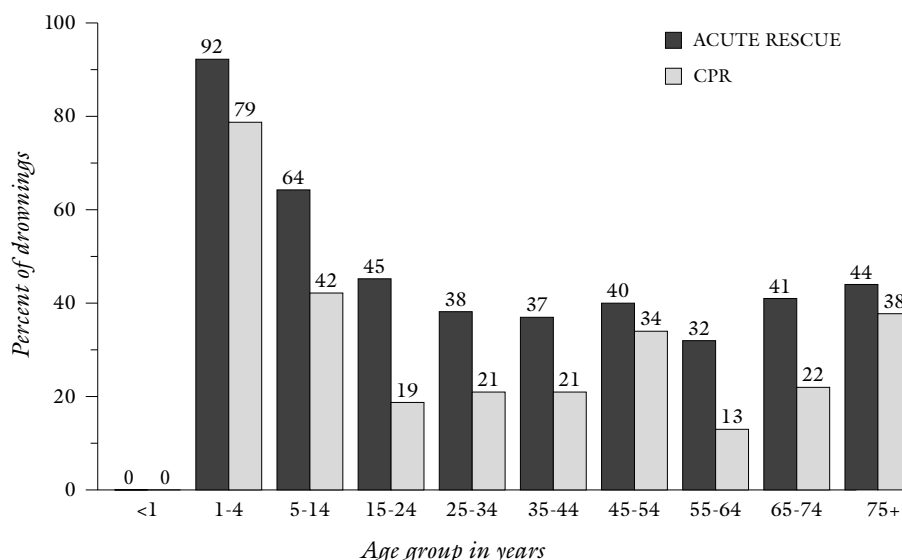
“Minor” indicates presence of minor(s) only ‡ Age unknown for 1 victim, presumed adult

§ There were no infant (<1 year) drownings in 1999

Source: The Canadian Red Cross Society & the Canadian Surveillance System for Water-Related Fatalities, 2001

Figure 1.8

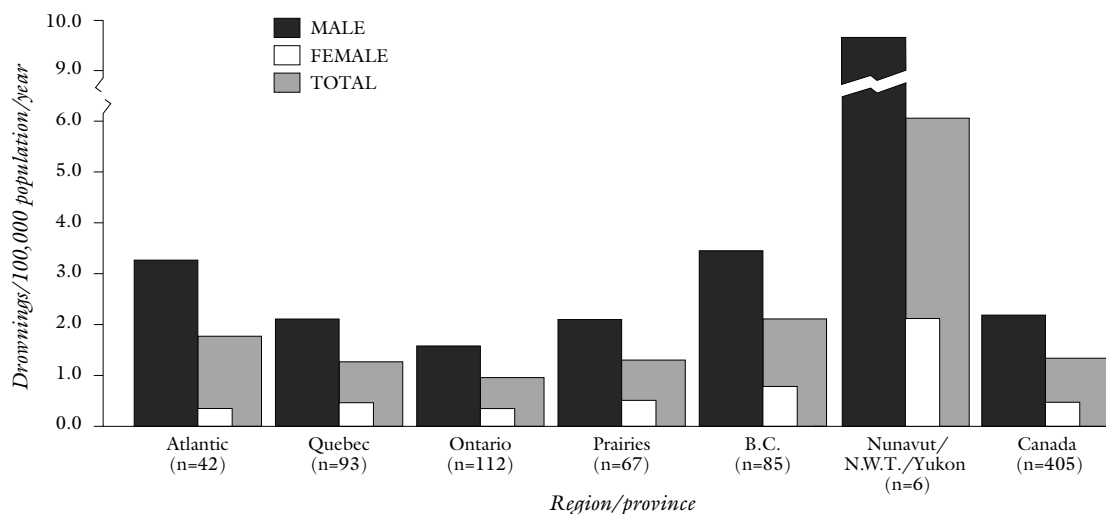
PERCENT OF DROWNINGS* WITH ACUTE RESCUE† & WITH RESUSCITATION BY CPR‡ BY AGE, CANADA 1999 (n=405)§¶



* Includes recreational, occupational & daily living drownings (E910, E830, E832); excludes land & air transport drownings
 † For a potentially survivable victim; excludes extended body searches ‡ Cardiopulmonary resuscitation
 § Age unknown for 1 victim, presumed adult, without acute rescue or CPR ¶ There were no infant (<1 year) drownings in 1999
 Source: The Canadian Red Cross Society & the Canadian Surveillance System for Water-Related Fatalities, 2001

Figure 1.9

RATE* OF DROWNINGS† BY SEX & REGION, CANADA 1999 (n=405)‡

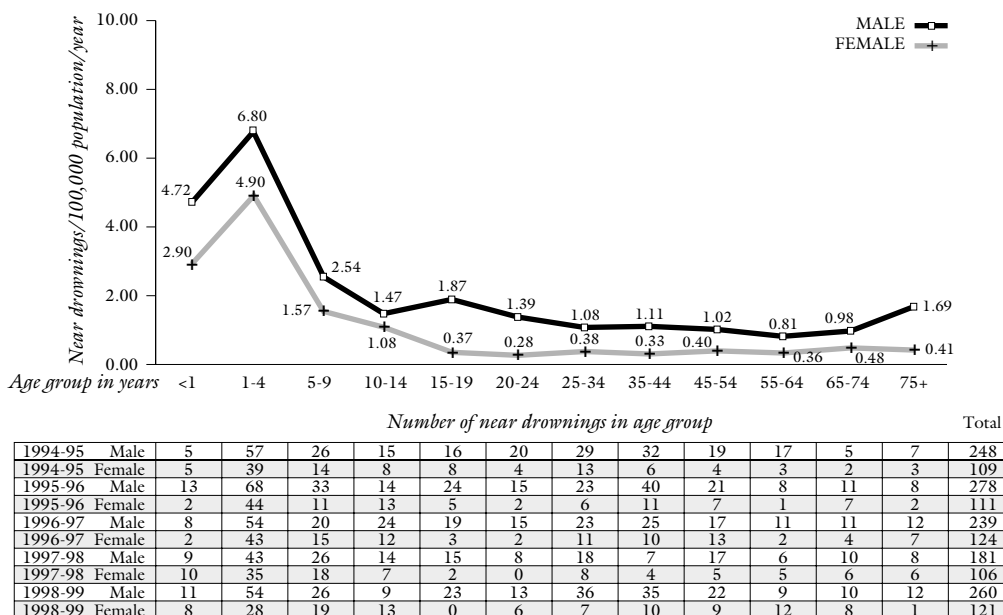


| | Atlantic (n=42) | Quebec (n=93) | Ontario (n=112) | Prairies (n=67) | B.C. (n=85) | Nunavut/N.W.T./Yukon (n=6) | Canada (n=405) |
|--------|-----------------|---------------|-----------------|-----------------|-------------|----------------------------|----------------|
| Male | 3.25 | 2.10 | 1.57 | 2.10 | 3.45 | 9.68 | 2.19 |
| Female | 0.33 | 0.46 | 0.39 | 0.51 | 0.79 | 2.10 | 0.48 |
| Total | 1.77 | 1.27 | 0.97 | 1.30 | 2.11 | 6.04 | 1.33 |

* Rates shown are actual rates (unadjusted)
 † Includes recreational, occupational & daily living drownings (E910, E830, E832); excludes land & air transport drownings
 ‡ Sex unknown for 2 victims, imputed male (Prairies 1, B.C. 1)
 Source: The Canadian Red Cross Society & the Canadian Surveillance System for Water-Related Fatalities, 2001

Figure 1.10

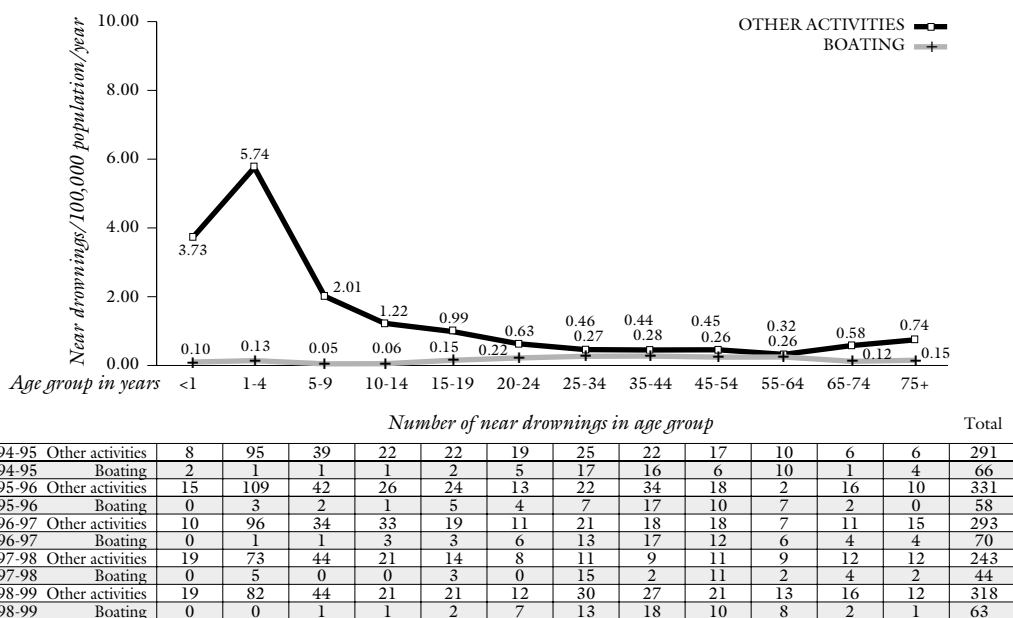
RATE* AND NUMBER OF HOSPITALIZATIONS FOR NEAR DROWNINGS† BY AGE & SEX, CANADA 1994-1999 (n=1,777)‡



* Rates are an average for the 4-year period; population denominators from the 1996 census
 † Includes survivors but not in-hospital deaths, of which there were 51 in 1994-95, 35 in 1995-96, 53 in 1996-97, 33 in 1997-98, & 45 in 1998-99
 ‡ Data are by fiscal year, April 1 to March 31
 Source: Adapted from unpublished data provided by Canadian Institute for Health Information, 2001

Figure 1.11

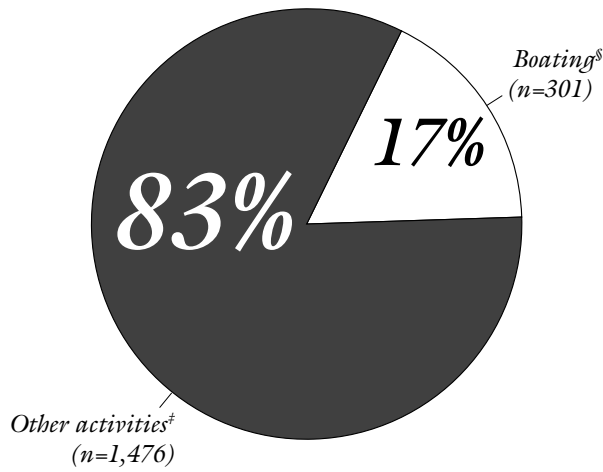
RATE* AND NUMBER OF HOSPITALIZATIONS FOR NEAR DROWNINGS† BY ACTIVITY & AGE, CANADA 1994-1999 (n=1,777)‡



* Rates are an average for the 4-year period; population denominators from the 1996 census
 † Includes survivors but not in-hospital deaths, of which there were 51 in 1994-95, 35 in 1995-96, 53 in 1996-97, 33 in 1997-98, & 45 in 1998-99
 ‡ Data are by fiscal year, April 1 to March 31
 Source: Adapted from unpublished data provided by Canadian Institute for Health Information, 2001

Figure 1.12

PROPORTION OF HOSPITALIZATIONS FOR NEAR DROWNINGS* BY ACTIVITY, CANADA 1994-1999 (n=1,777)†

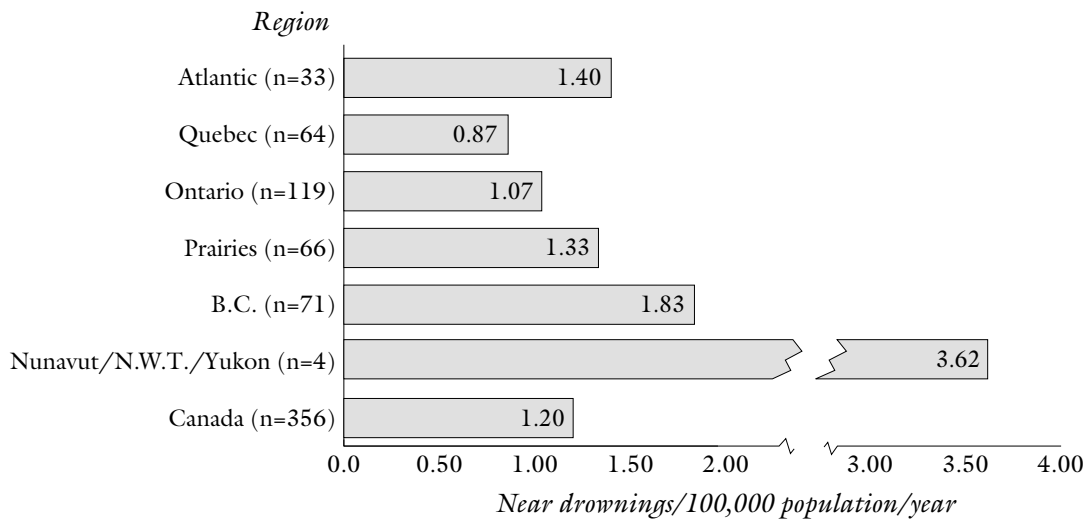


* Includes survivors but not in-hospital deaths, of which there were 51 in 1994-95, 35 in 1995-96, 53 in 1996-97, 33 in 1997-98, & 45 in 1998-99
 † Data are by fiscal year, April 1 to March 31 ‡ E910 § E830, E832

Source: Adapted from unpublished data provided by Canadian Institute for Health Information, 2001

Figure 1.13

RATE* OF HOSPITALIZATION FOR NEAR DROWNINGS† BY REGION, CANADA 1994-1999 (n=356)‡



* Rates and numbers are an average for the 6-year period; population denominators from the 1996 census

† Includes survivors but not in-hospital deaths, of which there were 51 in 1994-95, 35 in 1995-96, 53 in 1996-97, 33 in 1997-98, & 45 in 1998-99
 ‡ Data are by fiscal year, April 1 to March 31

Source: Adapted from unpublished data provided by Canadian Institute for Health Information, 2001

Table 1.3

**MULTIPLE-VICTIM INCIDENTS AS A PROPORTION* OF ALL DROWNING INCIDENTS,†
WITH INCIDENCE RATES‡ BY ACTIVITY, CANADA 1999 (n=446)**

| Activity | Single-victim | Multiple-victim | | | | | All incidents | | |
|---------------------------------------|------------------|------------------|-----|----------------|-----|---------------------------------|---|-----|-------|
| | Incidents No. | Incidents No. | % | Victims No. | % | Avg. no. deaths per incident | Multiple-victim incidents as % of all incidents | No. | Rate‡ |
| Boating§ | 96 | 17 | 46 | 49 | 55 | 2.9 | 15 | 113 | 0.37 |
| Aquatic¶ | 96 | 10 | 27 | 17 | 19 | 1.7 | 9 | 106 | 0.35 |
| Non-aquatic¶ | 85 | 6 | 16 | 9 | 10 | 1.5 | 7 | 91 | 0.30 |
| Unknown | 28 | 0 | | 0 | | | 0 | 28 | 0.09 |
| On-road vehicle, on-road incident | 25 | 6 | 16 | 13 | 15 | 2.2 | 19 | 31 | 0.10 |
| On-road vehicle, off-road incident | 7 | 0 | 0 | 0 | 0 | — | 0 | 7 | 0.02 |
| Snowmobile** | 16 | 1 | 3 | 1 | 1 | 1.0 | 6 | 17 | 0.06 |
| All-terrain vehicle | 0 | 0 | 0 | 0 | 0 | — | 0 | 0 | 0.00 |
| Other off-road vehicle | 2 | 0 | 0 | 0 | 0 | — | 0 | 2 | 0.01 |
| Aircraft | 2 | 0 | 0 | 0 | 0 | — | 0 | 2 | 0.01 |
| Total | 357 | 37 | 100 | 89 | 100 | 2.4 | 20 | 394 | 1.29 |

* Percents total to 100% vertically in 3rd and 5th columns of figures and do not total for 7th column

† Excludes drownings in bathtubs, where there were no multiple-victim incidents

‡ Number of both single and multiple-victim incidents per 100,000 population per year

§ Including 1 multiple-victim incident with 4 drowning & 1 non-drowning injury death

¶ Including 3 multiple-victim incidents with 1 aquatic drowning & 1 non-aquatic drowning, each counted once in total

** Including 1 multiple-victim incident with 1 drowning & 2 non-drowning injury deaths

Source: The Canadian Red Cross Society & the Canadian Surveillance System for Water-Related Fatalities, 2001

Table 1.4

**DROWNING* AS A CAUSE OF UNINTENTIONAL INJURY DEATH BY RANK,†
BY AGE & SEX, CANADA 1997‡**

| AGE GROUP IN YEARS | RANK | | |
|--------------------|-------|---------|------------|
| | Males | Females | Both sexes |
| 0-14 | 2 | 2 | 2 |
| 15-24 | 2 | 2 | 2 |
| 25-44 | 3 | 5 | 3 |
| 45-64 | 4 | 6 | 4 |
| 65-74 | 6 | 6 | 5 |
| 75+ | 6 | 6 | 6 |
| All ages | 4 | 6 | 4 |

* Includes recreational, occupational & daily living drownings (E910, E830, E832); excludes land & air transport drownings

† Causes ranked include most frequent categories of unintentional injuries; excludes "other" unintentional injuries (see Table 1.5)

‡ More recent data is unavailable at this time

Source: Causes of death during 1997, Statistics Canada

Table 1.5

**WATER-RELATED INJURY FATALITIES OTHER THAN DROWNINGS,*
CANADA 1999 (n=32)**

| Activity/incident | Nature of Injury | No. | %† |
|---|------------------------------|-----------|------------|
| All activities other than land & air transport | | 23 | 72 |
| Boating | | 12 | 38 |
| Collision | | | |
| Boat with another boat‡ | Head injury | 2 | |
| Boat with fixed object§ | Head injury | 1 | |
| Immersion in cold water¶ | Hypothermia | 6 | |
| Fell out of boat** | Head injury | 1 | |
| Struck by boat†† | Head & cervical spine injury | 1 | |
| Struck by rope‡‡ | Head injury | 1 | |
| Aquatic | | 8 | 25 |
| Scuba diving | Air embolism | 5 | |
| Diving into water | Head injury | 3 | |
| Non-aquatic | | 3 | 9 |
| Walking/playing near water/on ice | Hypothermia | 1 | |
| | Head injury | 2 | |
| Land & air transport | | 9 | 28 |
| Snowmobile travelling on ocean | Hypothermia | 1 | |
| Snowmobile travelling on lake | Hypothermia | 4 | |
| Car/truck went off road | Head injury | 1 | |
| All-terrain vehicle went through ice | Hypothermia | 1 | |
| Helicopter crash | Head injury | 1 | |
| Float plane crash | Spinal injury | 1 | |
| Total | | 32 | 100 |

* Primary cause of death was injury other than drowning, although drowning may have complicated another injury; in case of hypothermia, only hypothermia deaths reportedly uncomplicated by drowning are included here

† Values in light shaded areas refer to dark shaded totals above; values in unshaded areas relate to light shaded areas above

‡ Including large powerboat (>5.5m) 1, personal watercraft 1 § Included personal watercraft 1

¶ Including small open powerboat (≤5.5m) 5, large powerboat (>5.5m) 1 ** Including unpowered inflatable 1

†† Including powerboat, size unspecified 1 ‡‡ Including large powerboat (<5.5m) 1

Source: The Canadian Red Cross Society & the Canadian Surveillance System for Water-Related Fatalities, 2001

Table I.6 NUMBER AND RATE* OF INJURY FATALITIES BY CAUSE OF DEATH, BY AGE & SEX, CANADA 1997† (n=8,369)‡

| TYPE OF INJURY | 0-14 | | 15-24 | | 25-44 | | 45-64 | | 65-74 | | 75+ | | Total | |
|--------------------------------|------------|------------|------------|-------------|--------------|-------------|------------|-------------|------------|-------------|--------------|--------------|--------------|-------------|
| | No. | Rate | No. | Rate | No. | Rate | No. | Rate | No. | Rate | No. | Rate | No. | Rate |
| MALES | | | | | | | | | | | | | | |
| Unintentional injuries | 265 | 8.6 | 819 | 1.4 | 1,581 | 32.2 | 975 | 30.1 | 480 | 49.4 | 1,059 | 182.9 | 5,179 | 34.9 |
| Road traffic & bicycle | 124 | 4.0 | 567 | 27.4 | 737 | 15.0 | 359 | 11.1 | 160 | 16.4 | 150 | 25.9 | 2,097 | 14.1 |
| Falls | 10 | 0.3 | 35 | 1.7 | 78 | 1.6 | 130 | 4.0 | 129 | 13.2 | 701 | 121.1 | 1,083 | 7.3 |
| Poisoning | 3 | 0.1 | 30 | 1.4 | 318 | 6.4 | 135 | 4.2 | 17 | 1.7 | 14 | 2.4 | 517 | 3.5 |
| Boating drownings (E830, E832) | 0 | — | 18 | 0.9 | 35 | 0.7 | 22 | 0.7 | 11 | 1.1 | 1 | 0.2 | 87 | 0.6 |
| Non-boating drownings (E910) | 37 | 1.2 | 40 | 1.9 | 80 | 1.6 | 39 | 1.2 | 15 | 1.5 | 11 | 1.9 | 222 | 1.5 |
| All other drownings§ | 1 | 0.0 | 15 | 0.7 | 34 | 0.7 | 15 | 0.5 | 7 | 0.7 | 5 | 0.9 | 77 | 0.5 |
| Fire & burns | 18 | 0.6 | 15 | 0.7 | 51 | 1.0 | 48 | 1.5 | 28 | 2.9 | 23 | 4.0 | 183 | 1.2 |
| Suffocation | 29 | 0.9 | 20 | 1.0 | 43 | 0.9 | 38 | 1.2 | 33 | 3.4 | 71 | 12.3 | 234 | 1.6 |
| All others | 44 | 1.4 | 94 | 4.5 | 239 | 4.9 | 204 | 6.3 | 87 | 9.0 | 88 | 15.2 | 756 | 5.1 |
| Intentional injuries | 65 | 2.1 | 536 | 25.3 | 1,384 | 27.5 | 917 | 27.4 | 227 | 22.2 | 171 | 28.7 | 3,300 | 21.6 |
| All suicide | 39 | 1.3 | 464 | 22.4 | 1,228 | 25.0 | 826 | 25.5 | 201 | 20.6 | 156 | 26.9 | 2,914 | 19.6 |
| Suicide by drowning | 0 | — | 12 | 0.6 | 33 | 0.7 | 31 | 1.0 | 11 | 1.1 | 5 | 0.9 | 92 | 0.6 |
| All homicide | 26 | 0.8 | 60 | 2.9 | 123 | 2.5 | 60 | 1.9 | 15 | 1.5 | 10 | 1.7 | 294 | 2.0 |
| Homicide by drowning | 2 | 0.1 | 0 | — | 0 | — | 1 | 0.0 | 0 | — | 0 | — | 3 | 0.0 |
| Injuries, intent undetermined | 7 | 0.2 | 15 | 0.7 | 104 | 2.1 | 63 | 1.9 | 13 | 1.3 | 9 | 1.6 | 211 | 1.4 |
| Drownings, intent undetermined | 0 | — | 0 | — | 13 | 0.3 | 9 | 0.3 | 2 | 0.2 | 0 | — | 24 | 0.2 |
| FEMALES | | | | | | | | | | | | | | |
| Unintentional injuries | 161 | 5.5 | 270 | 13.7 | 400 | 8.2 | 378 | 11.5 | 311 | 27.4 | 1,669 | 171.6 | 3,190 | 21.1 |
| Road traffic & bicycle | 80 | 2.7 | 228 | 11.5 | 218 | 4.5 | 195 | 5.9 | 104 | 9.2 | 120 | 12.3 | 945 | 6.2 |
| Falls† | 1 | 0.0 | 4 | 0.2 | 15 | 0.3 | 42 | 1.3 | 137 | 12.1 | 1,339 | 137.7 | 1,539 | 10.2 |
| Poisoning | 5 | 0.2 | 9 | 0.5 | 94 | 1.9 | 51 | 1.6 | 12 | 1.1 | 15 | 1.5 | 186 | 1.2 |
| Boating drownings (E830, E832) | 3 | 0.1 | 4 | 0.2 | 1 | 0.0 | 2 | 0.1 | 0 | — | 0 | — | 10 | 0.1 |
| Non-boating drownings (E910) | 23 | 0.8 | 5 | 0.3 | 11 | 0.2 | 11 | 0.3 | 3 | 0.3 | 8 | 0.8 | 61 | 0.4 |
| All other drownings§ | 1 | 0.0 | 6 | 0.3 | 8 | 0.2 | 10 | 0.3 | 4 | 0.4 | 1 | 0.1 | 30 | 0.2 |
| Fire & burns | 11 | 0.4 | 3 | 0.2 | 22 | 0.5 | 24 | 0.7 | 16 | 1.4 | 36 | 3.7 | 112 | 0.7 |
| Suffocation | 20 | 0.7 | 3 | 0.2 | 8 | 0.2 | 21 | 0.6 | 21 | 1.9 | 72 | 7.4 | 145 | 1.0 |
| All others | 18 | 0.6 | 14 | 0.7 | 31 | 0.6 | 32 | 1.0 | 18 | 1.6 | 79 | 8.1 | 192 | 1.3 |
| Intentional injuries | 32 | 1.1 | 112 | 5.6 | 392 | 7.9 | 299 | 8.5 | 61 | 5.0 | 56 | 5.3 | 952 | 6.0 |
| All suicide | 12 | 0.4 | 90 | 4.6 | 321 | 6.6 | 249 | 7.9 | 53 | 4.7 | 42 | 4.3 | 767 | 5.1 |
| Suicide by drowning | 0 | — | 2 | 0.1 | 10 | 0.2 | 19 | 0.6 | 4 | 0.4 | 4 | 0.4 | 39 | 0.3 |
| All homicide | 20 | 0.7 | 20 | 1.0 | 61 | 1.3 | 31 | 0.9 | 4 | 0.4 | 10 | 1.0 | 146 | 1.0 |
| Homicide by drowning | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — |
| Injuries, intent undetermined | 6 | 0.2 | 5 | 0.3 | 39 | 0.8 | 26 | 0.8 | 11 | 1.0 | 4 | 0.4 | 91 | 0.6 |
| Drownings, intent undetermined | 0 | — | 0 | — | 1 | 0.0 | 2 | 0.1 | 2 | 0.2 | 1 | 0.1 | 6 | 0.0 |

* Number of deaths per 100,000 population per year † More recent data is unavailable at this time ‡ Excludes misadventures to patients during surgical care (E870-E876), complications of medical procedures (E878-E879), substances causing adverse effects in therapeutic use (E930) § Includes cases such as motor vehicle incidents, including on-road and off-road motor vehicle drownings which have been identified using N code 994.1; these deaths may also be counted under the E code for motor vehicle injuries, therefore they have not been included in the total of unintentional injuries; however in order to obtain the true death rate from all drownings these deaths would be included in the total, as they are in the remainder of the report ¶ Age was unspecified for 1 fall victim
Source: Causes of death during 1997, Statistics Canada