

II Complications of care

Complications of care are an unintentional cause of injury death (WHO 1977, WHO 1996). WHO classifies the cause of complications of care deaths by the type of medical service received. These types include the following:

- *procedures causing abnormal reaction or complication of care after procedure*
- *drugs and medicaments in therapeutic use*
- *misadventures to patient during surgical and medical care*
- *misadventures due to medical devices.*

Complications of care death data from 1986 to 2002 were used to describe the demographic profile of complications of care deaths in NSW. Death data during 1998–2002 were used for the majority of the analyses, but trend analyses used death data from 1986 to 2002.

Complications of care were the ninth leading cause of injury death from 1998–2002 and accounted for approximately 1.4% of all injury deaths (see Table 2). During these years, 174 people died from complications of care, at an overall rate of 0.5/100,000 population and 48% were male. Approximately 31 people died each year from 1986 to 2002 as the result of complications of care.

Figure 20 shows the yearly trend in death rates for complications of care from 1986 to 2002. The complications of care death rate did not significantly change between 1986 and 2002, though there is an evidence of a rise since 2000.

Figure 20. Yearly trend in death rates for complications of care: NSW, 1986–2002

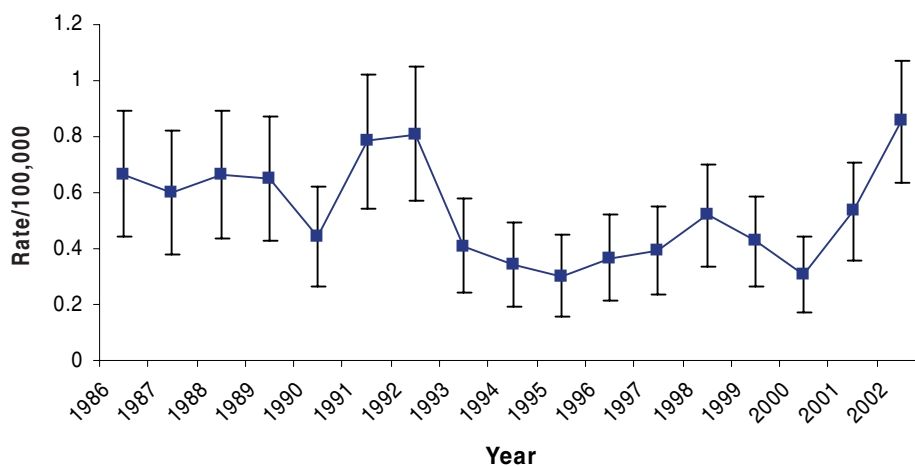


Figure 21 shows the age-specific death rates for complications of care between 1998 and 2002. People aged 65+ years had the highest rates of death due to complications of care, accounting for 77% of all complications of care between 1998 and 2002. The pattern of age-specific death rates for complications of care in Figure 21 is similar to the pattern of age-specific death rates for complications of care from 1995 to 1999 (Schmertmann and Williamson, 2002).

Figure 21. Age-specific death rates for complications of care: NSW, 1998–2002

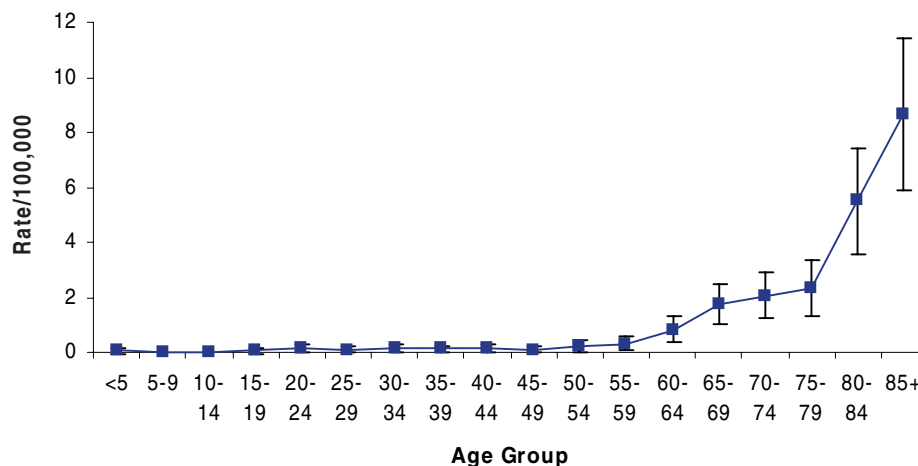


Table 19 shows the number of complications of care deaths and death rates by the nature of the complications of care for all persons, males and females, during 1998–2002. *Procedures causing abnormal reaction or complication of care after procedure* and *drugs and medicaments in therapeutic use* caused the majority of complications of care deaths and accounted for 66% and 26% of all complications of care deaths respectively. Males accounted for 53% of all complications of care deaths due to *procedures causing abnormal reaction or complication of care after procedure* and females accounted for 63% of all complications of care deaths due to *drugs and medicaments in therapeutic use*. The results in Table 19 are similar to data reported for complications of care deaths from 1995 to 1999 (Schmertmann and Williamson, 2002).

Procedures causing abnormal reaction or complication of care after procedure were responsible for the majority of male complications of care deaths and accounted for 72% of all male complications of care deaths. The rate for male complications of care deaths exceeded the corresponding rate for females for both *procedures causing abnormal reaction or complication of care after procedure* and *other/unspecified*. Unlike other injury mechanisms, male complications of care death rates were not significantly higher than females for all complications of care subgroups. Male death rates were also similar to corresponding female death rates for all complications of care subgroups.

Procedures causing abnormal reaction or complication of care after procedure were also responsible for the majority of female complications of care deaths during 1998–2002 and accounted for 61% of all female complications of care deaths.

Table 19. Number of complications of care deaths and death rates/100,000* by nature of the complication of care: NSW, 1998–2002

| Nature | All persons | | Males | | Females | | Ratio [‡] |
|--|-------------|-------------------|-------|--------------------------------------|---------|------------------------|--------------------|
| | N | Rate [†] | N | Rate [†] (CI) ^{††} | N | Rate [†] (CI) | |
| Procedures causing abnormal reaction or complication of care after procedure | 115 | 0.35 | 61 | 0.45 (0.34–0.57) | 54 | 0.29 (0.21–0.36) | 1.59 |
| Drugs, medicaments in therapeutic use | 46 | 0.14 | 17 | 0.12 (0.06–0.17) | 29 | 0.15 (0.10–0.21) | 0.76 |
| Other and unspecified | 13 | 0.04 | 7** | 0.05 (0.01–0.08) | 6** | 0.03 (0.00–0.06) | 1.60 |
| All complications of care | 174 | 0.53 | 85 | 0.62 (0.48–0.75) | 89 | 0.47 (0.37–0.57) | 1.31 |

* Death rates have been age-adjusted using the 2001 Australian census population. † Rate/100,000. ‡ Mortality ratio for male/female. **includes both misadventures to patient during surgical and medical care and misadventures due to medical devices for males and females. †† 95% confidence interval

Table 20 shows complications of care deaths by age group and nature of the event in NSW for 1998–2002. For people aged 15+ years, *procedures causing abnormal reaction or complication of care after procedure* resulted in the majority of complications of care deaths. These results are similar to data from 1995 to 1999 for complications of care deaths (Schmertmann and Williamson, 2002).

SUMMARY

Complications of care accounted for approximately 31 deaths each year from 1986 to 2002. Analysis of the trend for complications of care death rates showed there was no statistically significant change over the period 1986 and 2002, though there is a suggestion of a rise since 2000. Compared to data on complications of care deaths (Schmertmann and Williamson, 2002), the pattern of age-specific rates has remained unchanged. People aged 65+ years had the highest rates of death due to complications of care.

Procedures causing abnormal reaction or complication of care after procedure and *drugs and medicaments in therapeutic use* caused the majority of complications of care deaths. For people aged 15+ years, *procedures causing abnormal reaction or complication of care after procedure* resulted in the majority of complications of care deaths.

Unlike other injury mechanisms, male complications of care death rates were not significantly higher for any of the complications of care subgroups.

These results indicate that complications of care are mostly a problem for people aged 65+ years. This is likely to be the age group with the greatest need for a number of hospital stays for various medical conditions. *Procedures causing abnormal reaction or complication of care after procedure* accounted for 66% of complications of care deaths as well as the majority of deaths in people aged 65+ years. The codes covered in this subcategory of complications of care refer to surgery and other medical procedures that are done to treat medical conditions (e.g. heart problems, kidney failure).

Table 20. Complications of care deaths* by age group and nature of the event†: NSW, 1998–2002*

| Rank | Age group | | | | | | | Total | |
|------|--|------|---|---|---|---|---|--|---|
| | <1 | 1–14 | 15–24 | 25–34 | 35–44 | 45–54 | 55–64 | | 65+ |
| 1 | Misadventures to patient during surgical and medical care # | | Procedures causing abnormal reaction or complication of care after procedure # | Procedures causing abnormal reaction or complication of care after procedure # | Procedures causing abnormal reaction or complication of care after procedure # | Procedures causing abnormal reaction or complication of care after procedure 5 | Procedures causing abnormal reaction or complication of care after procedure 9 | Procedures causing abnormal reaction or complication of care after procedure 92 | Procedures causing abnormal reaction or complication of care after procedure 115 |
| 2 | | | Misadventures to patient during surgical and medical care # | Misadventures to patient during surgical and medical care # | Drugs, medicaments in therapeutic use # | Misadventures to patient during surgical and medical care # | Drugs, medicaments in therapeutic use 5 | Drugs, medicaments in therapeutic use 36 | Drugs, medicaments in therapeutic use 46 |
| 3 | | | Drugs, medicaments in therapeutic use # | Drugs, medicaments in therapeutic use # | | | Misadventures to patient during surgical and medical care # | Misadventures to patient during surgical and medical care 5 | Misadventures to patient during surgical and medical care 12 |
| 4 | | | | | | | | Other and unspecified # | Other and unspecified # |

* Numbers represent the number of cases. † See Appendix 4 for nature of complications of care codes. # Cell size less than five cases