Delirium Rates and Outcomes

The following table is drawn from the 2014 Lancet article “Delirium in Elderly People,” written by Sharon Inouye, Jane Saczynski, and Rudi Westendorp. Prevalence, incidence, and outcomes of delirium were assessed across different populations in 35 selected studies. Articles were selected in a comprehensive review of medical literature between Jan 1, 2004 and August 31, 2012. The highest incident rates were present in the intensive-care unit (ICU) and in postoperative and palliative care settings.

### Incidence of Delirium and Its Outcomes

<table>
<thead>
<tr>
<th>Population</th>
<th>Prevalence (range)</th>
<th>Incidence (range)</th>
<th>Outcomes</th>
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<tr>
<td></td>
<td></td>
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<td>(Adjusted Relative Risks, RR)</td>
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<tr>
<td><strong>Surgical</strong></td>
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<tr>
<td>Cardiac</td>
<td>---</td>
<td>11%-46%&lt;sup&gt;2-5&lt;/sup&gt;</td>
<td>Cognitive Dysfunction (RR=1.7)&lt;sup&gt;7&lt;/sup&gt;</td>
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<td>Functional Decline (RR = 1.9)&lt;sup&gt;6&lt;/sup&gt;</td>
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<tr>
<td>Non-Cardiac</td>
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<td>13% - 50%&lt;sup&gt;7-10&lt;/sup&gt;</td>
<td>Functional Decline (RR = 2.1)&lt;sup&gt;11&lt;/sup&gt;</td>
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<td>Cognitive Dysfunction (RR = 1.6)&lt;sup&gt;6, 8&lt;/sup&gt;</td>
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<tr>
<td>Orthopedic</td>
<td>17%&lt;sup&gt;12&lt;/sup&gt;</td>
<td>12% - 51%&lt;sup&gt;13-22&lt;/sup&gt;</td>
<td>Dementia/Cognitive Dysfunction (RR = 6.4 - 41.2)&lt;sup&gt;16, 18&lt;/sup&gt;</td>
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<td>Institutionalization (RR = 5.6)&lt;sup&gt;16&lt;/sup&gt;</td>
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<tr>
<td><strong>Medical</strong></td>
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<td>General Medical</td>
<td>18% - 35%&lt;sup&gt;3-29&lt;/sup&gt;</td>
<td>11% - 14%&lt;sup&gt;1, 23, 24, 30&lt;/sup&gt;</td>
<td>Mortality (RR= 1.5 - 1.6)&lt;sup&gt;25, 31&lt;/sup&gt;</td>
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<td>Functional decline (RR = 1.5)&lt;sup&gt;25&lt;/sup&gt;</td>
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<td>Geriatric Units</td>
<td>25%&lt;sup&gt;12&lt;/sup&gt;</td>
<td>20% - 29%&lt;sup&gt;26, 33, 34&lt;/sup&gt;</td>
<td>Falls (RR = 1.3)&lt;sup&gt;35&lt;/sup&gt;</td>
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<td>Mortality (RR = 1.9)&lt;sup&gt;32&lt;/sup&gt;</td>
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<td></td>
<td>Institutionalization (RR = 2.5)&lt;sup&gt;32&lt;/sup&gt;</td>
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<tr>
<td>Intensive Care</td>
<td>7%-50%&lt;sup&gt;16, 37&lt;/sup&gt;</td>
<td>19% - 82%&lt;sup&gt;36&lt;/sup&gt;</td>
<td>Mortality (RR = 1.4 – 13.0)&lt;sup&gt;18-42&lt;/sup&gt;</td>
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<td>Longer length of stay (RR = 1.4 – 2.1)&lt;sup&gt;38, 42, 43&lt;/sup&gt;</td>
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<td>Extended Mechanical Ventilation (RR = 8.6)&lt;sup&gt;44&lt;/sup&gt;</td>
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<tr>
<td>Stroke</td>
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<td>10% - 27%&lt;sup&gt;45, 46&lt;/sup&gt;</td>
<td>Mortality (RR = 2.0)&lt;sup&gt;47&lt;/sup&gt;</td>
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<td>Any of 3 outcomes: increased length of stay, functional impairment, or death (RR= 2.1)&lt;sup&gt;47&lt;/sup&gt;</td>
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<td>Dementia</td>
<td>18%&lt;sup&gt;18&lt;/sup&gt;</td>
<td>56%&lt;sup&gt;49&lt;/sup&gt;</td>
<td>Cognitive Decline (RR = 1.6-3.1)&lt;sup&gt;48, 50-52&lt;/sup&gt;</td>
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<td></td>
<td>Institutionalization (RR = 9.3)&lt;sup&gt;52&lt;/sup&gt;</td>
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<td>Mortality (RR = 5.4)&lt;sup&gt;52&lt;/sup&gt;</td>
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<tr>
<td>Palliative Care/</td>
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<td>47%&lt;sup&gt;53&lt;/sup&gt;</td>
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<td>Cancer</td>
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<td>Nursing Home/</td>
<td>14%&lt;sup&gt;14&lt;/sup&gt;</td>
<td>20% - 22%&lt;sup&gt;55, 56&lt;/sup&gt;</td>
<td>Mortality (RR = 4.9)&lt;sup&gt;57&lt;/sup&gt;</td>
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<td>Postacute Care</td>
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<td>Emergency Department</td>
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<td>8% - 17%&lt;sup&gt;18,60&lt;/sup&gt;</td>
<td>Mortality (RR = 1.7)&lt;sup&gt;58&lt;/sup&gt;</td>
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</table>

RR=relative risk. All values in this table were derived from selected articles meeting the following criteria: sample size of 100 or more; satisfaction of STROBE criteria for setting, participants, measurement and statistical methods; and using a validated delirium instrument. An additional inclusion criterion for incidence studies was serial delirium assessments at no more than 3 day intervals by trained research staff or clinicians. † The sum of both prevalence and incidence yields the overall occurrence rates of delirium in each setting. ‡Adjusted relative risks were derived from studies that provided adjustment for at least one covariable.

* In the general population, 1-2% of community-dwelling members experience delirium.
Functional Decline in Hospitalized Older Adults

25-35% of older patients experience functional decline after hospitalization. Delirium patients experienced higher rates of functional decline. Functional decline persists for 28-45% of patients 1-3 months after hospital discharge.

Average Length of Hospital Stay for Older Adults (65+)

Medicare figures for average length of short-stay hospitalization (days):

- 2010: 5.5
- 2009: 5.7
- 2008: 5.7
- 2007: 5.6
- 2006: 5.5
- 2005: 5.5

Number of Older Adults (65+) Discharged from the Hospital

People aged 65 and older accounted for 38.7% of all hospital discharges in 2010.

Medicare figures for short-stay:

- 2010: 13.6 million
- 2009: 13.9 million
- 2008: 13.9 million
- 2007: 12.8 million
- 2006: 13.1 million
- 2005: 13.2 million

Rate of nursing home placement following hospitalization:

20.0% of hospitalized individuals aged 65 or older are discharged to a nursing home or other long-term care institution.
References


