



# Alcohol-Related Deaths in British Columbia

## INTRODUCTION

The following tables present the number of alcohol-related deaths in British Columbia from 2002 to 2011. The data were compiled based on the Annual Reports (2002-2011) of British Columbia Vital Statistics Agency that are accessible at <http://www.vs.gov.bc.ca/stats/annual/>.

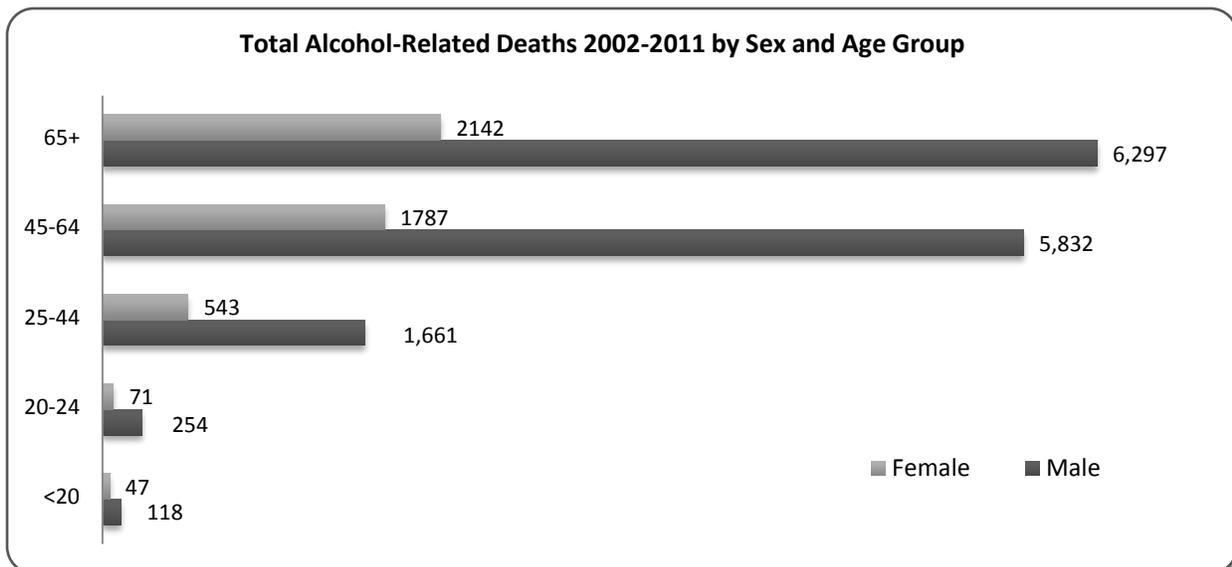
Alcohol-related deaths include deaths where alcohol was a contributing factor (indirectly related) as well as those due to alcohol (directly related). Table 1 presents the number of deaths by various alcohol-related causal factors. Table 2 presents the number of alcohol-related deaths by age and sex groups.

## METHODOLOGY

The methodology used by the BC Vital Statistics Agency results in higher estimates than those produced the BC Centre for Disease Control (CDC) and reported in CARBC's Alcohol and Other Drug Monitoring Project ([www.AODmonitoring.ca](http://www.AODmonitoring.ca)). BC Vital Statistics count all deaths for which a physician has identified alcohol as at least a contributing cause. The BC CDC uses the "attributable fraction" method and estimates the total number of deaths that would be prevented if there was no exposure to alcohol in the community which results in more conservative estimates overall.

## DISCUSSION

The relationship between alcohol and mortality is complex. While liver disease is the most significant direct causal link, alcohol also contributes to several other chronic diseases. Unintentional injuries are also a major factor in alcohol-related deaths. Alcohol is involved in three times as many male deaths as female deaths. Careful analysis of these figures can help guide decisions related to alcohol policy.



**Table 1. Alcohol-related deaths by cause of death by cause in BC, 2002-2011**

| Cause of Death                       | ICD-10 Code(s)                                      | 2002         | 2003         | 2004         | 2005         | 2006         | 2007         | 2008         | 2009         | 2010         | 2011         | TOTAL         |
|--------------------------------------|---|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|---------------|
| <b>Directly Related to Alcohol</b>   |   |              |              |              |              |              |              |              |              |              |              |               |
| Alcohol intoxication                 | F100  | 30           | 41           | 47           | 39           | 31           | 15           | 30           | 17           | 18           | 31           | 299           |
| Alcoholic psychoses & dependence     | F101-F109   | 96           | 70           | 94           | 108          | 138          | 91           | 87           | 72           | 71           | 70           | 897           |
| Alcoholic neurological disorders     | G312, G621, G721                                    | 163          | -            | -            | -            | -            | -            | -            | -            | 1            | -            | 164           |
| Alcoholic cardiomyopathy             | I426  | -            | 10           | 20           | 17           | 17           | 16           | 18           | 22           | 13           | 12           | 145           |
| Alcoholic gastritis                  | K292  | 13           | 1            | 1            | 3            | -            | 3            | 4            | 3            | 1            | 5            | 34            |
| Alcoholic liver disease              | K70   | 1            | 174          | 171          | 180          | 191          | 297          | 286          | 251          | 284          | 304          | 2,139         |
| Alcohol induced chronic pancreatitis | K860  | 2            | 2            | 5            | 3            | 1            | 1            | 1            | 1            | 1            | 1            | 18            |
| Alcohol poisoning                    | X45, X65  | 10           | 14           | 12           | 12           | 5            | 24           | 22           | 21           | 21           | 20           | 161           |
| Other alcohol causes                 | E244, O354, O993, P043, Q860, R780, T510-T512, T519 | -            | -            | -            | -            | -            | -            | -            | -            | -            | -            | 0             |
| <b>Subtotal</b>                      |   | <b>315</b>   | <b>312</b>   | <b>350</b>   | <b>362</b>   | <b>383</b>   | <b>447</b>   | <b>448</b>   | <b>387</b>   | <b>410</b>   | <b>443</b>   | <b>3,857</b>  |
| <b>Indirectly Related to Alcohol</b> |   |              |              |              |              |              |              |              |              |              |              |               |
|                                      |   |              |              |              |              |              |              |              |              |              |              | 0             |
| Infectious & parasitic diseases      | A00-B99,G14   | 50           | 46           | 67           | 67           | 77           | 53           | 64           | 50           | 48           | 57           | 579           |
| Neoplasms                            | C00-D48   | 246          | 232          | 210          | 235          | 247          | 251          | 233          | 232          | 252          | 277          | 2,415         |
| Endocrine/Nutritional/Metabolic      | E00-E243, E248-E89                                  | 47           | 51           | 61           | 60           | 44           | 57           | 51           | 52           | 55           | 74           | 552           |
| Mental disorders                     | F00-F09, F11-F99                                    | 19           | 20           | 27           | 28           | 22           | 27           | 23           | 21           | 21           | 30           | 238           |
| Neurological diseases                | G00-G311, G318-G620, G622-G720, G722-G99            | 25           | 26           | 20           | 18           | 25           | 26           | 26           | 17           | 25           | 24           | 232           |
| Circulatory                          | I00-I425, I427-I99                                  | 438          | 428          | 426          | 407          | 386          | 378          | 384          | 319          | 336          | 329          | 3,831         |
| Diseases of the respiratory system   | J00-J98   | 138          | 124          | 119          | 107          | 159          | 146          | 135          | 143          | 116          | 122          | 1,309         |
| Digestive system diseases            | K00-K291, K293-K69, K71-K85, K861-K92               | 126          | 119          | 140          | 124          | 126          | 91           | 89           | 75           | 80           | 73           | 1,043         |
| Urinary system diseases              | N00-N39, N990, N991, N995                           | 22           | 25           | 13           | 12           | 27           | 21           | 20           | 12           | 12           | 17           | 181           |
| Unintentional injury                 | V01-X44, X46-X59, Y40-Y86, Y88                      | 191          | 213          | 231          | 248          | 222          | 217          | 234          | 212          | 237          | 210          | 2,215         |
| Suicide                              | X60-X64, X66-X84, Y87                               | 99           | 96           | 96           | 101          | 87           | 73           | 85           | 94           | 105          | 87           | 923           |
| Homicide                             | X85-Y09, Y871                                       | 7            | 4            | 5            | 4            | 3            | 3            | 5            | 4            | -            | 4            | 39            |
| All other causes                     |   | 95           | 93           | 95           | 105          | 178          | 203          | 150          | 137          | 135          | 147          | 1,338         |
| <b>Subtotal</b>                      |   | <b>1,503</b> | <b>1,477</b> | <b>1,510</b> | <b>1,516</b> | <b>1,603</b> | <b>1,546</b> | <b>1,499</b> | <b>1,368</b> | <b>1,422</b> | <b>1,451</b> | <b>14,895</b> |
| <b>TOTAL</b>                         |   | <b>1,818</b> | <b>1,789</b> | <b>1,860</b> | <b>1,878</b> | <b>1,986</b> | <b>1,993</b> | <b>1,947</b> | <b>1,755</b> | <b>1,832</b> | <b>1,894</b> | <b>18,752</b> |

**Note:** Data from the Annual Reports (2002-2011) of British Columbia Vital Statistics Agency (<http://www.vs.gov.bc.ca/stats/annual/>). Subcategories of the indirectly related to alcohol category will not include some of the causes of death found in standard categories of the same name used elsewhere in this report because they exclude causes that are directly related to alcohol while the standard categories do not. Non-residents are excluded. The output from ICD-10 mortality coding and underlying cause of death selection was modified in BC to reflect the intent of certifiers in this jurisdiction and to provide greater continuity over time. Data using the standard ICD-10 rules for such categories as pneumonia/influenza, diabetes, or cancer should not be compared to the numbers shown above.

**Table 2. Alcohol-related deaths by age and sex groups in BC, 2002-2011**

|                        | 2002  | 2003  | 2004  | 2005  | 2006  | 2007  | 2008  | 2009  | 2010  | 2011  | TOTAL  |
|------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|
| <b>Male</b>            |       |       |       |       |       |       |       |       |       |       |        |
| <20                    | 8     | 12    | 8     | 15    | 13    | 22    | 7     | 15    | 8     | 10    | 118    |
| 20-24                  | 14    | 27    | 30    | 29    | 24    | 28    | 21    | 22    | 28    | 31    | 254    |
| 25-44                  | 186   | 184   | 177   | 197   | 151   | 169   | 147   | 143   | 174   | 133   | 1,661  |
| 45-64                  | 540   | 525   | 584   | 560   | 625   | 599   | 651   | 580   | 573   | 595   | 5,832  |
| 65+                    | 640   | 633   | 617   | 631   | 685   | 652   | 616   | 562   | 618   | 643   | 6,297  |
| Total                  | 1,388 | 1,381 | 1,416 | 1,432 | 1,498 | 1,470 | 1,442 | 1,322 | 1,401 | 1,412 | 14,162 |
| <b>Female</b>          |       |       |       |       |       |       |       |       |       |       |        |
| <20                    | 3     | 2     | 2     | 4     | 4     | 11    | 6     | 3     | 8     | 4     | 47     |
| 20-24                  | 8     | 2     | 4     | 10    | 8     | 8     | 4     | 8     | 10    | 9     | 71     |
| 25-44                  | 55    | 55    | 55    | 61    | 49    | 51    | 57    | 51    | 55    | 54    | 543    |
| 45-64                  | 143   | 160   | 160   | 170   | 191   | 216   | 224   | 185   | 142   | 196   | 1,787  |
| 65+                    | 221   | 189   | 223   | 201   | 236   | 237   | 214   | 186   | 216   | 219   | 2,142  |
| Total                  | 430   | 408   | 452   | 461   | 488   | 523   | 505   | 448   | 431   | 492   | 4,638  |
| <b>Male and Female</b> |       |       |       |       |       |       |       |       |       |       |        |
| <20                    | 11    | 14    | 10    | 19    | 17    | 33    | 13    | 18    | 16    | 14    | 165    |
| 20-24                  | 22    | 29    | 34    | 39    | 32    | 36    | 25    | 30    | 38    | 40    | 325    |
| 25-44                  | 241   | 239   | 232   | 258   | 200   | 220   | 204   | 194   | 229   | 187   | 2,204  |
| 45-64                  | 683   | 685   | 744   | 730   | 816   | 815   | 875   | 765   | 715   | 791   | 7,619  |
| 65+                    | 861   | 822   | 840   | 832   | 921   | 889   | 830   | 748   | 834   | 862   | 8,439  |
| Total                  | 1,818 | 1,789 | 1,860 | 1,878 | 1,986 | 1,993 | 1,947 | 1,755 | 1,832 | 1,894 | 18,752 |

**Sources:** Data from the Annual Reports (2002-2011) of British Columbia Vital Statistics Agency (<http://www.vs.gov.bc.ca/stats/annual/>). Non-residents are excluded. See Table 1 for ICD-10 codes of alcohol-related deaths.