Physician use of misinformation to speculate ‘assisted dying suicide contagion’ in Oregon

Neil Francis

INTRODUCTION

Assisted dying law reform has been a contentious issue in public debate for decades. Many arguments have been advanced in support and in opposition. A key opposing claim is that physician-assisted dying—the provision of a lethal prescription for a patient to self-administer to peacefully end his or her life—leads to suicide contagion amongst the general population.

The purpose of this study was to investigate speculation by some physicians of assisted dying suicide contagion in relation to the USA state of Oregon’s Death With Dignity Act (‘the Act’). The Act came into effect in 1997. The Oregon Health Authority publishes annual reports of prescriptions issued and deaths occurring under the Act.1

METHODS

In October 2015 the author conducted a structured online search for physician claims that highlighted Oregon’s suicide statistics and/or speculated suicide contagion from deaths under the Act to the general population. Several sources were found.

To assess the validity and accuracy of the physician claims, the author retrieved and analysed the Centers for Disease Control and Prevention (CDC) and Oregon Health Authority (OHA) publications cited in the physician documents, and retrieved and analysed authoritative USA government suicide data from the public CDC Wonder and WISQARS mortality databases.

A further structured online search was conducted for publications that quoted or paraphrased the physician documents.

RESULTS

Physician claims

In February 2014 a briefing note was published online by the Central Oregon Medical Association2 (COMS) claiming to quote data from a CDC publication about suicides in the USA.3 The COMS briefing note (Figure 1) states:

Headline: “Suicide Oregon ranked 2nd”;
Oregon has the second-highest suicide rate in the country; and
[suicide] is the second-leading cause of death among Oregonians aged 10 to 24.

Figure 1: The Central Oregon Medical Society briefing note

The briefing note included a chart titled “Suicides in states with the highest rates, 1999–2010”, showing Oregon picked out in red at number two. The briefing note does not mention Oregon’s Death...
**With Dignity Act** nor mentions “suicide contagion”, but notes the majority of suicides were by firearm.

In March 2014, COMS’ Dr Archie Bleyer wrote in Oregon’s The Bulletin that “Oregon has the second-highest rate of suicide among all 50 states in our country,”4 arguing for greater control of firearms in Oregon to help reduce the suicide rate, a policy stance that is supported by epidemiological evidence.4,8

The original COMS briefing note was picked up and reported in April 2015 by the Patients’ Rights Action Fund,9 and in May 2015 by Wesley Smith in the National Review.10 Both drew a causal link between the claimed suicide ranking and Oregon’s Act, Smith specifically criticising COMS for mentioning suicide by firearm but not mentioning the Act.

In June 2015, Physicians for Compassionate Care (PCC)—an Oregon association whose National Director is Dr William Toffler and Vice-President is Dr Kenneth Stevens11—issued a media release citing the same CDC publication as COMS, plus an additional publication from OHA,12 to make similar claims:13

“According to the U.S. Centers for Disease Control and Prevention (CDC), Oregon had the 2nd highest suicide rate in the country for the years 1999–2010.”

“In 2010, the suicide rate was … 41% higher than the national average.”

“The rate of suicide among Oregonians has been increasing since 2000.”

The media release speculates about a connection between Oregon’s Death With Dignity Act and the general suicide rate but makes no mention of other suicide risk factors.

Liberty Pike of LifeNews quoted the PCC media release on the day of its publication, also citing the same CDC publication to claim that for “1999–2010, Oregon had the 2nd highest suicide rate for people aged 35–64”, and asserting a direct causal relationship between Oregon’s Act and suicide rates: "Thanks to assisted suicide, Oregon's suicide rates are some of the highest in the nation".14

In August 2015, Doctors Toffler and Stevens published similar claims to the PCC media release in a briefing note in the British Medical Journal (BMJ).15 The briefing note argues against Oregon’s Death With Dignity Act, cites the COMS briefing note and their own PCC media release, and explicitly states that:

“Oregon is now always among the top ten states in the US having the highest rate of suicides in the US.” and

“In fact, Oregon had the 2nd highest suicide rate in the country between 1999–2010.”

Cited CDC publication and public CDC suicide data

The author retrieved the cited CDC publication3 and analysed it in relation to the statements above as made by the claimants.

The CDC publication neither singles out nor makes any special mention of Oregon.

A statement on page 322 of the publication says “suicide rates from 1999 to 2010 increased significantly across all four geographic regions and in 39 states”. None of the claimants mentioned that suicide rates had increased significantly in a majority of states across the nation: they singled out and criticised only Oregon.

The chart provided in the online COMS briefing is derived from the detailed footnote to the statement (above) on page 322. However, there are two major flaws in using the either the data or the derived chart to claim Oregon has the second worst suicide rate in the USA.

Firstly, the CDC publication footnote data and therefore the COMS briefing chart refer to suicides only in the 35–64 year old age cohort: this is the subject of the entire report and is clear from its title. The data does not refer to the entire population.

Secondly, the CDC publication footnote and therefore the COMS briefing chart reference only 39 states. The USA is comprised of 50 states, so the Oregon claim cannot be made of the entire nation unless all states’ suicide rates are compared.

The author retrieved relevant, age-adjusted suicide statistics from the public CDC Wonder mortality database.10

Among 35–64 year olds between 1999 and 2010, Oregon’s suicide rate was fifth highest, not second—because Nevada, Montana and New Mexico were not included in the CDC publication footnote data the claimants relied upon, and the 35–64 year old suicide rates of these states were higher than Oregon’s (Table 1). For the aggregate of all other age groups (<35 and 65+) between 1999 and 2010, Oregon was sixteenth (Table 2). The author was unable to find any mention of these facts by the claimants.

<table>
<thead>
<tr>
<th>No.</th>
<th>State</th>
<th>Rate*</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Nevada</td>
<td>27.9</td>
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<tr>
<td>2</td>
<td>Montana</td>
<td>25.1</td>
</tr>
<tr>
<td>3</td>
<td>Wyoming</td>
<td>24.8</td>
</tr>
<tr>
<td>4</td>
<td>New Mexico</td>
<td>24.7</td>
</tr>
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<tr>
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<td>7</td>
<td>Arizona</td>
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<td>Utah</td>
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</tr>
<tr>
<td>9</td>
<td>Colorado</td>
<td>21.7</td>
</tr>
<tr>
<td>10</td>
<td>Oklahoma</td>
<td>21.5</td>
</tr>
</tbody>
</table>

Source: http://wonder.cdc.gov. *Suicides per 100,000 age cohort population. States in italics did not appear in the data list in the cited CDC report.

<table>
<thead>
<tr>
<th>No.</th>
<th>State</th>
<th>Rate*</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Alaska</td>
<td>19.57</td>
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<td>2</td>
<td>Wyoming</td>
<td>19.12</td>
</tr>
<tr>
<td>3</td>
<td>Montana</td>
<td>16.63</td>
</tr>
<tr>
<td>4</td>
<td>New Mexico</td>
<td>15.71</td>
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<td>Nevada</td>
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<td>Idaho</td>
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<td>7</td>
<td>South Dakota</td>
<td>13.04</td>
</tr>
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<td>8</td>
<td>Utah</td>
<td>12.61</td>
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<td>9</td>
<td>Arizona</td>
<td>12.34</td>
</tr>
<tr>
<td>10</td>
<td>Oklahoma</td>
<td>11.83</td>
</tr>
</tbody>
</table>

Source: http://wonder.cdc.gov. *Suicides per 100,000 age cohort population. Includes all ages less than 35 and greater than 64 years old.

When attempting to draw connections between a change (Oregon’s Act) and any claimed or speculated causative outcomes, a minimum necessary analysis is to compare trends prior to the change with after the change, rather than to select individual data points only after the change and criticise them, as the claimants have done.

Using the public CDC Wonder mortality database, the author analysed Oregon’s annual ranking amongst all USA states for total population, age-adjusted suicide rates for 16 years prior to the Oregon Act (1981–1996), and 16 years after the Act (1998–2013). The author excluded the year of change (1997) from both the pre- and post-Act data sets.

At no time in the 33 years of data analysed, either pre or post the Act, did Oregon reach or approach ranking number 2 in suicide rate. Over this period, Oregon ranked between number 7 and number 14 of all USA states (Figure 2).

In the 16 years immediately prior to the Act, Oregon was among the top ten suicide rate states in a great majority (12/16) of years with a mean ranking of 9.4. In the 16 years immediately after the Act, Oregon was among the top ten suicide rate states in a minority (6/16) of years with a mean ranking of 10.8. The data suggests that before the Act, Oregon’s ranking was deteriorating, but after the Act, improving: the difference in pre- and post- ranking trend is
statistically significant (ANCOVA $p = 0.05$), and the difference in means was marginally significant ($p = 0.06$). That the difference of the means was only marginally significant is hardly surprising given that the trend reversal involves retracing through the rankings.

The author was unable to find any mention of these facts by the claimants. Nor was the author able to find any claimant defence for speculating Oregon’s high suicide rate as a result of suicide contagion from the Act when Alaska, Montana, Wyoming, Nevada, New Mexico, Idaho, Colorado, Utah and Arizona had, over the 1999–2010 period, higher suicide rates than Oregon (Table 3), but no Death With Dignity Act deaths that could cause speculated contagion.

### Table 3: Top ten USA state suicide rates 1999-2010

<table>
<thead>
<tr>
<th>Rank</th>
<th>State</th>
<th>Rate*</th>
<th>Rank</th>
<th>State</th>
<th>Rate*</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Alaska</td>
<td>20.8</td>
<td>6</td>
<td>Idaho</td>
<td>16.5</td>
</tr>
<tr>
<td>2</td>
<td>Montana</td>
<td>19.8</td>
<td>7</td>
<td>Colorado</td>
<td>16.3</td>
</tr>
<tr>
<td>3</td>
<td>Wyoming</td>
<td>19.8</td>
<td>8</td>
<td>Utah</td>
<td>16.1</td>
</tr>
<tr>
<td>4</td>
<td>Nevada</td>
<td>19.4</td>
<td>9</td>
<td>Arizona</td>
<td>16.1</td>
</tr>
<tr>
<td>5</td>
<td>New Mexico</td>
<td>19.0</td>
<td>10</td>
<td>Oregon</td>
<td>15.1</td>
</tr>
</tbody>
</table>


The cited CDC publication about suicides among the 35–64 year old age cohort specifically remarks that “the increases were geographically widespread and occurred in states with high, as well as average and low suicide rates,” and gives a number of explanations:

- The recent economic downturn and jobs loss;
- A cohort effect of “baby boomers” who had unusually high suicide rates in their adolescent years;
- An increase in the availability of prescription opioids;
- Intimate partner problems or violence;
- Stress of caregiver responsibilities for children and parents;
- Substance abuse; and
- Declining health and chronic health problems.

Several similar explanations are offered in the cited OHA publication. Neither publication mentions Oregon’s Death With Dignity Act as a possible cause of increased suicide rates. The author was unable to find any mention of these facts by the claimants.

### Suicides among 10–24 year olds

The author used the public CDC WISQARS mortality database to retrieve rankings of causes of death amongst 10–24 year olds for Oregon and the USA from 1999 to 2010 (Table 4). Among 10–24 year olds between 1999 and 2010, by far the most common cause of death was suicide, while nationally it was homicide. Nationally, deaths among 10–24 year olds were more than twice as likely to have resulted from homicide, compared to Oregon. Nationally, suicide was the third most common cause of death.

#### Table 4: Top ten causes of death amongst 10–24 year olds in Oregon and the USA 1999–2010

<table>
<thead>
<tr>
<th>#</th>
<th>Oregon</th>
<th>USA</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Unintentional injury (47.9%)</td>
<td>Unintentional injury (44.0%)^a</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Suicide (17.5%)</td>
<td>Homicide (15.0%)</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Malignant neoplasms (7.5%)</td>
<td>Suicide (12.2%)</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Homicide (6.2%)</td>
<td>Malignant neoplasms (6.0%)</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Heart disease (2.9%)</td>
<td>Heart disease (3.3%)</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Congenital anomalies (1.8%)</td>
<td>Congenital anomalies (1.8%)</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Cerebrovascular (0.6%)</td>
<td>Flu and pneumonia (0.7%)</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Flu and pneumonia (0.6%)</td>
<td>Chronic low resp disease (0.7%)</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Diabetes mellitus (0.6%)</td>
<td>Cerebrovascular (0.7%)</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Benign neoplasms (0.5%)</td>
<td>Diabetes mellitus (0.5%)</td>
<td></td>
</tr>
</tbody>
</table>

^a The major unintentional injury causes nationally were motor vehicle/traffic (66.6%) and poisoning (14.6%). Breakdown was not available for Oregon.

To compare the Oregon and national suicide rates of 10–24 year olds pre- and post- the Oregon Act, the author retrieved relevant data from the public CDC Wonder mortality database. The rate of suicide amongst this age cohort was lower after the Oregon Act in both Oregon and nationally (Table 5 and Figure 3).

#### Table 5: Suicide rate means amongst 10–24 year olds for 16 years prior to the Oregon Act and 16 years after

<table>
<thead>
<tr>
<th>Oregon USA Ratio*</th>
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<tr>
<td>Pre rate (1981-1996) 8.52 6.59 36.3%</td>
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<tr>
<td>Post rate (1998-2013) 6.54 5.33 22.7%</td>
</tr>
<tr>
<td>Decrease 1.98 1.26</td>
</tr>
<tr>
<td>Pre/post difference p &lt; 0.0001 p &lt; 0.0001</td>
</tr>
</tbody>
</table>

Data from: [http://wonder.cdc.gov/](http://wonder.cdc.gov/), age-adjusted. Mean rates per 100,000 age cohort population. # The ratio by which Oregon’s rate exceeds the national rate.

Both pre/post mean decreases were highly statistically significant ($p < 0.0001$), and the decrease for Oregon (1.98) was greater than the national decrease (1.26), resulting in a drop in Oregon’s higher ratio of 36.3% prior to the Act, to 22.7% afterwards. The author was unable to find any mention of any of these facts by the claimants.

### Suicides among 35–64 year olds

To compare the Oregon and national suicide rates of 35–64 year olds pre- and post- the Oregon Act, the author retrieved relevant data from the public CDC Wonder mortality database. The rate of suicide amongst this age cohort increased significantly in both Oregon and national populations from 1999 (Figure 4). The rates of increase over the sixteen years post-Act are not significantly
different (ANCOVA p = 0.18), and the full longitudinal data provides a markedly different perspective from the one created by comparing only Oregon’s highest post-Act suicide rate (2010) with its second-lowest post-Act rate (1999) as the claimants did.

**Figure 4:** Suicide rates amongst 35-64 year olds by year
Data from: http://wonder.cdc.gov/, age-adjusted.

**Suicide increases from 2000**

To investigate the rise in suicide rates from 2000, the author retrieved the age-adjusted rates for the USA and various states from the public CDC Wonder mortality database.

Oregon’s suicide rate (all age groups) increased from 2000, but only after a very substantial drop in 1999, two years after the *Death With Dignity Act* came into effect (Figure 5). The mean suicide rate for the 16 years after the Act (15.5) is lower, not higher, than the rate for the 16 years prior to the Act (15.9), although the difference is not significant (p = 0.53).

**Figure 5:** Oregon’s general suicide rate by year pre and post the Act
Data from: http://wonder.cdc.gov/, age-adjusted.

The author also assessed Oregon’s suicide rate trends pre- and post-2000 (Figure 6).

**Figure 6:** Oregon’s general suicide rate by year pre and post 2000
Data from: http://wonder.cdc.gov/, age-adjusted.

Oregon’s suicide rate:
- Decreased in the 1990s and increased from 2000.
- Was 41.6% above the national average in 2010 and 41.8% above in 2012.

The author also analysed Vermont’s suicide rate over the same period (Figure 7).

**Figure 7:** Vermont’s general suicide rate by year pre and post 2000
Data from: http://wonder.cdc.gov/, age-adjusted.

Vermont’s suicide rate:
- Decreased in the 1990s and increased from 2000.
- In 2011 was 44.2% above the national average.

While the Vermont results are similar to Oregon’s, they cannot have been cause by suicide contagion from an assisted dying law because Vermont did not have an assisted dying law until 2013, and in that year there were no assisted deaths so no contagion could be speculated to have occurred.

The author also analysed the national suicide rate over the same period (Figure 8).

**Figure 8:** USA national general suicide rate by year pre and post 2000
Data from: http://wonder.cdc.gov/, age-adjusted.

The national suicide rate:
- Decreased in the 1990s and increased from 2000.

Further, from 1998 (the first year of assisted deaths under Oregon’s Act) to 2013, the trend increase in suicide rate for all age groups in Oregon was not significantly different from the national trend (ANCOVA p = 0.42).

The author was unable to find any mention of any of these facts by the claimants.

**Physician long-term claims**

The author searched online for opposing claims to Oregon’s *Death With Dignity Act* by Doctors Toffler and Stevens. The author vigorously endorses the democratic right to express views and to participate in the development of public policy and sought only to establish for how long these physicians have been making claims opposing the Act.

The author found numerous published claims in opposition to the Act by both physicians. The earliest opposing claim found was Dr Toffler as a signatory to an opposing statement in Oregon’s voter’s pamphlet for Ballot Measure 16 in 1994, the successful ballot that introduced assisted dying into Oregon statute.

Both Drs Toffler and Stevens published claims in support, in Oregon’s voter’s pamphlet for Ballot Measure 51 in 1997, an initiative that unsuccessfully attempted to overturn Ballot Measure 16. Therefore, both physicians were actively opposed to the Act before it came into practical effect in late 1997 and the first deaths
occurred under its provisions in 1998. Again, the author vigorously endorses the physicians’ right to participate in public discourse. The author does, however, argue that recent use of erroneous and selective information deserves attention and correction.

In 2008, the author along with the Honourable Ken Smith, former Speaker of the Parliament of Victoria, Australia, interviewed Doctors Toffler and Stevens (along with Dr Charles Benz, President of Doctors for Compassionate Care), at St Vincent’s Providence Hospital in Portland, Oregon, about Oregon’s Act.

During the wide-ranging interview, the physicians made a number of claims of slippery slope effects in an effort to highlight perceived dangers of the Act. The dangers they presented in the interview did not include suicide contagion as they have more recently speculated. The author pointed out that the dangers they described would arise whether or not an Act was in place. Dr Toffler spontaneously acknowledged on camera: "Now what we’re saying is it exists, the slippery slope, and can we prove cause and effect, no of course not!"; and

"We can’t show cause and effect. That’s not what we are claiming."

DISCUSSION

The author analysed the statements of several Oregon physicians regarding Oregon’s high suicide rate, and particularly the speculation of suicide contagion from Oregon’s Death With Dignity Act to suicides among the general population. The author retrieved and analysed cited sources and conducted empirical research. The author found the statements to be factually wrong, selective and/or misleading.

Statement 1: Oregon ranked second

Statements: “Suicide in Oregon ranked 2nd”, “Oregon has the second-highest suicide rate in the country”, “According to the U.S. Centers for Disease Control and Prevention (CDC), Oregon had the 2nd highest suicide rate in the country for the years 1999–2000”, and “In fact, Oregon had the 2nd highest suicide rate in the country between 1999–2010”.

These statements are false. The physicians and other claimants have misread the publication they cite as evidence to make these claims, both in terms of population (the statistics were for 35–64 year olds and not the entire population) and state coverage (not all states were included in the cited data). Over that period as a whole, Oregon ranked 5th in the 35–64 year old cohort, 16th among the other age cohorts, and 10th overall.

At no time between 1981 and 2013 did Oregon annually reach or approach second ranking for suicide in the USA. Over that period it ranged annually between 7th and 14th.

Statement 2: Oregon suicides now always in top ten

Statement: “Oregon is now always among the top ten states in the USA having the highest rate of suicides in the US.”

This statement is false. In the sixteen years since the Act Oregon’s general suicide rate has been in the USA’s top ten six times. This compares with the sixteen years immediately prior to the Act during which Oregon’s general suicide rate was in the USA’s top ten twelve times: twice as often.

Oregon’s ranking amongst USA states has improved, not deteriorated, since the Act.

Statement 3: 2nd leading cause amongst 10–24yo

Statement: “[Suicide] is the second-leading cause of death among Oregonians aged 10 to 24.”

Statement 4: Oregon 41% higher than national

Statement: “In 2010, the suicide rate … was 41% higher than the national average.”

This statement is true (41.6%) but profoundly misleading in isolation. To have meaning, the rates and trends must at least be compared with (a) other state rates in the same time period, and (b) with Oregon rates prior to the Act. By comparison, Vermont’s suicide rate in 2012 was 44.2% above the national average, yet Vermont did not have an assisted dying law in 2012 from which suicide contagion could be speculated to occur.

In addition, the trend in increase of Oregon suicides over the sixteen years since the Act came into effect is not statistically different from the rate of increase in national suicides. The number of times Oregon has appeared in the nation’s top ten suicide rates since the Act (6) is half the number of times of the sixteen years immediately prior to the Act (12).

Statement 5: Oregon rate rising since 2000

Statement: “The rate of suicide among Oregonians has been increasing since 2000.”

This statement is true but profoundly misleading in isolation. The national suicide rate as well as the rate of many other states including Vermont, which did not have an assisted dying law, have been rising since 2000. The fact that rises occurred geographically across the nation and amongst states with low, moderate and high suicide rates was explicitly stated in the cited CDC publication.

Absent statements

The cited CDC and OHA publications discussed a number of significant reasons why suicide rates across the nation (including Oregon) increased since 2000, including job loss, economic hardship and many other factors. Neither the cited CDC nor the cited OHA publication mentioned or conjectured suicide contagion as a possible reason.

The author was unable to find any mention of any of these key facts by the claimants amongst their speculation about Oregon’s high suicide rate.

COMS correction

The author corresponded with COMS about their online article claiming Oregon as second in USA suicide rates, outlining why it is incorrect. COMS subsequently conducted their own further analysis directly using the public CDC WISQARS mortality database, concluding that for the period 1999–2010, across all age cohorts, Oregon was tenth. The author concurs.

COMS have updated their web page about Oregon’s suicide rate: it now states correctly that Oregon was tenth.2
CONCLUSION

Several physicians who have been long-standing opponents of Oregon’s Death With Dignity Act—since before its inception—have relied on misinterpreted data about Oregon’s suicide statistics, selectively quoted from other data, omitted to mention available data that does not support suicide contagion speculation from the Act to the general population and which provides other explanations for suicide rate increase, and neglected to conduct (or at least to report) analysis of public CDC mortality data to test their hypothesis.

The physicians have previously acknowledged they are unable to demonstrate a ‘slippery slope’ cause and effect in regard to the Act.

The physicians’ erroneous and selective information has been promoted by other commentators opposed to Oregon’s Act.

AUTHORS’ AFFILIATIONS

Relevant affiliations and interests statement: Neil Francis is a former primary medical researcher. He runs DyingForChoice.com. He is a past President and CEO of Dying With Dignity Victoria, past and Foundation Chairman and CEO of YourLastRight.com, and a past President of the World Federation of Right To Die Societies.

REFERENCES


Errata

- On page 5, a typographical error stated that Oregon’s suicide rate was 17th amongst non-35–64 year olds. This has been corrected to 16th as per Table 2.
- In the discussion for Statement 4 it was stated that Oregon’s trend in suicide rate was not significantly different from the national trend, without mentioning any age groups. At the bottom of page 3 the statistic was given for 35–64 year olds, but not for the total population. The discussion statement is true for both 35–64 year olds and for the total population: a statement about total population has been added below Figure 8 on page 4.