

Euthanasia, Assisted Suicide, and Suicide Rates in Europe

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Abstract

It has been argued that, paradoxically, legalising euthanasia or assisted suicide (EAS) might save lives. If people had the security of knowing that these were options then they might not take their lives prematurely. However, data from the United States demonstrates that assisted suicide is associated with a significant increase in total suicide (inclusive of assisted suicide) and no reduction in non-assisted suicide. In contrast, Lowe and Downie have asserted, reassuringly, that after EAS was introduced in Europe, “non-assisted suicide rates have remained constant or decreased”. This paper shows that when European data are placed in the context of (1) neighbouring non-EAS countries; (2) relevant dates; (3) deaths by EAS; and (4) separate data for men and women, then the prima facie data are not reassuring. Introducing EAS is followed by considerable increases in suicide (inclusive of assisted suicide) and in intentional self-initiated death. There is no reduction in non-assisted suicide relative to the most similar non-EAS neighbour and, in some cases, there is a relative and/or an absolute increase in non-assisted suicide. Furthermore, the data from Europe and from the U.S. indicate that it is women who have most been placed at risk of avoidable premature death.

Key words: Euthanasia, assisted suicide, assisted dying, suicide rates, suicide prevention

Assisted suicide as suicide prevention

A common objection to assisted suicide is that this practice is contrary to a commitment to patient safety and, more specifically, to suicide prevention (Jones, 2018; Komrad, 2021). In addition to the lives ended directly by assisted suicide it has been suggested that the legalisation of assisted suicide might also have the effect of normalising suicide (whether assisted or non-assisted) and hence might lead to an increase in non-assisted suicides (Callahan, 1994; Dugdale & Callahan, 2017; Kheriaty, 2015; Sulmasy, 2018).

Acknowledging these concerns, some advocates of “assisted dying”, that is, of euthanasia and/or assisted suicide (EAS)¹ have argued that, on the contrary, legalising EAS can help protect patients and can help prevent non-assisted suicide (Posner, 1995; Tallis, 2014; Iacobucci, 2021). This is the position taken by the two largest assisted-suicide organisations in Switzerland, EXIT and Dignitas.

On the website of EXIT, it is stated that:

EXIT’s option of physician-assisted suicide² is actually an effective form of suicide prevention. Living in the certain knowledge of a way out has motivated more than half of the people originally intent on dying to keep enduring their painful lot until they passed away the natural way. (EXIT, n.d.)

In a submission to the Parliament of Australia in 2014, Dignitas states that:

the option of an assisted/accompanied suicide without having to face the severe risks

¹ The terms “euthanasia” and “assisted suicide” are used in the present paper as these are the terms used in legislation and official reports in the Netherlands, Belgium, and Luxembourg. The term “assisted suicide” is also used in official reports in Switzerland. Euthanasia in this context denotes active termination of life by a medical professional at the request of a patient and assisted suicide denotes provision by medical professionals of the means of suicide to be orally self-administered by the patient. Non-assisted suicide in this context refers to suicide that is not part of an organised practice of assisted suicide. The current paper uses EAS (euthanasia and/or assist suicide) as an umbrella term. Hence the term EAS is sometimes used in this paper in relation to jurisdictions such as Switzerland where assisted suicide is legal but euthanasia is not.

² The term “physician-assisted suicide” [PAS] is sometimes used in a Swiss context even though those involved in assisted suicide in Switzerland may be non-physicians (Andorno, 2013). Physician-assisted suicide was the term used in the first eight official reports of the Oregon Death with Dignity Act, and is still widely used to distinguish a physician supplying a lethal drug for the patient to self-administer (assisted suicide) from a physician terminating the life of the patient on request (euthanasia).

inherent in commonly-known suicide attempts is *one of the best methods of preventing suicide* attempts and suicide. It may sound paradoxical: in order to prevent suicide attempts, one needs to say “yes” to suicide. (Dignitas, 2014, p. 11, emphasis added)

To evaluate these claims, it is first necessary to clarify whether the word “suicide” is referring to non-assisted-or-assisted suicide or is referring only to non-assisted suicide. When EXIT refers to “suicide prevention”, this seems to include the decision not to go through with assisted suicide. Similarly, when Dignitas recommends “saying ‘yes’ to suicide” what seems to be in mind is saying “yes” to assisted suicide. Hence in these quotations the word seems to be used in the broader, inclusive sense. For clarity, the present article avoids using the word “suicide” without qualification, except when quoting other writers and instead will refer either to suicide inclusive of assisted suicide (incl. AS) or to non-assisted suicide. The article will also refer to intentional self-initiated death (ISID), a term used to cover deaths by non-assisted suicide and/or by EAS.

Note that the supposition of EXIT and Dignitas is not just that people who might otherwise have died by non-assisted suicide might choose instead to die by assisted suicide. Neither organisation asserts only that assisted suicide might reduce non-assisted suicides through substitution. They claim also that having the option of assisted suicide reduces the number of people who die by their own hand, that is who die by suicide inclusive of assisted suicide.

This paradoxical hypothesis played a key role in the *Carter v Canada* decision of 2015. It was argued that the right to life was engaged because lives were endangered by the prohibition of “physician-assisted dying” (which in this context referred to euthanasia and/or assisted suicide):

[57] The trial judge found that the prohibition on physician-assisted dying had the effect of forcing some individuals to take their own lives prematurely, for fear that they would be incapable of doing so when they reached the point where suffering was intolerable. On that basis, she found that the right to life was engaged.

[58] We see no basis for interfering with the trial judge’s conclusion on this point. The evidence of premature death was not challenged before this Court. It is therefore established that the prohibition deprives some individuals of life. (*Carter v. Canada [Attorney General]*, 2015)

Other jurisdictions have sought to strike a balance between the right to liberty of those seeking EAS

and the right to life of those who would be endangered by EAS (see for example *Vacco v. Quill*, 521 U.S. 793, 1997; *Pretty v. The United Kingdom—2346/02*, 2002; *Fleming v Ireland & Ors*, 2013). The Canadian Supreme Court, however, found that *both* rights were infringed by the prohibition: the evidence that the prohibition “deprives some individuals of life”, and thus that EAS can help prevent non-assisted suicide, “was not challenged before this Court” (*Carter v. Canada [Attorney General]*, 2015).

Empirical evidence for a rise in suicide (inclusive of assisted suicide)

The paradoxical argument presented by EXIT and Dignitas, and effectively endorsed by the Canadian Supreme Court, is not to be dismissed out of hand. There are analogous claims put forward in other areas of public policy, such as substance abuse, that blanket prohibitions can be counter-productive (Hughes & Stevens, 2010). Such hypotheses are in essence speculative and each needs to be tested empirically against the available evidence.

The United States offers an opportunity to test the hypothesis that legalising assisted suicide can be associated with a *reduction* in suicide (incl. AS). The patchwork of different laws passed at different times within the same country allows comparisons to be made between states and over time. An analysis of this data in 2015 by Jones and Paton concluded that:

Controlling for various socioeconomic factors, unobservable state and year effects, and state-specific linear trends, legalizing PAS was associated with a 6.3% (95% confidence interval 2.7% - 9.9%) increase in total suicides (including assisted suicides).

Introduction of PAS was neither associated with a reduction in non-assisted suicide rates nor with an increase in the mean age of non-assisted suicide. (Jones & Paton, 2015, p. 599)

Jones and Paton found some evidence that introduction of assisted suicide was significantly associated with *an increase in non-assisted suicide* rates. However, this result was not robust to the inclusion of state-specific trends. This does not imply that “legalization had no effect” in elevating non-assisted suicide rates (Lowe & Downie, 2017, p. 4). The introduction of state-specific trends is a robustness check to control for bias due to omitted unobservable variables. However, the inclusion of further additional variables can reduce the power of statistical tests to recognise an effect as significant. The available evidence neither demonstrates nor rules out an association between

legalising assisted suicide and the increases in non-assisted suicide in Oregon, Washington, Montana, and Vermont. Jones and Paton therefore restricted themselves to the more secure conclusion that after assisted suicide was introduced, total suicide (incl. AS) increased significantly and there was no reduction in non-assisted suicide.

Lowe and Downie's critique of the Jones and Paton paper

The paper of Jones and Paton was criticised by Matthew Lowe and Jocelyn Downie in the *Journal of the Ethics of Mental Health* (2017; see also Dembo et al., 2018). Lowe and Downie first consider the strengths and weaknesses of the Jones and Paton paper and then place the paper in the broader context of non-assisted suicide rates in Switzerland, Belgium, the Netherlands, and Luxembourg.

The primary weakness of Lowe and Downie's paper is the double standard shown in relation to the criticism of the analysis of U.S. data by Jones and Paton and the presentation of their own analysis of European data. Their main criticism of Jones and Paton is the omission of certain factors from the regression analysis. However, Lowe and Downie do not provide their own analysis of these U.S. data. They criticise the paper for what it does not contain or what it might have done differently, but they fail to show that an alternative analysis would support a different conclusion. Furthermore, in presenting European data, Lowe and Downie not only omit regression analysis for marriage rates and mental health factors (the factors they identify as missing for Jones and Paton), they omit any regression analysis whatsoever. Furthermore, they do not provide any control for state and year effects nor do they control for state-specific linear trends. Notwithstanding the impression given by Dembo et al. (2018, p. 453), on no statistical measure is the analysis of OECD Suicide Data provided by Lowe and Downie more robust than the analysis of U.S. data by Jones and Paton.

The strength of the Lowe and Downie paper is in recognising that "suicide trends in Oregon and Washington do not necessarily reflect or predict the effects of the legalization of medical assistance in dying in other countries." (2017, p. 7) It is necessary to examine the data from other countries independently to assess whether they increase or decrease after the introduction of EAS. Lowe and Downie are also correct in identifying the four jurisdictions that merit consideration: Switzerland; Luxembourg; the Netherlands; and Belgium. These are the only jurisdictions outside the United States that had a widespread legal practice of EAS prior to 2015. Lowe and Downie have

identified a useful resource in the OECD statistics on suicide. These have been compiled so as to facilitate international comparison of data and they provide Lowe and Downie with a full data set for the years 1990 to 2013. There is also some value in looking at descriptive data of net changes in the rate of suicide in different countries over time, as they do in their graph. Even prior to further analysis controlling for different factors, the prima facie data can provide context, raise concerns, and identify large-scale features that call for further explanation.

The value of Lowe and Downie's paper lies not its criticisms of the Jones and Paton paper, which are unwarranted, but in providing an initial comparative survey of the non-assisted suicide data from European countries with EAS. The remainder of the present paper takes the same starting point: consideration of the OECD statistics for non-assisted suicide in Switzerland and the Low Countries from 1990 to the present (with data now available up to 2017 for Switzerland and its most similar non-EAS neighbour and up to 2016 for the Low Countries and their most similar non-EAS neighbours [see OECD Suicide Data, 2021]).

This study adds to Lowe and Downie's descriptive presentation of the data in four ways: (1) by presenting comparative data from neighbouring countries where EAS remains illegal; (2) by indicating significant dates in the introduction of EAS; (3) by combining these data with data for EAS; and (4) by looking separately at male and female rates of non-assisted suicide and of intentional self-initiated death. This investigation does not provide the level of analysis that the Jones and Paton paper provides for the U.S. data. Nevertheless, it adds considerably to the initial presentation of European data by Lowe and Downie, providing a richer explanatory context for understanding the relationship between rates of non-assisted suicide, suicide (incl. AS) and ISID, and the introduction of EAS in Europe.

Non-assisted and assisted suicide in Switzerland

Switzerland has borders with five countries: Italy, France, Germany, Liechtenstein, and Austria. Of these it is most similar in language, culture, geography, and population to that of Austria. Switzerland and Austria are relatively small, land-locked, Alpine countries with a similar population (currently between 8 and 9 million people) and majority German-speaking. It seems reasonable to suppose that Austria can provide broadly comparable data to help contextualise changes in suicide rates (both non-assisted suicide rates and suicide rates incl. AS) in Switzerland. This supposition is

confirmed by looking at OECD Suicide Data where suicide rates of Switzerland and Austria have tracked one another closely over several decades (see OECD Suicide Data, 2021).³

Unlike the Netherlands, Belgium, and Luxembourg, the introduction of assisted suicide in Switzerland as an organised practice was not the result of a change in the law. Euthanasia remains illegal in Switzerland while assisted suicide has been legal, unless done for “selfish reasons”, since 1942. It was only much later that the private organisations such as EXIT in the 1980s and Dignitas in the 1990s established their own forms of assisted suicide. Furthermore, the number of assisted suicides facilitated by these organisations remained relatively small until the late 1990s (Bartsch et al., 2019, p. 545). For convenience, 1998 can be identified as a significant date for the establishment of physician assisted suicide as an accepted practice in Switzerland. It was in 1998 that Dignitas was founded. It was in 1998 that the Swiss government began to codify death by assisted suicide as distinct from other forms of suicide by poisoning. It was from 1998 that the two official reports of the Federal Statistical Office (FSO) provide data for assisted suicide (Federal Statistical Office, 2012, 2016). Furthermore, from 1999 the rate of assisted suicide in Switzerland has risen steeply and consistently.

Low and Downie provide a graph including OECD suicide data in Switzerland which they label “non-assisted suicide rates per 100,000 residents” (2017, p. 7). However, in this Low and Downie are mistaken. OECD suicide rates only began to exclude assisted suicide from the overall suicide figures in Switzerland in 2009 (OECD, 2019). Prior to this the OECD suicide rate for Switzerland was the rate of suicide inclusive of assisted suicide. To estimate what the OECD non-assisted suicide rate for Switzerland would have been prior to 2009 and to estimate what suicide rate (incl. AS) would be from 2009, on the basis on OECD Suicide Data, it is necessary to draw on assisted suicide data collated by Dignitas.

Dignitas provides non-assisted suicide figures for men and women in Switzerland from 1969 to 2018 and assisted suicide figures for men and women for the years 1998 to 2018 (including all assisted suicides in Switzerland involving Swiss residents, not only those deaths facilitated by Dignitas; Dignitas, 2021). The Dignitas data can be used to calculate a ratio of non-assisted suicide

³ The OECD website provides a means to compare suicide rates in different countries over time and also provides an option of presenting the data in different contexts, including the context of the European Union. It provides data on total, male and female suicide for each country.

to suicide (incl. AS) in Switzerland for the years 1998 to 2017. This ratio can then be used to estimate the OECD non-assisted suicide rate for Switzerland from 1998 to 2008 and the suicide rate incl. AS for Switzerland in 2009 and after. These data can be presented as a graph. The reported OECD figures are shown below as solid lines and the estimated figures (incorporating Dignitas data) are presented as dotted lines.

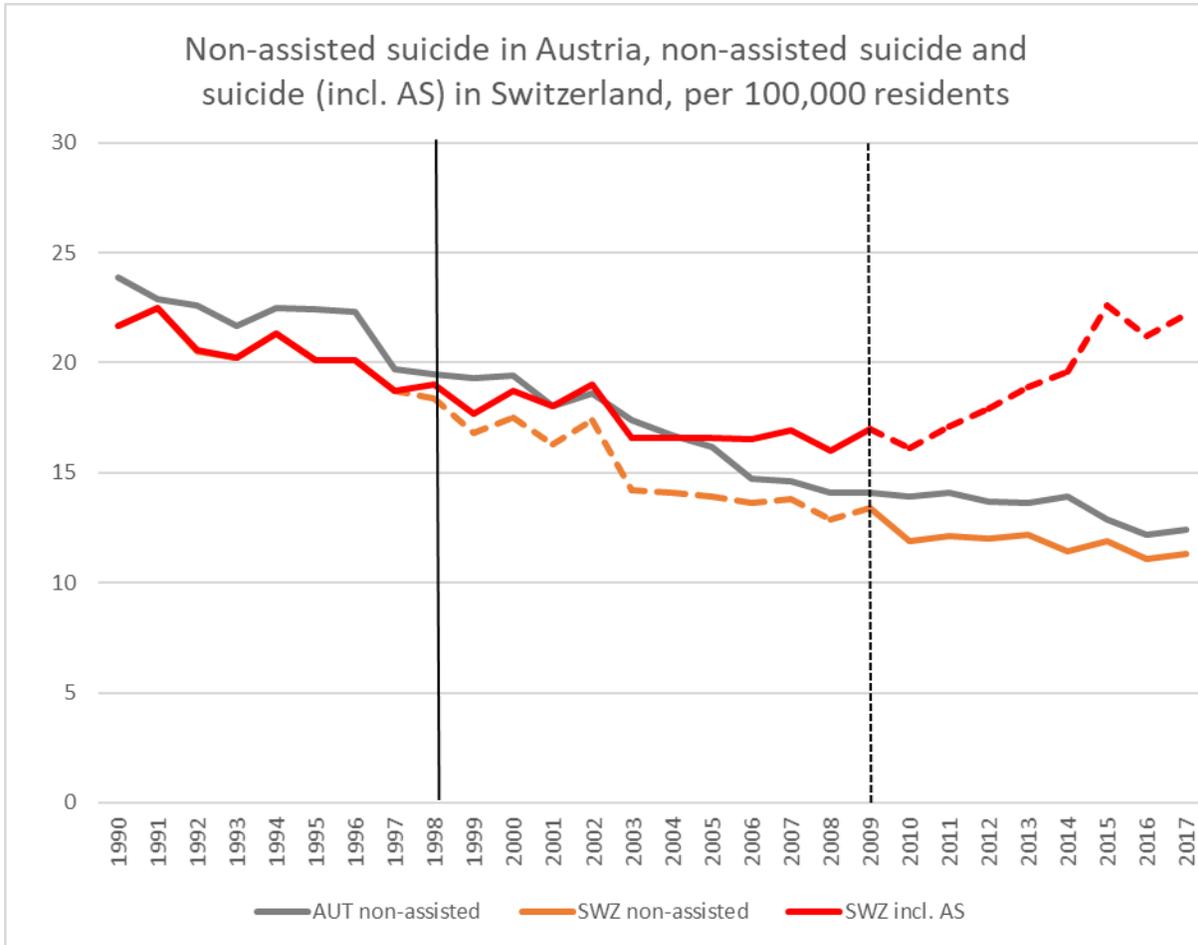


Figure 1

This graph shows non-assisted suicide in Austria (AUT) per 100,000 residents (dark grey), alongside non-assisted suicide and suicide inclusive of assisted suicide in Switzerland (SWZ) per 100,000 residents (orange and red respectively), based on OECD Suicide Data and data from Dignitas. The dates 1998 and 2009 are indicated, the former being a significant date in the establishment of assisted suicide in Switzerland, the latter the date from which OECD Suicide Data for Switzerland was restricted to non-assisted suicide.

From 1990, the non-assisted suicide rates in Switzerland and in Austria decline in parallel.

There is a slightly larger drop in non-assisted suicide in Switzerland in 2003. This was the year Switzerland voted to reduce its army from 400,000 to 200,000 and it has been argued that this move reduced suicide among young men in Switzerland as fewer men had access to firearms (Reisch et al., 2013). However, overall, there is no discernible difference in the rate of decline of non-assisted suicide between the two countries over this period. In contrast, from 1998, the rate of suicide (incl. AS) increases in Switzerland relative to non-assisted suicide in Austria and, from 2010 to 2017, Swiss suicide incl. AS increases in absolute terms (from 16.1 to 22.2). Indeed, the rate of suicide incl. AS was discernibly higher in 2017 (22.2) than it was in 1998 (19.0).

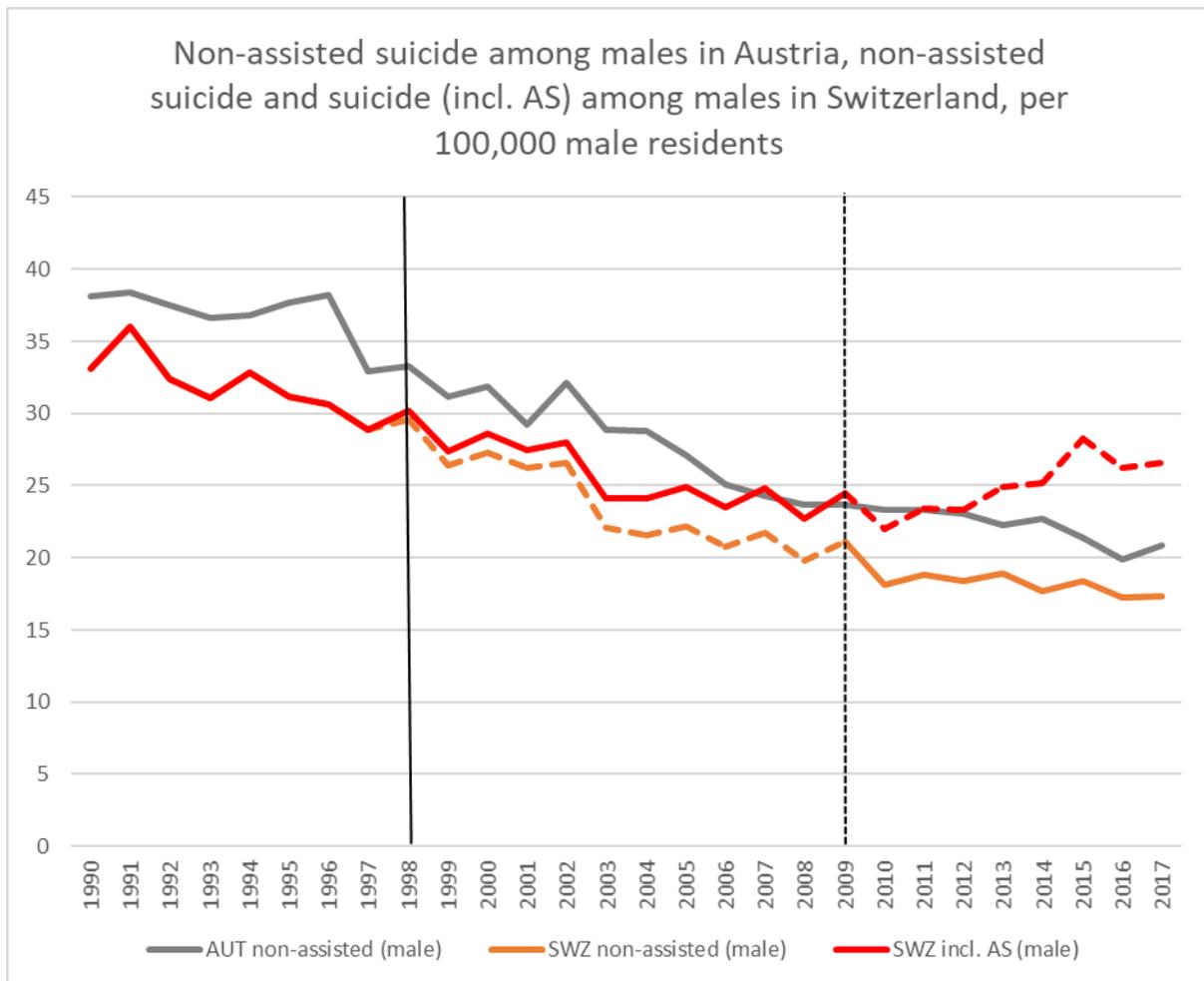


Figure 2

This graph shows non-assisted suicide among males in Austria (AUT) per 100,000 male residents (dark grey), alongside non-assisted suicide and suicide (incl. AS) among males in Switzerland (SWZ) per 100,000 male residents (orange and red respectively), based on OECD Suicide Data and data from Dignitas.

The pattern is similar for non-assisted suicide of males in Austria and Switzerland, which decline in parallel, while suicide (incl. AS) of males in Switzerland increases first relative to Austria and, from 2010, in absolute terms. However, the increase in suicide incl. AS since 2010 (from 22.0 to 26.5) is not as pronounced in males as the combined data, and it is not yet at the level it was in 1998 (30.2).

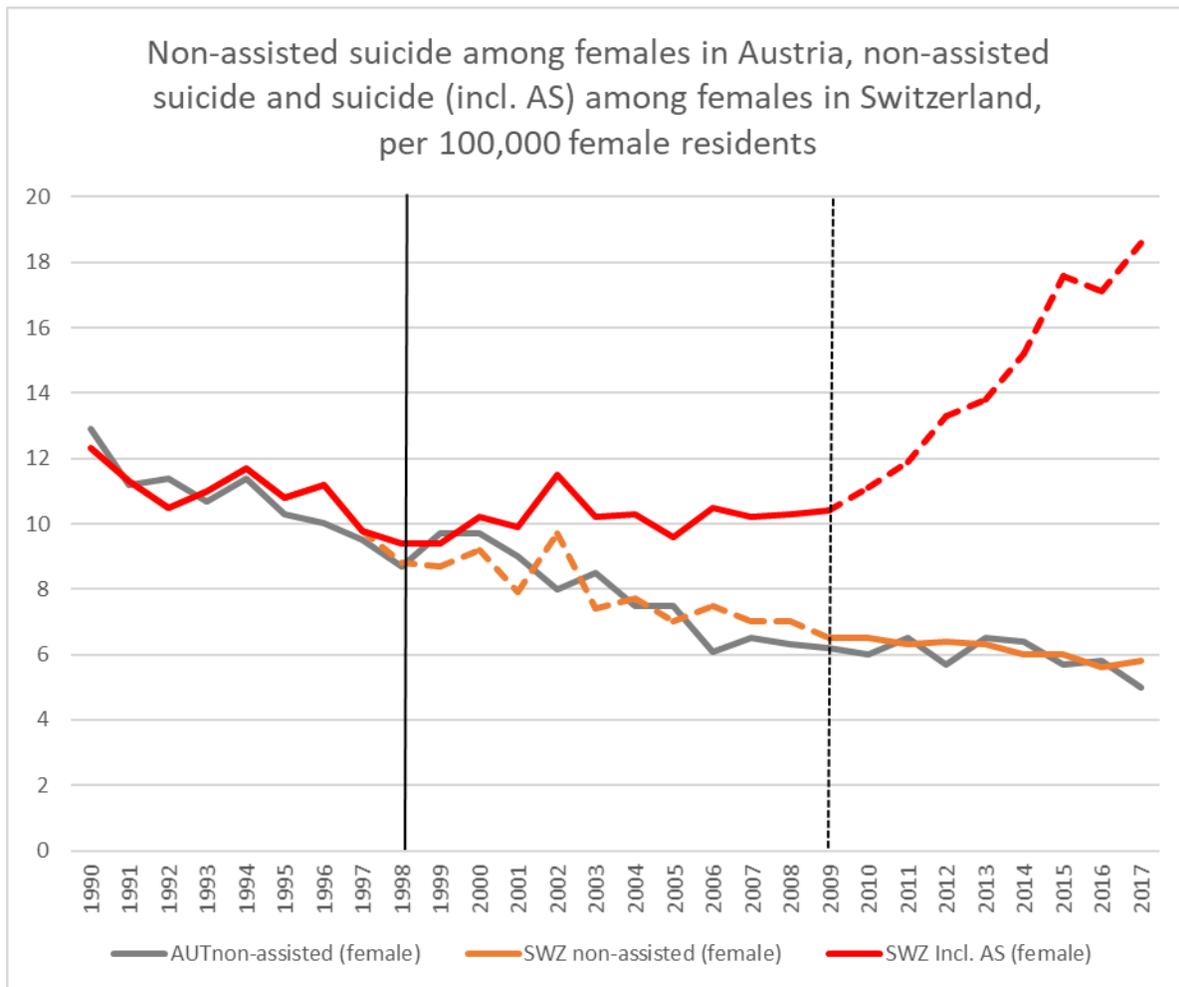


Figure 3

This graph shows non-assisted suicide among females in Austria (AUT) per 100,000 female residents (dark grey), alongside non-assisted suicide and suicide (incl. AS) among females in Switzerland (SWZ) per 100,000 female residents (orange and red respectively), based on OECD Suicide Data and data from Dignitas.

From 1990 to 2017, the rates of non-assisted suicide of females in Austria and Switzerland are very similar. Not only are the rates of decline similar but the actual levels of non-assisted suicide of females in Switzerland and Austria are very close, interweaving around one another. In contrast, rates of suicide incl. AS of females in Switzerland not only diverge from the rate of non-assisted suicide of females in Austria but increase in absolute terms from 2000. By 2017 the suicide rate (incl. AS) for females in Switzerland is roughly twice the rate it was 1998 (from 9.4 up to 18.6) while the non-assisted suicide rate of females in Austria over this period declined from 8.7 to 5.0 and the non-assisted suicide rate of females in Switzerland declined by a similar amount (from 8.8 to 5.8). This dramatic rise in suicide inclusive of assisted suicide among women in Switzerland (which is the way the OECD suicide rate was calculated prior to 2009) is driven by large increases in assisted suicide and is associated with no discernible reduction in non-assisted suicide in Switzerland relative to Austria.

Lowe and Downie state that “Data from Switzerland [...] contrast the trends in rates of non-assisted suicide observed in the United States” (2017, p. 7). This is true in that non-assisted suicide rates have declined in Switzerland since 1990, as they have throughout most of Europe, while over this period they have been increasing in the United States (both in EAS and non-EAS states). Nevertheless, the relative change between Switzerland and Austria shows a very similar pattern to the data from the United States as analysed by Jones and Paton. The rate of suicide incl. AS has very clearly risen in Switzerland relative to Austria. At the same time, there is no indication of a relative decrease in non-assisted suicide.

That the negative impact on suicide rates (incl. AS) is greater among women⁴ is something that has been documented in research both on Swiss data and on data from Oregon. Steck, in a paper from 2015, states that:

In the present study the substantial increase in assisted suicide in older women, with a net increase in the rate of suicide overall [incl. AS] in women, must be of concern. We have argued previously that further research is needed to clarify the reasons for the tripling of rates in assisted suicides in women, and the doubling of rates in men, and to what extent this difference might reflect greater vulnerability of women compared with

⁴ For further discussion of the gendered risks of EAS see also Nicolini et al. (2021); Kohm & Brigner (1997); Canetto & Hollenshead (2000); Canetto & Hollenshead (2001); and George (2007).

men (Steck et al., 2015, p. 5; see also Steck et al., 2014).

The very similar pattern has been shown in a more recent study of comparative rates of assisted and non-assisted suicide rates in men and women in Oregon. It found that:

In jurisdictions where assisted suicide/MAID [Medical Assistance in Dying] is legal and where assisted suicide/MAID and unassisted-suicide comparative studies have been conducted (i.e., Switzerland and Oregon), older adult women's likelihood of self-initiated death [i.e., suicide incl. AS] has grown substantially since MAID legalization (Canetto & McIntosh, 2021, p. 8).

Euthanasia in the Low Countries

The legal practices of euthanasia and of assisted suicide (EAS) are common to the Netherlands, Belgium, and Luxembourg. These jurisdictions have broadly similar laws, passed in 2001, 2002, and 2009, respectively. They will be considered in the present paper in the order Luxembourg, then the Netherlands, and finally Belgium. Luxembourg is taken first as it has least data available, as it is by far the smallest of the three jurisdictions and its legislation was enacted most recently. Belgium is taken last because, of these three countries, only Belgium has seen a discernible fall in non-assisted suicide rates since enacting EAS legislation. Hence, if there were a country which gave evidence for a beneficial effect of EAS for suicide prevention, that country would be Belgium.

Luxembourg

Luxembourg has two non-EAS neighbours, Germany to the east and France to the west, and culturally and historically it is strongly influenced by both countries. Most Luxembourgers are able to speak three languages: French, German, and Luxembourgish.

When Luxembourg introduced euthanasia in 2009 the population was less than half a million. With such a small population there are large variations in numbers of suicide from year to year. The rate over time appears to be a series of spikes and it is hard to see any pattern. To mitigate this variation, the rate is presented in the following graphs as a two-year running average.

Lowie and Downie state that "No assisted suicides have been reported since the passing of the legislation in Luxembourg, although there have been cases of euthanasia" (2017, p. 6). This begs the question as to why assisted suicide is distinguished from euthanasia in a jurisdiction where both are

offered to patients under the same law and for the same indications. In Switzerland euthanasia is illegal and is clearly distinguished from assisted suicide. However, in Luxembourg someone who desires medical assistance in procuring his or her death has a choice of administration of a lethal drug by a doctor (euthanasia) or provision of the lethal drug by a doctor for self-administration (assisted suicide). Both practices are legal and both are covered by the same law and reporting structures. It seems artificial in this context to aggregate non-assisted and assisted suicide without also including legal, officially reported, voluntary euthanasia. This statistic cannot reasonably be termed “suicide” as euthanasia is the termination of life by a third party, albeit on request. Hence rather than consider the rate of suicide (incl. AS) in the Low Countries, this paper will consider intentional self-initiated death (ISID) defined as the sum of non-assisted suicides, assisted suicides, and deaths by voluntary euthanasia.

The following graph reduces the variation year to year by showing two-year average non-assisted suicide rates for Luxembourg (LUX) alongside non-assisted suicide rates for France (FRA) and Germany (GER) also shown as two-year averages to ensure comparability, using the most recent OECD Suicide Data available for all three countries (up to 2016) and clearly marking the year when legislation was introduced (2009). The rate of intentional self-initiated death (ISID) in Luxembourg is calculated by taking the number of deaths by EAS per 100,000 (taking EAS figures from official reports [Commission Nationale de Contrôle et d’Evaluation de l’application de la loi du 16 mars 2009 sur l’euthanasie et l’assistance au suicide, 2021]⁵ using population data from OECD Population Data, 2021) and adding this to the OECD figure for non-assisted suicide.

⁵ This paper considers the officially reported rates of EAS in Luxembourg, the Netherlands, and Belgium. The use of official reports may well understate the extent of these practices. Nevertheless, the reported data clearly captures deaths that are overtly intended and that are self-initiated and thus provides a conservative estimate for the number of intentional self-initiated deaths. As with the use of OECD Suicide Data, taking EAS data from official reports also has the advantages of transparency and accessibility of data.

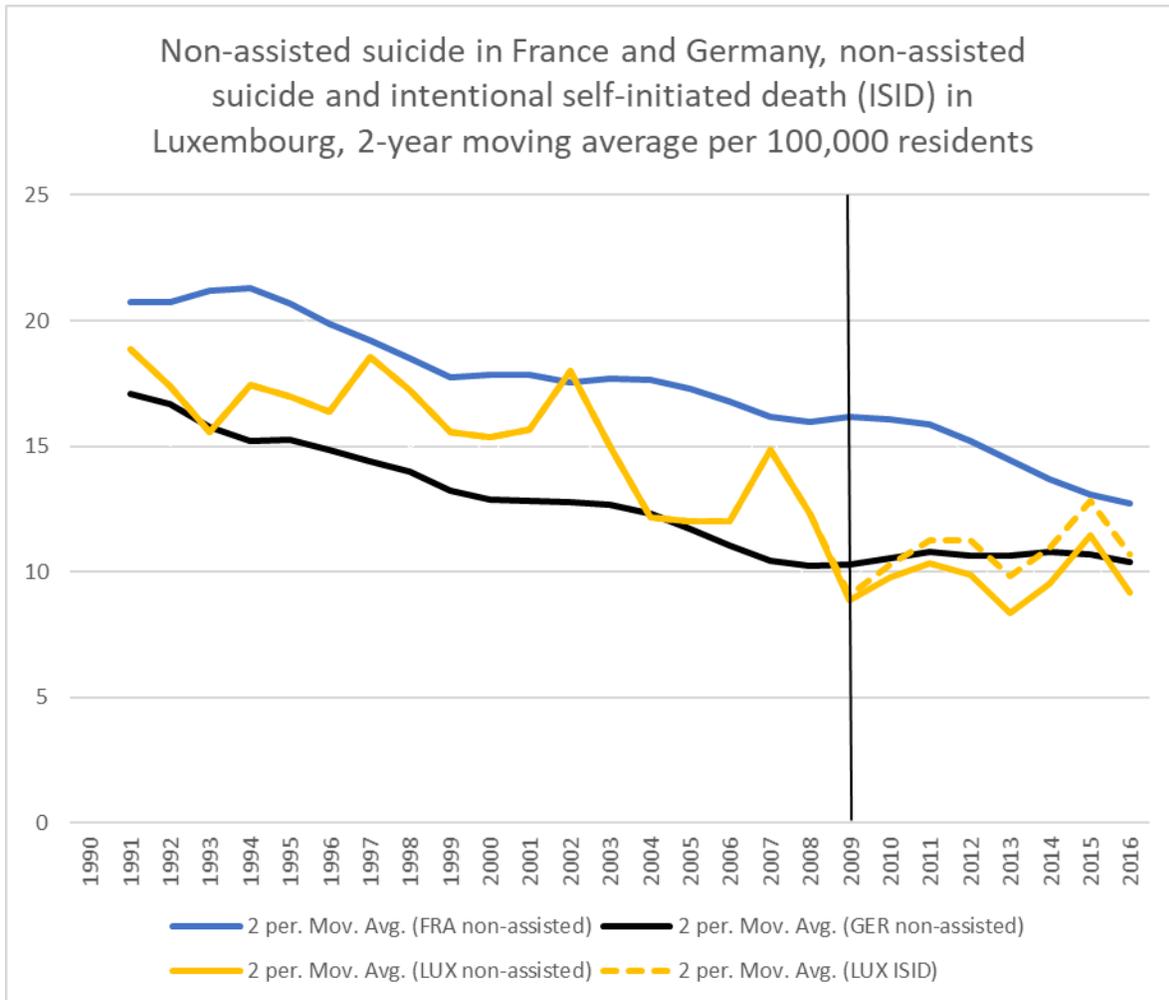


Figure 4

This graph shows non-assisted suicide in France (FRA) and Germany (DEU) (blue and black, respectively) and non-assisted suicide and intentional self-initiated death (ISID) in Luxembourg (LUX) (orange and orange dotted line), on a two-year moving average per 100,000 residents, based on OECD Suicide Data and official reports. The date when euthanasia and assisted suicide were established by statute law (2009) is indicated.

The two-year average rate of non-assisted suicide in Luxembourg from 1990 to 2009 generally remains between the two-year average rates of non-assisted suicide in France and Germany, all of which decline over this period. Since 2009, the non-assisted suicide rate in France has continued to decline but the rate in Luxembourg has levelled off. Nevertheless, a similar pattern can be seen in the German data. The non-assisted suicide rate in Germany declined from 1990 until 2007 since when it

has levelled off. Indeed, the rate in 2016 was exactly the same as it was in 2007 (10.2). At the same time, the figure for self-initiated death in Luxembourg seems to have increased since 2009.

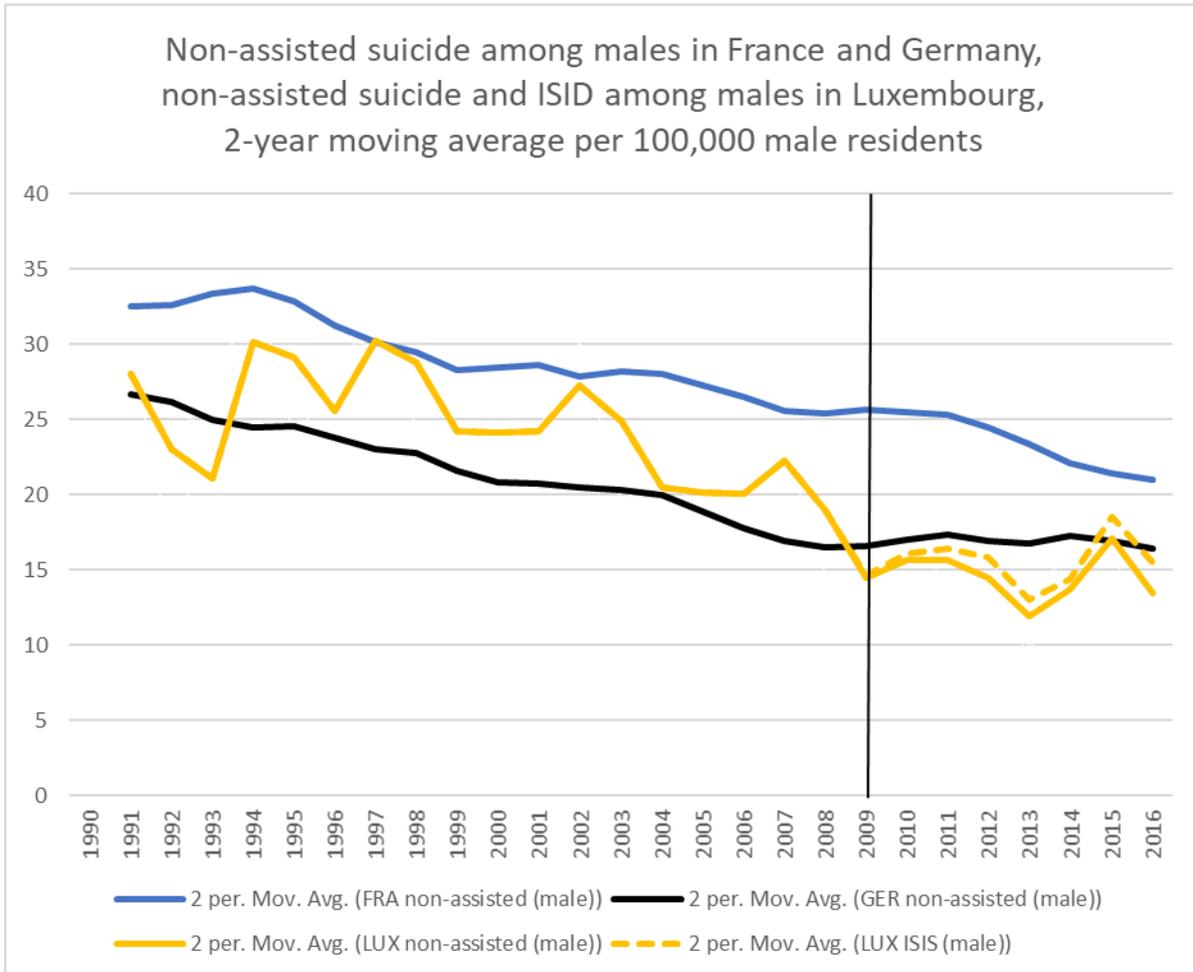


Figure 5

This graph shows non-assisted suicide among males in France (FRA) and Germany (DEU) (blue and black) and non-assisted suicide and ISID among males in Luxembourg (LUX) (orange and orange dotted line) on a two-year moving average per 100,000 male residents, based on OECD Suicide Data and official reports.

The non-assisted suicide rate among males in Luxembourg shows a similar pattern. The two-year average generally remains between the rates for France and Germany all of which declined between 1990 and 2009, but since then, unlike France but like Germany, the non-assisted suicide

rate in Luxembourg among males has remained relatively flat. It is not clear from these data whether the rate of ISID for males in Luxembourg is increasing.

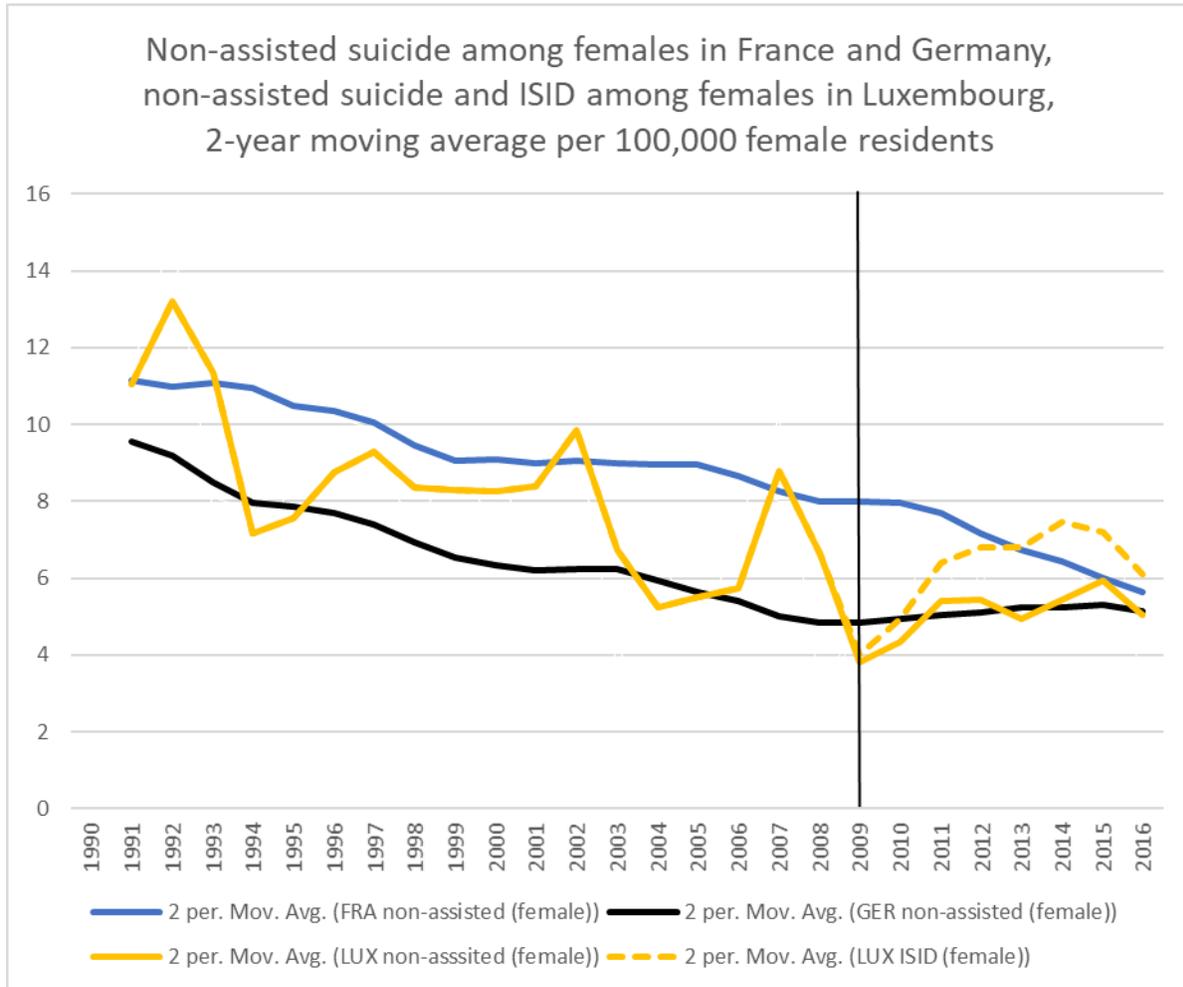


Figure 6

This graph shows non-assisted suicide among females in France (FRA) and Germany (DEU) (blue and black) and non-assisted suicide and ISID among females in Luxembourg (LUX) (orange and orange dotted line) on a two-year moving average per 100,000 female residents, based on OECD Suicide Data and official reports.

The non-assisted suicide rate for females in Luxembourg, on a two-year average, declined until 2009 and mostly remained between the two-year average rates in France and Germany. Since 2009

the rate of non-assisted suicide among women in Luxembourg has risen, but there has also been a slight rise in Germany (from 4.8 to 4.9). The rate of ISID among females in Luxembourg has very clearly increased. On the basis of OECD Suicide Data and official reports, it therefore is false to state that, in Luxembourg, “suicide rates either stayed the same or decreased after MAID legislation” (Dembo et al., 2018, p. 453). On the contrary, before 2009 non-assisted suicide rates in Luxembourg had been declining very steeply but after 2009 they levelled off while from this point the rate of non-assisted suicide among women in Luxembourg has risen, though it is true that a broadly similar pattern of change was seen in Germany, if not as pronounced. Since 2009 there is some suggestion (among women) but no clear evidence overall of an increase in non-assisted suicide rates in Luxembourg relative to Germany. At the same time, there are clear signs that the rate of intentional self-initiated death in Luxembourg has risen, obviously in relation to France but also in relation to Germany, and in absolute terms. This is especially clear in relation to women.

The Netherlands

The Netherlands has only one non-EAS neighbour, Germany. It has a long border with Germany and the two countries have close historical, cultural, and economic ties. Over 70% of the Dutch population are able to speak German.

The Netherlands passed the Termination of Life on Request and Assisted Suicide (Review Procedures) Act in April 2001. However, this was not the introduction of EAS into the Netherlands, which can be traced to an influential case in 1973 (Sheldon, 2007) and was tacitly accepted in law and medical practice in the early 1980s (Rietjens et al., 2009). Doctors have been under a professional obligation to report EAS since 1990. Nevertheless, the passing of the 2001 law marked a further step in the official status and public acceptance of EAS in the Netherlands. Reported cases of EAS had been falling prior to the passing of the law (from a peak in 1999) and continued to fall for a short time after the act was passed. However, rates began to rise in 2004 and have been rising steeply since 2007.

The number of notified deaths by EAS has been included in annual reports since 2003, and the 2003 report also includes data from 2000 to 2002 (2003-2020 Annual Reports in Regional Euthanasia Review Committees, 2020). The numbers of notified cases of EAS from 1990 to 1995 can be found in van der Maas et al. (1996) and those from 1996 for 1999 in Gordijn and Janssens (2004).

The rate of intentional self-initiated death (ISID) is calculated by adding the rate of EAS per 100,000 population (using data from OECD Population Data, 2021) to the rate of non-assisted suicide (from OECD Suicide Data, 2021).

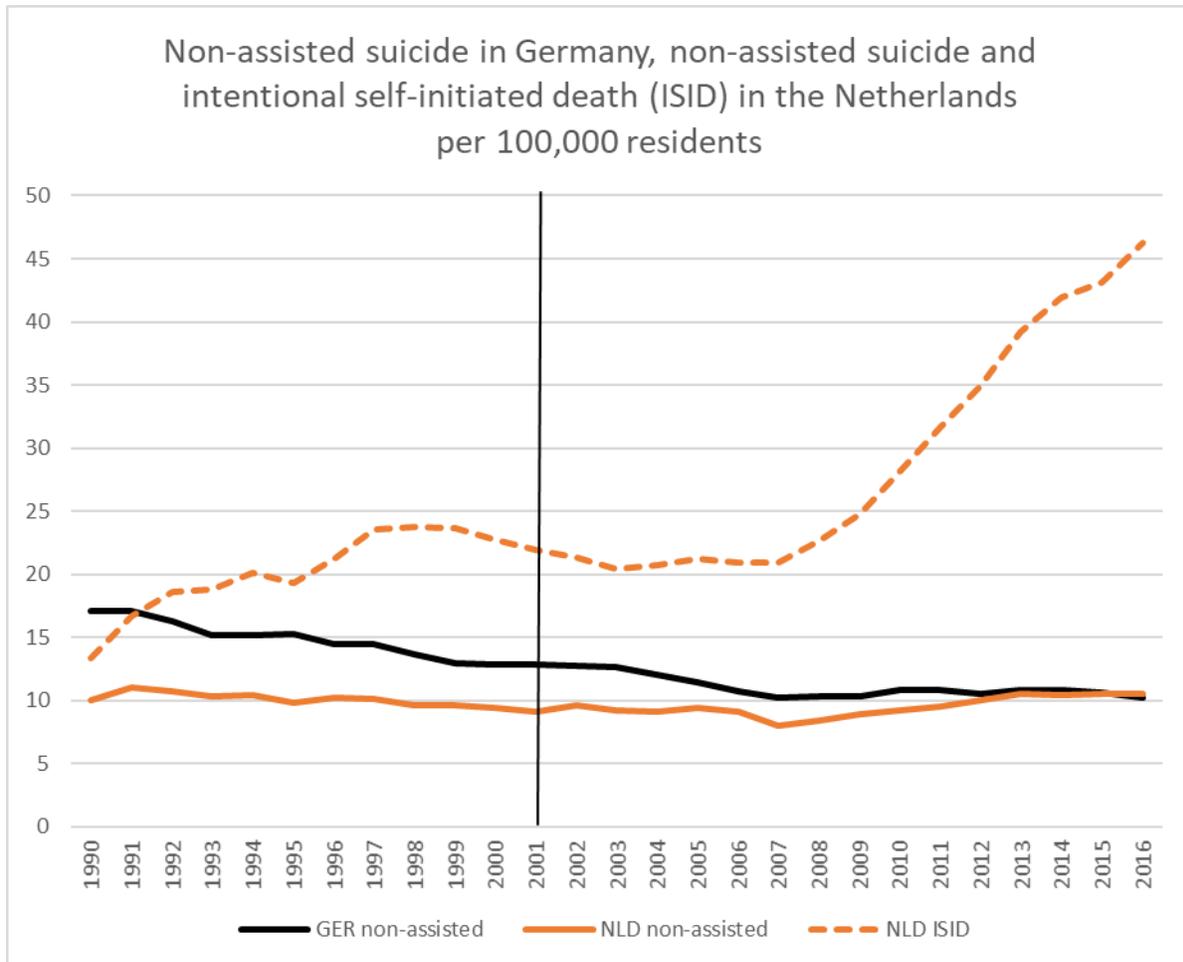


Figure 7

This graph shows non-assisted suicide in Germany (GER) (black) and non-assisted suicide and intentional self-initiated death (ISID) in the Netherlands (NLD) (orange and orange dotted line) per 100,000 residents, based on OECD Suicide Data and official reports. The date when euthanasia and assisted suicide were established by statute law (2001) is indicated.

In both jurisdictions there was a decline in non-assisted suicide between 1990 and 2001 which continued until 2007. However, whereas rates of non-assisted suicide in Germany remained relatively flat between 2007 and 2016 (as mentioned earlier), the rates of non-assisted suicide in the Netherlands have increased steadily since 2007. The rate of intentional self-initiated death in the Netherlands, which had been declining when the law was passed, has also risen steeply since 2007.

Overall, the Netherlands, which is the country with the longest continuous history of euthanasia in Europe, has seen the highest increases in non-assisted suicide in Western Europe between 2001 and 2016. From the statistics provided by OECD Suicide Data (2021), the only other EU country that saw a higher net increase in non-assisted suicide in this period was Greece, but the rates in Greece are still at much lower levels than those in the Netherlands (4.0 in Greece in 2016 compared with 10.5 in the Netherlands). Note also that Greece suffered a catastrophic economic collapse over this period.

The large increases in ISID in the Netherlands since over the period 1990 to 2016 reflects the increases in officially notified EAS in the Netherlands over this period. Some of this increase, especially prior to 2001, may be due to an increase in rate of reporting, but reporting rates cannot account for the steep rise in reported EAS since 2007 (as the estimated euthanasia reporting rate for the Netherlands had reached 80% by 2005 [Rietjens et al., 2009, pp. 271-283]).

Remarkably, until 2016 the official reports in the Netherlands did not provide a breakdown of the EAS data by sex. In 2016 the proportion was 51.4% male and 48.6% female (2016 Annual Report in Regional Euthanasia Review Committees, 2017). Estimates exist for the breakdown by sex for the years 1990 (55.2% male), 1995 (44.3% male), and 2001 (52.9% male) in Onwuteaka-Philipsen et al. (2003), and 2005 (58.2% male) and 2010 (56.7% male) in Onwuteaka-Philipsen et al. (2012), but these estimates are based on surveys of physicians not on notified cases. For the figures below, the rates of intentional self-initiated death for males and for females in the Netherlands have been estimated using the mean proportion from these survey-based estimates (53.5% male) and the data presented with error bars reflecting the standard deviation of these survey-based estimates (5.1%).

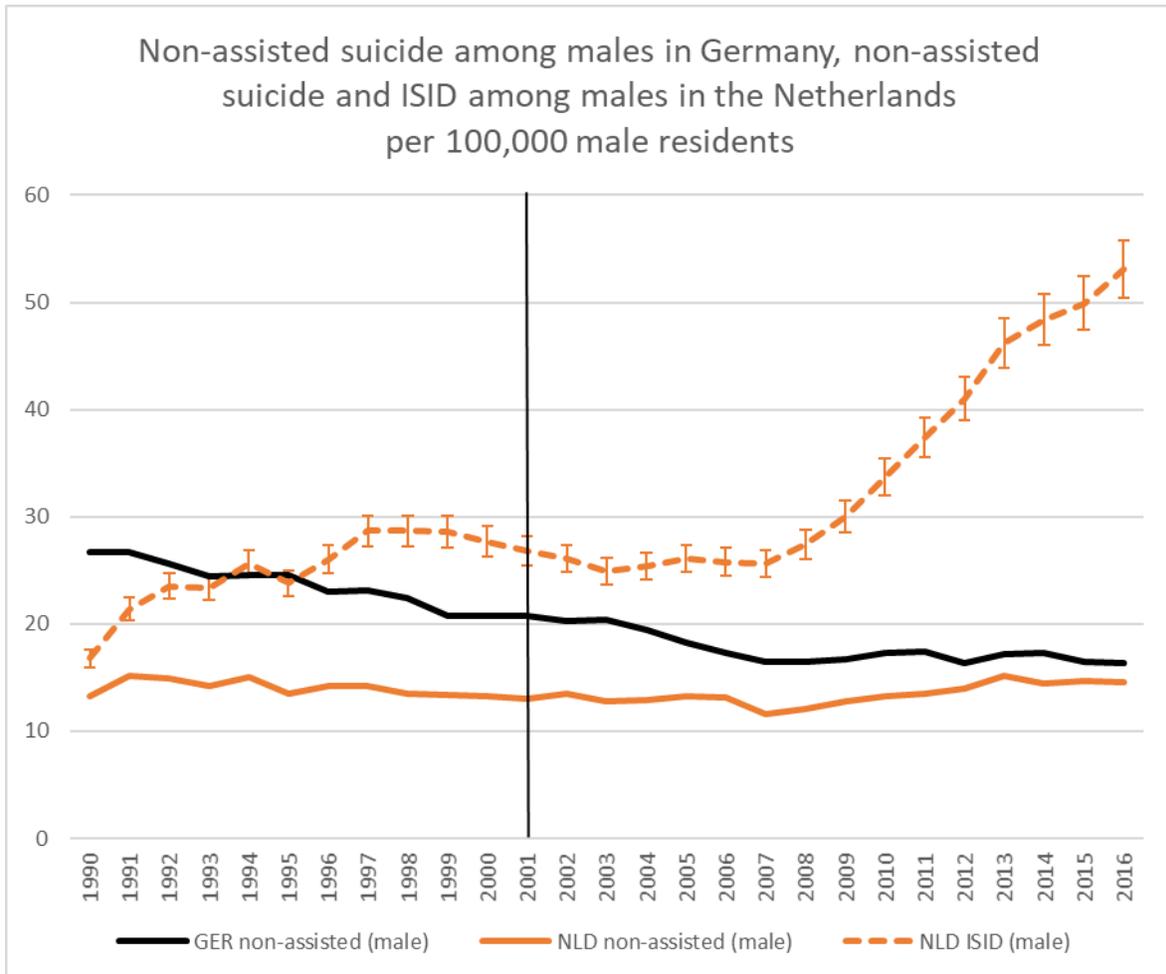


Figure 8

This graph shows non-assisted suicide among males in Germany (GER) (black) and non-assisted suicide and ISID among males in the Netherlands (NLD) (orange and orange dotted line with error bars) per 100,000 male residents, based on OECD Suicide Data, official reports, and estimates of the proportion of male and female.

The data for males shows a very similar pattern to the combined non-assisted suicide figure. Rates decline between 1991 and 2007 but then level off in Germany, whereas they rise in the Netherlands from 2007. The rate of intentional self-initiated death for males in the Netherlands has also increased steeply since 2007.

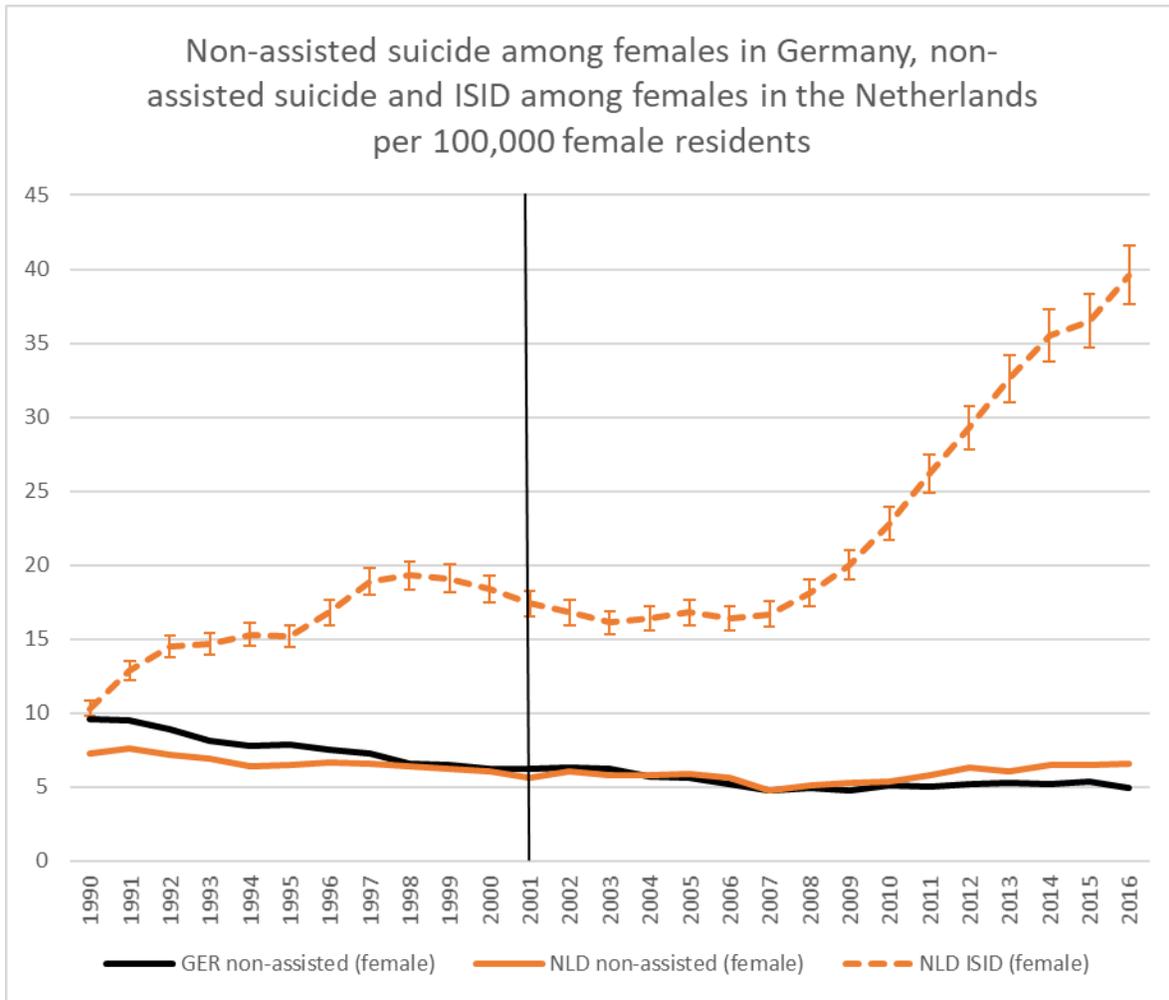


Figure 9

This graph shows non-assisted suicide among females in Germany (GER) (black) and non-assisted suicide and ISID among females in the Netherlands (NLD) (orange and orange dotted line with error bars) per 100,000 female residents, based on OECD Suicide Data, official reports, and estimates of the proportion of male and female.

The levels of non-assisted suicide among females in the Netherlands and Germany are very similar. It is thus easier to see that rates of non-assisted suicide among women in Germany were higher than those in the Netherlands prior to 2001 but from 2004 rates of non-assisted suicide among women have been higher in the Netherlands and these rates have continued to increase. At the same time, it can be seen that rates of intentional self-initiated death in the Netherlands, which in 2001 was

already more than three times the non-assisted suicide rate, had by 2016 increased to six times the non-assisted suicide rate.

In relation to the Netherlands it is certainly false to say that, “suicide rates either stayed the same or decreased after MAID legislation” (Dembo et al., 2018, p. 453). Non-assisted suicide in the Netherlands rose between 2001 and 2016 from 9.1 to 10.5 while in Germany, it fell from 12.8 to 10.2. Furthermore, this has happened at the same time as there have been dramatic rises in rates of intentional self-initiated death (up from 21.9 to 46.3 per 100,000). These patterns were all more pronounced in females.

Belgium

Belgium has borders with two non-EAS countries, France and Germany. However, less than 1% of Belgians are native German speakers compared to 40% that are native French speaking. Similarly, the border of Belgium with France is 620 km, more than three and a half times the 167 km border with Germany.

Non-assisted suicide rates in Belgium (from OECD Suicide Data, 2021) are consistently closer to those in France than to those in Germany. Since 1993, Belgium has consistently had a higher rate of non-assisted suicide than France, which itself has consistently had a higher rate of non-assisted suicide than Germany. Between 1990 and 2016, in only in one year (1992) did Belgium have a rate of non-assisted suicide that was closer to that of Germany than to that of France. This paper therefore uses France as the most similar non-EAS neighbour to provide context for the data on non-assisted suicides in Belgium.

The graph below shows non-assisted suicide figures in Belgium and France and intentional self-initiated death from Belgium (taking figures for EAS from official reports [Commission fédérale de contrôle et d'évaluation de l'euthanasie, 2015] and population data from OECD Population Data, 2021).

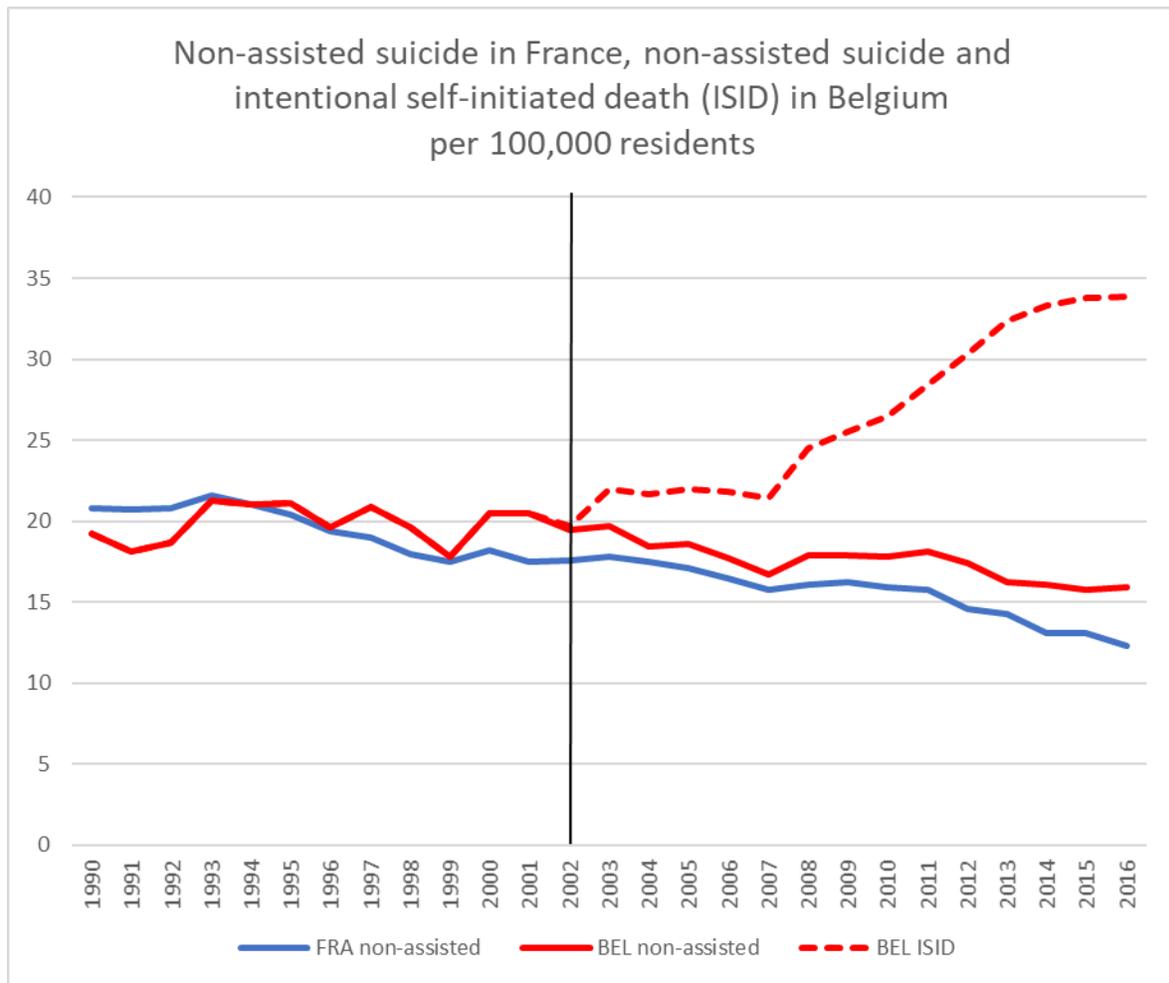


Figure 10

This graph shows non-assisted suicide in France (FRA) (blue) and non-assisted suicide and intentional self-initiated death (ISID) in Belgium (BEL) (red and red dotted line) per 100,000 residents based on OECD Suicide Data and official reports. The date when euthanasia and assisted suicide were established by statute law (2002) is indicated.

Belgium introduced euthanasia by law in 2002 and, in contrast with the Netherlands and Luxembourg, has seen a decline in non-assisted suicide since passing the law. Nevertheless, the fall in non-assisted suicide in Belgium from 2002 to 2016 (19.5 to 15.9) is not as great as that in France (17.6 to 12.3). Indeed, in 2016 Belgium had the highest non-assisted suicide rate in Western Europe. Within the European Union, only the former communist countries Hungary, Slovenia, Latvia, and Lithuania had higher rates of non-assisted suicide (OECD Suicide Data, 2021).

The rates of non-assisted suicide in France and Belgium began to diverge in 1999, prior to the introduction of the euthanasia law. It might therefore seem that this divergence cannot be attributed to the influence of euthanasia. However, both opponents and advocates of euthanasia have noted that the debates over euthanasia in 1999 already had an impact on both the societal ethos and medical practice in Belgium prior to the passing of the law. Toni Saad, an opponent of euthanasia, writes that “these reports, parliamentary debates, and the private members’ bill of February 1999 influenced the end-of-life decisions made by doctors...” (Saad, 2017, p. 188). He then quotes Freddy Mortier, Luc Deliens, and others (well-known advocates of euthanasia) who state that “these shifts [between 1998 and 2001] can, at least partly, be explained by social developments, closely related to the euthanasia legalization process.” (Bilsen et al., 2007, p. 807). In the light of this consensus among opponents and proponents of EAS, that the process of legalisation in 1999 had an impact on medical practice, it cannot be ruled out that this also had an impact on non-assisted suicide rates.

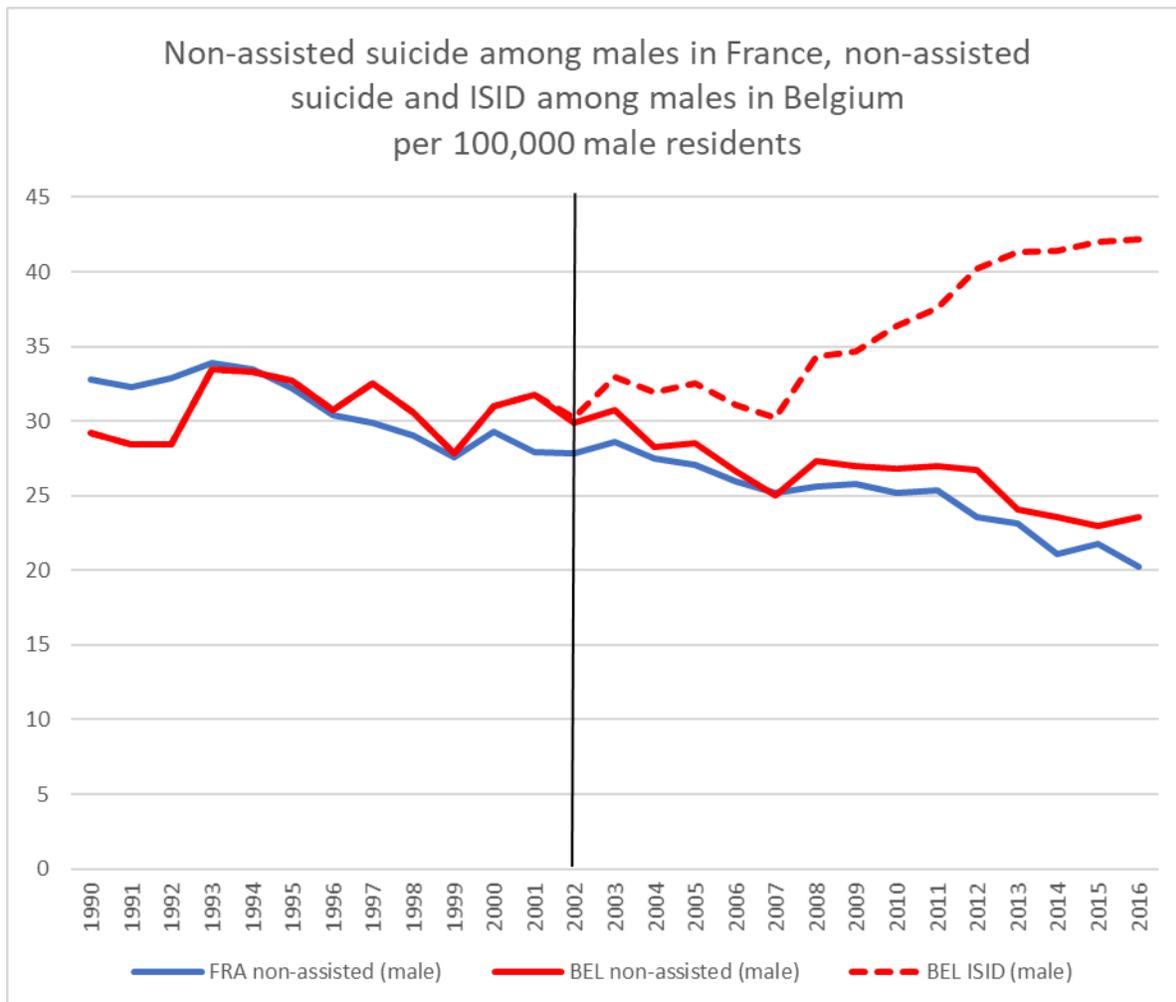


Figure 11

This graph shows non-assisted suicide among males in France (FRA) (blue) and non-assisted suicide and ISID among males in Belgium (BEL) (red and red dotted line) per 100,000 male residents based on OECD Suicide Data and official reports.

The pattern of non-assisted suicide among males shows similar declines in Belgium and in France. From 2002 to 2007 the rate on non-assisted suicide in male declines more quickly in Belgium than in France but since 2007 rates have fallen more quickly in France. Taking the period 2002 to 2016, rates of non-assisted suicide of males decline more in France (27.8 to 20.2) than in Belgium (29.9 to 23.6) but this difference is not as great as it is for the combined male and female data. Intentional self-initiated death among males in Belgium began to rise consistently from 2007.

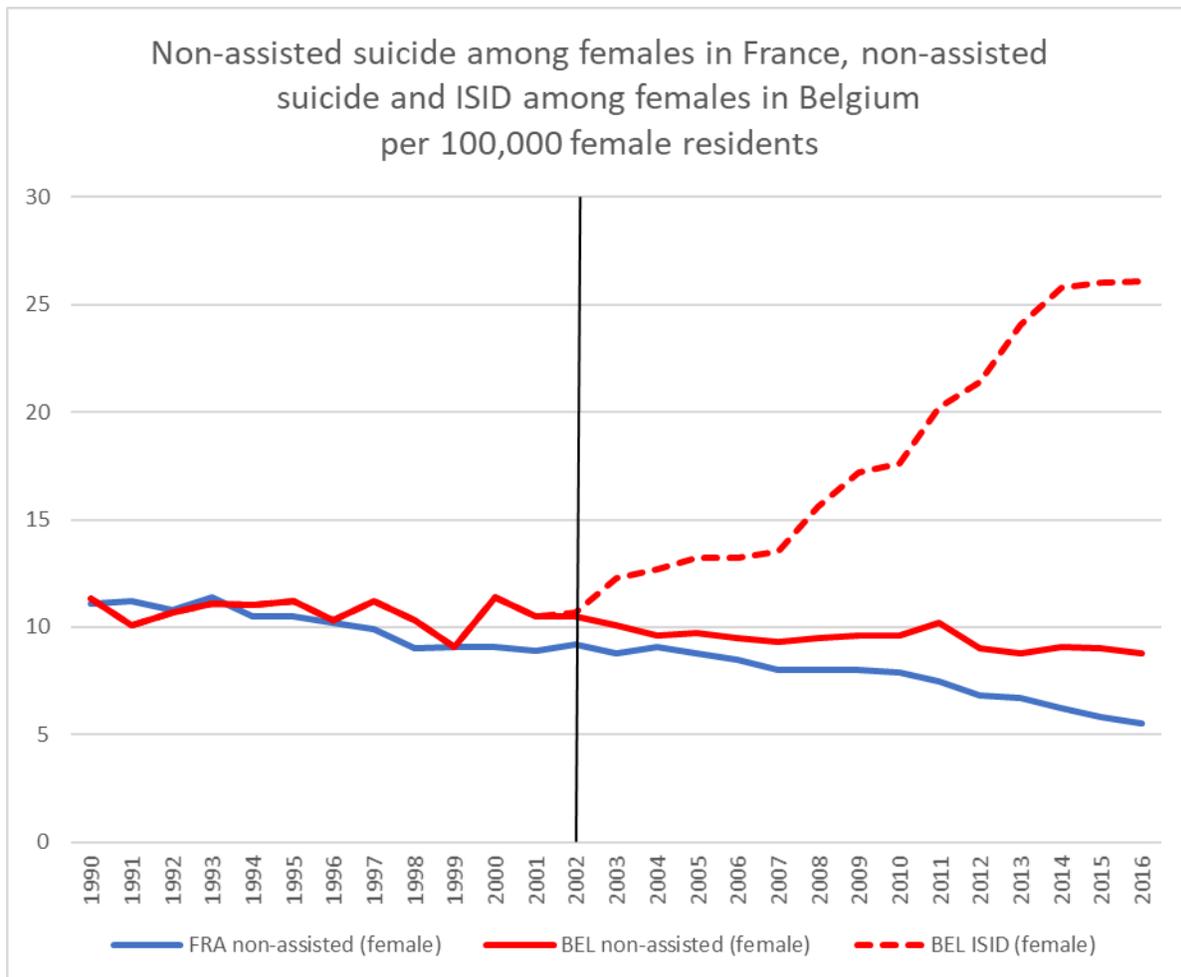


Figure 12

This graph shows non-assisted suicide among females in France (FRA) (blue) and non-assisted suicide and ISID among females in Belgium (BEL) (red and red dotted line) per 100,000 female residents based on OECD Suicide Data and official reports.

As with data from Switzerland, Luxembourg and the Netherlands, those from Belgium show a distinct and more dramatic pattern for females. The decline in non-assisted suicide among females in France (9.2 to 5.5) is clearly greater than that in Belgium (10.5 to 8.8). Indeed, since 1998 when the rates begin to diverge this difference is even more striking (9.1 to 5.5 in France, 9.1 to 8.8 in Belgium). It is also notable that intentional self-initiated death among females in Belgium increases steeply and consistently from 2002.

The increase in non-assisted suicide relative to France, especially among females, at a time when non-assisted suicide rates were declining across Europe, explains how, by 2016, Belgium came to have the highest non-assisted suicide rate among women of any EU country, former communist countries included (OECD Suicide Data, 2021).

Population trends and individual behaviour

This paper concerns the overall changes in rates of non-assisted suicide, suicide (incl. AS), and intentional self-initiated death at a population level after EAS became established as a practice in four European states. Nevertheless, it should not be supposed that the consistent finding of large increases in suicide (incl. AS) or in intentional self-initiated death contradicts the evidence (for example that received by the Canadian court) that some individuals may find the availability of euthanasia or assisted suicide consoling. A fundamental change such as the legal availability of euthanasia and/or assisted suicide will clearly affect different people in different ways.

Consider, as an illustration, a discussion of 100 consecutive cases of request for EAS for reasons of mental illness in Belgium (Thienpont et al., 2015). After five years, 48 patients had their requests accepted, of whom 35 died by EAS (31 by lethal injection, 4 by oral self-administration), 2 died by non-assisted suicide, and 11 postponed or cancelled the euthanasia procedure. Of this latter group, 8 stated that “knowing they had the option to proceed with euthanasia gave them sufficient

peace of mind to continue their lives” (Thienpont et al., 2015, p. 5). Among the 52 patients whose requests were not accepted, 38 withdrew their requests, 8 were still continuing to pursue their request at the end of the study, 4 died by non-assisted suicide, one died from consequences of anorexia, and one died “after palliative sedation in a psychiatric hospital” (Thienpont et al., 2015, p. 5) – a possible instance of sedation being used in Belgium as an alternative to euthanasia (Sterckx & Raus, 2017). Note that these patients, who had an average age of 47, were not physically ill (other than, in one case, as a consequence of anorexia) but they were all vulnerable to suicide.

Without seeking to make generalisable quantitative judgements on the basis of a small sample, it is clear that non-assisted suicides continued to feature within this population of psychiatric patients despite the availability of EAS. Indeed, a figure of 6 deaths by non-assisted suicide in a cohort of 100 over a 5-year period would be comparable with suicide rates in vulnerable populations with known suicidal ideation (Beautrais, 2003). It is also clear that the rate of intentional self-initiated death in this group of psychiatric patients (41 or 42 out of one hundred) is alarmingly high on any measure. This is not to deny that some people (8 in this group) felt more secure and more able to live because of the availability of EAS. Rather, this study illustrates how evidence from individuals, either of feeling more secure or of feeling less secure, is no substitute for evidence of impact on the community as a whole. A change that is beneficial for some may, nevertheless, be harmful to others and whether it is beneficial or harmful overall requires investigation.

Conclusion

This paper has provided further context for the OECD Suicide Data identified by Lowe and Downie. In particular, it has assessed the contention that, in Switzerland, Luxembourg, the Netherlands, and Belgium “suicide rates either stayed the same or decreased after MAID legislation” (Dembo et al., 2018, p. 453). Upon examination, this reassuring claim is not borne out by the evidence.

When data from these jurisdictions are compared with those of neighbouring non-EAS states; significant dates are included; suicide (inclusive of assisted suicide) or intentional self-initiated deaths are included; and rates of male and female non-assisted suicide and suicide (incl. AS) / ISID are considered separately, a different and more concerning pattern emerges:

- In all of the four jurisdictions there have been very steep rises in suicide (incl. AS) or in ISID after the introduction of EAS. A striking example is the suicide rate (incl. AS) of women in

Switzerland which has roughly doubled since 1998. Many more people have died prematurely after these changes.

- In none of the four jurisdictions did non-assisted suicide rates decrease after introduction of EAS relative to the most similar non-EAS neighbour. There is no indication of prevention of non-assisted suicide at a population level.
- In one of the four jurisdictions, the Netherlands, which has the longest history and greatest number of deaths by EAS in Europe, the rates of non-assisted suicide have increased since EAS was legalised by statute. This was both an increase in absolute terms and an increase relative to its only non-EAS neighbour: Germany.
- In another of the four jurisdictions, Belgium, which has the second highest rate of the death by EAS in Europe, while the rates of non-assisted suicide decreased in absolute terms, they increased relative to its most similar non-EAS neighbour: France. It is striking that Belgium now has the highest female non-assisted suicide rate in Europe, based on OECD Suicide Data.
- In all these respects the pattern that emerges from the European data conforms with the pattern that Jones and Paton discovered in the United States data.

The data from Europe are not reassuring: The non-assisted suicide rates have not declined relative to comparable non-EAS countries, whereas there have been very large increases in suicide (inclusive of assisted suicide) and in intentional self-initiated death, especially among women.

Neither these data nor those from the United States give any grounds for believing that EAS constitutes “an effective form of suicide prevention” (EXIT, n.d.) at a population level whether this is understood as preventing suicide (incl. AS) or as preventing non-assisted suicide. There may be other things that can be said in favour of legalising EAS but there is no evidence that it would be beneficial in relation to suicide prevention overall. Indeed, if one considers the community as a whole, it is not the prohibition of EAS but the introduction of EAS that is associated with “evidence of premature death” (*Carter v. Canada [Attorney General]*, 2015, para. 58). Furthermore, the data from Europe and from the U.S. indicate that subsequent to the introduction of EAS, it is women who have most been placed at risk of avoidable premature death from changes in rates of intentional self-initiated death and from changes in rates of non-assisted suicide. More research is needed but consideration of *prima facie* descriptive data on non-assisted suicide, assisted suicide, and euthanasia in Europe raise serious and concerning questions.

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