LEGISLATIVE ASSEMBLY
FOR THE AUSTRALIAN CAPITAL TERRITORY

SELECT COMMITTEE ON END OF LIFE CHOICES IN THE ACT
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Submission Cover Sheet

End of Life Choices in the ACT

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Submission to ACT Legislative Assembly's End-of-Life Inquiry

Any man's death diminishes me, because I am involved in mankind, and therefore never send to know for whom the bells tolls; it tolls for thee.

– John Donne, Meditation XVII - Meditation 17

Introduction

I make this submission on my own behalf, as a former health bureaucrat with some knowledge of the economics of healthcare, and as a person who has had experience with dying relatives, friends and relatives at risk of suicide – and some who have been victims of suicide.

Euthanasia and/or physician-assisted suicide is legal in several European countries, Canada and India, a number of US states, Japan and Colombia. Euthanasia legislation has recently passed the Victorian Parliament, and been defeated in NSW, in both cases by narrow margins. Yet as a society we are reluctant to discuss it.

It is my belief that we live in a society were death is almost the last taboo, and people are very reluctant to talk about it. (I note the Committee's terms of reference deal in euphemisms, eg "voluntary assisted dying" for either assisted suicide or active euthanasia – which is itself a euphemism.)
In consequence we run the risk of making hasty decisions in this area on the basis of vague beliefs and unconscious prejudices, without having fully considered their practical implications.

However I am grateful that the Committee is looking at a range of "end of life" issues rather than simply considering euthanasia/PAS in isolation. (I recognise some practical differences between assisted suicide and outright killing of patients, whether by action or inaction – but most of what I shall say below relates to both, so I'll generally use the term PAS/E when referring to either-or-both.)

Health practitioners, and especially and bureaucracies are only just beginning as a society to understand the importance of palliative care; ordinary health care consumers are often barely aware of its assistance. Frankly our approach to aged care is in some respects a national scandal. Given all of this, it is not surprising that many are considering euthanasia.

I am deeply concerned about the prospect of the ACT legalising Physician-assisted suicide and/or euthanasia in this situation.

I'll expand on some of my reasons below.

Practicalities

Overseas experience

I believe the experience in overseas countries which have adopted such measures, even with the best of intentions, has shown that the safeguards initially put in place to ensure that people are not killed without their explicit consent, and to ensure that candidates must meet strict medical guidelines, are typically rapidly diluted or circumvented.

Once a society accepts the proposition that people who decide life is not worth living have the right to kill themselves, or demand that they be killed by others, then it is very hard to maintain sustainable limits on the exercise of that right, and say that some reasons for seeking death are legitimate, and others are not. Worse, it's very hard to ensure after the event that people who have been subject to "voluntary euthanasia" – often people of an age and frame of mind that militates against rational decision-making – had in fact made an informed choice.

To put it crudely, dead men – or women – tell no tales.

I'm sure you will receive considerable evidence on this; if not, I can provide additional details.

PAS/E and Suicide Prevention

Mixed messages on Suicide

The danger of mixed messages in relation to suicide is not well understood.

Governments of all persuasions in Australia rightly put considerable effort into suicide prevention. It is widely recognized that individual suicide decisions are not generally the result of a rational decision that life is not worth living (a decision which many people consider cannot in fact be made rationally, almost by definition[1]), with a careful plan determinedly carried out, but are often influenced by a distorted outlook on life, mental illness, "opportunistic" access to means, and internalized cultural attitudes to suicides in general. Celebrity suicides often lead to a wave of "copycat" suicides or attempts. It is now generally recognized that reporting of youth suicide must be handled sensitively, and details often suppressed, for this kind of reason.

In consequence, suicide rates are very susceptible to external influences, both positive and negative.

Governments of various persuasions, nationally and internationally, have acted on this realization, and (sometimes reluctantly and belatedly) implemented a range of programs aimed at addressing suicide prevention directly, and mental health more generally. In my experience dealing with friends and family members with mental health issues, even in an overstressed health system (see "Is this a question of resources?" below), any threat of suicide or even mention of suicidal ideation is almost a guarantee of admission (even in a

[1] In the Catholic Church, for example, Church funerals for suicides were traditionally forbidden, and they were buried in unhallowed ground, as suicide is considered a grave sin. In recent times however there has been a recognition that in many if not most cases the culpability of those involved has been diminished by mental health factors, so the earlier prohibitions have been relaxed.

health system such as the ACT's, where the level of provision of mental health residential beds is shamefully inadequate).

At this point, as I understand it, a well-oiled machine – well, let's say a moderately-well-oiled machine, for reasons I'll touch on below – springs into action to convinced people that they are *not* valueless, that they *are* loved and appreciated, and that the feelings to the contrary to which most of us are subject at some of our lives, if only fleetingly, are the result of mental illnesses, chemical imbalances or bad habits of mind (depending on the preferred school of psychology), and should definitely not be taken at face value.

I have friends who have been in this situation many times, and owe their lives to such interventions.

It is difficult to make generalisations about the societal consensus of values that underlies this approach, but I think it's fair to say that there is broad agreement that suicide prevention, particularly (but not exclusively) among the young, is desirable and important, and at the political there is bipartisan (or multipartisan, if that's a word) support for initiatives in this area, and the idea that they are a significant priority for government expenditure. It would be a bold (not to say heartless) politician who would publicly advocate a cut in expenditure for suicide prevention or adolescent mental health.)

Yet the whole idea of physician assisted suicide runs counter to the compassionate message of suicide prevention.

On the one hand, we have radical individualism: you can do what you like, so long as it doesn't harm others.

On the other, you have the idea of civil society: we are all bound together by bonds of trust and mutual responsibility. As John Donne said in the quote with which I began, "Any man's death diminishes me, because I am involved in mankind". Or, in his better known quotation, "no man is an island".

There is a grave risk that if we legalise PAS, we will in the process create a "permission structure" for suicide in general, thereby undoing all the good work done in suicide prevention generally.

This is not simply *a priori* speculation. Studies are available: see "Effects of PAS on suicide rates" below.

Effect of PAS on suicide rates

There is a common kind of argument against prohibitions one doesn't approve of: "If we ban it, we'll only drive it underground".

Even if one goes beyond the crudest formulation – the idea that a law which doesn't annihilate the thing it prohibits is a failure – the implicit assumption here is that demand for the product or "service" is perfectly inelastic, in fact fixed not only regardless of price but irrespective of legality and safety considerations.

Thus the "flip side" of the argument against prohibitions is the claim that legalising something which was previously illegal will replace the illegal activity with a legal, supervised regime which will be safer, nicer, supervised, regulated – and usually taxed.

Of course, the idea of a neat replacement of an illegal activity with a legal version never works in practice: for various reasons, illegal industries are often difficult to remove. But one can hope for at least a significant reduction in the illegal industry, if not the incidence of the activity *in toto*. And even if one may suspect that legalisation hadn't had the desired effect, well, it's hard to collect data on illegal industries

In the case of deaths and causes of death, however, statistics are better than in most areas of human activity, at least in first-world countries. (I used to work on this collection at the ABS.) There may be some under-counting of suicide, with many road-accident fatalities reasonably suspected of being suicides. But generally the data are fairly reliable[2].

In the USA, several states have implemented PAS, but more than enough have not to provide a control group.

In the attached study[3], suicide rates in the four states which implemented PAS between 1990 and 2013 (Washigton State, Oregon, Michigan and Vermont) are analysed, comparing rates before and after legalisation, using logistical regression to control for overall trends (analysed on the basis of other states' data) and state-specific factors.

Supporters have claimed that legalising PAS/E should cause the overall suicide rate might fall, or at least that suicides might be delayed.

However the results show there is a statistically significant increase in overall suicides, of around 6% for all ages, and **15%** in the over-65s.

There is no evidence of an increase in average age of suicides.

In addition, there is no evidence that PAS produced a reduction in non-assisted suicides; there is some evidence that these have in fact *increased*, but that result is not statistically significant, meaning there is a possibility it might have arisen by chance.

It is important to note that this does not simply mean a 6% increase in overall suicide rates, and a 15% increase among the elderly. The results show those are the percentage increases

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[2] In the absence of contrary evidence, it seems reasonable to assume any under-reporting will be equally likely in relation to "non-assisted" suicide whether or not PAS is legal, and thus unlikely to affect the sorts of comparisons discussed below.

[3] *How Does Legalization of Physician-Assisted Suicide Affect Rates of Suicide?* DA Jones and D Paton, Southern Medical Journal & Volume 108, Number 10, October 2015

which are *directly attributed* to PAS – above and beyond the overall trend, which at the national level shows a steady increase since 2000.

Since the states which had implemented PAS during that period are relatively small in population, it is not possible that the overall US increase could be caused by additional suicides in those states alone. However if, as I suspect, the mechanism in operation here is that a "permission structure" was created by the implementation of PAS in several states, then it is reasonable to suppose that, given the widespread publicity associated with those changes, that effect was not confined to those states alone.

In other words, the increase in suicide rates due to PAS could be even larger than 6% (and 15% among the elderly) if some or all of the underlying national trend is attributable to "leakage" from those states where it has been implemented.

(Since the study, California, Colorado and Washington DC have legalised PAS; this may or may not be due to this phenomenon of "leakage", but it is likely to contribute further to the perceived public acceptability of the practice – and its incidence, and that of suicide generally.)

Health professionals and end-of-life issues

An underestimated aspect of these mixed messages is their effect on health professionals. Doctors in particular have the tradition of the Hippocratic Oath, whereby they are sworn to uphold life. Nurses I am sure are no less dedicated to this cause.

I recently attended a seminar at TCH on end-of-life issues, decisions to treat and related matters, at which it was clear that they took their responsibilities in this area very seriously indeed. However it was also clear that they did not always agree on these decisions, and the fear of having made the wrong decision – of having failed to intervene when they have done so successfully – caused them considerable anxiety.

What will it do to them if they are required to extinguish life intentionally?

Can we be assured that their overall decision-making – not to mention their own mental health – will be unaffected if they become accustomed to regarding killing their patients as one of the legitimate treatment options?

Is this a question of Resources?

There is a cynical (but possibly accurate) view that support for euthanasia among persons with elderly relatives varies according to the likelihood and size of any potential inheritance.

Slightly less cynically (and here I speak from personal experience), it can't be denied that the death of say an elderly parent with a range of mental and/or physical health problems generally entails a degree of relief – however much one might feel guilty about it, or seek to deny it, even to oneself.

These are considerations that need to be borne in mind when considering views of people in this situation which might be put before the committee.

I suspect there may be an analogous motivation, at least at the subconscious level, for governments. We face demographic problems in the form of an ageing population, in consequence of falling birth and death rates, meaning that the number of working-age people, who bear the financial burden of supporting the elderly, is falling as a proportion of society, and in particular in proportion to the number of elderly citizens who are no longer paying tax, and dependent on the taxpayer at least for their health care.

In particular, a disproportionate share of resources is spent in the final weeks, days or even hours of a patient's life.

At the same time, demand for health services among us ageing "baby boomers" is increasing, even in per capita terms, due to a combination of new technology, possibly higher expectations, and the fact that more and more of us are surviving to an age where we are prone to chronic physical and mental conditions which are often expensive to treat.

All of this is happening against the background of a society in which care for the elderly is increasingly "outsourced" to government-funded agencies, rather than being seen as the responsibility of families.

It can't be denied that a widespread acceptance of PAS/E would be a cost-saving measure for governments. However if it were honestly proposed on those grounds, I have no doubt it would be universally rejected – and rightly so. I'm sure most Australians would recoil from the idea of killing off their fellow citizens to save money.

Yet this kind of argument, at the individual or government level, I believe underlies much of the present support for euthanasia. Many individuals nearing the age when they are likely to confront such issues are motivated by the wish "not to be a burden" – an idea which is being subtly reinforced, if mostly subliminally *at this stage*, by society and families. When our aged relatives say to us they "don't want to be a burden", do we say to them "no, you have raised us and cared for us, and we love you – you are *not* a burden!"? This may be the answer they are really seeking, and we may be guilty of a grave breach of our duty as children of we merely respond "Oh well, of course it's *entirely* up to you…"

I believe we have to bring this issue out into the open, because I believe – and I think it's generally agreed – that we cannot allow decisions on actively killing patients to be made, wholly or partially, on financial grounds.

In particular, while it may be legitimate in some cases to take account of resource considerations when deciding whether to pursue treatment which might be marginal in terms of the expected outcome for the patient, given that the resources of health systems are finite, I believe that it is never legitimate to decide to kill a patient deliberately, or provide them with the means to kill themselves, in order to save money or free up a bed.

If this idea is unacceptable when spoken aloud – as I believe it is – then we should not allow it to inform our decision-making subliminally.

On the other hand, if as I have argued above death remains the last taboo, it is likely that were PAS/E to be legalised, many who suddenly found themselves in the position to have to make a decision in this area would be precipitated into deciding to go down this path almost by

default – out of a vague semiconscious aversion to "being a burden", which if never fully articulated could never be disavowed by family members, much less on behalf of our society generally.

However much we may want people to consider and articulate views on these issues ahead of time, it is hard to imagine how anyone who, out of fear or for any other reason, is not prepared to confront this decision, could be required to do so.

Competing priorities: Acute Care, Mental Health and Palliative Care

Government, and health care in particular, can sometimes be seen as an exercise in resource allocation across competing priorities, with the aim of "satisficing" or optimising across competing criteria like effectiveness, efficiency, equity, quality (which in this context principally refers to patient satisfaction) and sustainability.

This is a challenge when comparing palliative care with therapeutic care, as not only the approaches but the aims differ (though palliative care has perhaps more in common with psychiatry than other forms of therapeutic treatment).

Palliative care compares favourably with other forms of medicine in terms of economics, perhaps surprisingly – subject to difficulties in comparison mentioned below.

How is Palliative Care different?

I am not an expert on palliative care. My experience is limited, and mainly from the consumer perspective.

I have experienced the process of accompanying loved relatives through the process of dying in a nursing home, a hospital and a hospice. Allowing for the differences in medical circumstances, the palliative care option in the hospice seemed to me by far the best for both patients and those accompanying them on their last journey. (It is possible to provide palliative care in a hospital, in fact that is probably the commoner model. While this may miss out on some of the advantages of a dedicated hospice, it has some compensating benefits, such as the availability of a range of medical specialists.)

It's an option that allows families to spend time with and farewell loved ones, while keeping them as comfortable as possible.

In the high-pressure environments of the ED or Intensive Care, there is often little time to consider the feeling of the patient, let alone family members.

At the other end of the spectrum, palliative care is concerned primarily with the comfort of the patient, taking a holistic view of their situation. According to Palliative Care Australia, the national peak body for palliative care:

> *Palliative care is care that helps people live their life as fully and as comfortably as possible when living with a life-limiting or terminal illness.*

Palliative care identifies and treats symptoms which may be physical, emotional, spiritual or social.[4]

The World Health Organization (WHO) describes palliative care as

> *'an approach that improves the quality of life of patient's[sic] and their families facing the problems associated with life-threatening illness, through the prevention and relief of suffering by means of early identification and impeccable assessment and treatment of pain and other problems, physical, psychosocial and spiritual. Palliative care:*
>
> - *provides relief from pain and other distressing symptoms*
> - *affirms life and regards dying as a normal process*
> - *intends neither to hasten or postpone death*
> - *integrates the psychological and spiritual aspects of patient care*
> - *offers a support system to help patients live as actively as possible until death*
> - *offers a support system to help the family cope during the patients illness and in their own bereavement*
> - *uses a team approach to address the needs of patients and their families, including bereavement counselling, if indicated*
> - *will enhance quality of life, and may also positively influence the course of illness*
> - *is applicable early in the course of illness, in conjunction with other therapies that are intended to prolong life, such as chemotherapy or radiation therapy, and includes those investigations needed to better understand and manage distressing clinical complications' (WHO 2016).*[5]

In resource terms, palliative care compares favourably with other forms of medicine such measures as cost per quality-adjusted life year, especially if carried out in hospices rather than hospitals – but since the intended outcomes are so different, it cannot really be substituted for therapeutic acute (ie hospital) care, or vice versa.

The approach, one might say the philosophy of palliative care seems to be fundamentally different from that of ordinary therapeutic medicine[6].

The latter, perfectly understandably, views the patient to a large extent as a machine which has broken down, and needs to be repaired if possible. The person inhabiting that body may be interrogated in search of data regarding symptoms, in the interests of diagnosis;

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[4] http://palliativecare.org.au/

[5] https://www.aihw.gov.au/reports/palliative-care-services/palliative-care-services-in-australia/contents/summary

[6] I do not speak here of psychiatry. I have accompanied a friend of mine, who suffers from significant mental health problems, in a number of his interactions with the ACT healthcare system. Mental health care at its best shares some of the characteristics of palliative care, in seeking to understand and respond to the patient's state of mind. In practice however resource issues mean mental health care is often conducted in a high-pressure environment similar to (though less intense than) emergency medicine.

occasionally the views of the person may be consulted if there is a decision to be made trading off risks and benefits; but by and large the approach remains, perhaps of necessity, mechanistic.

I recognise that for various practical reasons palliative care, especially hospice care, is not available to everyone, but I think it's an option which deserves to be much more widely known and promoted.

Yet this option is not widely understood in the community. It seems that many people who indicate a preference for euthanasia do so out of fear – and fear based on a distorted and outdated image of the typical end-of-life experience typically faced by a patient dying in a health facility.

Doctors are often not themselves knowledgeable about palliative care, and may not be in a position to provide patients with adequate information.

A recent (US) study quoted at the TCH seminar mentioned above found that a majority of cancer patients receiving radiotherapy as palliative care, when surveyed, believed it was therapeutic, ie directed toward curing the cancer and allowing them to recover fully.

This may reflect the state of mind of terminal cancer patients rather than the communication efforts of doctors. But it's indicative of the extent and nature of the problem of giving people good information in relation to an area which may progress from a deniable, don't-want-to-know, think-about-that-later subject to one which is to close to understand, without an intermediate phase.

Pain management

Pain management as a science has advanced greatly in conjunction with palliative care, with which it largely overlaps: pain management is a large focus in palliative-care patients. And in the same way, this is not widely known among patients.

New analgesics are constantly being developed, and there is hope of a new generation becoming available.
https://onlinelibrary.wiley.com/doi/pdf/10.1002/psb.1542

Ethical perspectives

In the public mind the distinctions between withdrawal of treatment, "passive" and "active euthanasia", and physician-assisted suicide, are often somewhat blurred. However there are important distinctions to be made here.

The Catholic Church[7], for example, has always objected vociferously to "euthanasia", ie the deliberate killing of patients, whether "passive" (eg by withdrawal of food or nutrition) or "active"; in addition, suicide, and by extension assisting in suicide, has always been considered a grave sin.

However these are distinguished from

[7] I refer to the Catholic Church's position not because I expect it to be persuasive, but because it has an articulated structure for considering such questions, which I think forms a useful starting point.

1. an intervention (therapeutic or palliative) which runs the risk of killing the patient, but is not performed for that purpose;
2. the withdrawal of burdensome or futile treatment;
3. the decision not to proceed with "extraordinary means"[8] of treatment;

all of which would be considered acceptable.

It seems the medical profession also accept these distinctions, at least implicitly.

As I've discussed above, there is still quite a strong general social disapproval of suicide: someone who acts to prevent someone from jumping off a rooftop is universally regarded as a hero.

A corollary would seem to be that someone who assists in suicide is disapproved of.

My experience is that doctors are at least as strongly committed to the ethic of saving lives wherever possible, to the extent that they would prefer to treat on patients where there is little realistic prospect of a good outcome, rather than taking the chance of having failed to act where some benefit might have resulted.

However I believe there is a tendency, which would be increased by the introduction of PAS/E, to rely on patient views – whether expressed at the time, or in advance – as a way of avoiding the difficult questions of whether to treat particular patients whose prognosis is not good, and/or the probability of a successful outcome is low.

Despite a considerable effort, however, relatively few Australians have Advance Care Directives in place, for whatever reason.

Doctors and relatives then have to make decisions with only a general view of the patient's ethical framework and personal preferences at best – and for the doctors, often not even that.

This can place a great deal of pressure on relatives.

In the case of both my parents, they reached the point of being unable to swallow, and the response of the nursing home (in one case) and hospital (in the other) was to put them in the corner and let them die. I don't know how general this approach is, but my view is that allowing people to die of thirst or dehydration is not what we expect to see in a civilized society.

It is important to note here that I am *not* arguing that they should instead have been killed directly. This is not a third-world country; IV hydration is basic care. In my father's case he was obviously agitated, and calling for a drink. I managed to convince staff to provide IV fluids, and keep his mouth moist. In both cases they died within days. That to me is immaterial. I suspect that if they had had access to professional palliative care, this would not have happened.

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[8] "Extraordinary means" refers to means which one is obliged to used to reserve life, as opposed to other "ordinary" means which might be withheld, particularly if painful, burdensome or expensive – it is generally agreed that water and nutrition are "ordinary means", even when supplied by means of a feeding tube.

To be fair, this may not have been intended as passive euthanasia. On the basis of subsequent research I suspect it's possible that both of them were at or nearing the situation where their systems were no longer able to process food or nutrition. But in the absence of any active communication from medical staff, it's impossible to be sure.

Discussions with my contemporaries suggest this is not an uncommon situation. At the very least, it adds considerably to the already significant stress of watching a parent die.

But even apart from the obvious ethical difficulties around euthanasia which is not strictly voluntary, the idea of voluntary euthanasia itself, even if we could be assured that it reflected the patient's informed view, is not without its ethical complications.

In general, we face a dilemma in deciding whether we believe in an "atomic" society, consisting of individuals who ought to be allowed to do what they like provided it doesn't negatively impact others – which most people *say* they believe in – or whether we inhabit a society which is in fact a web of mutual obligations at various levels.

The reality may be that even committed "individualists" need to recognise that "not harming others" is a more complex issue than it might at first appear. Do we harm others by denying grandchildren their right to grandparents, by forcing children to cooperate in their parents' deaths, by obliging doctors who have embarked on a career of caring because of a deep-seated belief in the preservation of life to provide or even administer the means of ending life?

And do we harm others by offering them the means of death in a way which indicates their life or death is no concern of ours, ie by manifesting indifference toward them as individuals?

Conclusion

I believe the US study (Jones and Paton) cited above indicates the effect of changing social mores. It is tempting to argue that such change is inevitable.

I do not believe major ethical questions should be decided on the basis of fashion, however. Nor should they be driven by campaigns to change (or subvert) longstanding popular opinion.

It is clear that there is widespread opposition to suicide in Australia, to the extent that there is bipartisan political and general community support for the dedication of considerable resources to its prevention, and the prevention of mental health conditions which contribute to suicide. It is clear that this view is not restricted to those affiliated with formal religions, though those with such affiliations may hold it more strongly.

Such efforts would be undermined by the adoption of legal physician-assisted suicide, even for limited classes of patients – or for that matter euthanasia, which also entails the philosophical assumption that a person who wishes to die ought to be allowed, or even in this case compulsorily assisted, to do so.

The Jones and Paton study also provides empirical evidence that adopting a culture in which death is an acceptable personal choice inevitably leads to a rise in suicide levels across the board – an outcome that we as a society are actively trying to prevent.

Moreover, overseas experience shows that regimes which initially allow PAS/E for patients in a very restricted category very soon end up enlarging those categories (de facto or de jure) until it becomes an option for any of the population who feel life is not worth living – even though the general view is that this conclusion, at least in persons who are not in chronic pain and imminent danger of death, is evidence of mental illness.

Thanks to great advances in palliative care and pain management in recent years, the number of patients living with chronic pain has been greatly reduced, and is likely to be reduced still further as new generation treatments become available.

Moreover if we were to require doctors to actively seek the death of patients rather than seeing the preservation of life as their ultimate value, this would be a major change to the nature and values of medicine, with unknown negative effects of the mental health of doctors and the way they operate.

Withdrawal of painful or burdensome treatment, and refusal of futile surgery, is however ethically acceptable to most Australians, and the use of Advance Care Directives should be encouraged. However patients completing such directives should have as far as possible a realistic idea of the nature of modern pain management and palliative care. In addition, it should be made clear to them that such directives are really only insurance against the inability to give clear direction at the time, and that they retain the right to overturn such directives should they wish and be able to do so.

Decisions to withhold treatment – much less nutrition or hydration – should only be taken after full consultation with patients or (more typically) relatives, in situations where such measures would be futile, burdensome, seriously painful or prohibitively expensive in cost or other resource[9] terms – and in a society like ours, the last consideration should relate only to radical measures like transplants.

In addition, further resources should be devoted to the development and promotion of palliative care in the ACT, whether in hospice or hospital.

It is perhaps beyond the responsibility of the ACT Legislative Assembly to charge them with the promotion of the idea that our senior citizens are valued members of society, who are deserving of the gratitude of their families and the populace at large. It would be a tragedy if their willingness to sacrifice themselves on our behalf should be transmuted by explicit or implicit cues, perhaps delivered unwittingly, into an expressed willingness to die in order to avoid :being a burden" on their families or society.

Members of the Committee, and the Assembly in general, however, should be aware that there is really no such thing as a neutral position on PAS/E. If we do not continue to reassure our senior citizens that they are valued members of society, we will inevitably pressure them into accepting death in line with what seem to be our wishes – even if that is not our intent.

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[9] eg resources such as operating theatres or specialist medical personnel, or organs for translation, may be scarce for reasons other than (or in addition to) their monetary value.

Original Article

How Does Legalization of Physician-Assisted Suicide Affect Rates of Suicide?

David Albert Jones, DPhil, and David Paton, PhD

Objectives: Several US states have legalized or decriminalized physician-assisted suicide (PAS) while others are considering permitting PAS. Although it has been suggested that legalization could lead to a reduction in total suicides and to a delay in those suicides that do occur, to date no research has tested whether these effects can be identified in practice. The aim of this study was to fill this gap by examining the association between the legalization of PAS and state-level suicide rates in the United States between 1990 and 2013.

Methods: We used regression analysis to test the change in rates of nonassisted suicides and total suicides (including assisted suicides) before and after the legalization of PAS.

Results: Controlling for various socioeconomic factors, unobservable state and year effects, and state-specific linear trends, we found that legalizing PAS was associated with a 6.3% (95% confidence interval 2.70%–9.9%) increase in total suicides (including assisted suicides). This effect was larger in the individuals older than 65 years (14.5%, CI 6.4%–22.7%). Introduction of PAS was neither associated with a reduction in nonassisted suicide rates nor with an increase in the mean age of nonassisted suicide.

Conclusions: Legalizing PAS has been associated with an increased rate of total suicides relative to other states and no decrease in nonassisted suicides. This suggests either that PAS does not inhibit (nor acts as an alternative to) nonassisted suicide, or that it acts in this way in some individuals but is associated with an increased inclination to suicide in other individuals.

Key Words: physician-assisted suicide, suicide, Oregon, Washington

A significant stream of literature has focused on how socioeconomic factors and policy changes may affect suicide rates at the population level. It is well established that adverse economic conditions can lead to significant increases in suicide rates.[1,2] Individual-level attitudes (eg, toward religion) also are known to affect suicides.[3–6] Other authors have found that stricter alcohol regulations can be associated with fewer suicides,[7] whereas research suggests that the legalization of marijuana for medical purposes may have led to a reduction in suicide among boys and men.[8] Reporting of celebrity suicide also seems to have population-level effects on suicide rates.[9,10] A policy area that has received surprisingly little attention is the effect of changes to the legal code addressing suicide itself.

Several US states have moved either to legalize or to decriminalize some forms of assistance with suicide. In 1998, Oregon became the first state to legalize physician-assisted suicide (PAS) for patients with terminal illness.[11] Washington state passed a similar law in 2008[12] and Vermont followed in 2013.[13] In addition, in 2010 a Montana court decision declared that

Key Points

- It has been claimed that the legalization of physician-assisted suicide (PAS) is likely to lead to a reduction in other suicides and in the total number of suicides (including PAS).
- Although several US states have legalized or decriminalized PAS, no research to date has established whether these effects can be identified in practice.
- Controlling for various socioeconomic factors, for unobservable state and year effects, and for state-specific linear trends, we found that legalizing PAS was associated with a significant increase in total suicides (including PAS) and no reduction in rates of nonassisted suicide.
- Some estimates suggested that legalizing PAS was associated with a significant increase in nonassisted suicides, but when we included state-specific trends, the estimated association, although positive, was no longer statistically significant.

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"physician aid in dying" was not contrary to legal precedent or public policy.[14] In 2013, there were 73 deaths under the assisted dying law in Oregon[11] and 133 in Washington state.[12]

The likely effect of legalizing PAS on suicide rates is not easy to predict a priori. It is necessary to distinguish between those deaths that conform with PAS law versus suicides outside this legal framework (which we term "nonassisted suicides," although in practice these would include some assisted suicides outside the parameters of the law). The rationale of PAS laws is to enable people who would otherwise have died from an underlying illness such as terminal cancer to end their lives at an earlier stage with the assistance of a physician. In the absence of PAS, however, there will be people who are seriously ill who die by suicide.[15,16] A study from Switzerland found that in the 20% of nonassisted suicides that involved physical illness, "the range of physical illnesses reported with suicide is similar to that reported with assisted suicide."[17]

Similarly, in Oregon, approximately 25% of individuals carrying out nonassisted suicides were found to have had physical health problems, whereas in the cohort of men older than 65, 66% had a physical illness (26% with cancer, 25% with chronic pain, and 16% with heart disease).[18] The legalization of PAS could provide an alternative to nonassisted suicide for some people with chronic or terminal illnesses. If so, the direct effect of legalizing PAS would be for the total number of intentional self-inflicted deaths (including assisted suicides) to increase but for deaths by nonassisted suicide to decrease.

There also may be significant indirect consequences of legalizing PAS. Richard Posner has conjectured that legalizing PAS may have the effect of reducing the total number of suicides and postponing those that do occur.[19] The knowledge that PAS is available for people who are physically incapacitated could enable such patients to delay their decision to attempt suicide. Furthermore, some may be contemplating suicide because of an overly pessimistic belief about the progress of their disease and/or about their ability to cope with their declining condition. If people delayed their attempt at suicide they might then come to see that they had been mistaken. As a result, "if physician-assisted suicide in cases of physical incapacity is permitted, the number of suicides will be reduced. Moreover, in the fraction of cases in which suicide does occur, it will occur later than if physician-assisted suicide were prevented."[19] An implication of Posner's conjecture about delays to suicide is that there would be an increase in the average age of suicide.

Posner's conjectures have come to renewed prominence in the context of debates about the legalization of assisted dying on both sides of the Atlantic Ocean. In 2014 "evidence of premature death" resulting from the lack of access to PAS was presented before the Supreme Court of Canada. In February 2015 the court concluded that "the prohibition deprives some individuals of life."[20] In the UK House of Lords in July 2014 it was argued that "many people… are dying earlier" because of the prohibition of PAS and the some "might have chosen to live" had PAS been legal.[21] On the same basis, the Swiss organization EXIT claims that the "option of physician-assisted suicide is actually an effective form of suicide prevention."[22]

Systematic empirical analysis of the Posner hypothesis is limited. Although Posner examined state data on suicides to illustrate his hypothesis, his data predated Oregon's legalization of PAS. To date there have been no formal tests on the impact of the state-level regulation of PAS on suicide rates. Furthermore, no research has examined the association between PAS and the age of suicides. In this article we aim to help fill these gaps in knowledge by exploiting the "natural experiments" that have occurred in various states legalizing or decriminalizing PAS at different times.

Methods

Data on the number and age-adjusted rate of (nonassisted) suicides in each state from 1990 to 2013 were taken from the Centers for Disease Control (CDC) Compressed Mortality Statistics[23] and from state-level departments of health. To calculate total suicides (ie, all intentional self-inflicted deaths), we added deaths occurring under the auspices of the PAS regulations of Washington[12] and Oregon.[11] There were no PAS deaths recorded in Vermont in 2013.[24] Montana does not record the numbers of physician-assisted deaths. The results below are robust to excluding Montana and Vermont. Suicide rates are calculated using age-adjusted populations reported by the CDC.

Among men older than age 65 who die by suicide, a significant proportion had experienced serious illnesses of a kind that could make them eligible for PAS.[18] For this reason, we collected data on nonassisted suicide rates for different age groups for the 28 states that provide such information. We used these data to calculate the rates of total suicide and nonassisted suicide in individuals younger than and older than age 65. Finally, we used the midpoint of the age groups to estimate the mean age of suicide each year in those states for which data are available.

We also collected data on other socioeconomic and demographic variables that have been found to affect suicide rates. State unemployment rates were taken from the Bureau of Labor Statistics, and data on per capita disposable income (adjusted for inflation) for each state were taken from the Bureau of Economic Analysis. The percentages of the population that are black and Hispanic were calculated from the CDC state bridged-race population estimates, and annual data on the percentage of adherents to recognized religions were taken from the US Religious Census. Because these data are collected at irregular intervals (1990, 2000, and 2010), we used linear interpolation to estimate values for intervening years. We used existing sources to collect indicators for states in which medical marijuana was legal in that year, whether marijuana possession was decriminalized, and whether a 0.08 blood alcohol content law was in effect.[25,26]

We constructed graphs of rates of total deaths by suicide and deaths by nonassisted suicide for Oregon and Washington and rates of suicide for Montana. In each case, we compared

these with the rates in all of the other US states. We then used grouped logistic regression to estimate the association between PAS and suicide rates. We estimated the association for total suicide and for nonassisted suicide and (for the 25 states with available data) separately for suicides by those younger than and older than age 65. The coefficient on PAS can be interpreted as the estimated percentage change in suicide rates associated with the legalization of PAS states. Finally, we used ordinary least squares regressions to estimate the association between the legalization of PAS and the estimated age of nonassisted suicide. For the logistic regressions, we used Huber-White standard errors, which control for heteroskedasticity, and for the ordinary least squares regressions, we clustered standard errors by state. We highlighted estimates that are significantly different from zero at 10%, 5%, and 1% levels.

In each regression, we included an indicator (dummy) variable for each state and each year. These control for unobservable state- and year-fixed effects, respectively, and mean that the coefficient on PAS legalization can be interpreted as the average percentage change in suicide rates before and after the legalization of PAS relative to the change during the same time period in states that did not legalize PAS. We estimated further specifications of our models in which we included independent variables measuring factors that previously have been found to be associated with suicides: the proportion of the population that is black, the proportion that is Hispanic, the proportion of the population that adheres to a recognized religion, the unemployment rate, the annual per capita disposable income, whether marijuana was legal for medical reasons, whether marijuana was decriminalized for recreational purposes, and whether a 0.08 blood alcohol content law was in place. We also estimated a specification that includes state-specific linear trends. These help control for state-specific effects that change gradually over time and that are not captured by other variables, although they decrease the residual variability in the dependent variable and in the covariates. As a result, they may reduce the power of the tests to recognize effects as significant.

Results

States that legalized PAS were characterized by higher rates of nonassisted suicide, lower rates of religious adherence, and a lower proportion of the population that was black or Hispanic. In relation to unemployment, per capital income and mean age of suicide, PAS states were similar to non-PAS states (Appendix Table A1, http://links.lww.com/SMJ/A36).

Table 1 reports average numbers and rates per 100,000 residents of nonassisted suicide, PAS (where available), and total suicides per year in each of the four states where assisted suicide is legal both before and after legalization. Table 1 also reports the equivalent figures for non-PAS states. Figure 1 compares present trends of the total suicide rates in Oregon and Washington with those in all of the other US states, before and after the legalization of PAS. Figure 2 provides the same comparison for nonassisted suicide rates, this time including Montana.

Table 2 reports results of grouped logistic regressions of the associations between PAS and total suicide rates. Controlling for state- and year-fixed effects, PAS is associated with an 8.9% increase in total suicide rates (including assisted suicides), an effect that is strongly statistically significant (95% confidence interval [CI] 6.6%–11.2%). Once we control for a range of demographic and socioeconomic factors, PAS is estimated to increase rates by 11.79% (95% CI 9.3%–14.1%). When we include state-specific time trends, the estimated increase is 6.3% (95% CI 2.7%–9.9%).

Table 1. Suicides per year and rates per 100,000 in PAS and non-PAS states, 1990–2013

	Nonassisted suicides		Assisted suicides		Total suicides		Suicides in non-PAS states	
	N	Rate	N	Rate	N	Rate	N	Rate
Oregon								
Pre-PAS	495.5	15.9	0	0	495.5	15.9	29,435	11.8
Post-PAS	590.6	15.6	47.1	1.2	637.8	16.9	32,545	11.3
Washington								
Pre-PAS	767.7	13.3	0	0	767.7	13.3	29,984	11.3
Post-PAS	992.8	14.0	88.0	1.2	1080	15.3	37,301	12.2
Montana								
Pre-PAS	177.9	19.7	0	0	177.9	19.7	30,237	11.3
Post-PAS	233.8	22.7	—	—	233.8	22.7	37,866	12.3
Vermont								
Pre-PAS	83.9	13.5	0	0	83.87	13.5	31,180	11.4
Post-PAS	112.0	16.8	0	0	112.0	16.8	39,069	12.5

N is the mean number of suicides per year. Rate is calculated per 100,000 age-adjusted population. In Montana, PAS was decriminalized in 2010, but no data are collected on the number of assisted deaths. The post-PAS periods are as follows: Oregon 1998–2013; Washington 2009–2013; Montana 2010–2013; Vermont 2013. PAS, physician-assisted suicide

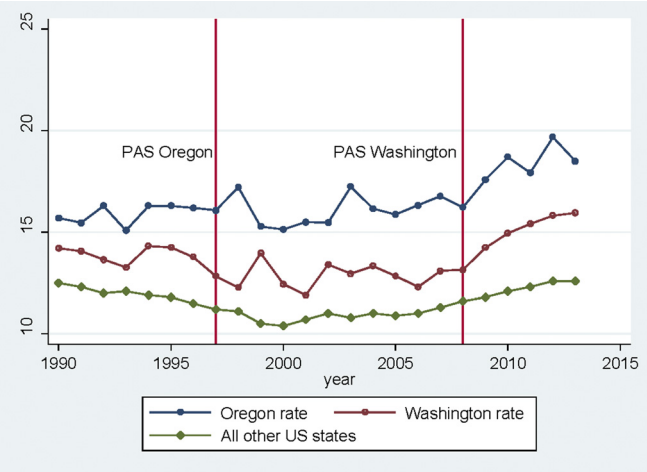

Fig. 1. Total suicide rates per 100,000 residents, PAS and non-PAS states, 1990–2013. Vermont is excluded because PAS was legalized in 2013 and no PASs were recorded in that year. Montana is excluded because PAS was decriminalized rather than legalized and as such, no data are collected on PAS. The vertical lines indicate the timing of the legalization of PAS in the two states. PAS, physician-assisted suicide.

Table 2 also reports the estimated association between PAS and nonassisted suicides. Controlling for state- and year-fixed effects, PAS is estimated to be associated with a 1.6% increase in nonassisted suicide rates; however, this is not statistically significant (95% CI −0.8% to 3.9%). The estimated effect is larger and statistically significant once other covariates are included (4.4%, 95% CI 1.9%–6.8%). When we include state-specific linear trends, however, the estimated increase is 1.1% and not statistically significant (95% CI −2.5% to 4.8%).

In Table 3, we report the estimated associations between PAS and suicide for those younger than and older than age 65 years. We find a significant positive association with total

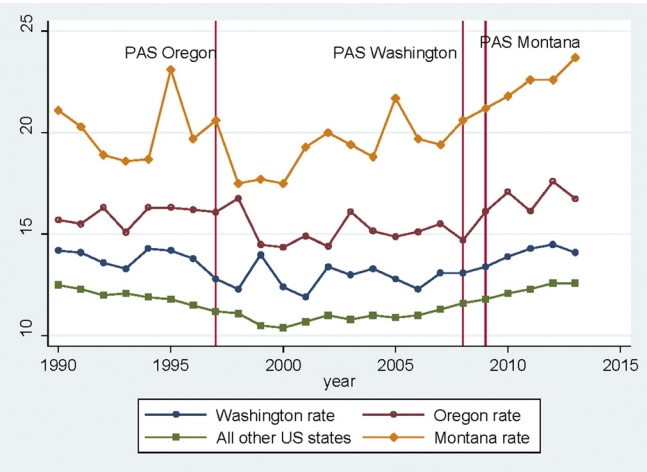

Fig. 2. Nonassisted suicide rates per 100,000 residents, PAS and non-PAS states, 1990–2013. Vermont is excluded because PAS was legalized in 2013 and no PASs were recorded in that year. The vertical lines indicate the timing of the legalization/decriminalization of PAS in each state. PAS, physician-assisted suicide.

Table 2. Estimates of the relation between total suicide/nonassisted suicide rates and PAS, 1990–2013

	Total	Nonassisted suicides
State and year effects	0.089***	0.016
	(CI 0.066–0.112)	(CI −0.008 to 0.039)
State and year effects + covariates	0.117***	0.044***
	(CI 0.093–0.141)	(CI 0.019–0.068)
State and year effects + covariates and state time trends	0.063***	0.011
	(CI 0.027–0.099)	(CI −0.025 to 0.048)

Results are from logistic regressions grouped by annual, state-level populations, N = 1224; 95% CIs are reported in parentheses using Huber-White standard errors. Regression coefficients are reported that can be multiplied by 100 to yield percentage effects. Logistic regression is used because of the dichotomous nature of the dependent variable (1 if a resident committed suicide, 0 if not). Grouped regression reflects the fact that the data are grouped together at the state-year level. Results using ordinary least squares regression with suicide rates as the dependent variable give similar results and are presented in the Appendix (http://links.lww.com/SMJ/A36). Covariates are measured at the state level and include the unemployment rate, annual per capital real income, percentage of the population that is Hispanic, percentage of the population that is black, percentage of the population that reports adhering to a recognized religion, whether possession of marijuana was decriminalized, whether marijuana was legalized for medical purposes, and whether a 0.08 blood alcohol law was in place. CI, confidence interval; PAS, physician-assisted suicide.
***P < 0.01.

suicides for both age groups, but the effect for the younger-than-65-years group is generally smaller. In no case do the estimates suggest a significantly negative association between the legalization of PAS and nonassisted suicide. Indeed, for the younger-than-65 group, the association is found to be positive and significantly so when we do not include state-specific trends.

The estimated association between the mean age of nonassisted suicide and the legalization of PAS is negative but generally insignificant (Table 4). The exception is the case in which we include covariates but not state time trends. Here the estimated effect of legalizing PAS is a reduction of −0.9% and is statistically significant (95% CI −1.8% to 0.0%).

Taken together, our results provide strong evidence that the legalization of PAS is associated with increases in the rate of suicide, if assisted suicides are included. We find no evidence that PAS is associated with reductions in the nonassisted suicide rate or with increases in the mean age of death for nonassisted suicide.

Discussion

By examining the change in suicide rates before and after legalization relative to the change in states that did not legalize PAS, we are able to control for unobservable state-specific effects that may otherwise lead one to observe spurious correlations. By examining changes occurring at different times, we also can control for time-specific unobservable factors.

The formal regression analysis uncovered clear evidence that PAS has been associated with an increase in the overall rate

Table 3. Estimates of the relation between total suicide/nonassisted suicide rates and PAS, 1990–2013: younger than 65 years old and 65 years old and older

	Deaths by suicide, <65 y old		Deaths by suicide ≥65 y old	
	Total	Nonassisted	Total	Nonassisted
State and year effects	0.049***	0.025*	0.197***	0.005
	(0.023–0.070)	(−0.002 to 0.052)	(0.144–0.248)	(−0.058 to 0.049)
State and year effects + covariates	0.079***	0.054***	0.217***	0.014
	(0.052–0.107)	(0.026–0.082)	(0.163–0.271)	(−0.042 to 0.071)
State and year effects + covariates and state time trends	0.044**	0.016	0.145***	−0.045
	(0.003–0.086)	(−0.027 to 0.058)	(0.064–0.227)	(−0.132 to 0.041)

Results are from logit regressions grouped by annual, state-level populations, N = 975 for younger than 65 years old and 675 for 65 years old and older; 95% CIs are reported in parentheses. Regression coefficients are reported that can be multiplied by 100 to yield percentage effects using Huber-White standard errors. Logistic regression is used because of the dichotomous nature of the dependent variable (1 if a resident committed suicide, 0 if not). Covariates are measured at the state level and include the unemployment rate, annual per capital real income, percentage of the population that is Hispanic, percentage of the population that is black, percentage of the population that reports adhering to a recognized religion, whether possession of marijuana was decriminalized, whether marijuana was legalized for medical purposes, and whether a 0.08 blood alcohol law was in place. The difference between the coefficients for younger than 65 years old and 65 years old and older is statistically significant at conventional levels for total suicides, but not for nonassisted suicides. CI, confidence interval; PAS, physician-assisted suicide.
*P < 0.1; **P < 0.05; ***P < 0.01.

of death by suicide (including assisted suicides). These estimates were robust to the inclusion of state-specific time trends. The results pertaining to nonassisted suicide rates were equivocal. Some estimates suggested that PAS also was associated with a significant increase in the rate of nonassisted suicide. When we included state-specific trends, however, the estimated association, although positive, was smaller and no longer statistically significant.

The association between PAS and total deaths by suicide is stronger for the older-than-65 group. There is no evidence that PAS is associated with significant reductions in nonassisted suicide for either older or younger people. Furthermore, estimates of the determinants of the mean age at suicide do not suggest that on average PAS leads to delays in nonassisted suicide.

It should be noted that the rise in overall rates of death by suicide and the absence of a fall in rates of nonassisted suicide are both net effects and do not necessarily mean that legalizing PAS has no suicide-inhibiting effects of the kind outlined by Posner and others.[19–21] Rather, the results suggest that if such inhibitory mechanisms exist, they are counteracted by equal or larger opposite effects. Drawing on resources from the social learning theory, Stack and Kposowa demonstrate that "persons socialized in nations with relatively high rates of suicide are more likely to be exposed to suicidal role models, which provide positive definitions of suicide."[3] Such mechanisms increase the level of individual approval of suicide and therefore reinforce the high rate of suicide within the culture. This is analogous to the effect of media reporting that "normalizes" suicide.[9,10,27] It may be that legalizing PAS also provides positive role models who help normalize suicide more generally.[28]

Conclusions

The evidence from suicide rates in states that have legalized PAS is not consistent with Posner's conjecture that such legal changes would lead to delays and net reductions in suicide. Rather, the introduction of PAS seemingly induces more self-inflicted deaths than it inhibits. Furthermore, although a significant proportion of nonassisted suicides involve chronic or terminal illness, especially in those older than age 65, the available evidence does not support the conjecture that legalizing assisted suicide would lead to a reduction in nonassisted suicides. This suggests either that PAS does not inhibit (nor acts as an alternative to) nonassisted suicide or that it acts in this way in some individuals but is associated with an increased inclination to suicide in others.

There are several limitations to the analysis in this study that suggest our results should be treated with some caution.

Table 4. Estimates of the relation between natural log of mean age of nonassisted suicide and PAS, 1990–2013

	Nonassisted suicide
State and year effects	−0.004
	(CI −0.012 to 0.005)
State and year effects + covariates	−0.009**
	(CI −0.018 to −0.000)
State and year effects + covariates and state time trends	−0.010
	(−0.023 to 0.004)

Results are from ordinary least squares regressions weighted by state-level populations, N = 674; 95% CIs are reported in parentheses using Huber-White standard errors clustered at the state level. Regression coefficients are reported that can be multiplied by 100 to yield percentage effects. Covariates are measured at the state level and include the unemployment rate, annual per capital real income, percentage of the population that is Hispanic, percentage of the population that is black, percentage of the population that report adhering to a recognized religion, whether possession of marijuana was decriminalized, whether marijuana was legalized for medical purposes, and whether a 0.08 blood alcohol law was in place. CI, confidence interval; PAS, physician-assisted suicide.
**P < 0.05.

First, whether nonassisted or assisted, suicide raises ethical and existential issues for the individuals concerned and political questions of public policy that are not addressed in this article. The aim of this study was to help inform those decisions but is not intended to imply that the complex issue of assistance in suicide can be resolved purely by statistical analysis. Neither has this article considered whether the prevention strategies that are effective with nonassisted suicide also may inhibit assisted suicide, although this may sometimes be the case. For example, research has shown that "the protective effect of a religious affiliation is evident for both assisted and nonassisted suicides."[5,29]

Although many suicides occur among people who would not have been eligible for PAS (thereby possibly limiting our ability to identify any direct effect of PAS on nonassisted suicide), our findings of a significant increase in total suicides (and more so in the older-than-65 group) and that there was no significant decrease in nonassisted suicides, even among those older than age 65, provide some reassurance of the robustness of our results. Next, there are still relatively few states that have legalized PAS and it is hard to know how well the effects can be generalized. It also should be noted that all states that have legalized or decriminalized PAS are in the northern United States; indeed, three of the four states share a border with Canada. To date, there are no analogous data for southern US states. Furthermore, for some PAS states, we have few post-legalization observations. It will be important to further monitor the longer-term impact of PAS as more data points become available. Further evidence also may resolve the question of whether there is a significant association between legalizing PAS and increases in nonassisted suicide. The evidence examined here was equivocal on that point.

Finally, our use of state and time effects and state-specific trends allows us to control for many unobservable differences between states. It is possible, however, that there remain other unobservable factors affecting observed suicide rates and that are correlated with the legalization of PAS and that may affect our conclusions. For this reason, we believe it is important that the quantitative approach in this article is supplemented with qualitative research reviewing the circumstances and motivation of those who die by suicide within jurisdictions that have legalized PAS and with research looking at how attitudes toward suicide vary in jurisdictions with different legislative frameworks in place. Such research may help us identify mechanisms that lie behind the bare statistics considered in this study.

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