

LAW, ETHICS AND MEDICINE

Legal physician-assisted dying in Oregon and the Netherlands: evidence concerning the impact on patients in "vulnerable" groups

Margaret P Battin, Agnes van der Heide, Linda Ganzini, Gerrit van der Wal, Bregje D Onwuteaka-Philipsen

J Med Ethics 2007;33:591–597. doi: 10.1136/jme.2007.022335

See end of article for authors' affiliations

Correspondence to:
Margaret P Battin,
Department of Philosophy,
260 South Central Campus
Drive, Rm 341, University of
Utah, Salt Lake City, UT
84112, USA; battin@utah.
edu

Received 10 July 2007
Accepted 10 July 2007

Background: Debates over legalisation of physician-assisted suicide (PAS) or euthanasia often warn of a "slippery slope", predicting abuse of people in vulnerable groups. To assess this concern, the authors examined data from Oregon and the Netherlands, the two principal jurisdictions in which physician-assisted dying is legal and data have been collected over a substantial period.

Methods: The data from Oregon (where PAS, now called death under the Oregon Death with Dignity Act, is legal) comprised all annual and cumulative Department of Human Services reports 1998–2006 and three independent studies; the data from the Netherlands (where both PAS and euthanasia are now legal) comprised all four government-commissioned nationwide studies of end-of-life decision making (1990, 1995, 2001 and 2005) and specialised studies. Evidence of any disproportionate impact on 10 groups of potentially vulnerable patients was sought.

Results: Rates of assisted dying in Oregon and in the Netherlands showed no evidence of heightened risk for the elderly, women, the uninsured (inapplicable in the Netherlands, where all are insured), people with low educational status, the poor, the physically disabled or chronically ill, minors, people with psychiatric illnesses including depression, or racial or ethnic minorities, compared with background populations. The only group with a heightened risk was people with AIDS. While extralegal cases were not the focus of this study, none have been uncovered in Oregon; among extralegal cases in the Netherlands, there was no evidence of higher rates in vulnerable groups.

Conclusions: Where assisted dying is already legal, there is no current evidence for the claim that legalised PAS or euthanasia will have disproportionate impact on patients in vulnerable groups. Those who received physician-assisted dying in the jurisdictions studied appeared to enjoy comparative social, economic, educational, professional and other privileges.

If physician-assisted suicide (PAS) and/or voluntary active euthanasia were legalised, would this disproportionately affect people in "vulnerable" groups? Although principles of patient autonomy and the right to avoid suffering and pain may offer support for these practices, concerns about their impact on vulnerable populations speak against them. Warnings about potential abuse have been voiced by many task forces, courts and medical organisations in several countries where the issue is under debate. Box 1 presents some of these concerns.

We must take these concerns seriously, not only because they are repeated so often but because they are of such gravity. Would accepting or legalising physician-assisted dying at a patient's explicit request weigh more heavily on patients in vulnerable groups—the elderly, women, the uninsured, the poor, racial or ethnic minorities, people with disabilities, people with sometimes stigmatised illnesses like AIDS, and others? Would vulnerable patients be especially heavily targeted? Would these patients be pressured, manipulated, or forced to request or accept physician-assisted dying by overburdened family members, callous physicians, or institutions or insurers concerned about their own profits? This slippery-slope argument assumes that abusive pressures would operate on all seriously or terminally ill patients but would selectively disfavour patients whose capacities for decision making are impaired, who are subject to social prejudice or who may have been socially conditioned to think of themselves as less deserving of care. These pressures would result, it is assumed,

in heightened risk for physician-assisted dying among vulnerable persons compared with background populations.

These are concerns both for those who oppose physician-assisted dying on moral grounds and for those who support it but are uneasy about the possible social consequences of legalisation. They are also concerns for proponents of legalisation who assume that the risks for vulnerable patients are heightened if these practices remain underground, as well as for those who favour legalisation but fear that vulnerable patients will be denied a privilege reserved for better-situated patients and that healthcare inequities already affecting vulnerable persons will be exacerbated. In short, slippery-slope concerns about vulnerable patients confront both those who do and those who do not find physician-assisted dying objectionable on moral grounds.

Of course, to observe that patients are members of potentially vulnerable groups is to assert neither that each such person or the group as a whole is actually vulnerable nor that people who are seriously or terminally ill but not considering physician-assisted dying are not vulnerable. But it is to recognize a special and appropriate concern about persons and groups seen as vulnerable because of impairment, disadvantage or stigmatisation.

Warnings of potential abuse rest on predictive claims, claims typically assuming that higher rates of death in this way suggest abuse. We do not attempt to evaluate putative criteria

Abbreviations: ALS, amyotrophic lateral sclerosis; ODDA, Oregon Death with Dignity Act; PAS, physician-assisted suicide

Box 1 “Slippery-slope” concerns about vulnerable patients in health policy statements on physician-assisted dying

“... no matter how carefully any guidelines are framed, assisted suicide and euthanasia will be practiced through the prism of social inequality and bias that characterizes the delivery of services in all segments of our society, including health care. The practices will pose the greatest risks to those who are poor, elderly, members of a minority group, or without access to good medical care.”

New York State Task Force on Life and the Law, 1994¹

“... the State has an interest in protecting vulnerable groups—including the poor, the elderly, and disabled persons—from abuse, neglect, and mistakes. The Court of Appeals [Ninth Circuit] dismissed the State’s concern that disadvantaged persons might be pressured into physician assisted suicide as ludicrous on its face.... We have recognized, however, the real risk of subtle coercion and undue influence in end of life situations ...”

US Supreme Court, joint opinion in *Washington v Glucksberg* (1997) and *Vacco v Quill* (1997)²

“Euthanasia and assisted suicide are opposed by almost every national medical association and prohibited by the law codes of almost all countries. ... If euthanasia or assisted suicide or both are permitted for competent, suffering, terminally ill patients, there may be legal challenges ... to extend these practices to others who are not competent, suffering or terminally ill. Such extension is the “slippery slope” that many fear.”

Canadian Medical Association, 1998³

“Both society in general and the medical profession in particular have important duties to safeguard the value of human life. This duty applies especially to the most vulnerable members of society—the sick, the elderly, the poor, ethnic minorities, and other vulnerable persons. In the long run, such persons might come to be further discounted by society, or even to view themselves as unproductive and burdensome, and on that basis, “appropriate” candidates for assistance with suicide.”

“... the ramifications [of legalization] are too disturbing for the ... value our society places on life, especially on the lives of disabled, incompetent, and vulnerable persons.”

American College of Physicians–American Society of Internal Medicine (ACP–ASIM), 2001⁴

“... the College concluded that making physician-assisted suicide legal raised serious ethical, clinical, and social concerns and that the practice might undermine patient trust and distract from reform in end of life care. The College was also concerned with the risks that legalization posed to vulnerable populations, including poor persons, patients with dementia, disabled persons, those from minority groups that have experienced discrimination, those confronting costly chronic illnesses, or very young children.”

American College of Physicians, 2005⁵

“... allowing physicians to participate in assisted suicide would cause more harm than good. Physician-assisted suicide is fundamentally incompatible with the physician’s role as healer, would be difficult or impossible to control, and would pose serious societal risks ...”

“Euthanasia could also readily be extended to incompetent patients and other vulnerable populations ...”

American Medical Association, 1996, 2005^{6, 7}

“In the BMA’s view, legalizing euthanasia or physician-assisted suicide would have a profound and detrimental effect on the doctor–patient relationship. It would be unacceptable to put vulnerable people in the position of feeling they had to consider precipitating the end of their lives... The BMA acknowledges that there are some patients for whom palliative care will not meet their needs and wishes, but considers that the risks of significant harm to a large number of people are too great to accommodate the needs of very few.”

British Medical Association, 2003⁸

for whether assisted dying might seem “appropriate” for some vulnerable groups. Rather, we ask the prior question of whether there is evidence that where assisted dying is already legal, the lives of people in groups identified as vulnerable are more frequently ended with assistance from a physician than those of the background population. We can now begin to evaluate this factual issue by examining directly what is happening in the two principal jurisdictions—Oregon and the Netherlands—where physician-assisted dying is legal and data have been collected over a substantial period.

DATA AVAILABLE IN OREGON AND THE NETHERLANDS

In Oregon, nine annual reports issued by the Department of Human Services cover the period since the Oregon Death with Dignity Act (ODDA) took effect in 1997.⁹ Three surveys of Oregon physicians and hospice professionals add information beyond that drawn from official reports.^{10–12} In the Netherlands, four nationwide studies (the first of which is known as the

Rommelink report) commissioned by the Dutch government used cross-sectional analyses of data from interviews, death certificates and questionnaires to cover all end-of-life decision making in the years 1990,^{13, 14} 1995,¹⁵ 2001¹⁶ and 2005.¹⁷ Several smaller, focused Dutch studies provide additional data, as noted below. The Oregon data are from the 2006 report and cumulative study⁹ and the Dutch data are from the 2005 nationwide study¹⁷ unless otherwise mentioned. The Oregon Department of Human Services data include all legal cases reported under the ODDA; additional surveys have not uncovered extralegal or unreported cases.^{10–12} The nationwide Dutch data cover cases reported to the authorities as required under Dutch guidelines as well as extralegal, unreported cases.

Box 2 provides the legal background, incidence and regulation of assisted dying in the two jurisdictions. The term “physician-assisted suicide” was used by Oregon in reporting its data for the first several years of legalisation, but it does not appear in the statute; Oregon now refers to “death under the Oregon Death with Dignity Act”. The term “physician-assisted suicide” is used here to distinguish the form of physician-assisted

Box 2 Legal background, incidence and regulation of assisted dying in Oregon and the Netherlands**Oregon**

- The Oregon Death with Dignity Act was passed as a ballot initiative in 1994; implementation was delayed by a legal injunction and the measure was returned to the ballot by the legislature and passed again in 1997; the Act became law on October 27 of that year. A federal challenge to the ODDA was rejected by the US Supreme Court in 2006. Oregon is the only US state to legalize PAS (now referred to as utilisation of the ODDA). Euthanasia remains illegal.
- A total of 292 people have died under the ODDA in the 9 years since its enactment; this is approximately 0.15% of people who have died during this period.
- The Act allows terminally ill Oregon residents to obtain from their physicians a prescription for lethal medication for the purpose of ending their lives if the following conditions are met:
 - The patient must be adult (18 years of age or older) and a resident of Oregon.
 - The patient must be capable (defined as able to make and communicate healthcare decisions).
 - The prescribing physician and a consulting physician must confirm the diagnosis and prognosis.
 - The patient must be diagnosed by two physicians as having a terminal illness (defined as 6 months or less to live).
 - The patient must make two oral requests to his or her physician, separated by at least 15 days, and one witnessed written request.
 - If either physician believes the patient’s decision may be influenced by a mental disorder, the patient must be referred for a mental health evaluation.
 - The patient must be informed by the prescribing physician of feasible alternatives, including comfort care, hospice care and pain control.
 - The prescribing physician must request, but may not require, the patient to notify his or her next of kin of the request.
 - The physician must report the prescription for lethal medication to the Oregon Department of Human Services (formerly the Oregon Health Division); and the Department must make available an annual statistical report of information collected under the Act.¹⁸
 - Pharmacies are required to report filling such prescriptions.
- Oregon’s statute requires terminal illness but makes no reference to the patient’s pain, symptoms or suffering. It does not indicate whether the prescribing physician must, may or may not be present at the patient’s death. It stipulates that ending one’s life under the Death with Dignity Act does not constitute suicide.

The Netherlands

- Voluntary active euthanasia and PAS have been openly practised and, in effect, legal since the 1980s under guidelines developed in the courts and by the Royal Dutch Medical Association. According to an exception in the criminal code enacted in 2002, physicians who perform euthanasia or provide assistance in suicide commit no offense if they follow the guidelines for “due care”.
- Of the total annual mortality of 136 000 (2005), approximately 1.7% of deaths are by voluntary active euthanasia and 0.1% by physician-assisted suicide; another 0.4% involve life-ending acts without explicit current request (known as LAWER).
- The guidelines require that:
 - The patient must make a voluntary, informed and well-considered request.
 - The patient must be facing unbearable and hopeless suffering, either currently or in the immediate future and with no outlook for improvement.
 - The physician must agree with the patient that no reasonable alternative treatment that might reduce the suffering is available.
 - The physician must consult with another, independent physician.
 - The action must be performed with due care.
 - The action must be reported to the appropriate authorities.
- Since 1998, five regional committees appointed by the Ministry of Justice review all reported cases. If they decide that the physician’s behavior met the requirements of due care, their decision is final.
- Dutch law does not require that the patient be terminally ill but does require that the patient be facing “unbearable and hopeless suffering”. Advance directives requesting euthanasia in the event that the patient becomes comatose or demented are also legal. Both before and after statutory legalization in the 2002 law, a physician has been protected from prosecution if the guidelines are met.

dying legally permitted in Oregon from the wider range of physician-assisted dying in the Netherlands, namely, both physician-assisted suicide and voluntary active euthanasia.

This paper examines available data concerning the use of physician-assisted dying (PAS in Oregon; PAS or voluntary

active euthanasia in the Netherlands) to determine whether there is evidence of disproportionate impact on vulnerable populations. Are the lives of people in vulnerable groups more frequently ended with a physician’s assistance than those of other, less vulnerable people? The results presented (table 1)

move from the most robust data to that which is partial, inferential or in other ways less secure. Detailed accounts of the statistical and other methods used in each source study are available in those studies, variously including information on response rates, survey questions asked, sample sizes, actual numbers, statistical power and confidence intervals, methods of calculation of rate ratios, detectable differences, changes over time, and methodology, design and analysis techniques. We recognize that substantial differences in the methodologies of the source studies make it impossible to determine with certainty the actual incidence of assisted dying in several of the vulnerable groups studied. Our question is whether the available data show evidence of heightened risk to persons in vulnerable groups.

IS THERE EVIDENCE OF HEIGHTENED RISK TO PEOPLE IN VULNERABLE GROUPS?

Findings based on robust data

The elderly: *no evidence of heightened risk*

In Oregon, 10% of patients who died by PAS were 85 or older, whereas 21% of all Oregon deaths were among persons in this age category. Persons aged 18–64 years were over three times more likely than those over age 85 years to receive assisted dying. In the Netherlands, rates of assisted dying were lowest in the people over 80 (0.8% in 2005), next lowest in the age range 65–74 years (2.1%) and higher below age 65 (3.5%). People over 80 formed 30% of the group of patients whose requests were refused and 13% of those whose requests were granted and carried out.¹⁹

Women: *no evidence of heightened risk*

In Oregon, 46% of individuals receiving assisted dying were women and women were not more likely than men to use assisted suicide. In the Netherlands, despite some fluctuation in different years of the nationwide studies, the rates tend to be slightly higher in men.

Uninsured people: *no evidence of heightened risk*

Three Oregon patients (1%) did not have documented health insurance, and in four cases, insurance status was unknown. In contrast, 16.9% of non-elderly adults in Oregon were uninsured²⁰ (persons 65 and older are insured by Medicare). In the Netherlands, virtually all patients are covered by mandated nationwide health insurance.

People with AIDS: *heightened risk found*

In 9 years in Oregon, a total of six persons with AIDS died under the ODDA; although the numbers are small (2% of the total of 292 ODDA deaths), persons with AIDS were 30 times more likely to use assisted dying than those who died of chronic respiratory disorders in the interview portions of the nationwide studies in the Netherlands, very few patients with AIDS had received a physician's assistance in dying. However, in an Amsterdam cohort of 131 homosexual men with AIDS diagnosed between 1985 and 1992 who had died before 1 January 1995, 22% died by euthanasia or PAS.²¹

Findings based on partly direct, partly inferential data

People with low educational status: *no evidence of heightened risk*

In Oregon, the likelihood of dying by PAS was correlated with higher educational attainment. Terminally ill college graduates in Oregon were 7.6 times more likely to die with physician assistance than those without a high school diploma. While no direct quantified data are available in the Netherlands about the educational status of patients receiving assisted dying, information in the 1990 study about professional status,

associated with educational status, showed no special relationships to patterns of euthanasia or PAS.

The poor: *no evidence of heightened risk*

The Oregon data do not include direct measures of income, employment or assets, but death under the ODDA was associated with having health insurance and with high educational status, both indirect indicators of affluence. In the Netherlands, data inferred from the postal codes of the location in which the person was living before death showed that the overall rates of assisted dying were somewhat higher for people of higher socioeconomic status.²²

Racial and ethnic minorities: *no evidence of heightened risk*

In Oregon, 97% of the 292 patients who had a physician's assistance in suicide were white; six of the non-white patients were persons of Asian descent, one was Hispanic and one was Native American. Although 2.6% of Oregonians are African-American, no African-American has received physician-assisted dying under the Act. Dutch mortality statistics do not include information about race or ethnicity; however, even the most vocal opponents of assisted dying in the Netherlands do not claim that it is imposed more frequently on stigmatised racial or ethnic minorities.

People with non-terminal physical disabilities or chronic non-terminal illnesses: *no evidence of heightened risk*

In one sense, virtually all patients who are seriously or terminally ill are to some extent physically disabled and chronically ill. Patients who are dying lose functional capacities and may be bedridden toward the end; in this sense, most patients who received assistance in dying in either Oregon or the Netherlands were chronically ill and (recently) disabled. Cancer, the diagnosis in about 80% of all cases of assisted dying in both Oregon and the Netherlands, is often identified as a chronic illness; so is amyotrophic lateral sclerosis (ALS), also a frequent diagnosis. Concerns about persons in vulnerable categories have focused, however, on pre-existing physical disabilities and chronic non-terminal illnesses.

Although the data from Oregon do not indicate whether a person had a disability before becoming terminally ill (defined as having 6 months or less to live), no one received physician-assistance in dying who was not determined by two physicians to be terminally ill—that is, no one received such assistance for disability alone. That some patients received lethal prescriptions that they did not ingest and lived longer than 6 months may represent limitations in prognostication, although clinicians caring for terminally ill cancer patients are likely to overestimate rather than underestimate survival.^{23–24} In the Netherlands, assisted dying for disability alone would not be illegal in principle; a terminal diagnosis is not required by the Dutch guidelines, and a person who faces unbearable suffering, in his or her own view, and who has been offered all forms of treatment but has no hope of improvement may request assistance in dying. Estimates made by physicians of the amount of life forgone can be used to make an approximation of disability or chronic illness status: about 0.2% of patients receiving euthanasia or assistance in suicide were estimated to have forgone more than 6 months of life, or less than 10 of the approximately 2400 cases in 2005. Dutch general practitioners infrequently grant and frequently refuse assistance in dying to patients whose diagnosis is “old age/general deterioration” or “other” (this includes the category of patients with no terminal illness and no ALS or multiple sclerosis).¹⁹ There is thus no evidence that physician-assisted dying poses

heightened risk to people with disabilities who are not also seriously ill.

Minors and mature minors: *no evidence of heightened risk*

The Oregon ODDA requires that a patient be an adult (18 years of age or older) before assisted dying is granted; no cases of physician-assisted death were reported among minors. In the Netherlands, mature and relatively mature minors are understood to have some decision-making capacity and are not excluded under the Dutch guidelines, but because they are below the age of majority must be regarded as “vulnerable”. Since death rates among minors in the Netherlands (0.4% of all

deaths) were the lowest in any age group, it is difficult to reach statistically firm conclusions. In 2001, less than 1% of all deaths of persons aged 1–17 years were the result of euthanasia: no cases of PAS were found in this age group.

The Netherlands has recently developed a protocol for euthanasia in newborns with very serious deficits who have a hopeless prognosis and experience what parents and medical experts deem to be unbearable suffering; the decision is to be made in collaboration with the parents and requires their full approval. This is known as the Groningen protocol.²³ Such cases are infrequent—22 cases have been reported to district attorneys in the Netherlands during the past 7 years, and there are an estimated 10 to 20 cases annually among the somewhat

Table 1 Physician-assisted dying in potentially vulnerable groups in Oregon and the Netherlands: overview of data from Oregon reports and studies, and Dutch nationwide and focused studies

	Oregon—PAS patients 1998–2006			Netherlands*— PAS/euthanasia patients 2005 (n = 2400)		
Potentially vulnerable group	Characteristic	No. (%)	Rate ratio	Characteristic	No. (%)	Rate ratio
Findings based on direct data						
The elderly (age in years)	18–44	11 (4)	3.4	0–64	900 (38)	1.7
	45–64	83 (28)	3.2	65–79	950 (39)	1.7
	65–84	170 (58)	2.3	80+	550 (23)	1.0
	85 +	28 (10)	1.0			
	Median 70 (range 25–96)					
Women	Male	157 (54)	1.1	Male	1350 (56)	1.3
	Female	135 (46)	1.0	Female	1050 (44)	1.0
Uninsured people	Private insurance	180 (62)		Not applicable (all are insured)		
	Medicare or Medicaid	105 (36)				
	No insurance	3 (1)				
	Status unknown	4 (1)				
People with AIDS	HIV/AIDS†	6 (2)	30.3	HIV/AIDS‡	29 (22)	7.9
Findings based on partly direct and partly inferential data						
People with low educational status	<High school	25 (9)	1.0	Indirect data (via SES); no direct relationship		
	HS graduate	82 (28)	1.8			
	Some college	64 (22)	3.2			
	Baccalaureate or higher	121 (41)	7.6			
The poor (people with low SES)	Rate low¶			Low SES§	1400 (38)	1.0
				Moderate SES	1200 (33)	1.0
				High SES	800 (22)	1.2
				Institutions§	300 (8)	0.3
Racial and ethnic minorities	White	284 (97)	1.0	No data (Dutch mortality statistics are not kept by race)		
	African-American	0 (0%)				
	Hispanic	1 (<1%)	0.4			
	Native American	1 (<1%)	0.5			
	Asian	6 (2)	1.8			
	Other	0	0			
People with chronic physical or mental disabilities or chronic non-terminal illnesses	Not legal; no cases reported or identified			No data to calculate denominator; probably 10 cases or fewer per year		
Minors	Not legal; no cases reported or identified			1.6% of all deaths of minors aged 1–16 years		
Findings based on inferential or partly contested data						
People with psychiatric illness, including depression and Alzheimer disease	Not legal; no clear cases; three disputed cases among those given prescription (n = 456)			No data to calculate denominator; increased requests among cancer patients with depression; probably rare for psychiatric illness as main diagnosis; legal in Alzheimer disease with advance euthanasia directive but compliance rare		

*All estimates are based upon data about a sample of 9000 deaths from August to November 2005, unless indicated otherwise; 2005 data are used for simplicity. Data are roughly comparable for entire period studied. Also see van der Heide *et al*, 2007.¹⁷

†Referent is chronic lower respiratory disorder.

‡Estimate based upon prevalence study from early 1990s.

¶Indirect data (via educational level and insuredness).

§Estimates based upon 2001 nationwide study; also see Onwuteaka-Philipsen *et al*, 2003.¹⁶

LAWER, life-ending acts without explicit current request; PAS, physician-assisted suicide; SES, socioeconomic status.

over 1000 children born in the Netherlands who die during the first year of life, about 1% of newborn deaths.

Findings based on inferential or partly contested data

Patients with psychiatric illness, including depression and Alzheimer disease: no evidence of heightened risk
Approximately 20% of requests for physician assistance in dying came from depressed patients, but none progressed to PAS.¹⁰ None of the 292 patients who died under the ODDA were determined to have a mental illness influencing their decision, though there have been three disputed cases among the 9-year total of 456 who received prescriptions.²⁶⁻²⁷ Because not all patients who requested assistance were specifically evaluated by mental health professionals and because many cases of depression are missed in primary care, it is possible that some depressed patients received lethal prescriptions; it is also possible that a patient without a mental disorder at the time of receiving the prescription became depressed by the time they ingested it. There is, however, no direct evidence that depressed patients are at higher risk for receiving assistance in dying under the ODDA.

In the Netherlands, about two-thirds of explicit requests for assistance in dying are not granted. In 31% of all requests not granted in the 1995 study, the physician gave the presence of psychiatric illness as at least one reason for not complying. Physicians in the interview portion of the 1995 Dutch nationwide study mentioned depression as the predominant symptom in patients who died by PAS or euthanasia in 3% of all cases, compared with "loss of dignity" in 60%, pain as an associated complaint in 45% and debility in 43%. In one study, cancer patients with depressed mood were four times more likely to request euthanasia, but how often the request was granted is unknown.²⁸

In 1994, the Dutch supreme court ruled in the *Chabot* case, in which a psychiatrist assisted with suicide for a woman with intractable depression but without concomitant physical illness, that "intolerable suffering" might consist in mental suffering alone without somatic origins and not involving the terminal phase of a disease, though the court commented that such cases would be rare and that they require heightened scrutiny.²⁹ The 2001 Dutch interview study estimated that about 3% of all requests for euthanasia or PAS that physicians had received the previous year were from patients with predominantly psychiatric or psychological illnesses, but none were granted. In the Dutch 1995 nationwide substudy on end-of-life decision making in psychiatric practice, there appeared to be about

two to five physician-assisted deaths on request per year, mostly but not always in patients with a concurrent serious physical illness, often in the terminal phase. Explicit requests for a physician's assistance in dying are not uncommon in psychiatric practice in the Netherlands, and a majority of Dutch psychiatrists consider assisted suicide for psychiatric patients acceptable in certain circumstances. However, this rather liberal attitude appears to be associated with quite reluctant practice: despite the fact that Dutch law would permit it, it occurs only very rarely.

Since 2002, the Netherlands has also recognised as legal advance euthanasia directives of patients with dementia, including Alzheimer disease. Although approximately 2200 demented patients with advance directives requesting euthanasia after the onset of dementia die annually having been treated by a physician who knows about this directive—indeed, in 76% of such cases, compliance with the directive was discussed—euthanasia is seldom performed.³⁰

Table 2 summarises the comprehensive data provided in table 1.

THE COMPREHENSIVE PICTURE IN OREGON AND THE NETHERLANDS

The data from Oregon and the Netherlands are the most informative sources concerning legal physician-assisted dying, though they are not comparable in a number of respects: they cover different time periods, were obtained by different methods, and are of different strengths. Neither the Oregon nor the Dutch studies were corrected throughout for considerations of whether diagnoses that may make physician-assisted dying attractive are equally distributed in vulnerable and non-vulnerable groups. Clearly, more work needs to be done.

Where they do overlap, however, the studies are largely consistent. Where the data are robust, the picture in Oregon and the Netherlands is similar: in both jurisdictions, a smaller percentage of older people received assistance in dying than of younger patients; gender ratios were slightly higher for males over time; and assistance was not more common among the uninsured. Socioeconomic data of intermediate strength, usually inferred from other, more robust data, also suggest similar pictures in the two jurisdictions: recipients of assistance in dying were likely to be of equal or higher educational status and were less likely than the background population to be poor. Data that are robust in one jurisdiction but partly inferential and hence less secure in the other did not reveal cases in either

Table 2 Summary of evidence of heightened risk in physician-assisted dying in Oregon and the Netherlands

Potentially vulnerable group	Evidence of heightened risk	No evidence of heightened risk
Direct data		
The elderly		×
Women		×
Uninsured people		×
People with AIDS	×	
Partly direct, partly inferential data		
People with low educational status		×
The poor: people with low socioeconomic status		×
Racial and ethnic minorities		×
People with chronic physical or mental disabilities or chronic non-terminal illnesses		×
Minors		×
Inferential or partly contested data		
People with psychiatric illness, including depression and Alzheimer disease		×

data set of assisted dying associated with physical disability alone without concomitant serious or terminal illness. The rates of physician-assisted dying among mature minors, which is legal in the Netherlands, were too low to be statistically valid. Although the rates of request for physician-assisted dying may have been higher among patients with depression, it appears that most such requests did not culminate in euthanasia, even though such cases may be legal in the Netherlands if given heightened scrutiny; studies of patients in the process of making requests are needed to clarify the risk conferred by depression. Even where the data involve very few cases or are absent in one or the other jurisdiction, the picture appears to match: neither in Oregon nor in the Netherlands was there any report of assisted dying disproportionately practised among racial minorities. Thus, there is no evidence of heightened risk of physician-assisted dying to vulnerable patients in either legal or extralegal practice groups, with the sole exception of people with AIDS.

Thus, we found no evidence to justify the grave and important concern often expressed about the potential for abuse—namely, the fear that legalised physician-assisted dying will target the vulnerable or pose the greatest risk to people in vulnerable groups. The evidence available cannot provide conclusive proof about the impact on vulnerable patients, and full examination of practice in Oregon would require studies of the complexity, duration and comprehensiveness of the four Dutch nationwide studies. Nevertheless, the joint picture yielded by the available data in the two jurisdictions shows that people who died with a physician's assistance were more likely to be members of groups enjoying comparative social, economic, educational, professional and other privileges. This conclusion does not directly speak to the moral issues in physician-assisted dying; it does not argue whether physician-assisted dying would be more or less appropriate for people in some groups; and it does not show that people in vulnerable groups could not be disproportionately affected in the future or in other jurisdictions. It also does not show whether low rates of physician-assisted dying among vulnerable persons reflect a protective effect of safeguards or, rather, are evidence of unequal access to assistance. But it does show that there is no current factual support for so-called slippery-slope concerns about the risks of legalisation of assisted dying—concerns that death in this way would be practised more frequently on persons in vulnerable groups.

ACKNOWLEDGEMENTS

We are grateful to Katrina Hedberg, Mette Rurup, Hermann van der Kloot Meijberg and John Griffiths.

Authors' affiliations

Margaret P Battin, Department of Philosophy and Division of Medical Ethics and Humanities, University of Utah, Salt Lake City, UT, USA

Agnes van der Heide, Department of Public Health, Erasmus Medical Center, Rotterdam, The Netherlands

Linda Ganzini, Oregon Health & Science University, Portland, OR, USA

Gerrit van der Wal, **Bregje Onwuteaka-Philipsen**, Department of Social Medicine, EMGO Institute, VU University Medical Centre, Amsterdam, The Netherlands

Competing interests: None declared.

REFERENCES

- 1 **New York State Task Force on Life and the Law**. *When death is sought. Assisted suicide and euthanasia in the medical context*. New York: New York State Task Force on Life and the Law, May 1994 (executive summary, p, xiii).
- 2 *Washington v Glucksberg*, 521 US 702 (1997) and *Vacco v Quill*, 521 US 793 (1997).
- 3 **Canadian Medical Association**. *Euthanasia and assisted suicide (update 1998)*. Ottawa: CMA, 1998.
- 4 **Snyder L**, Sulmasy DP, for the Ethics and Human Rights Committee, American College of Physicians–American Society of Internal Medicine. Physician-assisted suicide. *Ann Intern Med* 2001;**135**:209–16.
- 5 **Snyder L**, Leffler C, for the Ethics and Human Rights Committee, American College of Physicians. Ethics manual: fifth edition [position paper]. *Ann Intern Med* 2005;**142**:560–82.
- 6 **American Medical Association**. Ethical statement, E-2.211 Physician-assisted suicide (adopted 1993) revised 1996, reaffirmed August 22, 2005. <http://www.ama-assn.org/ama/pub/category/8459.html> (accessed 8 Aug 2007).
- 7 **American Medical Association**. Ethical statement, E-2.21 Euthanasia (adopted 1991), revised 1996, reaffirmed August 22, 2005.
- 8 **British Medical Association**. End of life issues – Patient (Assisted Dying) Bill, June 2003.
- 9 **Oregon Department of Human Services, Office of Disease Prevention and Epidemiology**. 2006 Annual Report on the Death with Dignity Act, March 2007 <http://egov.oregon.gov/DHS/ph/pas/> (accessed 9 Sep 2007) (Includes references to all previous annual and cumulative reports).
- 10 **Ganzini L**, Nelson HD, Schmidt TA, *et al*. Physicians' experiences with the Oregon Death with Dignity Act. *New Engl J Med* 2000;**342**:557–63.
- 11 **Ganzini L**, Harvath TA, Jackson A, *et al*. Experiences of Oregon nurses and social workers with hospice patients who requested assistance with suicide. *New Engl J Med* 2002;**347**:582–8.
- 12 **Tolle SW**, Tilden VP, Drach LL, Fromme EK, Perrin NA, Hedberg K. Characteristics and proportion of dying Oregonians who personally consider physician-assisted suicide. *J Clin Ethics* 2004;**15**:111–18.
- 13 **van der Maas PJ**, van Delden JJ, Pijnenborg L. Euthanasia and other medical decisions concerning the end of life: an investigation performed upon request of the Commission of Inquiry into the Medical Practice Concerning Euthanasia. *Health Policy* 1992;**21**:1–262.
- 14 **van der Maas PJ**, van Delden JJ, Pijnenborg L, *et al*. Euthanasia and other medical decisions concerning the end of life. *Lancet* 1991;**338**:669–74.
- 15 **van der Maas PJ**, van der Wal G, Haverkate I, *et al*. Euthanasia, physician-assisted suicide, and other medical practices involving the end of life in the Netherlands, 1990–1995. *New Engl J Med* 1996;**335**:1699–705.
- 16 **Onwuteaka-Philipsen BD**, van der Heide A, Koper D, *et al*. Euthanasia and other end-of-life decisions in the Netherlands in 1990, 1995, and 2001. *Lancet* 2003;**262**:395–9.
- 17 **van der Heide A**, Onwuteaka-Philipsen BD, Rurup M, *et al*. End-of-life practices in the Netherlands under the euthanasia act. *N Engl J Med* 2007;**356**:1957–65.
- 18 Oregon Death With Dignity Act, Oregon Revised Statutes, 1996 (127.800–127.897, sections 3.09, 3.11).
- 19 **Jansen-van der Weide MC**, Onwuteaka-Philipsen BD, van der Wal G. Granted, undecided, withdrawn, and refused requests for euthanasia and physician-assisted suicide. *Arch Intern Med* 2005;**165**:1698–704.
- 20 **Kaiser Family Foundation**. *State Health Facts online*.
- 21 **Bindels PJE**, *et al*. Euthanasia and physician-assisted suicide in homosexual men with AIDS. *Lancet* 1996;**347**:499–504.
- 22 **van der Wal G**, van der Heide A, Onwuteaka-Philipsen BD, *et al*. Medische besluitvorming aan het einde van het leven. De praktijk en de toetsingsprocedure euthanasie. Utrecht: De Tijdstroom, 2003:69–70.
- 23 **Glare P**, Virik K, Jones M, *et al*. A systematic review of physicians' survival predictions in terminally ill cancer patients. *BMJ* 2003;**327**:195–8.
- 24 **Christakis N**. *Death foretold*. Chicago: University of Chicago Press, 1999.
- 25 **Verhagen E**, Sauer PJJ. The Groningen protocol—euthanasia in severely ill newborns. *N Engl J Med*, 2005;**352**:959–62. (Despite its appearance in the title of this article, the practice is more frequently called "termination of life" rather than "euthanasia" when referring to newborns.).
- 26 **Hamilton NG**, Hamilton CA. Competing paradigms of response to assisted suicide requests in Oregon. *Am J Psychiatry* 2005;**162**:1060–5.
- 27 **Ganzini L**. Physician-assisted suicide [letter to the editor]. *Am J Psychiatry* 2006;**163**:1109–10.
- 28 **van der Lee ML**, van der Bom JG, Swarte NB, *et al*. Euthanasia and depression: a prospective cohort study among terminally ill cancer patients. *J Clin Oncol* 2005;**23**:6607–12.
- 29 **Griffiths J**, Bood A, Weyers H. *Euthanasia and law in the Netherlands*. Amsterdam: Amsterdam University Press, 1998:329–40.
- 30 **Rurup ML**, Onwuteaka-Philipsen BD, van der Heide A, *et al*. Physicians' experiences with demented patients with advance euthanasia directives in the Netherlands. *J Am Geriatr Soc* 2005;**53**:1138–44.