

**IN THE HIGH COURT OF NEW ZEALAND
WELLINGTON REGISTRY**

CIV-2015-485-235

UNDER

**The Declaratory Judgments Act 1908 and the
New Zealand Bill of Rights Act 1990**

BETWEEN

LECRETIA SEALES

Plaintiff

AND

ATTORNEY-GENERAL

Defendant

**SECOND REPLY AFFIDAVIT OF LINDA KAY GANZINI
AFFIRMED 19 MAY 2015**

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I, **LINDA KAY GANZINI**, psychiatrist of Portland, Oregon, the United States of America affirm:

Introduction

1. I am a Professor of Psychiatry and Medicine at the Oregon Health & Sciences University ("OHSU"). I am a practising geriatric psychiatrist.
2. I have previously affirmed an affidavit in this proceeding, dated 16 April 2015 ("first reply affidavit"), which is to be filed at the same time as this affidavit. In my first reply affidavit I set out my qualifications and the current positions I hold. I have read the Code of Conduct for Expert Witnesses and agree to comply with it.

Purpose

3. The purpose of this affidavit and my first reply affidavit is to respond to specific parts of the evidence filed on behalf of the defendant. Due to the amount of evidence filed and the short time frame I do not reply to all of the points made by the defendant's witnesses that fall within my area of expertise. I have instead focused on the key points, particularly those that discussed research that I have published. That I have not responded to a particular point should not be taken as tacit agreement with the evidence on my part.
4. I reply, in part, to the following affidavits:
 - (a) affidavit of Baroness Ilora Finlay dated 6 May 2015;
 - (b) affidavit of Dr Robert George (undated);
 - (c) affidavit of Dr Harry Chochinov (undated);
 - (d) affidavit of Dr John Kleinsmann (undated);
 - (e) affidavit of Dr Alastair McLeod dated 11 May 2015; and
 - (f) affidavit of Dr Sinéad Donnelly (undated).

Vulnerable groups

5. At paragraphs 28 - 32 of her affidavit, Baroness Finlay comments on the impact of physician assisted dying on vulnerable people. I address this issue in paragraphs 7 - 17 of my first reply affidavit.
6. I make the following additional comments:
 - (a) At paragraph 30, Baroness Finlay writes that resort to physician assisted dying is "predominantly among the 'over-65s'". As demonstrated by the Eighth Annual Report on Oregon's Death with Dignity Act, annexed at page 1 of LKG-2, with each successively younger group the uptake of physician assisted dying increases. As such, increasing age is protective against physician assisted dying. The report summarizes deaths from physician assisted dying through 2005 (the state of Oregon ceased to publish this comparison after 2005). See table 2 - if the rate ratio for 85+ is 1.0, then the rate ratio is:




- (i) 2.5 for persons 65-85;
 - (ii) 3.6 for persons 45-64; and
 - (iii) 4.1 for persons 18-44.
- (b) At paragraph 32, Baroness Finlay refers to a paper I co-authored ("Prevalence of depression and anxiety in patients requesting physicians' aid in dying: cross sectional survey", which is at page 34 of annexure LKG-1). Baroness Finlay is mistaken in stating that "one third" of a group of 18 patients who received a prescription for a lethal drug under DWDA had been suffering from clinical depression. That study concluded that 3 of the 18 patients, ie 16.7%, met the criteria we used for depression. One of the three patients received effective treatment for depression after our survey (see page 36 of annexure LKG-1). I refer further to the comments in paragraph 17 of my first reply affidavit.

7. Dr George, at paragraph 39 of his affidavit, refers to depression in persons requesting physician assisted dying. I repeat the comments made in paragraph 17 of my first reply affidavit.
8. Dr George, at paragraphs 98 - 103 of his affidavit, comments on the impact of physician assisted dying on vulnerable people. I repeat the comments made at paragraphs 5 and 6 above.
9. Dr Kleinsman, at paragraph 72 of his affidavit, refers to an increased risk of premature death for the elderly. He also makes similar comments at paragraphs 118 and 119. I repeat the comments at paragraphs 5 and 6 above.

Statistics as to prescriptions under DWDA

10. At paragraph 53 of her affidavit, Baroness Finlay states that the incidence of legalised physician assisted dying has "increased steadily" since the law was introduced in Oregon and that the number of persons "who ended their lives in 2014 by ingesting legally prescribed drugs was six and a half times the number who did so in the first year of the law's operation".
11. In reply, I refer to the statistics produced by the Oregon Public Health Division "Oregon's Death with Dignity Act 2014" annexed at page 25 of LKG-2 and note:
 - (a) In the first year of DWDA's operation, only 24 people received prescriptions. On the basis of my experience at that time, there were a number of reasons why a comparatively low number of people received prescriptions under DWDA this first year. Those reasons include the threat that although prescribing was legal, the US Drug Enforcement Agency might take away the prescribing licenses of physicians who prescribed under the law. Until the Supreme Court's decision *Gonzales v Oregon*, 546 U.S. 243 (2006), doctors were understandably reluctant to prescribe under DWDA.

- (b) The number of people who received prescriptions under DWDA has slowly increased from .92 in 1000 deaths in 2000, to 1.47 in 1,000 deaths in 2006 to 3.1 in 1,000 deaths in 2014.

Reasons for seeking a prescription under DWDA

12. At paragraph 80 of his affidavit, Dr Kleinsman discusses the reasons the terminally ill "seek to hasten death". The Oregon Public Health Division "Oregon's Death with Dignity Act 2014", annexed at page 25 of LKG-2 contains statistics on this.
13. At paragraph 20 of her affidavit, Baroness Finlay also refers to those statistics and states that "40% of PAS cases cited 'being a burden' among the end of life concerns behind their request".
14. In 2014, the following (non-exclusive) end of life concerns were given by patients who ingested a drug prescribed under DWDA, as reported by the Oregon Public Health Division statistics referred to by both witnesses:
 - (a) losing autonomy (91.4%);
 - (b) less able to engage in activities making life enjoyable (86.7%);
 - (c) loss of dignity (71.4%);
 - (d) losing control of bodily functions (49.5%);
 - (e) burden on family, friends/caregivers (40%);
 - (f) inadequate pain control or concern about it (31.4%); and
 - (g) financial implications of treatment (4.8%).
15. I co-authored a paper "Oregonians' Reasons for Requesting Physician Aid in Dying" *Arch Inter Med* 2009;169:489-492, which is not referred to by Dr Kleinsman. It is annexed as SDM-2 to Dr Alastair McLeod's affidavit. In that study, we concluded:

The chief reasons participants pursued PAD, all with median scores of 5, were loss of independence, wanting to control the time and manner of death and die at home, and the prospect of worsening pain or quality of life and the inability to care for themselves. Other key reasons, with median scores of at least 3.5, were having witnessed intolerable deaths, perception of self as a burden, loss of dignity, and fear of mental confusion in the future.

Relationship between physician assisted dying and palliative care

16. Dr Donnelly asserts at paragraph 57 to 69 of her affidavit that legalising physician assisted dying and euthanasia would undermine "good palliative care".
17. I co-authored a paper "Oregon hospice nurses and social workers' assessment of physician progress in palliative care over the past 5 years" (2003) 1 *Palliative Support Care* 215 annexed at page 31 of LKG-2. We concluded that most respondents rated Oregon physicians as showing

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improvements between 1998 and 2003 in knowledge and willingness to refer and care for hospice patients.

18. I co-authored a paper "Oregon Physicians' Attitudes About and Experiences With End-Of-Life Care Since Passage of the Oregon Death With Dignity Act" (2001) *Journal of American Medical Association* 285 (18) 2363 annexed at page 37 of LKG-2. In that study, most Oregon physicians who care for terminally ill patients reported that since 1994 they had made efforts to improve their ability to care for these patients (with 1994 being the year the ballot initiative establishing DWDA was passed). I note that the reported improvements in access to and delivery of palliative care in both papers cannot necessarily be attributed to DWDA.
19. I also co-authored a paper "Physicians' Experiences with the Oregon Death With Dignity Act" (2000) *The New England Medical Journal* 342 (8) 557 annexed at page 45 of LKG-2. One of the conclusions we drew was that palliative interventions lead some, but not all, patients who requested a prescription under the DWDA to change their mind. In addition, physicians were significantly less likely to prescribe for patients who felt they were a burden (see table 4).
20. I refer to Oregon Public Health Division "Oregon's Death with Dignity Act 2014", annexed at page 25 of LKG-2 and note that 93% of people who ingested medication prescribed under the DWDA in 2014 were enrolled in a hospice.
21. I also note that the legalisation of physician assisted dying in Oregon has not jeopardised palliative care training. OHSU has a highly sought after palliative medicine fellowship.

Attitudes of Oregon psychiatrists

22. At paragraphs 52 - 54 of his affidavit, Dr George makes comments regarding different approaches by physicians to physician assisted dying depending on their own attitudes. Dr George refers to an article I co-authored "Attitudes of Oregon psychiatrists towards physician-assisted suicide" *Am J Psychiatry* 1996;153:1469-1475, annexed to his affidavit as RG-11.
23. Dr Chochinov, at paragraph 56.3 of his affidavit, similarly refers to that study as evidence for "subjectivity in evaluation".
24. The Oregon DWDA outlines a specific role for psychiatrists and psychologists. If the attending or consulting physician believes that the patient may be suffering from a "psychiatric or psychological disorder, or depression causing impaired judgment", then a mental health evaluation is mandated. Psychiatrists have expertise in diagnosing depression, but little experience and no specific standard for determining whether the depression influenced such a decision.
25. In the study referred to by Dr George and Dr Chochinov (following the voter ballot approving DWDA, but before the legislation was in force), we reported:
 - (a) 56% of Oregon psychiatrists supported legalization of physician assisted death;

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- (b) of those who opposed legalization, 72% would refuse to perform this type of evaluation; and
 - (c) among those who opposed legalization but would perform the evaluation, most would work to prevent the patient from taking the medication to end life, even if they found the patient competent and without a mental illness.
26. In the "Guide to the Oregon Death with Dignity Act", which is annexed at page 39 of LKG-1, we recommended that mental health professionals who are either strong proponents or opponents of the law, may have difficulty objectively evaluation patients and should consider declining requests to do so (see chapter 9, at page 100 of LKG-1).
 27. In the study referred to by Dr George and Dr Chochinov, we also found that many psychiatrists anticipated that they would have difficulty, if the patient had depression, of determining whether the depression impacted the decision, though they felt more confident if they knew the patient well (as discussed by Dr George at paragraph 53). Accordingly, in the "Guide to the Oregon Death with Dignity Act", we recommended that of the two components of the mental health assessment (presence of the disorder, and determination of its influence) the greatest weight in determining eligibility for obtaining medication under the Oregon Act should be on whether or not a mental disorder such as depression can be diagnosed (see pages 101-102 of LKG-1). That reflects the expertise psychiatrists have in diagnosing such disorders.
 28. We subsequently found that most requesting patients do not have depression. For example, in our study of 58 requesting Oregonians, the majority, that is 74.2%, did not have a depressive disorder, 25.8% did (see the article discussed at paragraph 6(b) above). Of the 18 Oregonians in the same study who were prescribed drugs under DWDA, 3 (16.7%) met the criteria used for depression.
 29. In our study of hospice professionals, hospice clinical social workers rated depression as an unimportant reason for physician assisted dying requests, among the requesting clients they had worked with (see the article discussed at paragraph 17 above).

Dismissive attachment style

30. Baroness Finlay, at paragraph 71 of her affidavit, refers to an article I co-authored "Attachment styles of Oregonians who request physician assisted death" *Palliative and Supportive Care*; 2011; 9.2: 123 - 128. That article is annexed at page 52 of LKG-2.
31. Baroness Finlay is correct to say that those who pursue physician assisted dying exhibit, on average, a higher rate of a dismissive attachment style (56%, as against 41% of a comparison group who did not request physician assisted dying). We concluded that recognition of a patient's attachment style may improve the ability of the physician to maintain a constructive relationship with the patient through the dying process.
32. To be clear, this issue is not a reason, in my view, to either support or oppose physician assisted dying.

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Complications

33. At paragraphs 12 and 13, Baroness Finlay refers to the statistics produced by the Oregon Public Health Division "Oregon's Death with Dignity Act 2014", annexed at page 25 of LKG-2. She notes that 6 patients re-awoke after ingesting a drug prescribed under the DWDA since 1998.
34. That is 6 patients out of the 859 who have ingested lethal drugs since 1998. In 3 of those instances, regurgitation was reported (2 in 2010 and 1 in 2011), and in 1 instance (in 2011) a possible medical tolerance for the drug was reported. For the other 2 instances, no reason could be determined.
35. I refer to the Oregon Public Health Division: "Oregon's Death with Dignity Act 2013"; "Oregon's Death with Dignity Act 2012"; "Oregon's Death with Dignity Act 2011"; and "Oregon's Death with Dignity Act 2006", annexed at page 58, 65, 71, and 77 of LKG-2 respectively.

*State of Oregon
County of Clackamas*

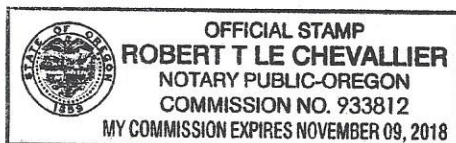
AFFIRMED at Portland, Oregon this 4 day
of May 2015 before me:

[Signature]

[Signature]
Linda Kay Ganzini

A person duly authorised to administer oaths
in Oregon

*Notary Public for State
of Oregon*



RC

[Signature]

"LGK-2"

Eighth Annual Report on Oregon's Death with Dignity Act



Department of Human Services
Office of Disease Prevention and Epidemiology
March 9, 2006



This is the annexure marked "LKG-2" referred to in the affidavit
of Linda Kay Ganzini affirmed at Portland, Oregon, this
day of May 2015 before me

Signature Robert Lechevalier

A person duly authorized to administer oaths in Oregon

Robert Lechevalier 5/14/2015

Eighth Annual Report on Oregon's Death with Dignity Act

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Summary

Physician-assisted suicide (PAS) has been legal in Oregon since November 1997, when Oregon voters approved the Death with Dignity Act (DWDA) for the second time (see [History](#), page 6). The Department of Human Services (DHS) is legally required to collect information regarding compliance with the Act and make the information available on a yearly basis. In this eighth annual report, we characterize the 38 Oregonians who died in 2005 following ingestion of medications prescribed under provisions of the Act, and look at whether the numbers and characteristics of these patients differ from those who used PAS in prior years. Patients choosing PAS were identified through mandated physician and pharmacy reporting. Our information comes from these reports, physician interviews and death certificates. We also compare the demographic characteristics of patients participating during 1998-2005 with other Oregonians who died of the same underlying causes.

In 2005, 39 physicians wrote a total of 64 prescriptions for lethal doses of medication. In 1998, 24 prescriptions were written, followed by 33 in 1999, 39 in 2000, 44 in 2001, 58 in 2002, 68 in 2003, and 60 in 2004. Thirty-two of the 2005 prescription recipients died after ingesting the medication. Of the 32 recipients who did not ingest the prescribed medication in 2005, 15 died from their illnesses, and 17 were alive on December 31, 2005. In addition, six patients who received prescriptions during 2004 died in 2005 as a result of ingesting the prescribed medication, giving a total of 38 PAS deaths during 2005. One 2004 prescription recipient, who ingested the prescribed medication in 2005, became unconscious 25 minutes after ingestion, then regained consciousness 65 hours later. This person did not obtain a subsequent prescription and died 14 days later of the underlying illness (17 days after ingesting the medication).

After an initial increase in PAS use during the first five years the Act was in effect, the number of Oregonians who use PAS remained relatively stable since 2002. In 1998, 16 Oregonians used PAS, followed by 27 in 1999, 27 in 2000, 21 in 2001, 38 in 2002, 42 in 2003, and 37 in 2004. The ratio of PAS deaths to total deaths trended upward during 1998-2003, peaking at 13.6 in 2003 and has since remained stable. In

1998 there were 5.5 PAS deaths per every 10,000 total deaths, followed by 9.2 in 1999, 9.1 in 2000, 7.1 in 2001, 12.2 in 2002, 13.6 in 2003, 12.3 in 2004, and an estimated 12/10,000 in 2005.¹⁻⁷

Compared to all Oregon decedents in 2005, PAS participants were more likely to have malignant neoplasms (84% vs. 24%), to be younger (median age 70 vs. 78 years), and to have more formal education (37% vs. 15% had at least a baccalaureate degree).

During the past eight years, the 246 patients who took lethal medications differed in several ways from the 74,967 Oregonians dying from the same underlying diseases. Rates of participation in PAS decreased with age, although over 65% of PAS users were age 65 or older. Rates of participation were higher among those who were divorced or never married, those with more years of formal education, and those with amyotrophic lateral sclerosis, HIV/AIDS, or malignant neoplasms (see Patient Characteristics, page 12).

Physicians indicated that patient requests for lethal medications stemmed from multiple concerns, with eight in 10 patients having at least three concerns. The most frequently mentioned end-of-life concerns during 2005 were: a decreasing ability to participate in activities that made life enjoyable, loss of dignity, and loss of autonomy. (see End-of-Life Concerns, page 14).

Complications were reported for three patients during 2005; two involved regurgitation, and, as noted above, one patient regained consciousness after ingesting the prescribed medication. None involved seizures (see Complications, page 13). Fifty percent of patients became unconscious within five minutes of ingestion of the lethal medication and the same percentage died within 26 minutes of ingestion. The range of time from ingestion to death was from five minutes to 9.5 hours. Emergency Medical Services were called for one patient in order to pronounce death.

The number of terminally ill patients using PAS has remained small, with about 1 in 800 deaths among Oregonians in 2005 resulting from physician-assisted suicide.

Introduction

This eighth annual report presents data on participation in Oregon's Death with Dignity Act (DWDA), which legalizes physician-assisted suicide (PAS) for terminally ill Oregon residents. This report summarizes the information collected from physician reports, interviews, and death certificates.

History

The Oregon Death with Dignity Act was a citizen's initiative first passed by Oregon voters in November 1994 with 51% in favor. Implementation was delayed by a legal injunction, but after proceedings that included a petition denied by the United States Supreme Court, the Ninth Circuit Court of Appeals lifted the injunction on October 27, 1997. In November 1997, a measure asking Oregon voters to repeal the Death with Dignity Act was placed on the general election ballot (Measure 51, authorized by Oregon House Bill 2954). Voters rejected this measure by a margin of 60% to 40%, retaining the Death with Dignity Act. After voters reaffirmed the DWDA in 1997, Oregon became the only state allowing legal physician-assisted suicide.⁸

Although physician-assisted suicide has been legal in Oregon for eight years, it remains highly controversial. On November 6, 2001, U.S. Attorney General John Ashcroft issued a new interpretation of the Controlled Substances Act, which would prohibit doctors from prescribing controlled substances for use in physician-assisted suicide. To date, all the medications prescribed under the Act have been barbiturates, which are controlled substances and, therefore, would be prohibited by this ruling for use in PAS. In response to a lawsuit filed by the State of Oregon on November 20, 2001, a U.S. district court issued a temporary restraining order against Ashcroft's ruling pending a new hearing. On April 17, 2002, U.S. District Court Judge Robert Jones upheld the Death with Dignity Act. On September 23, 2002, Attorney General Ashcroft filed an appeal, asking the Ninth U.S. Circuit Court of Appeals to overturn the District Court's ruling. The appeal was denied on May 26, 2004 by a three-judge panel. On July 13, 2004, Ashcroft filed an appeal requesting that the Court rehear his previous motion with an 11-judge panel; on August 13, 2004, the Court declined to rehear the case. On

November 9, 2004, Ashcroft asked the U.S. Supreme Court to review the Ninth Circuit's decision. On October 5, 2005, the Supreme Court heard arguments in the case, and on January 17, 2006 it affirmed the lower court's decision. At this time, Oregon's Death with Dignity Act remains in effect.

Requirements

The Death with Dignity Act allows terminally ill Oregon residents to obtain and use prescriptions from their physicians for self-administered, lethal medications. Under the Act, ending one's life in accordance with the law does not constitute suicide. However, we use "physician-assisted suicide" because that terminology is used in medical literature to describe ending life through the voluntary self-administration of lethal medications prescribed by a physician for that purpose. The Death with Dignity Act legalizes PAS, but specifically prohibits euthanasia, where a physician or other person directly administers a medication to end another's life.⁸

To request a prescription for lethal medications, the Death with Dignity Act requires that a patient must be:

- An adult (18 years of age or older),
- A resident of Oregon,
- Capable (defined as able to make and communicate health care decisions), and
- Diagnosed with a terminal illness that will lead to death within six months.

Patients meeting these requirements are eligible to request a prescription for lethal medication from a licensed Oregon physician. To receive a prescription for lethal medication, the following steps must be fulfilled:

- The patient must make two oral requests to his or her physician, separated by at least 15 days.
- The patient must provide a written request to his or her physician, signed in the presence of two witnesses.

- The prescribing physician and a consulting physician must confirm the diagnosis and prognosis.
- The prescribing physician and a consulting physician must determine whether the patient is capable.
- If either physician believes the patient's judgment is impaired by a psychiatric or psychological disorder, the patient must be referred for a psychological examination.
- The prescribing physician must inform the patient of feasible alternatives to assisted suicide, 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 prescription request.

To comply with the law, physicians must report to the Department of Human Services (DHS) all prescriptions for lethal medications.⁹ Reporting is not required if patients begin the request process but never receive a prescription. In 1999, the Oregon legislature added a requirement that pharmacists must be informed of the prescribed medication's intended use. Physicians and patients who adhere to the requirements of the Act are protected from criminal prosecution, and the choice of legal physician-assisted suicide cannot affect the status of a patient's health or life insurance policies. Physicians, pharmacists, and health care systems are under no obligation to participate in the Death with Dignity Act.⁸

The Oregon Revised Statutes specify that action taken in accordance with the Death with Dignity Act does not constitute suicide, mercy killing or homicide under the law.⁸

Methods

The Reporting System

DHS is required by the Act to develop and maintain a reporting system for monitoring and collecting information on PAS.⁸ To fulfill this mandate, DHS uses a system involving physician and pharmacist compliance reports, death certificate reviews, and follow-up interviews.⁹

When a prescription for lethal medication is written, the physician must submit to DHS information that documents compliance with the law. We review all physician reports and contact physicians regarding missing or discrepant data. DHS Vital Records files are searched periodically for death certificates that correspond to physician reports. These death certificates allow us to confirm patients' deaths, and provide patient demographic data (e.g., age, place of residence, educational attainment).

In addition, using our authority to conduct special studies of morbidity and mortality, DHS conducts telephone interviews with prescribing physicians after receipt of the patients' death certificates.¹⁰ Each physician is asked to confirm whether the patient took the lethal medications. If the patient took the medications, we ask for information that was not available from previous physician reports or death certificates—including insurance status and enrollment in hospice. We ask why the patient requested a prescription, specifically exploring concerns about the financial impact of the illness, loss of autonomy, decreasing ability to participate in activities that make life enjoyable, being a burden, loss of control of bodily functions, uncontrollable pain, and loss of dignity. We collect information on the time from ingestion to unconsciousness and death, and ask about any adverse reactions. Because physicians are not legally required to be present when a patient ingests the medication, not all have information about what happened when the patient ingested the medication. If the prescribing physician was not present, we accept information they have based on discussions with family members, friends or other health professionals who attended the patients' deaths. We also accept information directly from these individuals. We do not interview or collect any information from patients prior to their death. In lieu of the telephone interview, physicians have the option of printing the questionnaire from our website,

completing it at their convenience, and mailing the document to us. Reporting forms and the physician questionnaire are available at:

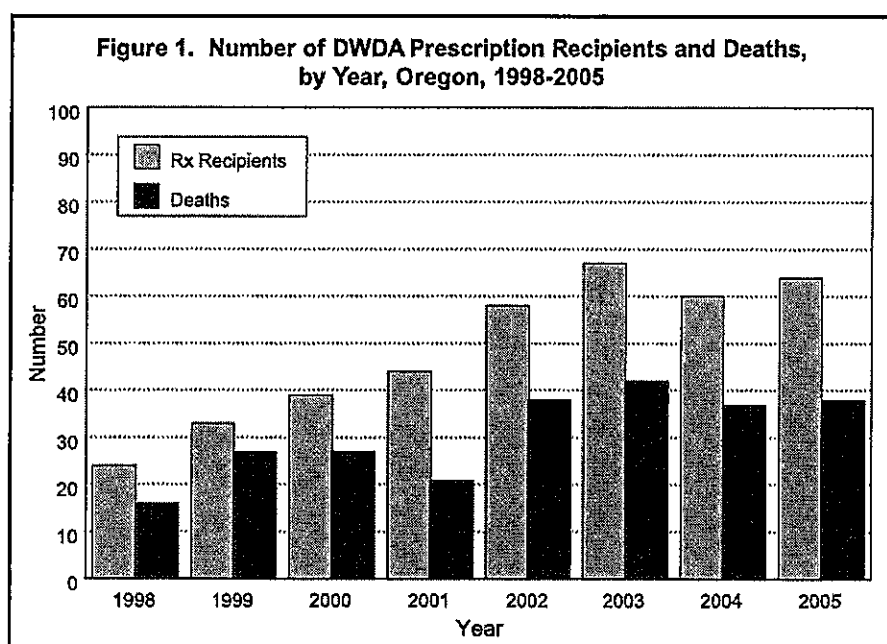
<http://www.oregon.gov/DHS/ph/pas/pasforms.shtml>

Data Analysis

We classified patients by year of participation based on when they ingested the legally-prescribed lethal medication. Using demographic information from 1997-2004 Oregon death certificates (the most recent years for which complete data are available), we compared patients who used legal PAS with other Oregonians who died from the same diseases. Demographic- and disease-specific PAS rates were computed using the number of deaths from the same causes as the denominator. The overall PAS rates by year were computed using the total number of resident deaths. Annual rates were calculated using numerator and denominator data from the same year, except for 2005 where the number of resident deaths from 2004 was used as the denominator. SPSS, release 12 and PEPI, version 4.0 were used in data analysis. Statistical significance was determined using Fisher's exact test, the chi-square test, the chi-square for trend test, and the Mann-Whitney test.

Results

Both the number of prescriptions written and the number of Oregonians using PAS vary annually but have been relatively stable since 2002. In 2005, 39 physicians wrote 64 prescriptions for lethal doses of medication. In 1998, 24 prescriptions were written, followed by 33 in 1999, 39 in 2000, 44 in 2001, 58 in 2002, 68 in 2003, and 60 in 2004. (Figure 1.)



Thirty-two of the 2005 prescription recipients died after ingesting the medication. Of the 32 recipients who did not ingest the prescribed medication in 2005, 15 died from their illnesses, and 17 were alive on December 31, 2005. In addition, six patients who received prescriptions during 2004 died in 2005 as a result of ingesting their medication, giving a total of 38 PAS deaths during 2005.

In 1998, 16 Oregonians used PAS, followed by 27 in 1999, 27 in 2000, 21 in 2001, 38 in 2002, 42 in 2003, and 37 in 2004. Ratios of PAS deaths to total deaths have shown a similar trend: in 1998 there were 5.5 PAS deaths for every 10,000 total deaths, followed by 9.2 in 1999, 9.1 in 2000, 7.0 in 2001, 12.2 in 2002, 13.6 in 2003, 12.3, in 2004, and an estimated 12/10,000 in 2005.

The percentage of patients referred to a specialist for psychological evaluation beyond that done by a hospice team has declined, falling from 31% in 1998 to 5% in 2005.

Patient Characteristics

There were no statistically significant differences between Oregonians who used PAS in 2005 and those from prior years. For a comparison, see Table 1.

Although year-to-year variations occur, certain demographic patterns have become evident over the past eight years. Males and females have been equally likely to take advantage of the DWDA. Divorced and never-married persons were more likely to use PAS than married and widowed residents. A higher level of education has been strongly associated with the use of PAS; Oregonians with a baccalaureate degree or higher were 7.9 times more likely to use PAS than those without a high school diploma. Conversely, several groups have emerged as being less likely to use PAS. These include people age 85 or older, people who did not graduate from high school, people who are married or widowed, and Oregon residents living east of the Cascade Range.

Patients with certain terminal illnesses were more likely to use PAS (Table 3). The ratio of DWDA deaths to all deaths resulting from the same underlying illness was highest for three conditions: amyotrophic lateral sclerosis (ALS) (269.5 per 10,000), HIV/AIDS (218.3), and malignant neoplasms (39.9). Among the causes associated with at least five deaths, the lowest rate (8.7) was for patients with chronic lower respiratory diseases (CLRD), such as emphysema.

During 2005, 36 patients died at home, and two died at assisted living facilities. All individuals had some form of health insurance (Table 4). As in previous years, most (92%) of the patients who used PAS in 2005 were enrolled in hospice care. The median length of the patient-physician relationship was 8 weeks.

Physician Characteristics

The prescribing physicians of patients who used PAS during 2005 had been in practice a median of 26 years (range 3-55). Their medical specialties included: family medicine (62%), oncology (23%), internal medicine (10%), and other (5%). Family

medicine physicians represent 15% of all physicians in Oregon, oncologists 0.9%, and internists 16%.

Seventy-four percent of the physicians who wrote prescriptions for lethal medication during 2005 wrote a single prescription. Of the 39 physicians who wrote prescriptions in 2005, 29 wrote one prescription, three wrote two prescriptions, three wrote three prescriptions, three wrote four prescriptions, and one wrote eight prescriptions.

During the first three years after the legalization of PAS, physicians were present at the patient's ingestion of lethal medication half or more of the time. During 2005, the prescribing physician was present 23% of the time.

It is the policy of DHS to report cases to the Oregon Board of Medical Examiners when required forms have not been completed correctly or have not been received in a timely fashion. During 2005, four cases were referred to the Oregon Board of Medical Examiners, one involving witnessing of signatures and three others for failure to file required documentation in a timely manner.

One case, in which a patient awakened after ingesting the prescribed medication, was referred to the Board of Pharmacy.

Lethal Medication

During 1998-2004, secobarbital was the lethal medication prescribed for 101 of the 208 patients (49%). During 2005, as during previous years, all lethal medications prescribed under the provisions of the DWDA were barbiturates. In 2005, 34 patients (89%) used pentobarbital and 4 patients (11%) used secobarbital. Since the DWDA was implemented, 56% of the PAS patients used pentobarbital, 43% used secobarbital, and 2% used other medications. (Three used secobarbital/amobarbital, and one used secobarbital and morphine).

Complications

During 2005, physicians reported that three patients experienced complications: two patients vomited some of the medication, one of whom died 15 minutes after ingestion and the other 90 minutes after ingestion. The former had been vomiting on a

daily basis for the week and a half prior to ingestion. One patient became unconscious 25 minutes after ingestion, then regained consciousness 65 hours later. This person did not obtain a subsequent prescription, and died 14 days later of the underlying illness (17 days after ingesting the medication).

None of the patients experienced seizures. Emergency medical services were called to document one death. In no case was EMS called for medical intervention.

End-of-Life Concerns

Providers were asked if, based on discussions with patients, any of seven end-of-life concerns might have contributed to the patients' requests for lethal medication (Table 4). In nearly all cases, physicians reported multiple concerns contributing to the request. The most frequently reported concerns included a decreasing ability to participate in activities that make life enjoyable (89%), loss of dignity (89%), and losing autonomy (79%).

Comments

Since 2002, both the number of prescriptions written for physician-assisted suicide and the number of terminally ill patients taking lethal medication have remained relatively stable with about 1 in 800 deaths among Oregonians in 2005 resulting from physician-assisted suicide. A large population study of dying Oregonians published in 2004 found that 17% considered PAS seriously enough to have discussed the matter with their family and that about 2% of patients formally requested PAS. Of the 1,384 decedents for whom information was gathered, one had received a prescription for lethal medication and did not take it. No unreported cases of PAS were identified.¹¹

Overall, smaller numbers of patients appear to use PAS in Oregon compared to the Netherlands.¹² However, as detailed in previous reports, our numbers are based on a reporting system for terminally ill patients who legally receive prescriptions for lethal medications, and do not include patients and physicians who may act outside the provisions of the DWDA.

Over the last eight years, the rate of PAS among patients with ALS in Oregon has been substantially higher than among patients with other illnesses. This finding is consistent with other studies. In the Netherlands, where both PAS and euthanasia are openly practiced, one in five ALS patients died as a result of PAS or euthanasia.¹³ A study of Oregon and Washington ALS patients found that one-third of these patients discussed wanting PAS in the last month of life.¹⁴ Though numbers are small, and results must be interpreted with caution, Oregon HIV/AIDS patients are also more likely to use PAS.

Physicians have consistently reported that concerns about loss of autonomy, loss of dignity, and decreased ability to participate in activities that make life enjoyable as important motivating factors in patient requests for lethal medication across all eight years. Interviews with family members during 1999 corroborated physician reports.² These findings were supported by a study of hospice nurses and social workers caring for PAS patients in Oregon.¹⁵

While it may be common for patients with a terminal illness to consider PAS, a request for PAS can be an opportunity for a medical provider to explore with patients their fears and wishes around end-of-life care, and to make patients aware of other

options. Often once the provider has addressed a patient's concerns, he or she may choose not to pursue PAS.¹⁶

References

1. Chin G, Hedberg K, Higginson G, Fleming D. Legalized physician-assisted suicide in Oregon—The first year's experience. *N Engl J Med*, 1999; 340:577-583.
2. Sullivan AD, Hedberg K, Fleming D. Legalized physician-assisted suicide in Oregon—The second year. *N Engl J Med*, 2000; 342:598-604.
3. Sullivan AD, Hedberg K, Hopkins D. Legalized physician-assisted suicide in Oregon, 1998-2000. *N Engl J Med*, 2001; 344:605-607.
4. Hedberg K, Hopkins D, Southwick K. Legalized physician-assisted suicide in Oregon, 2001. *N Engl J Med*, 2002; 346:450-452.
5. Hedberg K, Hopkins D, Kohn M. Five years of legal physician-assisted suicide in Oregon. *N Engl J Med*, 2003; 348:961-964.
6. Oregon Department of Human Services. Sixth Annual Report on Oregon's Death with Dignity Act. Office of Disease Prevention and Epidemiology. March 10, 2004. Portland, Oregon. 24 pp. Available at <http://www.oregon.gov/DHS/ph/pas/docs/year6.pdf>
7. Oregon Department of Human Services. Seventh Annual Report on Oregon's Death with Dignity Act. Office of Disease Prevention and Epidemiology. March 10, 2005. Portland, Oregon. 25 pp. Available at <http://www.oregon.gov/DHS/ph/pas/docs/year7.pdf>
8. Oregon Revised Statute 127.800-127.995. Available at <http://egov.oregon.gov/DHS/ph/pas/ors.shtml>
9. Oregon Administrative Rules 333-009-000 to 333-009-0030. Available at <http://egov.oregon.gov/DHS/ph/pas/oars.shtml>
10. Oregon Revised Statute 432.060. Available at <http://www.leg.state.or.us/ors/432.html>
11. Tolle SW, Tilden VP, Drach LL, et al. Characteristics and proportion of dying Oregonians who personally consider physician assisted suicide. *J Clin Ethics*, 2004;15:111-118.
12. Willems DL, Daniels ER, van der Wal G, et al. Attitudes and practices concerning the end of life: A comparison between physicians from the United States and from The Netherlands. *Arch Intern Med*, 2000; 160:63-68.

13. Vledink JH, Wokke JHJ, Van Der Wal G, et al. Euthanasia and physician-assisted suicide among patients with amyotrophic lateral sclerosis in the Netherlands. *N Engl J Med*, 2002; 346:1638-1644.
14. Ganzini L, Silveira MJ, Johnston WS. Predictors and correlates of interest in assisted suicide in the final month of life among ALS patients in Oregon and Washington. *J Pain Symptom Manage*, 2002; 3:312-317.
15. Ganzini L, Harvath TA, Jackson A, et al. Experiences of Oregon nurses and social workers with hospice patients who requested assistance with suicide. *N Engl J Med*, 2002; 347:582-588.
16. Bascom PB, Tolle SW. Responding to requests for physician-assisted suicide: "these are uncharted waters for both of us...". *JAMA*, 2002; 288:91-98.

Table 1. Demographic characteristics of 246 DWDA patients who died after ingesting a lethal dose of medication, by year, Oregon, 1998-2005.

Characteristics	2005 (N = 38)*	1998-2004 (N= 208)*	Total (N = 246)*
Sex			
Male (%)	23 (61)	108 (52)	131 (53)
Female (%)	15 (39)	100 (48)	115 (47)
Age			
18-44 (%)	1 (3)	9 (4)	10 (4)
45-64 (%)	11 (29)	60 (29)	71 (29)
65-84 (%)	21 (55)	123 (59)	144 (59)
85+ (%)	5 (13)	16 (8)	21 (9)
Median years (Range)	70 (42-90)	69 (25-94)	69 (25-94)
Race			
White (%)	36 (95)	203 (98)	239 (97)
Asian (%)	1 (3)	5 (2)	6 (2)
Native American (%)	1 (3)	0	1 (<1)
Marital status			
Married (%)	20 (53)	90 (43)	110 (45)
Widowed (%)	8 (21)	47 (23)	55 (22)
Divorced (%)	8 (21)	56 (27)	64 (26)
Never married (%)	2 (5)	15 (7)	17 (7)
Education			
Less than high school (%)	3 (8)	18 (9)	21 (9)
High school graduate (%)	9 (24)	62 (30)	71 (29)
Some college (%)	12 (32)	40 (19)	52 (21)
Baccalaureate or higher (%)	14 (37)	88 (42)	102 (41)
Residence			
Metro counties (%)**	12 (32)	83 (40)	95 (39)
Coastal counties (%)***	2 (5)	17 (8)	19 (8)
Other W. counties (%)	21 (55)	96 (46)	117 (48)
E. of the Cascades (%)	3 (8)	12 (6)	15 (6)
Underlying illness			
Malignant neoplasms (%)	32 (84)	164 (79)	196 (80)
Lung and bronchus (%)	8 (21)	40 (19)	48 (20)
Breast (%)	4 (11)	19 (9)	23 (9)
Pancreas (%)	2 (5)	18 (9)	20 (8)
Colon (%)	4 (11)	12 (6)	16 (7)
Other (%)	14 (37)	75 (36)	89 (36)

Characteristics (Cont'd)	2005 (N=38)*	1998-2004 (N=208)*	Total (N=246)*
Underlying Illness (Cont'd)			
Amyotrophic lateral sclerosis (%)	4 (11)	16 (8)	20 (8)
Chronic lower respiratory disease (%)	1 (3)	10 (5)	11 (4)
HIV/AIDS (%)	0	5 (2)	5 (2)
Illnesses listed below (%) [#]	1 (3)	13 (6)	14 (6)

* Unknowns are excluded when calculating percentages.

** Clackamas, Multnomah, and Washington counties.

*** Excluding Douglas and Lane counties.

Includes amyloidosis of the kidney, aortic stenosis, congestive heart failure, diabetes mellitus with renal complications, digestive organ neoplasm of unknown behavior, emphysema, hepatitis C, myelodysplastic syndrome, pulmonary disease with fibrosis, scleroderma, and Shy-Drager syndrome.

Table 2. Demographic characteristics of 246 patients who died during 1998-2005 after ingesting a lethal dose of medication, compared with 74,967 Oregonians dying from the same underlying diseases.

Characteristics	PAS patients 1998-2005 (N = 246)*	Oregon deaths, same diseases (N =74,967)*	DWDA deaths per 10,000 Oregon deaths	Rate ratio (95% CI**)
Sex				
Male (%)	131 (53)	37,847 (50)	34.6	1.1 (0.9-1.4)
Female (%)	115 (47)	37,120 (50)	31.0	1.0
Age				
18-44 (%)	10 (4)	1,815 (2)	55.1	4.1 (1.9-8.7)#
45-64 (%)	71 (29)	14,445 (19)	49.2	3.6 (2.2-5.9)
65-84 (%)	144 (59)	42,956 (57)	33.5	2.5 (1.6-3.9)
85+ (%)	21 (9)	15,751 (21)	13.3	1.0
Median years	69 (25-94)	76		
Race				
White (%)	239 (97)	72,799 (97)	32.8	1.0
Asian (%)	6 (2)	802 (1)	74.8	2.3 (0.8-5.1)##
Native American (%)	1 (<1)	507 (1)	19.7	0.6 (0.0-3.4)##
Other (%)	0	849 (1)		
Unknown	0	15		
Marital status				
Married (%)	110 (45)	36,042 (48)	30.5	1.0
Widowed (%)	55 (22)	24,653 (33)	22.3	0.7 (0.5-1.0)
Divorced (%)	64 (26)	10,894 (15)	58.7	1.9 (1.4-2.6)+
Never married (%)	17 (7)	3,202 (4)	53.1	1.7 (1.1-2.9)+
Unknown	0	176		
Education				
Less than high school (%)	21 (9)	17,403 (24)	12.1	1.0
HS graduate (%)	71 (29)	32,125 (43)	22.1	1.8 (1.1-3.0)
Some college (%)	52 (21)	13,765 (19)	37.8	3.1 (1.9-5.2)
Baccalaureate or higher (%)	102 (41)	10,626 (14)	96.0	7.9 (5.0-12.7)#
Unknown	0	1,048		
Residence				
Metro counties (%)	95 (39)	26,874 (36)	35.4	1.0
Coastal counties (%)	19 (8)	6,076 (8)	31.3	0.9 (0.5-1.5)
Other W. counties (%)	117 (48)	31,470 (42)	37.2	1.1 (0.8-1.4)
E. of the Cascades (%)	15 (6)	10,547 (14)	14.2	0.4 (0.2-0.7)+

* Unknowns are excluded when calculating percentages.

** Confidence interval.

The ratio is statistically significant according to the chi-square test for trend.

Confidence intervals calculated with Fisher's exact test.

+ The ratio is statistically significant according to the chi-square test.

Table 3. Underlying illnesses of 246 patients who died during 1998-2005 after ingesting a lethal dose of medication, compared with 74,967 Oregonians dying from the same underlying diseases.

Underlying illnesses	PAS patients 1998-2005 (N = 246)	Oregon deaths, same diseases (N =74,967)	DWDA deaths per 10,000 Oregon deaths	Rate ratio (95% CI*)
Malignant neoplasms (%)	196 (80)	49,117 (66)	39.9	4.6 (2.5-8.4)+
Lung and bronchus (%)	48 (20)	16,160 (22)	29.7	3.4 (1.8-6.6)+
Breast (%)	23 (9)	4,102 (5)	56.1	6.4 (3.1-13.2)+
Pancreas (%)	20 (8)	2,989 (4)	66.9	7.7 (3.7-16.0)+
Colon (%)	16 (7)	4,263 (6)	37.5	4.3 (2.0-9.3)+
Prostate (%)	13 (5)	3,491 (5)	37.2	4.3 (1.9-9.5)++
Ovary (%)	12 (5)	1,608 (2)	74.6	8.6 (3.5-21.5)++
Skin (%)	9 (4)	789 (1)	114.1	13.1 (4.8-35.1)++
Other (%)	55 (22)	15,715 (21)	35.0	4.0 (2.1-7.6)+
Amyotrophic lateral sclerosis (%)	20 (8)	742 (1)	269.5	31.0 (14.4-73.5)++
Chronic lower respiratory dis. (%)	11 (4)	12,596 (17)	8.7	1.0
HIV/AIDS (%)	5 (2)	229 (<1)	218.3	25.1 (6.9-80.4)++
Illnesses listed below (%)#	14 (6)	12,283 (16)	11.4	1.3 (0.6-2.9)

* Confidence interval.

Includes amyloidosis of the kidney, aortic stenosis, cardiomyopathy, congestive heart failure, diabetes mellitus with renal complications, digestive organ neoplasm of unknown behavior, emphysema, hepatitis C, myelodysplastic syndrome, pulmonary disease with fibrosis, scleroderma, and Shy-Drager syndrome.

+ The ratio is statistically significant according to the chi-square test.

++ The ratio is statistically significant according to Fisher's exact test.

Table 4. Death with Dignity end of life care for 246 Oregonians who died after ingesting a lethal dose of medication, by year, 1998-2005.

Characteristics	2005 (N=38)*	1998-2004 (N=208)*	Total (N=246)*
End of Life Care			
Hospice			
Enrolled (%)	35 (92)	178 (86)	213 (87)
Not enrolled (%)	3 (8)	28 (14)	31 (13)
Unknown	0	2	2
Insurance			
Private (%)	22 (58)	129 (63)	151 (62)
Medicare or Medicaid (%)	16 (42)	74 (36)	90 (37)
None (%)	0	2 (1)	2 (1)
Unknown	0	3	3
End of Life Concerns⁺			
Losing autonomy (%)	30 (79)	177 (87)	207 (86)
Less able to engage in activities making life enjoyable (%)	34 (89)	172 (84)	206 (85)
Loss of dignity (%)**	34 (89)	60 (30)	94 (38)
Losing control of bodily functions (%)	17 (45)	121 (59)	138 (57)
Burden on family, friends/caregivers (%)	16 (42)	74 (36)	90 (37)
Inadequate pain control or concern about it (%)	9 (24)	45 (22)	54 (22)
Financial implications of treatment (%)	1 (3)	6 (3)	7 (3)
PAS Process			
Referred for psychiatric evaluation (%)	2 (5)	32 (16)	34 (14)
Patient died at			
Home (patient, family or friend) (%)	36 (95)	196 (94)	232 (94)
Long term care, assisted living or foster care facility (%)	2 (5)	9 (4)	11 (4)
Hospital (%)	0	1 (<1)	1 (<1)
Other (%)	0	2 (1)	2 (1)
Lethal Medication			
Secobarbital (%)	4 (11)	101 (49)	105 (43)
Pentobarbital (%)	34 (89)	103 (50)	137 (56)
Other (%)	0	4 (2)	4 (2)
Health-care provider present when medication ingested[†]			
Prescribing physician (%)	8 (23)	40 (20)	48 (20)
Other provider, when prescribing physician not present (%)	18 (51)	74 (36)	92 (38)
No provider (%)	9 (26)	22 (11)	31 (13)
Unknown	3	2	5
Complications			
Regurgitated (%)	2 (5)	10 (5)	12 (5)
Seizures (%)	0	0	0
Awakened after taking prescribed medication ^{††}	1	0	1
No complications (%)	35 (95)	194 (95)	229 (95)
Unknown	1	4	5

Characteristics (cont'd)	2005 (N=38)*	1998-2004 (N=208)*	Total (N=246)*
Emergency Medical Services			
Called for intervention after lethal medication ingested (%)	0	0	0
Calls for other reasons (%)**	1 (3)	2 (1)	3 (1)
Not called after lethal medication ingested (%)	36 (97)	203 (99)	239 (99)
Unknown	1	3	4
Timing of PAS Event			
Duration (weeks) of patient-physician relationship			
Median	8	12	12
Range	0-678	0-1065	0-1065
Duration (days) between 1 st request and death			
Median	40	38	39
Range	15-1009	15-737	15-1009
Minutes between ingestion and unconsciousness			
Median	5	5	5
Range	2-15	1-38	1-38
Unknown	3	21	24
Time between ingestion and death			
Median (minutes)	26	25	25
Range (minutes-hours)	5m-9.5h	4m-48h	4m-48h
Unknown	2	15	17

* Unknowns are excluded when calculating percentages unless otherwise noted.

** Calls included two to pronounce death and one to help a patient who had fallen.

† The data shown are for 2001-2005. Information about the presence of a health care provider/volunteer, in absence of the prescribing physician, was first collected in 2001. Attendance by the prescribing physician has been recorded since 1998. During 1998-2005 the prescribing physician was present when 35% of the patients ingested the lethal medication.

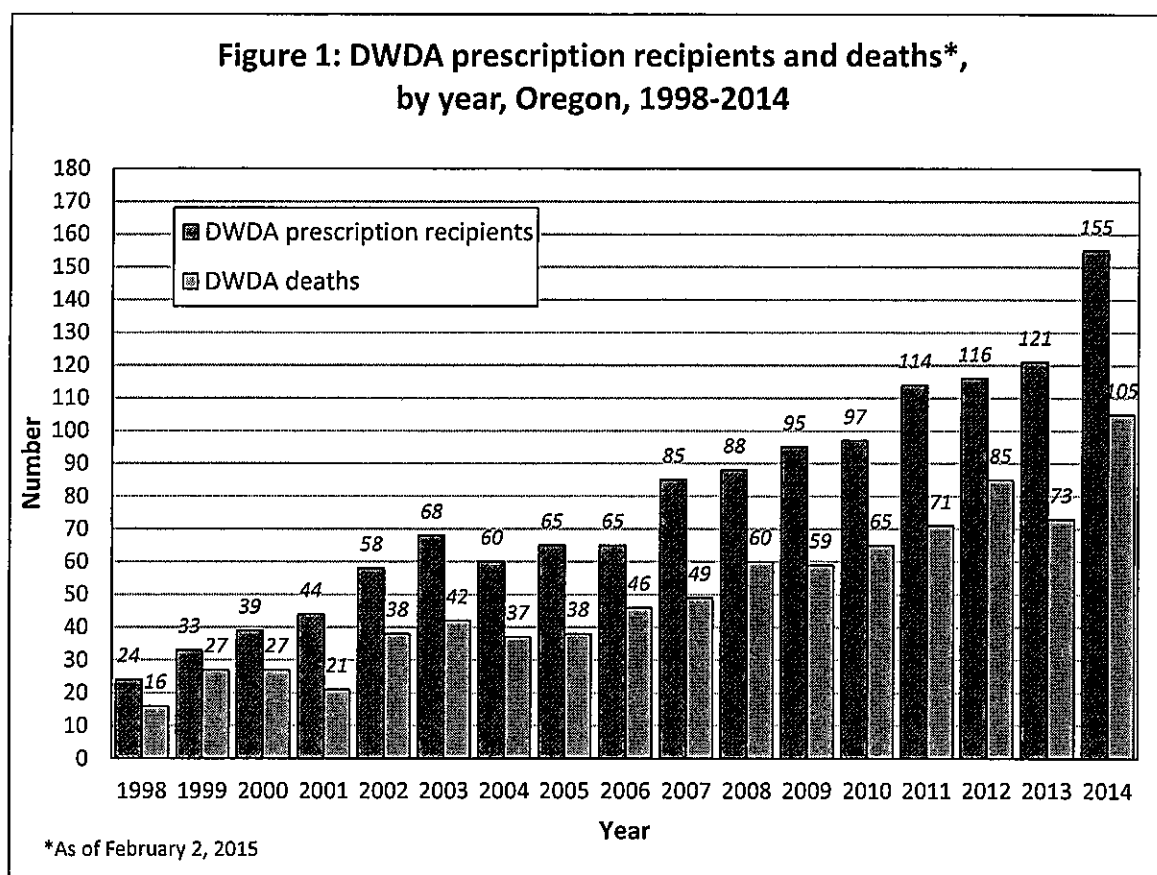
†† Historically, the Annual Report tables list information on patients who died as a result of ingesting medication prescribed under the provisions of the Death with Dignity Act. Because one patient regained consciousness after ingesting the lethal medication and then died 14 days later from his/her illness rather than from the medication, the complication is recorded here but the patient is not included in the total number of PAS deaths.

+ Affirmative answers only ("Don't know" included in negative answers). Available for 17 patients in 2001.

++ First asked in 2003.

Oregon's Death with Dignity Act--2014

Oregon's Death with Dignity Act (DWDA), enacted in late 1997, allows terminally-ill adult Oregonians to obtain and use prescriptions from their physicians for self-administered, lethal doses of medications. The Oregon Public Health Division is required by the DWDA to collect compliance information and to issue an annual report. The key findings from 2014 are presented below. The number of people for whom DWDA prescriptions were written (DWDA prescription recipients) and the resulting deaths from the ingestion of prescribed DWDA medications (DWDA deaths) reported in this summary are based on paperwork and death certificates received by the Oregon Public Health Division as of February 2, 2015. For more detail, please view the figures and tables on our web site: <http://www.healthoregon.org/dwd>.



- As of February 2, 2015, prescriptions for lethal medications were written for 155 people during 2014 under the provisions of the DWDA, compared to 121 during 2013 (Figure 1). At the time of this report, 105 people had died from ingesting the medications prescribed during 2014 under DWDA. This corresponds to 31.0 DWDA deaths per 10,000 total deaths.¹

¹ Rate per 10,000 deaths calculated using the total number of Oregon resident deaths in 2013 (33,931), the most recent year for which final death data are available.

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- Since the law was passed in 1997, a total of 1,327 people have had DWDA prescriptions written and 859 patients have died from ingesting medications prescribed under the DWDA.
- Of the 155 patients for whom DWDA prescriptions were written during 2014, 94 (60.6%) ingested the medication; all 94 patients died from ingesting the medication. No patients that ingested the medication regained consciousness.
- Eleven patients with prescriptions written during the previous years (2012 and 2013) died after ingesting the medication during 2014.
- Thirty-seven of the 155 patients who received DWDA prescriptions during 2014 did not take the medications and subsequently died of other causes.
- Ingestion status is unknown for 24 patients who were prescribed DWDA medications in 2014. For all of the 24 patients, both death and ingestion status are pending (Figure 2).
- Of the 105 DWDA deaths during 2014, most (67.6%) were aged 65 years or older. The median age at death was 72 years. As in previous years, decedents were commonly white (95.2%) and well-educated (47.6% had a least a baccalaureate degree).
- While most patients had cancer, the percent of patients with cancer in 2014 (68.6%) was lower than in previous years (79.4%), and the percent with amyotrophic lateral sclerosis (ALS) was higher (16.2% in 2014, compared to 7.2% in previous years).
- While similar to previous years that most patients had cancer (68.6%), this percent was lower than the average for previous years (79.4%); in contrast, the percent of patients with ALS was higher in 2014 (16.2%) than in previous years (7.2%).
- Most (89.5%) patients died at home, and most (93.0%) were enrolled in hospice care either at the time the DWDA prescription was written or at the time of death. Excluding unknown cases, all (100.0%) had some form of health care insurance, although the number of patients who had private insurance (39.8%) was lower in 2014 than in previous years (62.9%). The number of patients who had only Medicare or Medicaid insurance was higher than in previous years (60.2% compared to 35.5%).
- As in previous years, the three most frequently mentioned end-of-life concerns were: loss of autonomy (91.4%), decreasing ability to participate in activities that made life enjoyable (86.7%), and loss of dignity (71.4%).
- Three of the 105 DWDA patients who died during 2014 were referred for formal psychiatric or psychological evaluation. Prescribing physicians were present at the time of death for 14 patients (13.9%) during 2014 compared to 15.9% in previous years.

Oregon Public Health Division

- A procedure revision was made in 2010 to standardize reporting on the follow-up questionnaire. The new procedure accepts information about the time of death and circumstances surrounding death only when the physician or another health care provider was present at the time of death. Due to this change, data on time from ingestion to death is available for 20 of the 105 DWDA deaths during 2014. Among those 20 patients, time from ingestion until death ranged from eleven minutes to one hour.
- Eighty-three physicians wrote 155 prescriptions during 2014 (1-12 prescriptions per physician).
- During 2014, no referrals were made to the Oregon Medical Board for failure to comply with DWDA requirements.

Figure 2: Summary of DWDA prescriptions written and medications ingested in 2014, as of February 2, 2015

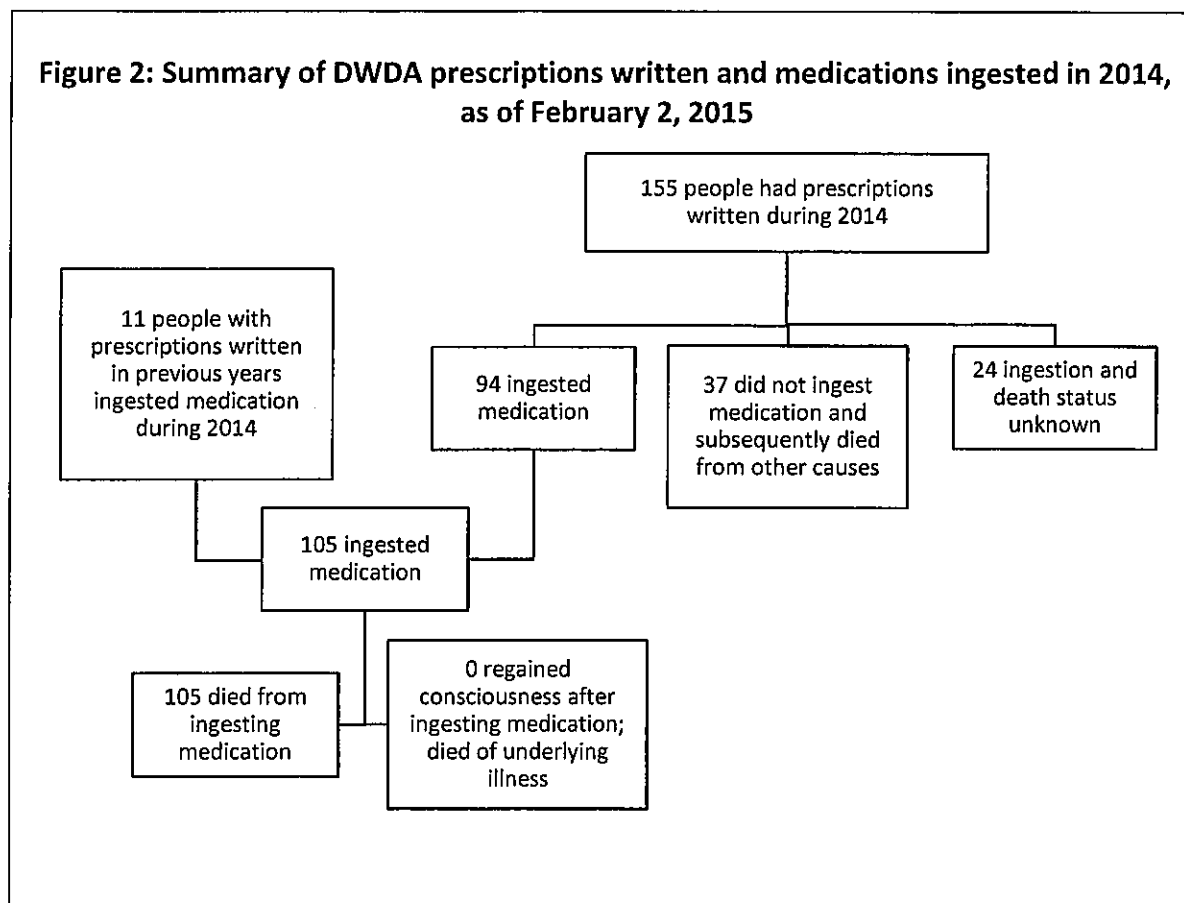


Table 1. Characteristics and end-of-life care of 857 DWDA patients who have died from ingesting a lethal dose of medication as of February 2, 2015, by year, Oregon, 1998-2014

Characteristics	2014 (N=105)	1998-2013 (N=754)	Total (N=859)
Sex			
Male (%)	56 (53.3)	397 (52.7)	453 (52.7)
Female (%)	49 (46.7)	357 (47.3)	406 (47.3)
Age at death (years)			
18-34 (%)	1 (1.0)	6 (0.8)	7 (0.8)
35-44 (%)	2 (1.9)	16 (2.1)	18 (2.1)
45-54 (%)	3 (2.9)	58 (7.7)	61 (7.1)
55-64 (%)	28 (26.7)	156 (20.7)	184 (21.4)
65-74 (%)	29 (27.6)	218 (28.9)	247 (28.8)
75-84 (%)	23 (21.9)	206 (27.3)	229 (26.7)
85+ (%)	19 (18.1)	94 (12.5)	113 (13.2)
Median years (range)	72 (29-96)	71 (25-96)	71 (25-96)
Race			
White (%)	100 (95.2)	731 (97.3)	831 (97.1)
African American (%)	0 (0.0)	1 (0.1)	1 (0.1)
American Indian (%)	0 (0.0)	2 (0.3)	2 (0.2)
Asian (%)	1 (1.0)	8 (1.1)	9 (1.1)
Pacific Islander (%)	0 (0.0)	1 (0.1)	1 (0.1)
Other (%)	2 (1.9)	1 (0.1)	3 (0.4)
Two or more races (%)	1 (1.0)	2 (0.3)	3 (0.4)
Hispanic (%)	1 (1.0)	5 (0.7)	6 (0.7)
Unknown	0	3	3
Marital Status			
Married (%) ²	48 (45.7)	347 (46.2)	395 (46.1)
Widowed (%)	26 (24.8)	172 (22.9)	198 (23.1)
Never married (%)	6 (5.7)	63 (8.4)	69 (8.1)
Divorced (%)	25 (23.8)	169 (22.5)	194 (22.7)
Unknown	0	3	3
Education			
Less than high school (%)	6 (5.7)	45 (6.0)	51 (6.0)
High school graduate (%)	23 (21.9)	164 (21.9)	187 (21.9)
Some college (%)	26 (24.8)	198 (26.4)	224 (26.2)
Baccalaureate or higher (%)	50 (47.6)	342 (45.7)	392 (45.9)
Unknown	0	5	5
Residence			
Metro counties (%) ³	46 (44.7)	315 (41.9)	361 (42.3)
Coastal counties (%)	6 (5.8)	57 (7.6)	63 (7.4)
Other western counties (%)	40 (38.8)	325 (43.3)	365 (42.7)
East of the Cascades (%)	11 (10.7)	54 (7.2)	65 (7.6)
Unknown	2	3	5
End of life care			
Hospice			
Enrolled (%) ⁴	93 (93.0)	654 (90.0)	747 (90.3)
Not enrolled (%)	7 (7.0)	73 (10.0)	80 (9.7)
Unknown	5	27	32
Insurance			
Private (%) ⁵	37 (39.8)	452 (62.9)	489 (60.2)
Medicare, Medicaid or Other Governmental (%)	56 (60.2)	255 (35.5)	311 (38.3)
None (%)	0 (0.0)	12 (1.7)	12 (1.5)
Unknown	12	35	47

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Characteristics	2014 (N=105)	1998-2013 (N=754)	Total (N=859)
Underlying illness			
Malignant neoplasms (%)	72 (68.6)	596 (79.4)	668 (78.0)
Lung and bronchus (%)	16 (15.2)	139 (18.5)	155 (18.1)
Breast (%)	7 (6.7)	57 (7.6)	64 (7.5)
Colon (%)	5 (4.8)	49 (6.5)	54 (6.3)
Pancreas (%)	9 (8.6)	47 (6.3)	56 (6.5)
Prostate (%)	2 (1.9)	33 (4.4)	35 (4.1)
Ovary (%)	5 (4.8)	28 (3.7)	33 (3.9)
Other (%)	28 (26.7)	243 (32.4)	271 (31.7)
Amyotrophic lateral sclerosis (%)	17 (16.2)	54 (7.2)	71 (8.3)
Chronic lower respiratory disease (%)	4 (3.8)	34 (4.5)	38 (4.4)
Heart Disease (%)	3 (2.9)	14 (1.9)	17 (2.0)
HIV/AIDS (%)	0 (0.0)	9 (1.2)	9 (1.1)
Other illnesses (%) ⁶	9 (8.6)	44 (5.9)	53 (6.2)
Unknown	0	3	3
DWDA process			
Referred for psychiatric evaluation (%)	3 (2.9)	44 (5.9)	47 (5.5)
Patient informed family of decision (%) ⁷	95 (90.5)	634 (93.6)	729 (93.2)
Patient died at			
Home (patient, family or friend) (%)	94 (89.5)	716 (95.3)	810 (94.6)
Long term care, assisted living or foster care facility (%)	8 (7.6)	29 (3.9)	37 (4.3)
Hospital (%)	0 (0.0)	1 (0.1)	1 (0.1)
Other (%)	3 (2.9)	5 (0.7)	8 (0.9)
Unknown	0	3	3
Lethal medication			
Secobarbital (%)	63 (60.0)	403 (53.4)	466 (54.2)
Pentobarbital (%)	41 (39.0)	344 (45.6)	385 (44.8)
Other (%) ⁸	1 (1.0)	7 (0.9)	8 (0.9)
End of life concerns⁹			
Losing autonomy (%)	96 (91.4)	686 (91.5)	782 (91.5)
Less able to engage in activities making life enjoyable (%)	91 (86.7)	667 (88.9)	758 (88.7)
Loss of dignity (%) ¹⁰	75 (71.4)	504 (80.6)	579 (79.3)
Losing control of bodily functions (%)	52 (49.5)	376 (50.1)	428 (50.1)
Burden on family, friends/caregivers (%)	42 (40.0)	300 (40.0)	342 (40.0)
Inadequate pain control or concern about it (%)	33 (31.4)	178 (23.7)	211 (24.7)
Financial implications of treatment (%)	5 (4.8)	22 (2.9)	27 (3.2)
Health-care provider present¹¹			
When medication was ingested ¹²	(N=105)	(N=684)	(N=789)
Prescribing physician	14	119	133
Other provider, prescribing physician not present	6	238	244
No provider	4	76	80
Unknown	81	251	332
At time of death			
Prescribing physician (%)	14 (13.9)	107 (15.9)	121 (15.7)
Other provider, prescribing physician not present (%)	6 (5.9)	263 (39.2)	269 (34.8)
No provider (%)	81 (80.2)	301 (44.9)	382 (49.5)
Unknown	4	13	17
Complications¹²			
Regurgitated	0	22	22
Seizures	0	0	0
Other	0	1	1
None	20	487	507
Unknown	85	244	329
Other outcomes			
Regained consciousness after ingesting DWDA medications ¹³	0	6	6

Oregon Public Health Division

Characteristics	2014 (N=105)	1998-2013 (N=754)	Total (N=859)
Timing of DWDA event			
Duration (weeks) of patient-physician relationship¹⁴			
Median	19	12	13
Range	1-1312	0-1905	0-1905
Number of patients with information available	105	752	857
Number of patients with information unknown	0	2	2
Duration (days) between 1st request and death			
Median	43	48	47
Range	15-439	15-1009	15-1009
Number of patients with information available	105	754	859
Number of patients with information unknown	0	0	0
Minutes between ingestion and unconsciousness^{11, 12}			
Median	5	5	5
Range	2-15	1-38	1-38
Number of patients with information available	20	487	507
Number of patients with information unknown	85	267	352
Minutes between ingestion and death^{11, 12}			
Median	27	25	25
Range (minutes - hours)	11mins-1hr	1min-104hrs	1min-104hrs
Number of patients with information available	20	492	512
Number of patients with information unknown	85	262	347

¹ Unknowns are excluded when calculating percentages.

² Includes Oregon Registered Domestic Partnerships.

³ Clackamas, Multnomah, and Washington counties.

⁴ Includes patients that were enrolled in hospice at the time the prescription was written or at time of death.

⁵ Private insurance category includes those with private insurance alone or in combination with other insurance.

⁶ Includes deaths due to benign and uncertain neoplasms, other respiratory diseases, diseases of the nervous system (including multiple sclerosis, Parkinson's disease and Huntington's disease), musculoskeletal and connective tissue diseases, cerebrovascular disease, other vascular diseases, diabetes mellitus, gastrointestinal diseases, and liver disease.

⁷ First recorded beginning in 2001. Since then, 37 patients (4.7%) have chosen not to inform their families, and 16 patients (2.0%) have had no family to inform. There was one unknown case in 2002, two in 2005, one in 2009, and 3 in 2013.

⁸ Other includes combinations of secobarbital, pentobarbital, phenobarbital, and/or morphine.

⁹ Affirmative answers only ("Don't know" included in negative answers). Categories are not mutually exclusive. Data unavailable for four patients in 2001.

¹⁰ First asked in 2003. Data available for all 105 patients in 2014, 625 patients between 1998-2013, and 730 patients for all years.

¹¹ The data shown are for 2001-2014 since information about the presence of a health care provider/volunteer, in the absence of the prescribing physician, was first collected in 2001.

¹² A procedure revision was made mid-year in 2010 to standardize reporting on the follow-up questionnaire. The new procedure accepts information about time of death and circumstances surrounding death only when the physician or another health care provider is present at the time of death. This resulted in a larger number of unknowns beginning in 2010.

¹³ There have been a total of six patients who regained consciousness after ingesting prescribed lethal medications. These patients are not included in the total number of DWDA deaths. These deaths occurred in 2005 (1 death), 2010 (2 deaths), 2011 (2 deaths) and 2012 (1 death). Please refer to the appropriate years' annual reports on our website (<http://www.healthoregon.org/dwd>) for more detail on these deaths.

¹⁴ Previous reports listed 20 records missing the date care began with the attending physician. Further research with these cases has reduced the number of unknowns.

ORIGINAL ARTICLES

Oregon hospice nurses and social workers' assessment of physician progress in palliative care over the past 5 years

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ABSTRACT

Background: The 1997 enactment of the Oregon Death with Dignity Act intensified interest in improving physician education and skills in caring for patients at the end of life.

Objective: To obtain hospice nurse and social workers' collateral ratings of efforts made by Oregon physicians to improve their palliative care skills over the previous 5 years.

Design: A descriptive survey of nurses and social workers from all 50 Oregon outpatient hospice agencies.

Measurement and Results: Oregon hospice nurse ($N = 185$) and social worker ($N = 52$) respondents, who had worked in hospice for at least 5 years, rated changes they observed over the past 5 years in physicians' approach to caring for their hospice clients. Six characteristics, including willingness to refer patients to hospice, willingness to prescribe sufficient pain medications, knowledge about using pain medications in hospice patients, interest in caring for hospice patients, competence in caring for hospice patients, and fearfulness of prescribing sufficient opioid medications were evaluated. Positive changes were endorsed by the majority of respondents on all but the scale measuring fearfulness of prescribing opioid medications; on the latter, 47% of nurses rated doctors as less fearful, whereas 53% rated them as about the same or more fearful than they were 5 years earlier.

Conclusions: Most respondents rated Oregon physicians as showing improvements in knowledge and willingness to refer and care for hospice patients.

KEYWORDS: Hospice, Palliative, Nurses, Physicians, Pain

INTRODUCTION

The state of Oregon enacted the Death with Dignity Act (ODDA) in 1997, legalizing physician-assisted

suicide (PAS) for terminally ill patients. In the context of numerous ongoing initiatives to improve education and delivery of palliative care nationwide (Tolle & Tilden, 2002), the availability of this option has stirred continued debate and required adjustments among physicians and hospice practitioners who serve as the nexus to patients at the end of life. At the same time, there have been concerns that

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actions by the Drug Enforcement Agency would have a chilling effect on physician willingness to prescribe adequate amounts of narcotic analgesics for fear of being accused of performing euthanasia. A recent survey (Ganzini *et al.*, 2001) completed by over 2,600 Oregon physicians suggests that these health care providers have attempted to improve their ability to care for patients at the end of life since the passage of the Oregon law. Thirty percent of Oregon physicians reported they had increased their referrals to hospice and three quarters had made efforts to improve their knowledge about pain medications since passage of the Act, somewhat allaying earlier published concerns that legalization of PAS would erode efforts to improve palliative care at the end of life (Drane, 1995; Foley, 1997; Sobel & Layton, 1997; Faber-Langendoen, 1998; Hendin *et al.*, 1998). The positive clinician self-appraisals were not confirmed by any tests of physician knowledge or skill in end-of-life care.

Oregon hospice nurses and social workers, who work routinely with their patients' physicians, offer a separate source of appraisal of these purported changes in medical care provided by physicians over the past 5 years. We report the results of a survey of Oregon hospice nurses and social workers conducted in 2001, in which respondents provided their impressions of changes over the last 5 years made by their physician colleagues who care for hospice patients.

METHODS

The data were embedded in a survey of Oregon hospice nurses' and social workers' views on assisted suicide. The methods of this study are described in detail elsewhere (Ganzini *et al.*, 2002). Between July and September of 2001, surveys were mailed to all nurses and social workers employed by all 50 hospices in Oregon, and an additional 2 out-of-state agencies that served clients within Oregon. Hospices supplied either the names of all eligible employees (554 total) or arranged to deliver surveys to eligible employees who wished to remain anonymous (19 total). Each potential respondent received a copy of the survey with a \$10.00 check (or an offer of \$10.00 to those who remained anonymous). Complete anonymity for all participants was assured by the study protocol; the surveys themselves contained no identifying information and all returned surveys were separated from the envelope upon receipt and assigned a new identification number. Envelopes were tracked separately solely for follow-up purposes. Follow-up included a reminder postcard, a second copy of the survey, and a personalized reminder letter. This study was re-

viewed by the institutional review board at the Portland VA Medical Center and exempted from the requirement for obtaining informed consent because the survey was anonymous.

The survey collected basic demographic information about each respondent. Respondents ranked their support for or opposition to ODDA on a five-point scale ranging from "strongly support," to "neither support nor oppose," to "strongly oppose." Hospice nurses and social workers were also asked to provide their "overall impressions" about how the Oregon physicians who serve as primary providers for their hospice patients have changed over the last 5 years. The respondents provided ratings on six characteristics including: willingness to refer patients to hospice, willingness to prescribe sufficient pain medications, knowledge about using pain medications in hospice patients, interest in caring for hospice patients, competence in caring for hospice patients, and fearfulness of prescribing sufficient opioid medications. Respondents rated change on a seven-point scale ranging from 1 (much less) to 7 (much more) with a midpoint of 4 (about the same).

Categorical data are described with frequencies and proportions. The hospice workers' ratings of physician attributes on an ordinal seven-point scale were collapsed to less, about the same, and more, and are presented as frequencies and proportions. Correlations were calculated with the Spearman correlation coefficient.

RESULTS

Of 573 names submitted by Oregon hospices, 28 were eliminated because they no longer worked in an eligible organization or they did not care for Oregon patients. Surveys were returned by 397 (73%) of the remaining 545 possible respondents. Individual hospices were represented at rates ranging from 25% to 100%. Of 429 eligible nurses, 307 (72%) returned surveys, as did 90 (78%) of 116 eligible social workers (this category included 7 other licensed counselors). Because the questions focused on perceptions of change over a 5-year period, those professionals who worked in hospice 4 years or less were excluded. This final group was comprised of 237 hospice professionals including 185 nurses and 52 social workers.

Hospice nurses and social workers are typically concerned with different aspects of hospice care. However, because there was no statistically significant difference in their views of physician improvement, the responses of the two groups were combined. Hospice professionals generally characterized Oregon physicians as having more interest

and greater competence in caring for hospice patients than they had 5 years earlier (Fig. 1); 67% of respondents ranked physicians as more interested in caring for hospice patients, whereas 5% viewed them as less interested; and 66% viewed physicians as more competent in their care of hospice patients, whereas only 4% rated them as less competent. Seventy-seven percent said physicians were more willing to refer to hospice whereas only 3% of professionals assessed physicians as less willing to refer to hospice over the previous 5 years. Eighty-three percent of Oregon hospice nurses and social workers described their physician colleagues as more willing to prescribe sufficient pain medications for hospice patients relative to 5 years earlier and 76% viewed Oregon physicians as more knowledgeable about using pain medications in hospice patients. When asked whether Oregon physicians had changed over the last 5 years in their fearfulness of prescribing sufficient opioid medications, 47% of the respondents indicated that they viewed physicians as less fearful today. However, 26% of the respondents marked that they viewed physicians as less fearful today. However, 26% of the respondents marked that they viewed physicians as more fearful today.

Overall, 51% supported or strongly supported the ODDA, 14% neither supported nor opposed the Act, and 34% opposed the ODDA (Table 1). Factors such as the population size of the hospice catchment area or individual ratings of support or opposition to the ODDA were not associated with differences in ratings of physicians' performance.

DISCUSSION

The initial 1994 voter approval and enactment of the ODDA in 1997 led to speculation that the option of PAS would erode efforts to encourage physicians to learn about and to improve palliative interventions for terminally ill patients (Drane, 1995; Foley, 1997; Sobel & Layton, 1997; Faber-Langendoen, 1998; Hendin et al., 1998). In 1999, Oregon physicians as a majority described themselves as having improved their knowledge about palliative care and the use of pain medications since passage of the act, and they endorsed feeling more confident about prescribing pain medications (Ganzini et al., 2001). These findings were especially important given that provision of comfort care interventions such as these has been significantly associated with patients changing their minds about assisted suicide (Ganzini et al., 2000). Physicians, however, may not be the best sole judges of their own progress, and their actual skill and knowledge in end-of-life care was not assessed. Hospice organizations provide support to approximately 37% of those who die in Oregon (Ann Jackson, Oregon Hospice Association, pers. commun.), and 83% of those who have chosen physician-assisted suicide have been enrolled in hospice. In some Oregon hospices, the hospice medical director cares for enrolled patients, but for the majority of hospice patients, their own primary care provider continues to care for them throughout the hospice course. The nurses and social workers

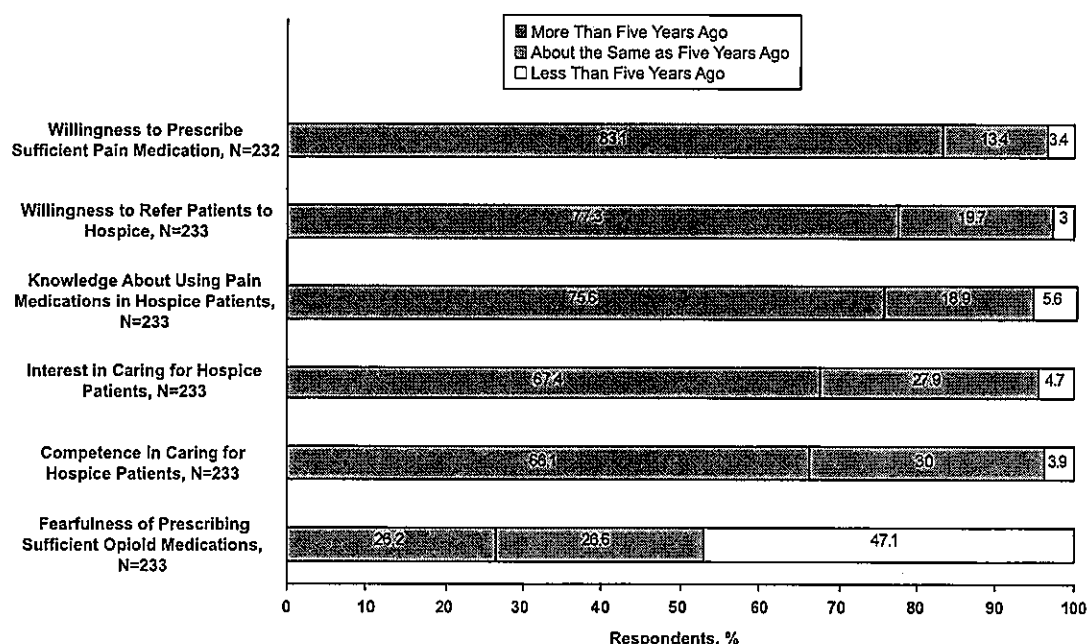


Fig. 1. Hospice workers' views of how Oregon physicians have changed over the last 5 years.

Table 1. Characteristics of Oregon nurses and social workers who worked in hospice for more than 4 years

Characteristic	Nurse respondents (N = 185)	Social worker respondents (N = 52)	P value
Age, mean (SD)	50 (9)	49 (8)	0.74
Sex			<0.001
Male	7 (4)	18 (27)	
Female	177 (96)	38 (73)	
Missing	1	0	
Population of hospice service area			0.83
Less than 25,000 (rural)	78(42)	17 (33)	
25,000–250,000 (medium town)	63(34)	19 (37)	
Greater than 250,000 (large urban)	42(23)	12 (23)	
Missing	2	4	
Attitude toward the Oregon Death with Dignity Act			0.02
Strongly support	35(19)	20 (39)	
Support	51(28)	15 (29)	
Neither support nor oppose	28(15)	6 (12)	
Oppose	30(16)	6 (12)	
Strongly oppose	41(22)	4(8+)	
Missing		1	

Values are number (percentage) unless otherwise indicated.

of Oregon hospice organizations are in a unique position to independently evaluate the strides made by their physician colleagues over the past 5 years.

In this study, the majority of Oregon hospice workers reported their opinion that physicians had made positive strides towards improving their ability to care for hospice patients. Three quarters of respondents positively rated physician progress in learning about pain medications; the same self-appraisal was endorsed by 76% of the physician respondents on the earlier study. Hospice workers also rated physicians as showing gains in their willingness to refer and care for hospice patients, and viewed them as increasingly competent in caring for their hospice patients over the past 5 years. Similarly, only 3% of Oregon physicians reported that they had made fewer referrals to hospice in the span between 1994 and 1999; 30% reported they had increased the number of hospice referrals. In Oregon, the number of patients who died in hospice care increased from 22% in 1994 (the year the ODDA passed) to 37% in 2002.

Taken together, these views offer further support for the encouraging conclusion that palliative care in Oregon has improved in the span from 1997 to 2001 when our survey was conducted. Our data do not allow attribution of this positive change directly to the ODDA. Nationwide there have been extensive efforts to improve end-of-life care, and there are no data that allow us to compare progress made by physicians in other states. Since passage of the

ODDA, however, many attempts have been made to improve palliative care. Educators at Oregon Health & Science University enhanced the medical school curriculum in end-of-life care beginning in 1995 (Lee & Tolle, 1996). Palliative care teams have been instituted at hospitals, conferences throughout the state have centered on end-of-life care, and efforts are underway to identify and remove barriers to hospice access (Tolle et al., 2000).

These findings were consistent across variables that theoretically might have influenced the opinions expressed. For example, hospice professionals endorsed improvements in physician willingness to refer to hospice uniformly across rural, medium city, and large urban settings, even though it may be more difficult to negotiate hospice referrals in sparsely populated regions and physicians in these areas may lack opportunities for education about end-of-life care. Support for or opposition to the ODDA did not have significant influence on nurses or social workers' overall positive appraisals of progress made by physicians over the last 5 years.

The prescribing of opioid pain medications poses a precarious balancing act for Oregon physicians. On the one hand, there have been extensive efforts to overcome physician resistance to treating pain in terminally ill patients. The Oregon Board of Medical Examiners (www.bme.state.or.us) has sanctioned a physician who consistently failed to adequately treat pain. On the other hand, physicians face questions from their state licensing board for opioid

treatment that may result in a hastened death. Moreover, some may feel that the ODDA has resulted in increased scrutiny of their prescribing practices. The United States Department of Justice is actively pursuing efforts to overturn the ODDA and to punish physicians who prescribe lethal medications with the intent to hasten death. Physicians may anticipate being second-guessed as to their intentions. To some degree, this ambivalence is reflected in hospice professionals' rating of physician changes over the past 5 years regarding their fearfulness of prescribing sufficient opioid medications. While 47% of hospice workers rated physicians as "much less" to "a little less" fearful of prescribing opioids to sufficiently control pain, 27% ranked them as "about the same" as 5 years ago, and 26% ranked physicians as more fearful. Interestingly, physicians appear to remain fearful of consequences related to their prescribing practices, and yet they are providing better care despite their fears. A recent rating of end-of-life care in all 50 states by Last Acts (2002) advocates for more explicit state guidelines to address undertreatment of pain. In Oregon, there is currently no statewide policy on pain management. Given that adequate palliative care presents a critical alternative to physician-assisted suicide, these results suggest that physicians may continue to need clearly delineated guidelines and legal safeguards that prioritize pain management in order to prescribe for pain control with confidence.

There are several limitations to this study. We did not precede this survey with qualitative studies. As such, we may not have included items of importance that would have emerged in qualitative interviews. Not all hospice workers responded to this survey, and not all who responded completed every question. These data represent hospice workers' impressions, and the precision and validity of these impressions cannot be verified. As previously noted, across the United States similar efforts are being made to improve physician abilities to care for patients at the end of life. Because we did not survey hospice professionals in states other than Oregon, we cannot determine whether our findings are specific to Oregon or representative of secular changes across the nation.

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REFERENCES

- Drane, J.F. (1995). Physician assisted suicide & voluntary active euthanasia: Social ethics and the role of hospice. *The American Journal of Hospice & Palliative Care*, 12, 3-11.
- Faber-Langendoen, K. (1998). Death by request: Assisted suicide and the oncologist. *Cancer*, 82, 35-41.
- Foley, K.M. (1997). Competent care for the dying instead of physician-assisted suicide. *The New England Journal of Medicine*, 336, 54-58.
- Ganzini, L., Harvath, T.A., Jackson, A., et al. (2002). Experiences of Oregon nurses and social workers with hospice patients who requested assistance with suicide. *New England Journal of Medicine*, 347, 582-588.
- Ganzini, L., Nelson, H.D., Lee, M.A., et al. (2001). Oregon physicians' attitudes about and experiences with end-of-life care since passage of the Oregon Death with Dignity Act. *Journal of the American Medical Association*, 285, 2363-2369.
- Ganzini, L., Nelson, H.D., Schmidt, T.A., et al. (2000). Physicians' experiences with the Oregon Death with Dignity Act. *New England Journal of Medicine*, 342, 557-563.
- Hendin, H., Foley, K., & White, M. (1998). Physician-assisted suicide: Reflections on Oregon's first case. *Issues in Law and Medicine*, 14, 243-270.
- Last Acts. (2002). Means to a better end: A report on dying in America today. www.lastacts.org/files/misc/meansfull.pdf. Washington, D.C.
- Lee, M.A. & Tolle, S.W. (1996). Oregon's assisted suicide vote: The silver lining. *Annals of Internal Medicine*, 124, 267-269.
- Sobel, R.M. & Layton, A.J. (1997). Physician assisted suicide: Compassionate care or brave new world? *Archives of Internal Medicine*, 157, 1638-1640.
- Tolle, S.W. & Tilden, V.P. (2002). Changing end-of-life planning: The Oregon experience. *Journal of Palliative Medicine*, 5, 311-317.
- Tolle, S.W., Tilden, V.P., Rosenfeld, A.G., et al. (2000). Family reports of barriers to optimal care of the dying. *Nurse Researcher*, 49, 310-317.

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Oregon Physicians' Attitudes About and Experiences With End-of-Life Care Since Passage of the Oregon Death with Dignity Act

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Oregon Physicians' Attitudes About and Experiences With End-of-Life Care Since Passage of the Oregon Death with Dignity Act

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THE OREGON DEATH WITH DIGNITY Act was passed by ballot measure in 1994, and enacted in October 1997.¹ This measure legalized physician-assisted suicide by allowing a physician to prescribe a lethal dose of medication for a mentally competent, terminally ill patient for the purpose of self-administration. Experts predicted that legalized assisted suicide would divert attention and resources from efforts to improve care for dying patients.²⁻⁵ Several lines of evidence, however, support the contention that care for terminally ill patients in Oregon has improved since the passage of the Death with Dignity Act. For example, more than one third of Oregonians who die are enrolled in a hospice program and two thirds have completed an advance directive before death.^{6,7} Since legalization, death from physician assisted suicide has been rare,^{8,9} but little is known about the broader effects of the Death with Dignity Act on clinical practice or the perspectives of Oregon physicians on care of the dying.

In 1999, we surveyed all Oregon physicians who were eligible to prescribe under the Death with Dignity Act. Based on responses of 144 physicians (5% of

Context The Oregon Death with Dignity Act, passed by ballot measure in 1994 and enacted in October 1997, legalized physician-assisted suicide for competent, terminally ill Oregonians, but little is known about the effects of the act on clinical practice or physician perspective.

Objective To examine Oregon physicians' attitudes toward and practices regarding care of dying patients since the passage of the Death with Dignity Act.

Design, Setting, and Participants A self-administered questionnaire was mailed in February 1999 to Oregon physicians eligible to prescribe under the act. Of 3981 eligible physicians, 2641 (66%) returned the questionnaire by August 1999.

Main Outcome Measures Physicians' reports of their efforts to improve care for dying patients since 1994, their attitudes, concerns, and sources of information about participating in the Death with Dignity Act, and their conversations with patients regarding assisted suicide.

Results A total of 791 respondents (30%) reported that they had increased referrals to hospice. Of the 2094 respondents who cared for terminally ill patients, 76% reported that they made efforts to improve their knowledge of the use of pain medications in the terminally ill. Nine hundred forty-nine responding physicians (36%) had been asked by a patient if they were potentially willing to prescribe a lethal medication. Seven percent of all survey participants reported that 1 or more patients became upset after learning the physician's position on assisted suicide, and 2% reported that 1 or more patients left their care after learning the physician's position on assisted suicide. Of the 73 physicians who were willing to write a lethal prescription and who had received a request from a patient, 20 (27%) were not confident they could determine when a patient had less than 6 months to live.

Conclusion Most Oregon physicians who care for terminally ill patients report that since 1994 they have made efforts to improve their ability to care for these patients and many have had conversations with patients about assisted suicide.

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respondents) who had received a request for physician-assisted suicide, we published information on the characteristics and outcomes of requesting patients and the interventions made by physicians other than assisted suicide.⁸ These data indicated that 1 in 10 requests for a lethal prescription resulted in assisted suicide. Physicians reported that as a result of palliative in-

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END-OF-LIFE CARE IN OREGON

Table 1. Characteristics of Responding Physicians*

Characteristic	Respondents (N = 2641)
Age, mean (SD), y†	48 (10)
Sex	
Men	2027 (77)
Women	549 (21)
Missing	65 (2)
Importance of religion, mean (SD)‡	6.3 (3.6)
Religious affiliation	
Catholic	386 (15)
Protestant	1028 (39)
Jewish	186 (7)
Muslim	10 (<1)
Other	203 (8)
None	795 (30)
Missing	30 (1)
Practice setting§	
Private or group practice	2062 (78)
Health maintenance organization	262 (10)
Medical school	184 (7)
Veterans Affairs	70 (3)
Other	204 (8)
Primary specialty	
Internal medicine	954 (36)
Family practice	669 (25)
General surgery or surgical subspecialty	560 (21)
General practice	79 (3)
Gynecology	240 (9)
Neurology	81 (3)
Radiation oncology	28 (1)
Other	21 (1)
Missing	9 (<1)
Size of population in practice location	
Rural or small town (population <25 000)	592 (22)
Medium-sized city (population 25 000-250 000)	865 (33)
Large city (population >250 000) or suburb	1161 (44)
Missing	23 (1)

*Values are expressed as number (percentage) unless otherwise indicated.

†For comparison of respondents vs nonrespondents (47 [10] years), $P = .001$.

‡Measured using a Likert scale with scores ranging from 0 (religion not important to me) to 10 (religion is important to me).

§Some physicians chose more than 1 practice setting.

||For comparison of respondents vs nonrespondents (538 [40%]), $P = .03$. "Other" category excluded from analysis because this was not an option for nonrespondents.

interventions, some patients changed their minds about assisted suicide.

This article is based on information submitted by the Oregon physicians who responded to our survey. We report these physicians' attitudes toward the Death with Dignity Act and caring for dying patients, their efforts to improve their ability to care for dying patients, their attitudes, concerns, and sources of information about writing lethal prescriptions, and their discussions and ex-

periences with patients regarding assisted suicide. We compare the characteristics of physicians who received requests for a lethal prescription with those who did not.

METHODS

This study is based on the results of a mailed, self-administered survey. The methods of this study have been previously described.⁸ We purchased a list of all licensed physicians from the Oregon Board of Medical Examiners. For the purposes of this study, we included physicians actively practicing in the fields of internal medicine and its subspecialties, family practice, general practice, gynecology, surgery and its subspecialties, radiation oncology, and neurology. We excluded physicians in training and retired physicians.

The survey instrument was developed after reviewing previous surveys on this issue, having discussions with experts in care of the dying, and soliciting information from Oregon physicians who had received requests for assisted suicide. Survey questions were refined following pretesting with a convenience sample of 20 physicians. All questions had forced-choice answers. The survey included demographic characteristics of the physicians, their attitudes toward caring for dying patients, the degree to which they had sought to improve their knowledge about care of dying patients since 1994, and their perceptions about hospice care in Oregon. Survey questions elicited information about physicians' attitudes toward the Death with Dignity Act, their willingness to prescribe lethal medications consistent with the law, their concerns about participating in the Death with Dignity Act, their sources of information about this law, and their conversations with patients about assisted suicide.

We mailed the survey in February 1999, a reminder postcard 2 weeks later, and a second copy of the survey in March 1999, which was coordinated with a fax or a telephone call. In May 1999, after 47% of the sample had responded, we sent a third copy of the

survey with a check for \$25 and a letter of endorsement from the Governor of Oregon, John Kitzhaber, MD. Surveys were accepted through August 1999. The survey was anonymous and exempted from the requirement for informed consent by the institutional review board at Oregon Health Sciences University. To allow tracking of the questionnaires, returned envelopes were coded with an identifying number. The survey was separated from the identifying envelope on receipt and re-coded to render it anonymous. Surveys that were at least two-thirds complete were scanned into an electronic database.

Data Analyses

Summary statistics included proportions for categorical variables and means with SDs for continuous variables. Associations between categorical variables were assessed with the Pearson χ^2 test. We fit logistic regression models to predict the probability that a physician received a request for a lethal prescription. We used 2 different variable selection schemes: stepwise variable selection and best possible model (as evaluated by the score statistic) among k variable models with k starting at 1 and increasing. The latter procedure was used as a check to ensure the stepwise procedure did not miss a better model. Regression analyses were run using SAS Version 7.0 (SAS Institute Inc, Cary, NC) and summary statistics were determined using SPSS Version 9.0 (SPSS Inc, Chicago, Ill).

RESULTS

Of 4544 physicians on the list from the Oregon Board of Medical Examiners, 212 were in training, 343 were retired or not in practice, and 8 were deceased. Of the remaining 3981, 2641 (66%) returned a survey that was at least two-thirds complete. TABLE 1 outlines the characteristics of the respondents. Seventy-seven percent of responding physicians were men, 61% practiced internal medicine or family practice, and 22% practiced in a town with a population of less than 25 000.

Physicians who returned their survey after the third request (with accompanying \$25.00 incentive) were more likely to "neither support nor oppose" the Death with Dignity Act and less likely to "support" the act ($P=.003$); and more likely to indicate they were "unwilling" to write a lethal prescription compared with respondents "willing" to write a lethal prescription ($P=.003$). Otherwise, these 2 groups did not differ on specialty, population of practice, or number of terminally ill patients cared for in the previous year (data not shown).

Oregon Physicians' Attitudes Toward and Efforts to Improve Care of Dying Patients

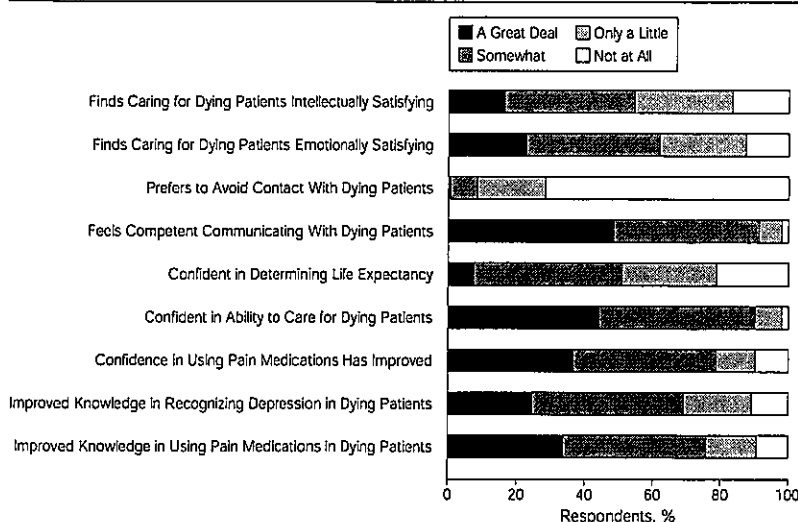
In the previous year, 4 of 5 respondents had cared for at least 1 terminally ill patient, more than one third had cared for 6 or more terminally ill patients, and 8% had cared for 21 or more terminally ill patients (TABLE 2). Thirty-five percent of physicians (74/213) who cared for 21 or more terminally ill patients per year practiced in the specialties of oncology, radiation oncology, pulmonology, or geriatrics. Twenty-seven percent of all respondents had referred 6 or more patients to hospice in the previous 12 months. Thirty percent of respondents reported that they had increased the number of patients they referred to hospice since 1994, while only 72 (3%) had made fewer hospice referrals. Thirty-three percent of responding physicians perceived that the availability of hospice for their patients had increased since 1994, while less than 1% claimed that hospice was less available.

A high proportion of physicians reported they had made efforts to improve their knowledge of palliative care since 1994 (FIGURE 1). Among the 2094 physicians who cared for at least 1 terminally ill patient in the previous year, 76% reported that they had made efforts to improve their knowledge of the use of pain medications in the terminally ill "somewhat" or "a great deal," 69% reported that they sought to improve their recognition of psychiatric

Table 2. Views of Oregon Physicians on Hospice Care and the Oregon Death with Dignity Act

Characteristics	No. (%) of Respondents (N = 2641)
Terminally ill patients cared for in previous 12 mo	
0	530 (20)
1-5	1144 (43)
6-20	739 (28)
≥21	213 (8)
Missing	15 (1)
Patients referred to hospice in previous 12 mo	
0	730 (28)
1-5	1193 (45)
6-20	619 (23)
≥21	88 (3)
Missing	11 (<1)
Hospice referrals in 1998 compared with 1994	
Much higher	114 (4)
Somewhat higher	677 (26)
No change	1649 (62)
Somewhat lower	37 (1)
Much lower	35 (1)
Missing	129 (5)
Change in availability of hospice service for patients between 1994 and 1998	
Much more available	230 (9)
Somewhat more available	634 (24)
No change	1655 (63)
Somewhat less available	16 (1)
Much less available	3 (<1)
Missing	103 (4)
Writing a lethal prescription is immoral or unethical	
Agree	784 (30)
Neither agree nor disagree	291 (11)
Disagree	1550 (59)
Missing	16 (1)
Attitudes toward Death with Dignity Act or legalization of physician-assisted suicide	
Strongly support	576 (22)
Support	773 (29)
Neither support nor oppose	449 (17)
Oppose	408 (15)
Strongly oppose	424 (16)
Missing	11 (<1)
Change in position on Death with Dignity Act since 1994	
More supportive	346 (13)
No change	2108 (80)
More opposed	174 (7)
Missing	13 (<1)
Willingness to prescribe a lethal medication consistent with the Death with Dignity Act	
Willing	886 (34)
Uncertain	524 (20)
Unwilling	1217 (46)
Missing	14 (1)
Change in willingness to prescribe consistent with the Death with Dignity Act since 1994	
More willing	373 (14)
No change	2044 (77)
Less willing	201 (8)
Missing	23 (1)

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Figure 1. Attitudes and Confidence in Care of Dying Patients

Responses of 2094 Oregon physicians who cared for at least 1 terminally ill patient in previous year.

disorders, such as depression, and 79% reported that their confidence in the prescribing of pain medications had improved.

Physicians who had cared for 1 or more dying patients in the previous year were asked about their attitudes toward care of dying patients (Figure 1). In general, these physicians were confident in the care of dying patients, felt competent in communicating with dying patients, and reported that they rarely avoided dying patients. However, 38% reported they found caring for dying patients "not at all" or "only a little" emotionally satisfying, and 46% reported that this type of work was "not at all" or "only a little" intellectually satisfying.

Oregon Physicians' Views on the Oregon Death with Dignity Act

Thirty percent of all physician respondents agreed with a statement that writing a lethal prescription for a patient under the Death with Dignity Act was immoral and/or unethical, 59% disagreed, and 11% neither disagreed nor agreed (Table 2). A total of 1349 respondents (51%) supported the Death with Dignity Act, 832 (32%) opposed it, and 449 (17%) neither supported nor opposed the law.

Four out of 5 claimed they had not changed their views on the law since it passed in 1994. For those who did change their view, almost twice as many reported that they had become more supportive (13%) than more opposed (7%). Fourteen percent of physicians reported that they had become more willing to prescribe a lethal medication since 1994, but 8% were less willing. Overall, one third of respondents were willing to write a lethal prescription under the law, 20% were uncertain, and 46% were unwilling. Fifty-three percent of respondents would consider obtaining a physician's assistance to end their own lives if terminally ill, including 88% of those who were willing to prescribe a lethal medication for a patient.

Effect of the Oregon Death with Dignity Act on Physicians' Clinical Practice

Ninety-one percent of respondents were "somewhat" or "a great deal" comfortable discussing their opinion of the Death with Dignity Act with a patient who would ask. Only 18% of physicians agreed with the statement that "since the Death with Dignity Act was

enacted, some patients expect me to be available to provide a lethal prescription." One or more patients had asked 949 respondents (36%) if they would potentially be willing to prescribe a lethal medication (TABLE 3), including 54% of physicians (513/952) who had cared for 6 or more terminally ill patients in the previous year.

Overall, 21% of physicians reported that at least 1 patient was more positive or comfortable about the physician's care after knowing the physician's position on the Death with Dignity Act. Twenty-eight percent of physicians who were opposed to the law reported that at least 1 patient in their care was more positive knowing the physician's position on the Death with Dignity Act, compared with 21% of physicians who supported the law and 10% who neither supported nor opposed the law ($P < .001$). Since the Death with Dignity Act was enacted, at least 1 patient in 7% of physicians' practices became upset or concerned because of the physician's position on physician-assisted suicide; 2% of physicians reported that a patient left their care after knowing the physician's position (Table 3). More than twice as many physicians who opposed the Death with Dignity Act reported that a patient was concerned or upset or left the physician's practice because of the physician's view on assisted suicide, compared with physicians who supported the Death with Dignity Act. Six percent of physicians had initiated a discussion about physician-assisted suicide with a terminally ill patient, including 10% of physicians who opposed the law and 6% of physicians who supported the law.

Characteristics of Physicians Who Received Requests for Assisted Suicide

Since November 1997, 144 physicians (5%) had received an explicit request for a lethal prescription as set forth in the Death with Dignity Act.⁸ Logistic regression analyses were performed to model characteristics predictive of physicians

who received a request (TABLE 4). Variables considered in the model included physician sex, specialty, population of practice, number of terminally ill patients cared for in previous year, willingness to prescribe a lethal prescription, attitudes toward care of dying patients, confidence in the use of pain medications, and degrees of improvement in knowledge of pain or psychiatric medications in terminally ill patients since 1994. The 2 variable selection schemes yielded the same "best" model. Each ordinal increase in number of terminally ill patients cared for in the previous year resulted in an increased likelihood of receiving a request for a lethal prescription such that physicians who cared for 21 or more terminally ill patients per year were 29 times more likely to receive a request than physicians who cared for no terminally ill patients in the previous year. Other significant predictors included willingness to write a prescription, finding care of the dying patient intellectually satisfying, and having sought to improve knowledge of pain medications since 1994.

Sources of Information and Physician Concerns About the Death with Dignity Act

Among the 1841 physicians who were not morally opposed to writing a lethal prescription, 58% were at least "a little" concerned about being labeled a "Kevorkian" if they wrote a lethal prescription, 82% were concerned that writing a lethal prescription might violate federal Drug Enforcement Agency law, and 65% were concerned that their hospital might sanction them (FIGURE 2). The Death with Dignity Act allows hospital systems to forbid writing prescriptions under the act on their premises or by physicians they directly employ. Eighteen percent of respondents practiced in a hospital system that has a policy forbidding prescription of lethal medications in accordance with the Death with Dignity Act.

Among the 886 physicians who were willing to prescribe, 23% had received information from a guidebook produced

Table 3. Oregon Physicians' Conversations With Patients About Assisted Suicide

	Physicians' Attitude Toward the Death with Dignity Act, No. (%)				P Value
	Overall (N = 2641)	Support	Neither Support nor Oppose	Oppose	
Since November 1997, physician asked by patient if potentially willing to prescribe lethal medication					
No patients	1684 (64)	855 (64)	316 (71)	505 (61)	.01
1-2 patients	621 (24)	317 (24)	78 (17)	224 (27)	
≥3 patients	328 (12)	173 (13)	54 (12)	100 (12)	
Missing	8 (<1)				
Physician reported patient concerned or upset about physician's position on assisted suicide					
No patients	2444 (93)	1279 (96)	419 (94)	735 (89)	<.001
≥1 patient	180 (7)	60 (4)	28 (6)	92 (11)	
Missing	17 (1)				
Physician reported patient left care because of physician's position on assisted suicide					
No patients	2566 (97)	1320 (99)	439 (98)	796 (96)	.007
≥1 patient	58 (2)	19 (1)	7 (2)	32 (4)	
Missing	17 (1)				
Physician reported patient felt more positive about care after knowing physician's position					
No patients	2057 (78)	1058 (79)	398 (89)	592 (72)	<.001
1-2 patients	290 (11)	167 (13)	29 (6)	93 (11)	
≥3 patients	268 (10)	111 (8)	20 (4)	137 (17)	
Missing	26 (1)				
Physician initiated discussion of assisted suicide with terminally ill patient since November 1997					
No	2465 (93)	1268 (94)	440 (98)	747 (90)	<.001
Yes	166 (6)	76 (6)	9 (2)	81 (10)	
Missing	10 (<1)				

by the Oregon Health Sciences University Center on Ethics in Health Care entitled *The Oregon Death with Dignity Act: A Guidebook for Health Care Providers*, 21% had received information on the Death with Dignity Act from other physicians, 11% had received information from the Oregon Medical Association, 9% from a group that advocates for persons who elect assisted suicide, and 8% from experts or resource persons in their health care system. Fifty-five percent of all physicians who were willing to prescribe, including 15% (11/73) of willing physicians who had actually received a request, had not sought information about the law from any source. Twenty-seven percent of all will-

ing physicians, including 16% (12/73) of willing physicians who had received a request, were "not at all" or "only a little" confident about finding reliable information about what to prescribe for a lethal medication. Thirty-eight percent of willing physicians, including 27% (20/73) of willing physicians who had received a request, were "not at all" or "only a little" confident about their ability to determine when a patient has less than 6 months to live.

COMMENT

The passage of the Death with Dignity Act divided Oregon's medical community; however, both proponents and opponents of this law did agree that it un-

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underscored the need to improve care of the dying in Oregon. Many physicians who responded to the survey reported they had made efforts to improve their ability to care for terminally ill patients, were more likely to refer these patients to hospice, and believed that hospice is more accessible since passage of the Death with Dignity Act. In 1994, 22% of all deaths in Oregon occurred in persons enrolled in hospice; by 1999, the proportion had increased

to 35%. Despite the respondents' perception that hospice had become more available since 1995, the geographic range and capacity of community hospice increased only minimally between 1995 and 1999 (Ann Jackson, MBA, written communication, October 1, 2000). This suggests that physicians became more aware of already available services.

In 1999, assisted suicide was the cause of death in 9/10000 of Oregon deaths, and between 1997 and 1999, 5% of Oregon physicians received an explicit request for a prescription for a lethal medication.^{8,9} A much larger proportion of physicians discussed assisted suicide or the Death with Dignity Act with patients. Physicians perceived that more patients found these conversations helpful than upsetting, whether the physicians supported or opposed assisted suicide. In some cases, however, these conversations resulted in a rupture of the relationship, and these ruptures were more likely if the physician opposed assisted suicide. Oregon patients who feel strongly about the right to pursue assisted suicide may prefer to find a physician whose values match theirs early in the course of treatment to avoid having to do so at a later stage of illness. On the other hand, such disruptions may be unnecessary if the physician conveys empathy, respect, and understanding, and clarifies his/her willingness to refer the patient to another physician in a manner that does not communicate abandonment, should the desire for a lethal pre-

scription persist despite palliative care.

In general, patient queries and concerns about assisted suicide as well as explicit requests for lethal medications were especially common for physicians who cared for many terminally ill patients—each ordinal increase in the number of terminally ill patients cared for increased odds of receiving an explicit request for assistance in suicide between 2 and 7 times. Some commentators have expressed concern, and some studies have supported that requests for assisted suicide may occur in the context of poor care, including physician's negative attitudes about care of the dying, or lack of physician knowledge about alternatives to assisted suicide.¹⁰⁻¹⁹ Although our data cannot address all of these concerns, we did find that Oregon physicians who received requests rated themselves more intellectually satisfied by care of dying patients and more likely to have attempted to improve their knowledge of prescribing pain medication for the terminally ill than Oregon physicians who did not receive requests.

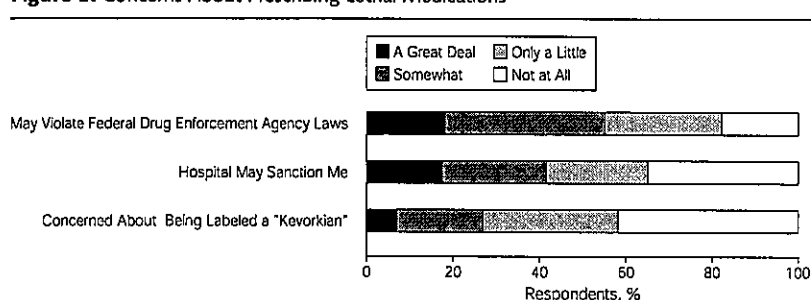
Other survey findings, however, are of concern. Among physicians who were willing to prescribe and who had received a request for a lethal prescription, 1 in 7 had not obtained information about the Death with Dignity Act from any 1 of several credible sources, 1 in 6 were not confident about finding reliable lethal prescribing information, and 1 in 4 were not confident in determining 6-month life expectancy. Patients who make requests of these physicians may receive a lethal prescription without the comprehensive evaluation currently recommended.²⁰ We previously demonstrated that palliative interventions were significantly associated with changes of mind about assisted suicide among dying patients in Oregon.⁸ These findings underscore that Oregon's extensive efforts at palliative care education must continue if patients are to obtain assisted suicide as only an option of last resort. It also reinforces the need for the second physician consultant (as required in the act) to have expertise in end-of-life care and the act.¹

Table 4. Predictors of Oregon Physicians Receiving an Explicit Request for Assisted Suicide Since Enactment of the Death with Dignity Act

	Adjusted Odds Ratio (95% Confidence Interval)*
Number of terminally ill patients physician cared for in previous years	
None	1.0
1-5	6.7 (1.6-27.9)
6-20	13.5 (3.3-55.4)
≥21	28.7 (6.7-122.6)
Physician finds caring for dying patients intellectually satisfying	
Not at all or only a little	1.0
Somewhat	1.8 (1.2-2.8)
A great deal	3.7 (2.3-6.0)
Physician sought to improve knowledge of pain medication in terminally ill	
Not at all or only a little	1.0
At least somewhat	1.7 (1.0-3.0)
Physician willingness to prescribe a lethal medication	
Unwilling or uncertain	1.0
Willing	2.1 (1.5-3.0)

*See the "Results" section for a list of adjusted variables.

Figure 2. Concerns About Prescribing Lethal Medications



Responses of 1841 Oregon physicians who are not morally opposed to physician-assisted suicide.

There are several limitations in our study. We did not measure actual physician skill in pain and symptom control. One study of oncologists revealed that the physicians' self-assessment of their palliative care skills appeared to exceed their practice as assessed by treatment scenarios (Ezekiel J. Emanuel, MD, PhD, written communication, October 17, 2000). Of concern, one study²¹ documents an increase in families' perceptions of pain among Oregon patients who died in acute care hospitals between 1997 and 1998. Respondents were slightly older and less likely to specialize in internal medicine than nonrespondents. Finally, it cannot be concluded that attempts by Oregon physicians to improve their ability to care for terminally ill patients is solely attributable to passage of the Death with Dignity Act. Nationally, there have been extensive efforts to improve physicians' competence in caring for dying patients. Whether the efforts of Oregon physicians differ from the efforts of physicians in other states is unknown, as no comparison is available. Our results are

more important in countering concerns that legalized assisted suicide would undermine attempts to enhance care for the dying.

Assisted suicide is legal only in the Netherlands and Oregon. Studies from Oregon offer a rare opportunity to examine changes in end-of-life care in the context of legalized assisted suicide. Overall, our findings reinforce that Oregon physicians have made care of the dying a focus for their own professional education since 1994 and are more likely to refer patients to hospice. Many physicians who care for terminally ill patients have had conversations with patients about this issue. Rarely are these conversations upsetting for the patient. A large proportion of physicians, despite not being morally opposed to assisted suicide, have practical concerns about participating in the Death with Dignity Act and only a minority are willing to provide a lethal prescription to a qualified patient. Some physicians who are willing to assist in legalized suicide may lack knowledge necessary to evaluate

patients' eligibility. On the other hand, requests are more likely to come to physicians who report that they care for many terminally ill patients, find their care intellectually satisfying, and have attempted to improve their knowledge of pain medications.

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Analysis and interpretation of data: Ganzini, Nelson, Lee, Kraemer, Schmidt.

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REFERENCES

1. Oregon Death with Dignity Act. Or Rev Stat §§127.800-127.897 (1994).
2. Singer PA, Siegler M. Euthanasia—a critique. *N Engl J Med*. 1990;322:1881-1883.
3. Caplan AL. Will assisted suicide kill hospice? *Hosp J*. 1997;12:17-24.
4. Bernat JL. The problem of physician-assisted suicide. *Semin Neurol*. 1997;17:271-279.
5. Faber-Langendoen K. Death by request: assisted suicide and the oncologist. *Cancer*. 1998;82:35-41.
6. Tolle SW. Care of the dying: clinical and financial lessons from the Oregon experience. *Ann Intern Med*. 1998;128:567-568.
7. Tolle SW, Rosenfeld AG, Tilden VP, Park Y. Oregon's low in-hospital death rates: what determines where people die and satisfaction with decisions on place of death? *Ann Intern Med*. 1999;130:681-685.
8. Ganzini L, Nelson HD, Schmidt TA, Kraemer DF, Delorit MA, Lee MA. Physicians' experiences with the Oregon Death with Dignity Act. *N Engl J Med*. 2000;342:557-563.
9. Sullivan AD, Hedberg K, Fleming DW. Legalized physician-assisted suicide in Oregon: the second year. *N Engl J Med*. 2000;342:598-604.
10. Emanuel EJ, Daniels E. Oregon's physician-assisted suicide law: provisions and problems. *Arch Intern Med*. 1996;156:825-829.
11. Portenoy RK, Coyle N, Kash KM, et al. Determinants of the willingness to endorse assisted suicide: a survey of physicians, nurses, and social workers. *Psychosomatics*. 1997;38:277-287.
12. Miles SH. Physicians and their patients' suicides. *JAMA*. 1994;271:1786-1788.
13. Kelly BJ, Varghese FT. Assisted suicide and euthanasia: what about the clinical issues? *Aust N Z J Psychiatry*. 1996;30:3-8.
14. Quill TE, Meier DE, Block SD, Billings JA. The debate over physician-assisted suicide: empirical data and convergent views. *Ann Intern Med*. 1998;128:552-558.
15. Muskin PR. The request to die: role for a psychodynamic perspective on physician-assisted suicide. *JAMA*. 1998;279:323-328.
16. Committee on Physician-Assisted Death of the American Association of Suicidology. Report of the Committee on Physician-Assisted Suicide and Euthanasia. *Suicide Life Threat Behav*. 1996;26(suppl):1-19.
17. Block SD, Billings JA. Patient requests for euthanasia and assisted suicide in terminal illness: the role of the psychiatrist. *Psychosomatics*. 1995;36:445-457.
18. Foley KM. The relationship of pain and symptom management to patient requests for physician-assisted suicide. *J Pain Symptom Manage*. 1991;6:289-297.
19. Alpers A, Lo B. Physician-assisted suicide in Oregon: a bold experiment. *JAMA*. 1995;274:483-487.
20. Haley K, Lee M, eds. Task Force to Improve the Care of Terminally-Ill Oregonians. *The Oregon Death With Dignity Act: A Guidebook for Health Care Providers*. Portland: Oregon Health Sciences University Press; 1998.
21. Tolle SW, Tilden VP, Hickman SE, Rosenfeld AG. Family reports of pain in dying hospitalized patients: a structured telephone survey. *West J Med*. 2000;172:374-377.

PHYSICIANS' EXPERIENCES WITH THE OREGON DEATH WITH DIGNITY ACT

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ABSTRACT

Background Physician-assisted suicide was legalized in Oregon in October 1997. There are data on patients who have received prescriptions for lethal medications and died after taking the medications. There is little information, however, on physicians' experiences with requests for assistance with suicide.

Methods Between February and August 1999, we mailed a questionnaire to physicians who were eligible to prescribe lethal medications under the Oregon Death with Dignity Act.

Results Of 4053 eligible physicians, 2649 (65 percent) returned the survey. Of the respondents, 144 (5 percent) had received a total of 221 requests for prescriptions for lethal medications since October 1997. We received information on the outcome in 165 patients (complete information for 143 patients and partial for an additional 22). The mean age of the patients was 68 years; 76 percent had an estimated life expectancy of less than six months. Thirty-five percent requested a prescription from another physician. Twenty-nine patients (18 percent) received prescriptions, and 17 (10 percent) died from taking the prescribed medication. Twenty percent of the patients had symptoms of depression; none of these patients received a prescription for a lethal medication. In the case of 68 patients, including 11 who received prescriptions and 8 who died by taking the prescribed medication, the physician implemented at least one substantive palliative intervention, such as control of pain or other symptoms, referral to a hospice program, a consultation, or a trial of antidepressant medication. Forty-six percent of the patients for whom substantive interventions were made changed their minds about assisted suicide, as compared with 15 percent of those for whom no substantive interventions were made ($P < 0.001$).

Conclusions Our data indicate that in Oregon, physicians grant about 1 in 6 requests for a prescription for a lethal medication and that 1 in 10 requests actually results in suicide. Substantive palliative interventions lead some—but not all—patients to change their minds about assisted suicide. (N Engl J Med 2000;342:557-63.)

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THE Oregon Death with Dignity Act, enacted on October 27, 1997, legalized physician-assisted suicide in the state of Oregon.¹ This law allows the physician who has primary responsibility for managing a patient's terminal illness to prescribe a dose of lethal medication, which the patient may administer. The prognosis (death with-

in 6 months) must be confirmed by a consultant, and the patient must make two oral requests and one written request over a period of 15 days. Referral to a mental health professional is required if either the attending physician or the consultant is concerned that the patient's judgment may be impaired by a mental disorder.

Physicians are required to report to the Oregon Health Division that they have prescribed the medication and complied with the act's safeguards. The Oregon Health Division has reported information on 57 patients who received prescriptions for lethal medications in 1998 and 1999, including 43 who died after administering the medications themselves.^{2,3} These reports have been limited to patients who actually received prescriptions and do not provide information on physicians' experiences with requests for assistance with suicide.

We surveyed physicians in Oregon who were eligible to prescribe lethal medications under the new law. We sought to describe the characteristics of physicians who have received requests for assistance with suicide, the characteristics and outcomes of the patients who requested prescriptions, the reasons for the requests, and any interventions that were carried out or recommended other than the prescription of lethal medications.

METHODS

We mailed a questionnaire to all licensed physicians practicing in Oregon in the fields of internal medicine and its subspecialties, family practice, general practice, gynecology, surgery and its subspecialties, therapeutic radiology, and neurology. The list of physicians was purchased from the Oregon Board of Medical Examiners. We excluded physicians in training.

The questionnaire was based on those used in previous studies of this issue⁴⁻⁷ and on discussions with physicians in Oregon who had received requests for assistance with suicide and who had provided such assistance. Faculty members and scholars of the Project on Death in America, members of the Task Force to Improve the Care of Terminally Ill Oregonians, and physicians known to be strongly for or against the legalization of assisted suicide reviewed the questionnaire. It was refined after pretesting with a convenience sample of 20 physicians, including 6 who had prescribed medications under the provisions of the Oregon Death with Dignity Act.

From the Department of Veterans Affairs (L.G., H.D.N., M.A.D.); the Departments of Psychiatry (L.G.), Medicine (H.D.N., M.A.L.), and Emergency Medicine (T.A.S.), the Division of Medical Informatics and Outcomes Research (H.D.N., D.E.K.), and the Center for Ethics in Health Care (L.G., T.A.S.), Oregon Health Sciences University; and the Providence Health System (M.A.L.)—all in Portland, Ore. Address reprint requests to Dr. Ganzini at the Mental Health Division, P-7-1DMH, Portland Veterans Affairs Medical Center, P.O. Box 1034, Portland, OR 97207, or at ganzini@ohsu.edu.

Physicians were asked to provide information about patients who had requested a prescription for a lethal medication only if the patient was terminally ill, if the request was explicitly for a lethal prescription, and if the request was made after November 1997. The Oregon Death with Dignity Act requires that a consultant evaluate the patient to determine whether he or she meets the criteria outlined in the law for assisted suicide. We asked that only attending physicians, not consultants, complete the questionnaire in order to minimize the possibility of receiving duplicate information.

For most of the questions, there were forced-choice responses. We asked about the physicians' attitudes toward the law and their willingness to prescribe lethal medications according to its provisions. We also asked about demographic and clinical characteristics of the patients who had requested assistance with suicide, and the outcomes, as well as whether, on the basis of the physician's conversations with the patient, a particular value, condition, or symptom was an important factor in the decision to request the prescription. The physicians reported interventions other than a prescription for a lethal medication that they had recommended or implemented and described, in response to an open-ended question, interventions that had altered the patient's desire for assisted suicide.

To identify cases in which two or more physicians might be reporting information about the same patient, we matched patients for age within one year, sex, marital status, disease, and the size of the community in which the patient lived. When two or more physicians reported information that may have pertained to the same patient, we used the information from the physician who had seen the patient most recently, unless this physician did not complete the questionnaire.

We mailed the questionnaire in February 1999, with a reminder postcard sent two weeks later; a second copy of the questionnaire was sent to nonrespondents in March 1999, with a simultaneous fax or telephone call. In May 1999, after 47 percent of the sample had responded, we sent nonrespondents a third copy of the questionnaire with a check for \$25, a letter of endorsement from the governor of Oregon, John Kitzhaber, M.D., and a simultaneous fax. Returned questionnaires were accepted through August 1999.

The survey was anonymous and therefore exempt from the requirement for informed consent by the institutional review board of Oregon Health Sciences University. To allow tracking of the questionnaires, each return envelope was coded with an identifying number. The questionnaire was separated from the identifying envelope on receipt and was then given a new identifying number to ensure anonymity. Completed questionnaires were scanned into an electronic data base.

Summary statistics included proportions for categorical variables and means and standard deviations for continuous variables. We used Pearson's chi-square test to analyze associations between variables.⁸

RESULTS

We identified 4544 physicians who were potentially eligible for inclusion in the survey from the list provided by the Oregon Board of Medical Examiners. On the basis of telephone calls, data bases of physicians in training, and returned questionnaires, we determined that 209 physicians were in training, 201 were retired or not in practice for another reason, 73 were no longer practicing in Oregon, and 8 had died. Of the remaining 4053 eligible physicians, 2649 (65 percent) returned the questionnaire.

One hundred forty-four respondents (5 percent) reported that they had received a total of 221 requests for lethal prescriptions after November 1997. Nine requests appeared to have been reported by more than one physician. Six other requests were ex-

cluded because we could not determine whether the data were duplicated. Of the remaining 206 requests, we received complete information on 143 and partial information on 22. Thus, the number of responses to specific questions varied. Twenty-seven physicians reported that they had received a total of 41 requests but gave no information about the patients. Physicians who supported the Oregon Death with Dignity Act were more likely to give partial or complete information than those who opposed the act or neither supported nor opposed it ($P=0.007$).

Physicians' Characteristics

Eighty-four percent of the respondents were internists, general practitioners, or family practitioners (Table 1). Of the 69 internists who received requests for assistance with suicide, 24 had training in a subspecialty, including 11 in oncology and 6 in pulmonology. Forty-one physicians practiced in communities with populations of fewer than 25,000 residents. Seventy-one percent of the physicians had cared for six or more terminally ill patients, and 58 percent had referred six or more patients to a hospice program in the previous 12 months. Fifty-five percent supported the Oregon Death with Dignity Act, and 51 percent were willing to prescribe a lethal medication for a terminally ill patient. In the previous four years, 127 respondents (88 percent) had sought to improve their knowledge of the use of pain medications in the terminally ill "somewhat" or "a great deal," 110 (76 percent) had sought to improve their ability to recognize psychiatric illnesses such as depression in the terminally ill "somewhat" or "a great deal," and 124 (86 percent) reported that their confidence in the use of pain medications in the terminally ill had improved "somewhat" or "a great deal."

Patients' Characteristics

Seven requests for assistance with suicide were made in 1997, 112 in 1998, and 29 in 1999; in 17 cases, the year was not specified. The mean age of the 165 who requested assistance was 68 years, 97 percent were white, 52 percent were men, 46 percent were married, 5 percent (8 of 157) had not completed high school, and 2 percent had no medical insurance (Table 2). Four patients had lived in Oregon for less than six months, but only one patient had moved to the state specifically because of the availability of physician-assisted suicide. Cancer was the most common diagnosis.

At the time of the request for assistance with suicide, 32 percent of the patients (45 of 141) were receiving hospice services, 59 percent (84 of 143) were confined to a bed or chair for more than half their waking hours, and 76 percent (108 of 142) had an estimated life expectancy of less than six months. In 41 percent of cases (58 of 140), the request was associated with an acute deterioration in the patient's

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**TABLE 1. CHARACTERISTICS OF 144 PHYSICIANS
IN OREGON WHO RECEIVED REQUESTS
FOR PRESCRIPTIONS FOR LETHAL MEDICATIONS.**

CHARACTERISTIC	No. (%)
Specialty	
Internal medicine	69 (48)
Family or general practice	52 (36)
General surgery or surgical subspecialty	12 (8)
Neurology	4 (3)
Gynecology	3 (2)
Radiation oncology	3 (2)
Other	1 (1)
Practice setting*	
Private or group practice	117 (81)
Health maintenance organization	16 (11)
Medical school	9 (6)
Other	7 (5)
Attitude toward Oregon Death with Dignity Act	
Strongly support	41 (28)
Support	38 (26)
Neither support nor oppose	25 (17)
Oppose	20 (14)
Strongly oppose	20 (14)
Willing to prescribe lethal medication	
Yes	73 (51)
Uncertain	18 (12)
No	53 (37)
No. of terminally ill patients cared for in past 12 mo	
0	2 (1)
1-5	40 (28)
6-20	63 (44)
≥21	39 (27)
No. of requests received since November 1997	
1	112 (78)
2-3	26 (18)
≥4	6 (4)

*Some physicians practiced in more than one setting.

medical condition. According to the physician's assessment, 20 percent of the patients had symptoms of depression, but 93 percent were competent to make medical decisions. For 80 percent of the patients (114 of 143), family members knew about the request, and the physician spoke to a family member about the request in the case of 73 percent of the patients (105 of 143). Thirteen patients kept their intentions from their family, seven patients had no family to inform, and for nine patients, the physician did not know whether the family was aware of the request.

Symptoms that were an important consideration in the decision to request a prescription for a lethal medication (whether the patient had the symptom at the time of the request or anticipated it) were pain (for 43 percent of patients), fatigue (for 31 percent), and dyspnea (for 27 percent) (Fig. 1). The most common conditions and values that played an important part in the patient's decision were loss of independence (for 57 percent of patients), poor quality of life (for 55 percent), readiness to die (for 54 percent), and a desire to control the circumstances of death (for

**TABLE 2. CHARACTERISTICS OF 165 PATIENTS
WHO REQUESTED PRESCRIPTIONS
FOR LETHAL MEDICATIONS.**

CHARACTERISTIC	No./TOTAL No. (%)*
Male sex	83/160 (52)
White race	150/154 (97)
Marital status	
Married or living as married	72/158 (46)
Divorced, widowed, or never married	82/158 (52)
Unknown	4/158 (3)
Type and size of community	
Rural or small town (<25,000)	54/158 (34)
Medium-size town (25,000-250,000)	53/158 (34)
Large city or suburb (>250,000)	51/158 (32)
Terminal disease††	
Cancer	106/158 (67)
End-stage cardiopulmonary disease	29/158 (18)
Neurologic disease	15/158 (9)
AIDS	4/158 (3)
Other	13/158 (8)
Health insurance‡	
Medicare	63/143 (44)
Health maintenance organization	23/143 (16)
Other managed care	20/143 (14)
Fee for service	17/143 (12)
Oregon Health Plan (Medicaid)	11/143 (8)
Military coverage	4/143 (3)
None	3/143 (2)
Unknown	18/143 (13)
Enrolled in hospice program at time of request	
Yes	45/141 (32)
No	96/141 (68)
Competent to make decisions	
Yes	144/155 (93)
Uncertain	8/155 (5)
No	3/155 (2)
Symptoms of depression	
Yes	28/143 (20)
No	115/143 (80)
Had requested a prescription for a lethal medication from another physician	57/161 (35)

*The numbers of responses to each item vary because of missing data.

†Some physicians chose more than one response.

‡AIDS denotes the acquired immunodeficiency syndrome. Other diseases included diabetes mellitus, end-stage renal disease, severe anemia, and a coagulation disorder.

53 percent). Uncommon reasons for requested assistance with suicide were a perception of a financial burden to others (for 11 percent of patients) and lack of social support (for 6 percent).

Physicians' Interventions

Physicians provided information about interventions they recommended or implemented in the case of 142 patients. The most commonly recommended interventions were pain control (for 30 percent), control of other physical symptoms (for 30 percent), seeking the advice of a colleague (for 28 percent), referral to a hospice program (for 27 percent), a mental

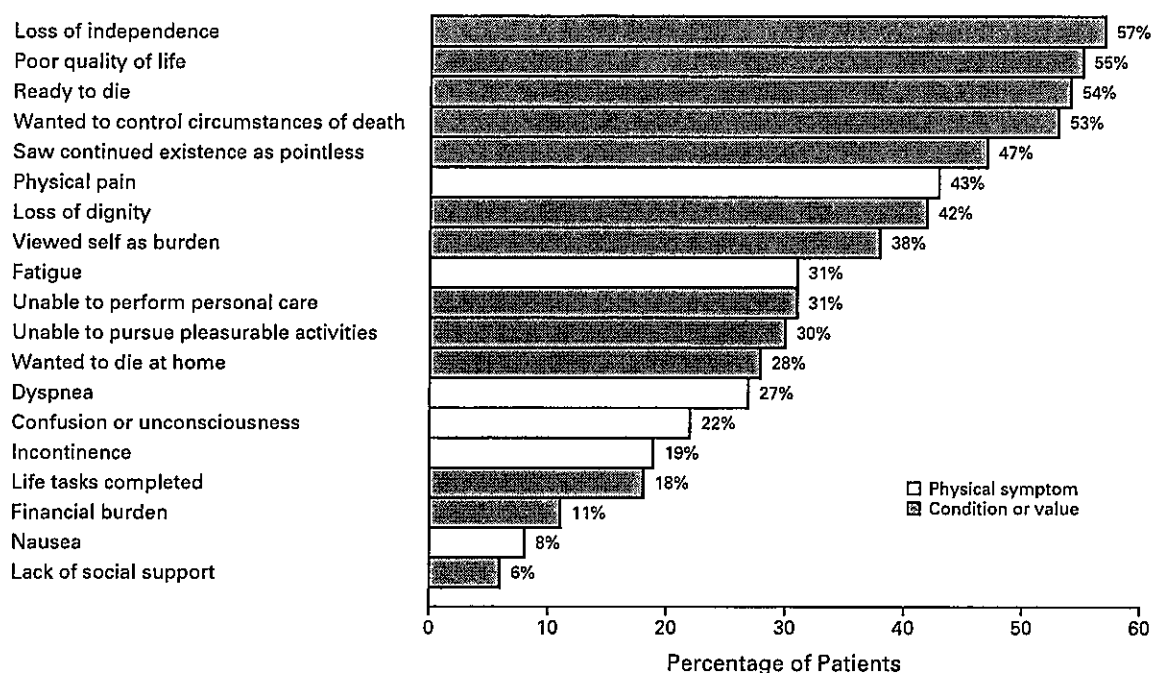


Figure 1. Reasons for Requesting Prescriptions for Lethal Medications.

A total of 143 patients gave their physicians a specific reason for the request. Some patients gave more than one reason.

health consultation (for 20 percent), a trial of antidepressant or antianxiety medication (for 18 percent), withdrawal of food and water as another means to hasten death (for 16 percent), a palliative-care consultation (for 13 percent), a social-work consultation (for 11 percent), a consultation with a chaplain (for 10 percent), and a transfer to another physician (for 9 percent). Interventions were implemented in approximately half the instances in which they were recommended. Physicians reported that in the cases of 42 of 140 patients, one or more interventions altered the patient's desire for a prescription for a lethal medication. These interventions included the control of pain and other symptoms (in the case of 11 patients); referral to a hospice program, general reassurance, and specific reassurance that the prescription would be made available (8 each); treatment of depression, a social-work consultation resulting in the provision of services to the family, and an alternative means of hastening death (3 each); and a palliative-care consultation (1).

In the case of 68 patients, including 11 of those who received prescriptions for lethal medications and 8 who died by taking a lethal medication, the physician implemented at least one substantive intervention (control of pain or other symptoms; referral to a hospice program; a mental health, social-work, chaplaincy, or palliative-care consultation; or a trial of an-

tidepressant medication) or sought the advice of a colleague. Patients for whom a substantive intervention was made were more likely to change their minds about wanting a prescription for a lethal medication (31 of 67) than were those for whom no substantive intervention was made (11 of 73) ($P < 0.001$). A total of 28 patients received medications for depression or anxiety or were evaluated by a mental health practitioner; 3 of the 28 changed their minds about obtaining a prescription for a lethal medication. Substantive interventions were made for 21 of the 42 patients (50 percent) enrolled in a health maintenance organization or other managed-care plan, as compared with 47 of the 101 patients (47 percent) who did not have this kind of insurance coverage ($P = 0.70$). Of the 18 patients who received lethal prescriptions in the absence of other substantive interventions, 11 were already receiving hospice care.

Thirty-five percent of the patients requested a prescription for a lethal medication from a physician other than the respondent (Table 2). Twenty-seven patients were referred to 17 of the respondents specifically because of the patient's interest in receiving a prescription for a lethal medication. Fifteen of the 27 patients received prescriptions from the physicians to whom they were referred, and 7 died after taking the medication. Reflecting this referral process, 27 percent of the respondents (38 of 143) had known the patient

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for less than one month at the time of the request for assistance with suicide. In the group of 27 patients who had been referred to a physician in our survey specifically to receive a lethal prescription, substantive interventions were recommended for 20 patients and were implemented for 7. Despite the interventions, five of the seven patients died by assisted suicide.

Patients' Experiences

Physicians reported the outcomes for 165 patients. Twenty-nine received prescriptions for lethal medications, and 17 died after administering them (Table 3). Of the 136 patients who did not receive prescriptions, 20 percent died before all the provisions of the Oregon Death with Dignity Act had been met, 15 percent did not meet the legal criteria for receiving a prescription, and 15 percent changed their minds. Among the 44 patients who died before the physician completed the questionnaire, who were eligible to receive a prescription for a lethal medication under the act, who lived through the waiting period, and who requested a prescription from a physician willing to prescribe it, 17 (39 percent) died by taking a prescribed lethal medication.

Fifty-nine percent of the respondents who practiced in small towns supported the law, but physicians in small towns were unlikely to prescribe lethal medications (Table 4). A request for assistance with suicide was less likely to be honored if the patient perceived himself or herself as a burden to others or was depressed and was more likely to be honored if the patient was enrolled in a hospice program or wanted to control the manner of his or her death or if cancer was the terminal disease. Patients who received prescriptions for lethal medications and those who did not receive them did not differ with respect to any other variables that we examined.

Respondents provided additional information about 28 patients who received prescriptions for lethal medications, including 16 who died after administering the medications. In all cases, the respondent obtained an opinion from another physician with respect to the patient's prognosis and treatment options. At the time the prescription was written, 13 patients were thought to have one to six months to live, and 15 were thought to have less than one month to live. Twenty-two patients were confined to bed or a chair during more than 50 percent of their waking hours. In the case of 18 patients, less than four weeks elapsed between the request for a prescription and its receipt.

Thirteen patients who died by assisted suicide were enrolled in a hospice program. In one case, a hospice refused to provide services because of the patient's interest in assisted suicide, and in another case, a patient refused hospice care. In nine cases, the physician was present when the patient took the medication. The time to death was noted in the case of 10 patients — 3 died more than five hours after taking

TABLE 3. OUTCOMES OF 165 REQUESTS FOR ASSISTANCE WITH SUICIDE.

OUTCOME	No./TOTAL No. (%)
Patient received prescription	29/165 (18)
Patient died after administering prescription	17/29 (59)
Patient died from other causes	11/29 (38)
Patient still alive at time of survey	1/29 (3)
Patient did not receive prescription*	136/165 (82)
Physician not willing to provide prescription in this case	30/136 (22)
Physician not willing to provide prescription in any case	40/136 (29)
Patient did not meet legal criteria	21/136 (15)
Patient changed mind before completing requirements	21/136 (15)
Patient died before completing requirements	27/136 (20)
Patient completed requirements and was eligible but did not receive prescription†	10/136 (7)
Physician had not completed evaluation at time of survey	7/136 (5)

*In some cases, more than one response was chosen.

†The patient did not receive the prescription because he or she died before receiving it (in three cases), the patient changed his or her mind (two), the physician was not willing to prescribe lethal medication (two), or for unknown reasons (three).

TABLE 4. CHARACTERISTICS OF PHYSICIANS AND PATIENTS ACCORDING TO WHETHER THE PATIENT RECEIVED A PRESCRIPTION FOR A LETHAL MEDICATION.*

CHARACTERISTIC	RECEIVED PRESCRIPTION no./total no. (%)	DID NOT RECEIVE PRESCRIPTION no./total no. (%)	P VALUE
Physicians			
Practice in community of <25,000 residents	1/29 (3)	38/136 (28)	0.005
Attitude toward Oregon Death with Dignity Act			<0.001
Support	28/29 (97)	75/136 (55)	
Neither support nor oppose	1/29 (3)	21/136 (15)	
Oppose	0/29	40/136 (29)	
Patients			
Cancer as terminal disease	24/29 (83)	82/129 (64)	0.05
Hospice care	17/29 (59)	28/112 (25)	<0.001
Symptoms of depression	0/29	29/114 (25)	0.003
View of self as burden	3/29 (10)	54/114 (47)	0.001
Desire for control over death	24/29 (83)	51/113 (45)	<0.001

*The numbers of responses to each item vary because of missing data.

the lethal medication. There were no reported adverse events, although one patient who was still conscious 30 minutes after taking the lethal medication was given more of the medication to take.

Problems Reported by Physicians

Some physicians who provided assistance with suicide under the Oregon Death with Dignity Act reported problems, including unwanted publicity (three physicians), difficulty obtaining the lethal medication or a second opinion (three), difficulty understanding the requirements of the law (three), difficulties with hospice providers (one), not knowing the patient (one), or the absence of someone to discuss the situation with (one). The law requires that the physician confidentially report the prescription for the lethal medication to the Oregon Health Division. Twenty-seven of the physicians had met this requirement by the time they completed the questionnaire. Some physicians were concerned about reporting because they feared that the patient's privacy (in 16 cases), their own privacy (in 18), or the privacy of the patient's family (in 15) would be violated or that retroactive sanctions would be imposed by the Drug Enforcement Agency (in 7). Four physicians expressed ambivalence about having provided assistance with suicide, though two of the four noted that they had become less ambivalent over time. One of these physicians decided not to provide such assistance again.

DISCUSSION

We surveyed physicians in Oregon who were eligible to provide assistance with suicide under the Oregon Death with Dignity Act, in order to obtain information about their experiences with requests for prescriptions for lethal medications from terminally ill patients. One hundred forty-four physicians received a total of 221 requests and gave information on the outcomes for 165 patients, of whom 29 received prescriptions for lethal medications.

There is concern that with the legalization of assisted suicide, women, poor persons, and those who are members of ethnic or racial minority groups may request assistance with suicide because of inadequate social support or lack of access to health care.⁹⁻¹³ The demographic characteristics of the patients who requested assistance with suicide in our survey were almost identical to those of members of the general population of Oregon who died. In 1998, 2 percent of all decedents in Oregon lacked health insurance for hospice care. In 1996, 97 percent of Oregon decedents were white, and 51 percent were men.^{14,15} Moreover, concern about finances and lack of social support were rarely the reasons that patients gave for requesting assistance with suicide. The type of health care coverage was not associated with whether the patient received a prescription or whether another intervention was made. More than a third of the pa-

tients requested assistance with suicide because they perceived themselves as a burden to others, but only three of these patients received prescriptions for lethal medications, suggesting that the physicians were reluctant to accede to requests for assistance under these circumstances.

In the Netherlands, two thirds of requests for assistance with suicide or euthanasia are rescinded, often as the result of palliative interventions.¹⁶ Similarly, we found that 39 percent of eligible patients who survived the 15-day waiting period and requested a prescription from a physician willing to provide it died by taking lethal medications that were prescribed for them. Substantive interventions by the physician led many patients to change their minds about assisted suicide. However, some patients who wanted to obtain a prescription were very determined to do so, despite palliative interventions.^{2,17} Thirty-five percent of the patients had requested a prescription from at least one other physician. Eighty-one percent of those who died by assisted suicide were enrolled in a hospice program.

Twenty percent of the patients had symptoms of depression, a finding that is similar to the reported prevalence of depression in patients with terminal illnesses.¹⁸ Depression has been reported in 59 to 100 percent of terminally ill persons interested in assisted suicide or another means of hastening death and in 80 percent of patients with cancer who committed suicide.^{10,19,20} We could not determine whether depression was in fact less common in persons in Oregon who requested a prescription for a lethal medication or whether the physicians failed to detect depression in some instances. Nonetheless, most of the respondents reported that they had made efforts to improve their ability to recognize depression in terminally ill patients. Only 11 percent of the patients who either received a trial of medication for depression or anxiety or were evaluated by a mental health expert changed their minds about obtaining a prescription for a lethal medication.

Our study has several sources of bias and potential error. We do not know the experiences of the 35 percent of physicians who did not return the questionnaire. We may have underestimated duplicate patient information if physicians erred in reporting the demographic characteristics of patients. Physicians who were opposed to or uncertain about the Oregon Death with Dignity Act were significantly less likely to provide complete information about patients than were physicians who favored the act. Because of this response bias, it is difficult to make general statements about the perceptions and interventions recommended by physicians in our sample who were opposed to assisted suicide. Finally, although the physicians were instructed to base information about patients' reasons for requesting assistance with suicide only on conversations with the patients, this method of obtain-

ing information is not as reliable as surveying patients directly.

In conclusion, after two years of legalized assisted suicide in Oregon, we found little evidence that vulnerable groups have been given prescriptions for lethal medication in lieu of palliative care. Physicians granted 1 in 6 requests for a prescription, and 1 in 10 requests actually resulted in suicide. As a result of palliative interventions, some patients, though not all, changed their minds about assisted suicide.

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REFERENCES

1. Oregon Death with Dignity Act, Rev. Stat. §§ 127.800-.897.
2. Chin AE, Hedberg K, Higginson GK, Fleming DW. Legalized physician-assisted suicide in Oregon — the first year's experience. *N Engl J Med* 1999;340:577-83.
3. Sullivan AD, Hedberg K, Fleming DW. Legalized physician-assisted suicide in Oregon — the second year. *N Engl J Med* 2000;342:598-604.
4. Emanuel EJ, Clarridge BR, Moyer R, Schnipper L. 1997-98 ASCO survey on end of life care. Boston: University of Massachusetts Center for Survey Research, 1998.
5. Lee MA, Nelson HD, Tilden VP, Ganzini L, Schmidt TA, Tolle SW. Legalizing assisted suicide — views of physicians in Oregon. *N Engl J Med* 1996;334:310-5.
6. Meier DE, Emmons C-A, Wallenstein S, Quill T, Morrison RS, Cassel CK. A national survey of physician-assisted suicide and euthanasia in the United States. *N Engl J Med* 1998;338:1193-201.
7. Back AL, Wallace JI, Starks HE, Pearlman RA. Physician-assisted suicide and euthanasia in Washington State: patient requests and physician responses. *JAMA* 1996;275:919-25.
8. Fisher LD, van Belle G. Biostatistics: a methodology for the health sciences. New York: John Wiley, 1993.
9. Foley KM. Competent care for the dying instead of physician-assisted suicide. *N Engl J Med* 1997;336:54-8.
10. Chochinov HM, Wilson KG, Enns M, et al. Desire for death in the terminally ill. *Am J Psychiatry* 1995;152:1185-91.
11. Faber-Langendoen K. Death by request: assisted suicide and the oncologist. *Cancer* 1998;82:35-41.
12. Singer PA, Siegler M. Euthanasia — a critique. *N Engl J Med* 1990;322:1881-3.
13. Physician-assisted suicide: toward a comprehensive understanding: report of the Task Force on Physician-assisted Suicide of the Society for Health and Human Values. *Acad Med* 1995;70:583-90.
14. Tolle SW. Care of the dying: clinical and financial lessons from the Oregon experience. *Ann Intern Med* 1998;128:567-8.
15. Oregon Health Division. Oregon vital statistics annual report, 1996. Vol. 12. Portland, Ore.: Center for Health Statistics, 1997.
16. Van Der Maas PJ, Van Delden JJM, Pijnenborg L, Looman CW. Euthanasia and other medical decisions concerning the end of life. *Lancet* 1991;338:669-74.
17. Reagan P, Helen. *Lancet* 1999;353:1265-7.
18. Breitbart W, Chuchinov HM, Passik S. Psychiatric aspects of palliative care. In: Doyle D, Hanks GWC, MacDonald N, eds. *Oxford textbook of palliative medicine*. 2nd ed. Oxford, England: Oxford University Press, 1998:933-54.
19. Henriksson MM, Isometsa ET, Hietanen PS, Aro HM, Lonnqvist JK. Mental disorders in cancer suicides. *J Affect Disord* 1995;36:11-20.
20. Brown JH, Henteleff P, Barakat S, Rowe CJ. Is it normal for terminally ill patients to desire death? *Am J Psychiatry* 1986;143:208-11.

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ORIGINAL ARTICLES

Attachment styles of Oregonians who request physician-assisted death

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ABSTRACT

Objective: Qualitative analyses suggest that requests for physician-assisted death (PAD) may often be the culmination of a person's lifelong pattern of concern with issues such as control, autonomy, self-sufficiency, distrust of others, and avoidance of intimacy. Such characteristics may be measured by attachment style. We compared family members' reports of attachment style in Oregonians who did and did not request PAD.

Method: Eighty-four family members of terminally ill patients who requested PAD before death and 63 members of a comparison group that included family members of terminally ill Oregonians who died without requesting PAD rated their loved ones' attachment style in a one-time survey.

Results: Individuals who requested PAD were most often described as having dismissive personality styles (56%) compared to 41% of comparison individuals, and on continuous measures of relational style, the highest mean score among PAD requesters was for dismissive style. There were marginally significant differences in the proportions of each attachment style when comparing the two groups ($p = 0.08$).

Significance of results: Patients' attachment styles may be an important factor in requests for PAD. Recognition of a patient's attachment style may improve the ability of the physician to maintain a constructive relationship with the patient throughout the dying process.

KEYWORDS: Physician-assisted death, Terminally ill, Attachment styles, Oregon Death with Dignity Act

Since the 1997 legalization of physician-assisted death (PAD) in Oregon, information has become available about the context in which PAD is typically requested and pursued. Interestingly, many widely held hypotheses about persons who are likely to request PAD have been seriously challenged by these emerging data. For example, evidence from Oregon's experience with legalized PAD indicates that terminally ill persons requesting or pursuing PAD are not primarily motivated by social disadvantage, exces-

sive physical symptoms (including pain), or inadequate palliative care (Ganzini et al., 2002, 2003, 2008, 2009; Bharucha et al., 2003; Wineberg & Werth, 2003). Rather, growing evidence suggests an important role for more static interpersonal styles and personality traits in requests for PAD. Specifically, surveys and qualitative analyses suggest that a request for PAD may often be the culmination of a person's lifelong pattern of concern with issues such as control, autonomy, self-sufficiency, distrust of others, and avoidance of intimate relationships and communications (Ganzini et al., 2003, 2007, 2009).

Attachment theory is among the most widely studied and applied theoretic constructs available to analyze

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patterns of personality and interpersonal relatedness. Attachment theory was originally proposed by Bowlby in the 1950s to explain the relationship patterns that he observed between children and their caregivers. Subsequent research proposed different attachment "styles" based upon certain relational patterns in children (Ainsworth et al., 1978; Ainsworth, 1979). These styles, which included secure, avoidant, and anxious/ambivalent, were later found to also apply to adults (Hazan & Shaver, 1987). Subsequent research proposed a four-category model of attachment styles and developed screening questionnaires validated to predict individuals' underlying attachment styles (Bartholomew & Horowitz, 1991). The styles in the four-category model are: "secure" (comfortable with intimacy and autonomy), "preoccupied" (preoccupied with relationships/reaching out to others to fulfill dependency needs), "dismissive" (dismissing of intimacy, counter-dependent), and "fearful" (fearful of intimacy, socially avoidant).

Studies published in the last decade have examined the influence of attachment styles on patients' ability to interact with the healthcare delivery environment. For example, attachment styles have been shown to mediate individuals' perception of symptoms, utilization of healthcare services, missed appointments, adherence and response to treatment, and quality of interactions with healthcare providers (Dozier, 1990; Feeney & Ryan, 1994; Ciechanowski et al., 2001, 2002a, 2002b, 2006).

Qualitative studies suggest that persons who request PAD are highly self-sufficient and wish to avoid dependent relationships (Ganzini et al., 2003), leading us to speculate that they would be less likely to have preoccupied (dependent) attachment styles and more likely to have dismissive/avoidant (compulsively self-reliant) attachment styles. The current study compares family members' reports of attachment style in Oregonians who have and have not requested PAD.

METHODS

Details of study recruitment have been previously reported (Ganzini et al., 2007, 2009). The study was approved by the institutional review board at the Portland Veterans Affairs Medical Center and participating medical centers and hospices and all participants gave written informed consent to participate. Subjects in this study included family members of patients who: (1) persistently requested PAD before death (whether or not they received or died by PAD) and (2) were potentially eligible for the Oregon Death with Dignity Act (ODDA—the legislation that legalized PAD), in that they were terminally ill and were Oregon residents. Family members of patients

who requested PAD learned about our study through an end-of-life advocacy organization (Compassion and Choices of Oregon), two large medical centers in Portland, Oregon, and the Amyotrophic Lateral Sclerosis (ALS) Association of Oregon. The medical centers kept a centralized registry of people who requested PAD to assure that legal requirements of the law were fulfilled. Between 2004 and 2006, these organizations sent letters about our study to family members of clients or patients who had requested PAD. In instances in which more than one family member was willing to participate, the individual identified by the family volunteers as the person most involved in caring for the patient was designated as the primary informant.

The comparison group was composed of family members of terminally ill Oregonians who died without having requested PAD, but otherwise met the same inclusion and exclusion criteria, and learned about the study from the same sources (excluding Compassion and Choices of Oregon). As with the PAD requestors, each family member received a letter from the referring organization and contacted the research team if he or she was interested in participating.

We collected demographic data on decedents and their families. Family members rated the loved one's relationship style on the Relationship Questionnaire (RQ), which has been validated as a self-report instrument for the purpose of categorizing and measuring attachment style (Bartholomew & Horowitz, 1991). The wording of the RQ was modified to be administered to the decedent's identified family member. Family members were asked to (1) to rate to what extent, on a scale from 1–7 (1 = not at all like him/her through 7 = very much like him/her) various characteristics of the four different relationship styles (secure, fearful, preoccupied, and dismissive) applied to their family member, and (2) choose which of the four relationship styles best described their deceased family member's relationships. The secure style was described (all styles are described here are for men) as, "It was easy for him to become emotionally close to others. He was comfortable depending on others and having them depend on him. He did not worry about being alone or not being accepted by others." The fearful style was described as, "He was uncomfortable getting close to others. He seemed to want emotionally close relationships, but found it difficult to trust others completely or depend on them. He seemed worried about being hurt if allowed to become too close to others." The preoccupied style was described as, "He wanted to be completely intimate with others but it seemed that others were reluctant to get close as he would have liked. He was uncomfortable being without close

relationships but sometimes worried that others did not value him as much as he valued them." The dismissive style was described as, "He seemed comfortable without close emotional relationships. It was important to him to feel independent and self-sufficient and not to depend on others or have others depend on him."

Statistical Analysis

Discrete variables were presented as counts and proportions and compared with χ^2 test. Continuous variables are presented as means with standard deviations (*SD*) and PAD requesters and controls were compared with Student's *t*-test. All tests were two tailed and α was set at 0.05.

RESULTS

Sixty-nine (38%) of 180 potential cases referred to the study through Compassion and Choices participated in the study. The remaining subjects (cases and controls) were recruited through the other sources. The study sample consisted of 84 family members of persons who requested PAD (including 52 who received a lethal prescription and 32 who died of PAD) and 63 comparison family members. The family members were mostly spouses/partners or children, with a mean age of 61 years, who had known the patient, on average, for 40 years. Family members of PAD requesters had completed more years of education than the family members of the comparison group ($p = 0.005$). The decedents most often had died of cancer (Table 1).

There were marginally significant differences in the proportions of each attachment style when comparing the two groups ($p = 0.08$) (Table 2). Individuals who requested PAD were most often described as having dismissive personality styles (56%) compared to 41% of comparison individuals. Only 4% of PAD requesters had preoccupied personality styles, compared to 11% of comparison decedents. Six percent of PAD requesters were best characterized by their family members as having fearful relational styles compared to 14% of comparison decedents. In approximately one-third of cases in both groups, family members indicated that their loved ones were best characterized as having secure attachment styles.

On continuous measures of relational style, which ranged from 1 to 7, the highest mean score among PAD requesters was for dismissive style (mean 4.7) followed by secure (4.1) fearful (2.8) and preoccupied (2.3) styles. The controls were rated as more likely to have fearful relationship styles than PAD-requesting patients ($p = 0.02$), but there were no differences

Table 1. Characteristics of PAD requesters, comparison patients and their families

	PAD requester <i>N</i> = 84	Comparison group <i>N</i> = 63	<i>p</i>
Patient sex, No. (%)			
Male	48 (57)	36 (57)	0.57
Female	36 (43)	27 (43)	
Patient diagnosis, No. (%)			
Cancer	68 (81)	50 (79)	0.47
ALS	4 (5)	6 (10)	
Other	12 (14)	7 (11)	
Family member sex, No. (%)			
Male	27 (32)	13 (21)	0.09
Female	57 (68)	50 (79)	
Family member relationship, No. (%)			
Spouse/Partner	50 (60)	37 (59)	0.36
Child	24 (29)	17 (27)	
Parent	1 (1)	3 (5)	
Sibling	6 (7)	1 (2)	
Friend	1 (1)	1 (2)	
Other	2 (2)	4 (6)	
Family member age, mean (<i>SD</i>)	61 (13)	60 (14)	0.68
Family member education, mean (<i>SD</i>)	16 (3)	15 (3)	0.005
How long family member knew patient, mean (<i>SD</i>)	42 (16)	39 (17)	0.29

between the two groups on ratings of secure, preoccupied, or dismissive personality styles (Table 3).

DISCUSSION

Family members rated Oregonians who requested PAD and those who did not on measures of relational (attachment) style. As predicted, PAD requesters

Table 2. Attachment style that best characterizes individuals who request PAD

	PAD requester <i>N</i> = 81	Comparison group <i>N</i> = 63	
Attachment style	No. (%)	No. (%)	<i>p</i>
Secure	28 (35)	21 (33)	0.083
Fearful	5 (6)	9 (14)	
Preoccupied	3 (4)	7 (11)	
Dismissive	45 (56)	26 (41)	

Table 3. Relational styles in PAD requesters and comparison group

Relational style	PAD requester N = 84	Comparison group N = 63	p
	Mean (SD)	Mean (SD)	
Secure	4.1 (1.8)	4.7 (1.8)	0.57
Fearful	2.8 (1.9)	3.2 (2.2)	0.02
Preoccupied	2.3 (1.7)	2.4 (1.8)	0.46
Dismissive	4.7 (1.9)	4.5 (1.9)	0.94

Scores range from "1 = not at all like him/her" to "7 = very much like him/her."

were most likely to have dismissive styles, and least likely to have preoccupied styles. There were, however, only minimal differences between PAD requesters and our comparison group. When family members chose the relational style that best characterized patients, differences were only marginally statistically significant. There were no differences between PAD and non-PAD groups in mean ratings on dismissive and preoccupied styles, though fearful relational style ratings were statistically greater in comparison patients than PAD requesters.

Our finding of high prevalence of dismissive and low prevalence of preoccupied styles among PAD requesters seems consistent with results from previous qualitative studies that showed that PAD requesters are highly concerned with control, autonomy, and self-sufficiency; distrust others; and avoid intimate relationships and communications. This finding is particularly interesting, given that dismissive attachment styles have also been shown to be associated with fewer visits to healthcare professionals (Feeney & Ryan, 1994), greater rejection of treatment providers (Dozier, 1990), more missed appointments (Ciechanowski et al., 2006), and poorer adherence to treatment recommendations (Dozier, 1990; Ciechanowski et al., 2001). Therefore, many requests for PAD may be better understood in the context of lifelong patterns of rejecting or avoiding both healthcare and dependence on others. The choice of PAD may occur when a terminally ill and increasingly vulnerable patient is faced with the likelihood of increased, even round-the-clock, need for care from others who they cannot entirely trust.

An interesting finding in this study was that the pattern of attachment styles in both our study and comparison groups was not consistent with the reported prevalence of various attachment styles in other medical populations. Whereas the prevalence of secure attachment in our two terminally ill groups (35% for PAD requesters and 33% for the comparison

group) was fairly similar to published prevalence ranges in other medically ill populations (28–44%), the prevalence of the other attachment styles was not. Specifically, the prevalence of dismissive attachment styles in our study (56%) and comparison groups (41%) was higher than the 23–36% prevalence range that has been reported in other medically ill populations (Ciechanowski et al., 2001, 2002a, 2002b, 2006; Maunder et al., 2006). In addition, the prevalence of preoccupied attachment styles in PAD requesters (4%) and in comparison groups (11%) also seemed to be lower than the 8–25% prevalence range that has been reported in other medically ill populations (Ciechanowski et al., 2001, 2002a, 2002b, 2006; Maunder et al., 2006). When compared with the 14.2–21.9% prevalence range of fearful attachment styles in other medically ill populations, our PAD requesters seemed to have a lower prevalence of fearful styles (6.2%), whereas our comparison group (14.3%) seemed more consistent with other medically ill populations (Ciechanowski et al., 2001, 2002a, 2002b, 2006; Maunder et al., 2006). In general, both our PAD requesters and comparison group were older and more ill than most other populations for whom the prevalence of attachment styles has been studied. It is unclear what role these (or perhaps other demographic or clinical differences) may play in differences in attachment style between populations, and this is a potential area for additional study.

This study has some limitations. First, although the tool that was used to assess attachment styles (RQ) has been validated for administration to patients in several medical settings, its validity when administered to family members has not been examined. It is possible that our alteration of the questionnaire to allow administration to family members might have biased the results. The finding of overall high rates of dismissive styles and low rates of preoccupied styles among the comparison group might also suggest that our comparison group may not be representative of other medically ill people, which might reflect our low response proportion and use of a convenience sample for the comparison groups. It is possible that the topic of the study attracted family members who themselves were more supportive of the option of PAD and were more likely to see their family members as highly independent. A less likely explanation would be that family members view terminally ill persons as, in general, having more dismissive attachment styles. Although attachment style is believed to be fairly consistent across the lifespan, the attachment literature does describe a phased accommodation process of detachment and reorganization that follows loss (Bradley & Caffery, 2001). Perhaps the high rate of dismissive styles

seen in both terminally ill populations could reflect such a process. A final alternative explanation for this finding might be that having a loved one die of a terminal illness might influence how the decedent's attachment style is remembered or reported.

Despite these inherent limitations, this study has a number of strengths. Although the prevalence of attachment styles has been studied in various medically ill populations, this is the first study to include a validated attachment style assessment of persons requesting PAD. This study also made use of a comparison group that was very similar in its composition to the group of PAD requesters, whereas most other studies of attachment styles in medically ill populations lack such a comparison population (Ciechanowski et al., 2001, 2002a, 2002b, 2006; Maunder et al., 2006).

Recognition of the dismissive attachment style in a terminally ill patient may improve the physician's ability to anticipate the patient's response to increasing care. As a result, the clinician may experience greater empathy and less frustration. Collaboration with the patient may be improved by adopting a flexible approach with the patient, accepting the need for self-reliance and interpersonal distance, anticipating less self-disclosure, and promoting patient empowerment. These patients may be resistant to efforts to increase care, as offered through hospice. The ability to maintain the patient-physician relationship may form the basis for the patient to consider alternatives to PAD.

CONCLUSION

Patients' attachment styles may be an important factor in requests for PAD. In this study, PAD requesters were more likely to have dismissive personality styles, and least likely to have preoccupied styles. This finding seems consistent with results from previous qualitative studies showing that PAD requesters are often highly concerned with control, autonomy, and self-sufficiency, and may distrust others and avoid intimate relationships and communications. Recognition of a patient's attachment style may improve the ability of the physician to maintain a constructive relationship with the patient throughout the dying process.

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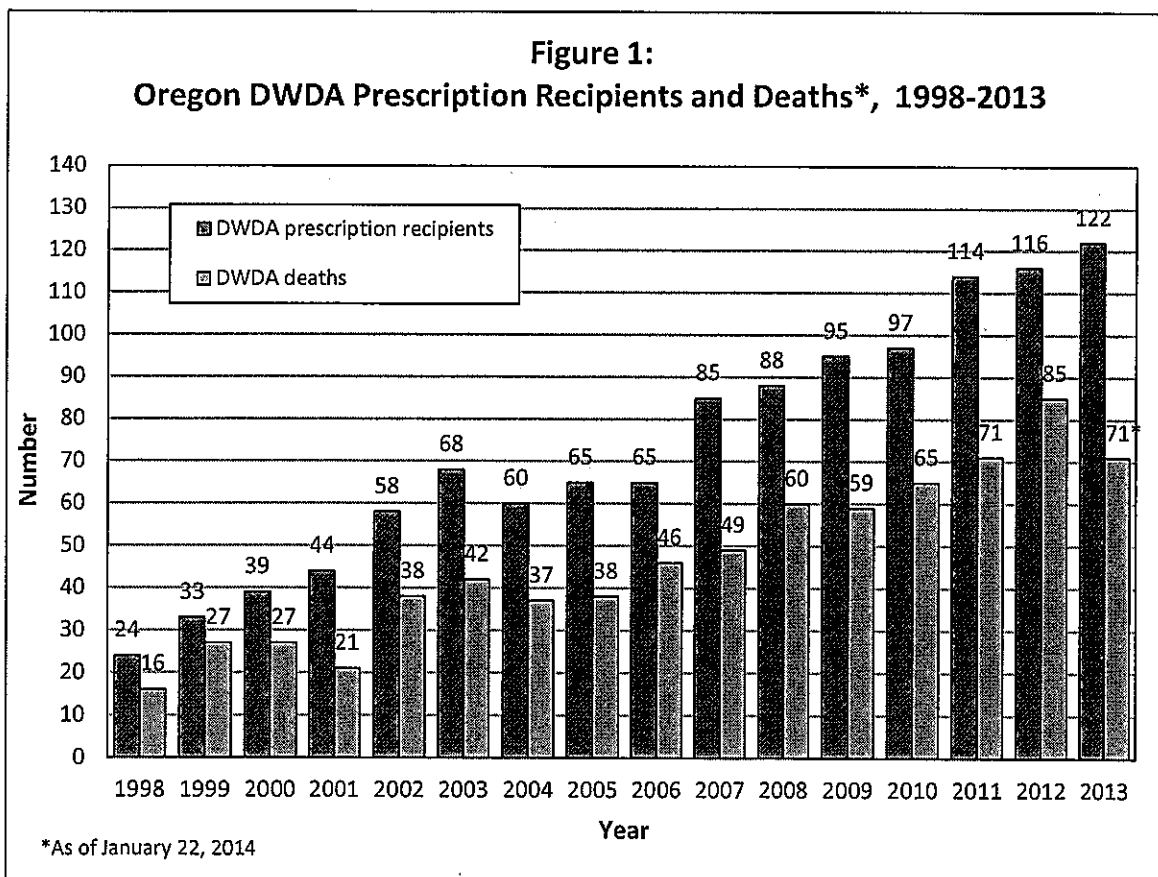
REFERENCES

- Ainsworth, M.S., Blehar, M.C., Waters, E., et al. (1978). *Patterns of Attachment: A Psychological Study of the Strange Situation*. Hillsdale, NJ: Erlbaum.
- Ainsworth, M.S. (1979). Infant-mother attachment. *American Psychologist*, 34, 932-937.
- Bartholomew, K. & Horowitz, L.M. (1991). Attachment styles among young adults: A test of a four-category model. *Journal of Personality and Social Psychology*, 61, 226-244.
- Bharucha, A.J., Pearlman, R.A., Back, A.L., et al. (2003). The pursuit of physician-assisted suicide: Role of psychiatric factors. *Journal of Palliative Medicine*, 6, 873-883.
- Bradley, J.M. & Caffery, T.P. (2001). Attachment among older adults: Current issues and directions for future research. *Attachment & Human Development*, 3, 200-221.
- Ciechanowski, P.S., Katon, W.J., Russo, J.E., et al. (2001). The patient-provider relationship: Attachment theory and adherence to treatment in diabetes. *American Journal of Psychiatry*, 158, 29-35.
- Ciechanowski, P.S., Katon, W.J., Russo, J.E., et al. (2002a). Association of attachment style to lifetime medically unexplained symptoms in patients with hepatitis C. *Psychosomatics*, 43, 206-212.
- Ciechanowski, P.S., Walker, E.A., Katon, W.J., et al. (2002b). Attachment theory: A model for health care utilization and somatization. *Psychosomatic Medicine*, 64, 660-667.
- Ciechanowski, P.S., Russo, J.E., Katon, W.J., et al. (2006). Where is the patient? The association of psychosocial factors and missed primary care appointments in patients with diabetes. *General Hospital Psychiatry*, 28, 9-17.
- Dozier, M. (1990). Attachment organization and treatment for adults with serious psychopathological disorders. *Development and Psychopathology*, 2, 47-60.
- Feeney, J.A. & Ryan, S.M. (1994). Attachment style and affect regulation: Relationships with health behavior and family experiences of illness in a student sample. *Health Psychology*, 13, 334-345.
- Ganzini, L., Dobscha, S.K., Heintz, R.T., et al. (2003). Oregon physicians' perceptions of patients who request assisted suicide and their families. *Journal of Palliative Medicine*, 6, 381-390.
- Ganzini, L., Goy, E.R. & Dobscha, S.K. (2007). Why Oregon patients request assisted death: Family members' views. *Journal of General Internal Medicine*, 23, 154-157.
- Ganzini, L., Goy, E.R., & Dobscha, S.K. (2008). Prevalence of depression and anxiety in patients requesting physicians' aid in dying: Cross sectional survey. *British Medical Journal*, 337, 1682.
- Ganzini, L., Goy, E.R. & Dobscha, S.K. (2009). Oregonians' reasons for requesting physician aid in dying. *Archives of Internal Medicine*, 169, 489-492.
- Ganzini, L., Silveira, M.J. & Johnston, W.S. (2002). Predictors and correlates of interest in assisted suicide in the final month of life among ALS patients in Oregon and Washington. *Journal of Pain and Symptom Management*, 24, 312-317.

- Hazan, C. & Shaver, P. (1987). Romantic love conceptualized as an attachment process. *Journal of Personality and Social Psychology*, 52, 511–524.
- Maunder, R.G., Panzer, A., Viljoen, M., et al. (2006). Physicians' difficulty with emergency department patients is related to patients' attachment style. *Social Science & Medicine*, 63, 552–562.
- Wineberg, H. & Werth, J.L. (2003). Physician-assisted suicide in Oregon: What are the key factors? *Death Studies*, 27, 501–518.

Oregon's Death with Dignity Act--2013

Oregon's Death with Dignity Act (DWDA), enacted in late 1997, allows terminally-ill adult Oregonians to obtain and use prescriptions from their physicians for self-administered, lethal doses of medications. The Oregon Public Health Division is required by the Act to collect information on compliance and to issue an annual report. The key findings from 2013 are listed below. The number of people for whom DWDA prescriptions were written (DWDA prescription recipients) and deaths that occurred as a result of ingesting prescribed DWDA medications (DWDA deaths) reported in this summary are based on paperwork and death certificates received by the Oregon Public Health Division as of January 22, 2014. For more detail, please view the figures and tables on our web site: <http://www.healthoregon.org/dwd>.



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- As of January 22, 2014, prescriptions for lethal medications were written for 122 people during 2013 under the provisions of the DWDA, compared to 116 during 2012 (Figure 1). At the time of this report, there were 71 known DWDA deaths during 2013. This corresponds to 21.9 DWDA deaths per 10,000 total deaths.¹
- Since the law was passed in 1997, a total of 1,173 people have had DWDA prescriptions written and 752 patients have died from ingesting medications prescribed under the DWDA.
- Of the 122 patients for whom DWDA prescriptions were written during 2013, 63 (51.6%) ingested and died from the medication. Eight (8) patients with prescriptions written during the previous years (2011 and 2012) died after ingesting the medication during 2013, for a total of 71 DWDA deaths.
- Twenty-eight (28) of the 122 patients who received DWDA prescriptions during 2013 did not take the medications and subsequently died of other causes.
- Ingestion status is unknown for 31 patients who were prescribed DWDA medications in 2013. Seven (7) of these patients died, but follow-up questionnaires indicating ingestion status have not yet been received. For the remaining 24 patients, both death and ingestion status are pending (Figure 2).
- Of the 71 DWDA deaths during 2013, most (69.0%) were aged 65 years or older; the median age was 71 years (42 years – 96 years). As in previous years, most were white (94.4%), well-educated (53.5% had a least a baccalaureate degree), and had cancer (64.8%). In 2013, fewer patients had cancer (64.8%) compared to previous years (80.4%), and more patients had chronic lower respiratory disease (9.9%), and other underlying illnesses (16.9%).
- Most (97.2%) DWDA patients died at home, and most (85.7%) were enrolled in hospice care either at the time the DWDA prescription was written or at the time of death. Excluding unknown cases, most (96.7%) had some form of

¹ The rate per 10,000 deaths is calculated using the total number of Oregon resident deaths in 2012 (32,475), the most recent year for which final death data are available.

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health care insurance. The number of patients who had private insurance (43.5%) was lower in 2013 than in previous years (64.7%), and the number of patients who had only Medicare or Medicaid insurance was higher than in previous years (53.2% compared to 33.7%).

- As in previous years, the three most frequently mentioned end-of-life concerns were: loss of autonomy (93.0%), decreasing ability to participate in activities that made life enjoyable (88.7%), and loss of dignity (73.2%).
- Two of the 71 DWDA patients who died during 2013 were referred for formal psychiatric or psychological evaluation.
- Prescribing physicians were present at the time of death for eight patients (11.4%) during 2013 compared to 16.5% in previous years.
- A procedure revision was made mid-year in 2010 to standardize reporting on the follow-up questionnaire. The new procedure accepts information about the time of death and circumstances surrounding death only when the physician or another health care provider was present at the time of death. Due to this change, data on time from ingestion to death is available for 11 of the 71 DWDA deaths during 2013. Among those 11 patients, time from ingestion until death ranged from 5 minutes to 5.6 hours.
- Sixty-two (62) physicians wrote the 122 prescriptions provided during 2013 (range 1-10 prescriptions per physician).
- During 2013, no referrals were made to the Oregon Medical Board for failure to comply with DWDA requirements.

Figure 2: Summary of DWDA Prescriptions Written and Medications Ingested in 2013, as of January 22, 2014

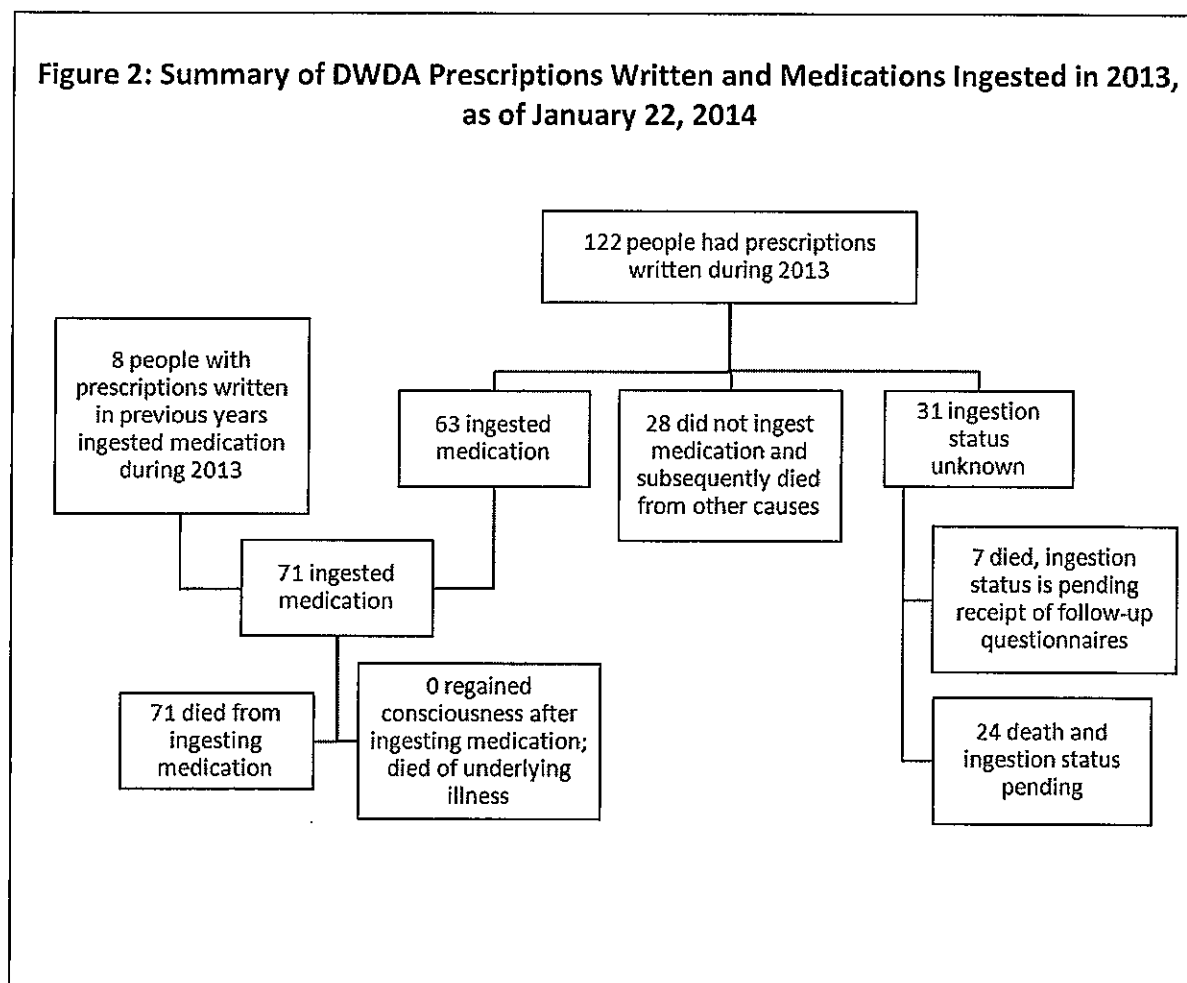


Table 1. Characteristics and End-of-life Care of 752 DWDA Patients who Died from Ingesting a Lethal Dose of Medication as of January 17, 2014, Oregon, 1998-2013

Characteristics	2013 (N=71)	1998-2012 (N=681)	Total (N=752)
Sex	N (%) ¹	N (%) ¹	N (%) ¹
Male (%)	44 (62.0)	352 (51.7)	396 (52.7)
Female (%)	27 (38.0)	329 (48.3)	356 (47.3)
Age			
18-34 (%)	0 (0.0)	6 (0.9)	6 (0.8)
35-44 (%)	1 (1.4)	15 (2.2)	16 (2.1)
45-54 (%)	6 (8.5)	52 (7.6)	58 (7.7)
55-64 (%)	15 (21.1)	141 (20.7)	156 (20.7)
65-74 (%)	23 (32.4)	194 (28.5)	217 (28.9)
75-84 (%)	17 (23.9)	189 (27.8)	206 (27.4)
85+ (%)	9 (12.7)	84 (12.3)	93 (12.4)
Median years (range)	71 (42-96)	71 (25-96)	71 (25-96)
Race			
White (%)	67 (94.4)	662 (97.6)	729 (97.3)
African American (%)	0 (0.0)	1 (0.1)	1 (0.1)
American Indian (%)	1 (1.4)	1 (0.1)	2 (0.3)
Asian (%)	0 (0.0)	8 (1.2)	8 (1.1)
Pacific Islander (%)	0 (0.0)	1 (0.1)	1 (0.1)
Other (%)	1 (1.4)	0 (0.0)	1 (0.1)
Two or more races (%)	2 (2.8)	0 (0.0)	2 (0.3)
Hispanic (%)	0 (0.0)	5 (0.7)	5 (0.7)
Unknown	0	3	3
Marital Status			
Married (%) ²	36 (50.7)	310 (45.7)	346 (46.2)
Widowed (%)	13 (18.3)	158 (23.3)	171 (22.8)
Never married (%)	8 (11.3)	55 (8.1)	63 (8.4)
Divorced (%)	14 (19.7)	155 (22.9)	169 (22.6)
Unknown	0	3	3
Education			
Less than high school (%)	2 (2.8)	42 (6.2)	44 (5.9)
High school graduate (%)	10 (14.1)	154 (22.8)	164 (22.0)
Some college (%)	21 (29.6)	177 (26.2)	198 (26.5)
Baccalaureate or higher (%)	38 (53.5)	303 (44.8)	341 (45.6)
Unknown	0	5	5
Residence			
Metro counties (%) ³	25 (35.2)	289 (42.6)	314 (41.9)
Coastal counties (%)	5 (7.0)	51 (7.5)	56 (7.5)
Other western counties (%)	33 (46.5)	292 (43.1)	325 (43.4)
East of the Cascades (%)	8 (11.3)	46 (6.8)	54 (7.2)
Unknown	0	3	3
End of life care			
Hospice			
Enrolled (%) ⁴	60 (85.7)	593 (90.5)	653 (90.1)
Not enrolled (%)	10 (14.3)	62 (9.5)	72 (9.9)
Unknown	1	26	27
Insurance			
Private (%) ⁵	27 (43.5)	424 (64.7)	451 (62.9)
Medicare, Medicaid or Other Governmental (%)	33 (53.2)	221 (33.7)	254 (35.4)
None (%)	2 (3.2)	10 (1.5)	12 (1.7)
Unknown	9	26	35

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Characteristics	2013 (N=71)	1998-2012 (N=681)	Total (N=752)
Underlying illness			
Malignant neoplasms (%)	46 (64.8)	545 (80.4)	591 (78.9)
Lung and bronchus (%)	10 (14.1)	129 (19.0)	139 (18.6)
Breast (%)	1 (1.4)	56 (8.3)	57 (7.6)
Colon (%)	6 (8.5)	43 (6.3)	49 (6.5)
Pancreas (%)	2 (2.8)	45 (6.6)	47 (6.3)
Prostate (%)	2 (2.8)	31 (4.6)	33 (4.4)
Ovary (%)	1 (1.4)	27 (4.0)	28 (3.7)
Other (%)	24 (33.8)	214 (31.6)	238 (31.8)
Amyotrophic lateral sclerosis (%)	5 (7.0)	49 (7.2)	54 (7.2)
Chronic lower respiratory disease (%)	7 (9.9)	27 (4.0)	34 (4.5)
Heart Disease (%)	1 (1.4)	13 (1.9)	14 (1.9)
HIV/AIDS (%)	0 (0.0)	9 (1.3)	9 (1.2)
Other illnesses (%) ⁶	12 (16.9)	35 (5.2)	47 (6.3)
Unknown	0	3	3
DWDA process			
Referred for psychiatric evaluation (%)	2 (2.8)	42 (6.2)	44 (5.9)
Patient informed family of decision (%) ⁷	62 (91.2)	570 (93.9)	632 (93.8)
Patient died at			
Home (patient, family or friend) (%)	69 (97.2)	645 (95.1)	714 (95.3)
Long term care, assisted living or foster care facility (%)	2 (2.8)	27 (4.0)	29 (3.9)
Hospital (%)	0 (0.0)	1 (0.1)	1 (0.1)
Other (%)	0 (0.0)	5 (0.7)	5 (0.7)
Unknown	0	3	3
Lethal medication			
Secobarbital (%)	7 (9.9)	396 (58.1)	403 (53.6)
Pentobarbital (%)	64 (90.1)	278 (40.8)	342 (45.5)
Other (%) ⁸	0 (0.0)	7 (1.0)	7 (0.9)
End of life concerns⁹			
	(N=71)	(N=677)	(N=748)
Losing autonomy (%)	66 (93.0)	618 (91.3)	684 (91.4)
Less able to engage in activities making life enjoyable (%)	63 (88.7)	602 (88.9)	665 (88.9)
Loss of dignity (%) ¹⁰	52 (73.2)	452 (81.9)	504 (80.9)
Losing control of bodily functions (%)	26 (36.6)	350 (51.7)	376 (50.3)
Burden on family, friends/caregivers (%)	35 (49.3)	264 (39.0)	299 (40.0)
Inadequate pain control or concern about it (%)	20 (28.2)	157 (23.2)	177 (23.7)
Financial implications of treatment (%)	4 (5.6)	18 (2.7)	22 (2.9)
Health-care provider present¹¹			
	(N=71)	(N=611)	(N=682)
When medication was ingested ¹²			
Prescribing physician	8	111	119
Other provider, prescribing physician not present	3	235	238
No provider	3	73	76
Unknown	57	192	249
At time of death			
Prescribing physician (%)	8 (11.4)	99 (16.5)	107 (16.0)
Other provider, prescribing physician not present (%)	5 (7.1)	258 (43.1)	263 (39.3)
No provider (%)	57 (81.4)	242 (40.4)	299 (44.7)
Unknown	1	12	13
Complications¹²			
	(N=71)	(N=681)	(N=752)
Regurgitated	0	22	22
Seizures	0	0	0
Other	1	0	1
None	10	477	487
Unknown	59	182	241
Other outcomes			
Regained consciousness after ingesting DWDA medications ¹³	0	6	6

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Characteristics	2013 (N=71)	1998-2012 (N=681)	Total (N=752)
Timing of DWDA event			
Duration (weeks) of patient-physician relationship ¹⁴			
Median	13	12	12
Range	1-719	0-1905	0-1905
Number of patients with information available	71	679	750
Number of patients with information unknown	0	2	2
Duration (days) between 1st request and death			
Median	52	46	47
Range	15-692	15-1009	15-1009
Number of patients with information available	71	681	752
Number of patients with information unknown	0	0	0
Minutes between ingestion and unconsciousness ¹¹			
Median	5	5	5
Range	2-25	1-38	1-38
Number of patients with information available	11	476	487
Number of patients with information unknown	60	205	265
Minutes between ingestion and death ¹¹			
Median	15	25	25
Range (minutes - hours)	5min-5.6hrs	1min-104hrs	1min-104hrs
Number of patients with information available	11	481	492
Number of patients with information unknown	60	200	260

¹ Unknowns are excluded when calculating percentages.

² Includes Oregon Registered Domestic Partnerships.

³ Clackamas, Multnomah, and Washington counties.

⁴ Includes patients that were enrolled in hospice at the time the prescription was written or at time of death.

⁵ Private insurance category includes those with private insurance alone or in combination with other insurance.

⁶ Includes deaths due to benign and uncertain neoplasms, other respiratory diseases, diseases of the nervous system (including multiple sclerosis, Parkinson's disease and Huntington's disease), musculoskeletal and connective tissue diseases, viral hepatitis, diabetes mellitus, cerebrovascular disease, and alcoholic liver disease.

⁷ First recorded beginning in 2001. Since then, 31 patients (4.6%) have chosen not to inform their families, and 12 patients (1.8%) have had no family to inform. There was one unknown case in 2002, two in 2005, one in 2009, and three in 2013.

⁸ Other includes combinations of secobarbital, pentobarbital, and/or morphine.

⁹ Affirmative answers only ("Don't know" included in negative answers). Categories are not mutually exclusive. Data unavailable for four patients in 2001.

¹⁰ First asked in 2003. Data available for all 71 patients in 2013, 552 patients between 1998-2012, and 623 patients for all years.

¹¹ The data shown are for 2001-2013 since information about the presence of a health care provider/volunteer, in the absence of the prescribing physician, was first collected in 2001.

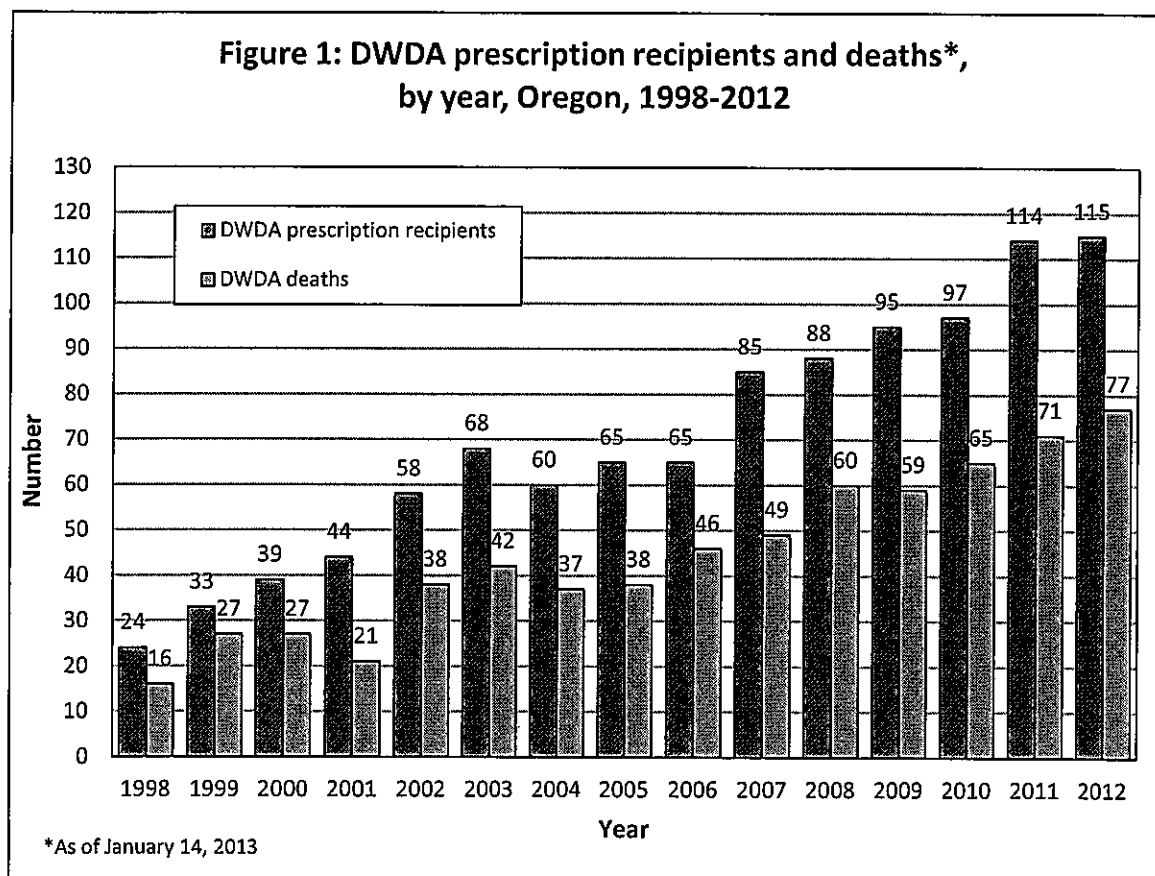
¹² A procedure revision was made mid-year in 2010 to standardize reporting on the follow-up questionnaire. The new procedure accepts information about time of death and circumstances surrounding death only when the physician or another health care provider is present at the time of death. This resulted in a larger number of unknowns beginning in 2010.

¹³ There have been a total of six patients who regained consciousness after ingesting prescribed lethal medications. These patients are not included in the total number of DWDA deaths. These deaths occurred in 2005 (1 death), 2010 (2 deaths), 2011 (2 deaths) and 2012 (1 death). Please refer to the appropriate years' annual reports on our website (<http://www.healthoregon.org/dwd>) for more detail on these deaths.

¹⁴ Previous reports listed 20 records missing the date care began with the attending physician. Further research with these cases has reduced the number of unknowns.

Oregon's Death with Dignity Act--2012

Oregon's Death with Dignity Act (DWDA), enacted in late 1997, allows terminally-ill adult Oregonians to obtain and use prescriptions from their physicians for self-administered, lethal doses of medications. The Oregon Public Health Division is required by the Act to collect information on compliance and to issue an annual report. The key findings from 2012 are listed below. The number of people for whom DWDA prescriptions were written (DWDA prescription recipients) and deaths that occurred as a result of ingesting prescribed DWDA medications (DWDA deaths) reported in this summary are based on paperwork and death certificates received by the Oregon Public Health Division as of January 14, 2013. For more detail, please view the figures and tables on our web site: <http://www.healthoregon.org/dwd>.



- As of January 14, 2013, prescriptions for lethal medications were written for 115 people during 2012 under the provisions of the DWDA, compared to 114 during 2011 (Figure 1). At the time of this report, there were 77 known DWDA deaths during 2012. This corresponds to 23.5 DWDA deaths per 10,000 total deaths.¹

¹ Rate per 10,000 deaths calculated using the total number of Oregon resident deaths in 2011 (32,731), the most recent year for which final death data is available.

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- Since the law was passed in 1997, a total of 1,050 people have had DWDA prescriptions written and 673 patients have died from ingesting medications prescribed under the DWDA.
- Of the 115 patients for whom DWDA prescriptions were written during 2012, 67 (58.3%) ingested the medication; 66 died from ingesting the medication, and one patient ingested the medication but regained consciousness before dying of underlying illness and is therefore not counted as a DWDA death. The patient regained consciousness two days following ingestion, but remained minimally responsive and died six days following ingestion.
- Eleven (11) patients with prescriptions written during the previous year (2011) died after ingesting the medication during 2012.
- Twenty-three (23) of the 115 patients who received DWDA prescriptions during 2012 did not take the medications and subsequently died of other causes.
- Ingestion status is unknown for 25 patients who were prescribed DWDA medications in 2012. Fourteen (14) of these patients died, but follow-up questionnaires indicating ingestion status have not yet been received. For the remaining 11 patients, both death and ingestion status are pending (Figure 2).
- Of the 77 DWDA deaths during 2012, most (67.5%) were aged 65 years or older; the median age was 69 years. As in previous years, most were white (97.4%), well-educated (42.9% had a least a baccalaureate degree), and had cancer (75.3%).
- Most (97.4%) patients died at home; and most (97.0%) were enrolled in hospice care either at the time the DWDA prescription was written or at the time of death. Excluding unknown cases, all (100.0%) had some form of health care insurance, although the number of patients who had private insurance (51.4%) was lower in 2012 than in previous years (66.2%), and the number of patients who had only Medicare or Medicaid insurance was higher than in previous years (48.6% compared to 32.1%).
- As in previous years, the three most frequently mentioned end-of-life concerns were: loss of autonomy (93.5%), decreasing ability to participate in activities that made life enjoyable (92.2%), and loss of dignity (77.9%).
- Two of the 77 DWDA patients who died during 2012 were referred for formal psychiatric or psychological evaluation. Prescribing physicians were present at the time of death for seven patients (9.1%) during 2012 compared to 17.3% in previous years.
- A procedure revision was made mid-year in 2010 to standardize reporting on the follow-up questionnaire. The new procedure accepts information about the time of death and circumstances surrounding death only when the physician or another health care provider was present at the time of death. Due to this change, data on time from ingestion to death is available for 11 of the 77 DWDA deaths during 2012. Among those 11 patients, time from ingestion until death ranged from 10 minutes to 3.5 hours.

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- Sixty-one (61) physicians wrote the 115 prescriptions provided during 2012 (range 1-10 prescriptions per physician).
- During 2012, no referrals were made to the Oregon Medical Board for failure to comply with DWDA requirements.

Figure 2: Summary of DWDA prescriptions written and medications ingested in 2012, as of January 14, 2013

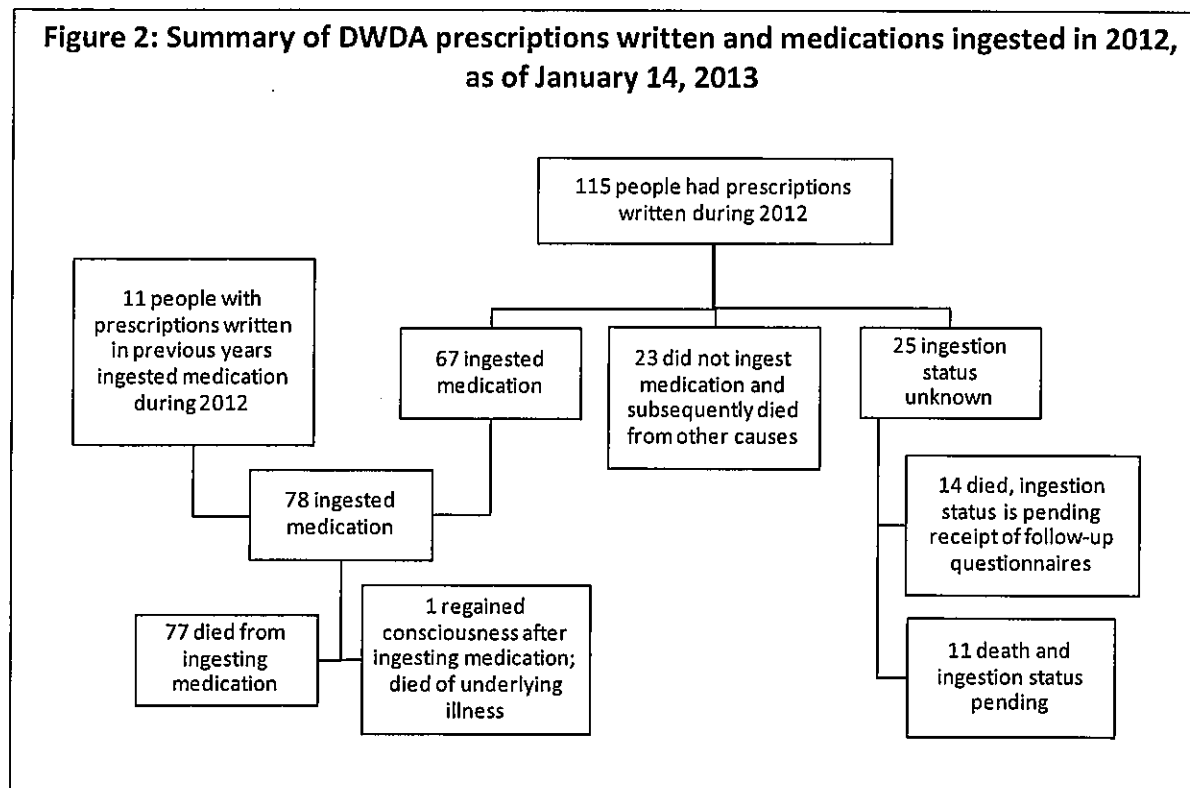


Table 1. Characteristics and end-of-life care of 673 DWDA patients who have died from ingesting a lethal dose of medication as of January 14, 2013, by year, Oregon, 1998-2012

Characteristics	2012 (N=77)	1998-2011 (N=596)	Total (N=673)
Sex			
Male (%)	39 (50.6)	308 (51.7)	347 (51.6)
Female (%)	38 (49.4)	288 (48.3)	326 (48.4)
Age			
18-34 (%)	0 (0.0)	6 (1.0)	6 (0.9)
35-44 (%)	1 (1.3)	14 (2.3)	15 (2.2)
45-54 (%)	8 (10.4)	44 (7.4)	52 (7.7)
55-64 (%)	16 (20.8)	123 (20.6)	139 (20.7)
65-74 (%)	23 (29.9)	170 (28.5)	193 (28.7)
75-84 (%)	18 (23.4)	168 (28.2)	186 (27.6)
85+ (%)	11 (14.3)	71 (11.9)	82 (12.2)
Median years (range)	69 (42-96)	71 (25-96)	71 (25-96)
Race			
White (%)	75 (97.4)	579 (97.6)	654 (97.6)
African American (%)	0 (0.0)	1 (0.2)	1 (0.1)
American Indian (%)	0 (0.0)	1 (0.2)	1 (0.1)
Asian (%)	1 (1.3)	7 (1.2)	8 (1.2)
Pacific Islander (%)	0 (0.0)	1 (0.2)	1 (0.1)
Other (%)	0 (0.0)	0 (0.0)	0 (0.0)
Two or more races (%)	0 (0.0)	0 (0.0)	0 (0.0)
Hispanic (%)	1 (1.3)	4 (0.7)	5 (0.7)
Unknown	0	3	3
Marital Status			
Married (%) ²	33 (42.9)	271 (45.7)	304 (45.4)
Widowed (%)	23 (29.9)	134 (22.6)	157 (23.4)
Never married (%)	6 (7.8)	49 (8.3)	55 (8.2)
Divorced (%)	15 (19.5)	139 (23.4)	154 (23.0)
Unknown	0	3	3
Education			
Less than high school (%)	2 (2.6)	40 (6.8)	42 (6.3)
High school graduate (%)	13 (16.9)	139 (23.5)	152 (22.8)
Some college (%)	29 (37.7)	148 (25.0)	177 (26.5)
Baccalaureate or higher (%)	33 (42.9)	264 (44.7)	297 (44.5)
Unknown	0	5	5
Residence			
Metro counties (%) ³	34 (44.2)	253 (42.7)	287 (42.8)
Coastal counties (%)	4 (5.2)	47 (7.9)	51 (7.6)
Other western counties (%)	37 (48.1)	250 (42.2)	287 (42.8)
East of the Cascades (%)	2 (2.6)	43 (7.3)	45 (6.7)
Unknown	0	3	3
End of life care			
Hospice			
Enrolled (%) ⁴	64 (97.0)	522 (89.7)	586 (90.4)
Not enrolled (%)	2 (3.0)	60 (10.3)	62 (9.6)
Unknown	11	14	25
Insurance			
Private (%) ⁵	36 (51.4)	382 (66.2)	418 (64.6)
Medicare, Medicaid or Other Governmental (%)	34 (48.6)	185 (32.1)	219 (33.8)
None (%)	0 (0.0)	10 (1.7)	10 (1.5)
Unknown	7	19	26

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Characteristics	2012 (N=77)	1998-2011 (N=596)	Total (N=673)
Underlying illness			
Malignant neoplasms (%)	58 (75.3)	480 (80.9)	538 (80.3)
Lung and bronchus (%)	14 (18.2)	112 (18.9)	126 (18.8)
Breast (%)	4 (5.2)	52 (8.8)	56 (8.4)
Colon (%)	7 (9.1)	36 (6.1)	43 (6.4)
Pancreas (%)	2 (2.6)	42 (7.1)	44 (6.6)
Prostate (%)	5 (6.5)	26 (4.4)	31 (4.6)
Ovary (%)	2 (2.6)	25 (4.2)	27 (4.0)
Other (%)	24 (31.2)	187 (31.5)	211 (31.5)
Amyotrophic lateral sclerosis (%)	5 (6.5)	44 (7.4)	49 (7.3)
Chronic lower respiratory disease (%)	2 (2.6)	25 (4.2)	27 (4.0)
Heart Disease (%)	2 (2.6)	10 (1.7)	12 (1.8)
HIV/AIDS (%)	1 (1.3)	8 (1.3)	9 (1.3)
Other illnesses (%) ⁶	9 (11.7)	26 (4.4)	35 (5.2)
Unknown	0	3	3
DWDA process			
Referred for psychiatric evaluation (%)	2 (2.6)	40 (6.7)	42 (6.2)
Patient informed family of decision (%) ⁷	71 (92.2)	493 (94.4)	564 (94.2)
Patient died at			
Home (patient, family or friend) (%)	75 (97.4)	562 (94.8)	637 (95.1)
Long term care, assisted living or foster care facility (%)	2 (2.6)	25 (4.2)	27 (4.0)
Hospital (%)	0 (0.0)	1 (0.2)	1 (0.1)
Other (%)	0 (0.0)	5 (0.8)	5 (0.7)
Unknown	0	3	3
Lethal medication			
Secobarbital (%)	20 (26.0)	374 (62.8)	394 (58.5)
Pentobarbital (%)	57 (74.0)	215 (36.1)	272 (40.4)
Other (%) ⁸	0 (0.0)	7 (1.2)	7 (1.0)
End of life concerns⁹			
(N=77)	(N=592)	(N=669)	
Losing autonomy (%)	72 (93.5)	538 (90.9)	610 (91.2)
Less able to engage in activities making life enjoyable (%)	71 (92.2)	523 (88.3)	594 (88.8)
Loss of dignity (%) ¹⁰	60 (77.9)	386 (82.7)	446 (82.0)
Losing control of bodily functions (%)	27 (35.1)	318 (53.7)	345 (51.6)
Burden on family, friends/caregivers (%)	44 (57.1)	214 (36.1)	258 (38.6)
Inadequate pain control or concern about it (%)	23 (29.9)	134 (22.6)	157 (23.5)
Financial implications of treatment (%)	3 (3.9)	15 (2.5)	18 (2.7)
Health-care provider present¹¹			
(N=77)	(N=526)	(N=603)	
When medication was ingested ¹²			
Prescribing physician	8	100	108
Other provider, prescribing physician not present	4	231	235
No provider	1	72	73
Unknown	64	123	187
At time of death			
Prescribing physician (%)	7 (9.1)	89 (17.3)	96 (16.2)
Other provider, prescribing physician not present (%)	4 (5.2)	254 (49.4)	258 (43.7)
No provider (%)	66 (85.7)	171 (33.3)	237 (40.1)
Unknown	0	12	12
Complications¹²			
(N=77)	(N=596)	(N=673)	
Regurgitated	0	22	22
Seizures	0	0	0
None	11	463	474
Unknown	66	111	177
Other outcomes			
Regained consciousness after ingesting DWDA medications ¹³	1	5	6

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Characteristics	2012 (N=77)	1998-2011 (N=596)	Total (N=673)
Timing of DWDA event			
Duration (weeks) of patient-physician relationship ¹⁴			
Median	19	12	12
Range	0-1640	0-1905	0-1905
Number of patients with information available	77	594	671
Number of patients with information unknown	0	2	2
Duration (days) between 1st request and death			
Median	47	46	46
Range	16-388	15-1009	15-1009
Number of patients with information available	77	596	673
Number of patients with information unknown	0	0	0
Minutes between ingestion and unconsciousness ¹¹			
Median	5	5	5
Range	3-15	1-38	1-38
Number of patients with information available	11	462	473
Number of patients with information unknown	66	134	200
Minutes between ingestion and death ¹¹			
Median	20	25	25
Range (minutes - hours)	10min-3.5hrs	1min-104hrs	1min-104hrs
Number of patients with information available	11	467	478
Number of patients with information unknown	66	129	195

¹ Unknowns are excluded when calculating percentages.

² Includes Oregon Registered Domestic Partnerships.

³ Clackamas, Multnomah, and Washington counties.

⁴ Includes patients that were enrolled in hospice at the time the prescription was written or at time of death.

⁵ Private insurance category includes those with private insurance alone or in combination with other insurance.

⁶ Includes deaths due to benign and uncertain neoplasms, other respiratory diseases, diseases of the nervous system (including multiple sclerosis, Parkinson's disease and Huntington's disease), musculoskeletal and connective tissue diseases, viral hepatitis, diabetes mellitus, cerebrovascular disease, and alcoholic liver disease.

⁷ First recorded beginning in 2001. Since then, 24 patients (4.0%) have chosen not to inform their families, and 11 patients (1.8%) have had no family to inform. There was one unknown case in 2002, two in 2005, and one in 2009.

⁸ Other includes combinations of secobarbital, pentobarbital, and/or morphine.

⁹ Affirmative answers only ("Don't know" included in negative answers). Categories are not mutually exclusive. Data unavailable for four patients in 2001.

¹⁰ First asked in 2003. Data available for all 77 patients in 2012, 467 patients between 1998-2011, and 544 patients for all years.

¹¹ The data shown are for 2001-2012 since information about the presence of a health care provider/volunteer, in the absence of the prescribing physician, was first collected in 2001.

¹² A procedure revision was made mid-year in 2010 to standardize reporting on the follow-up questionnaire. The new procedure accepts information about time of death and circumstances surrounding death only when the physician or another health care provider is present at the time of death. This resulted in a larger number of unknowns beginning in 2010.

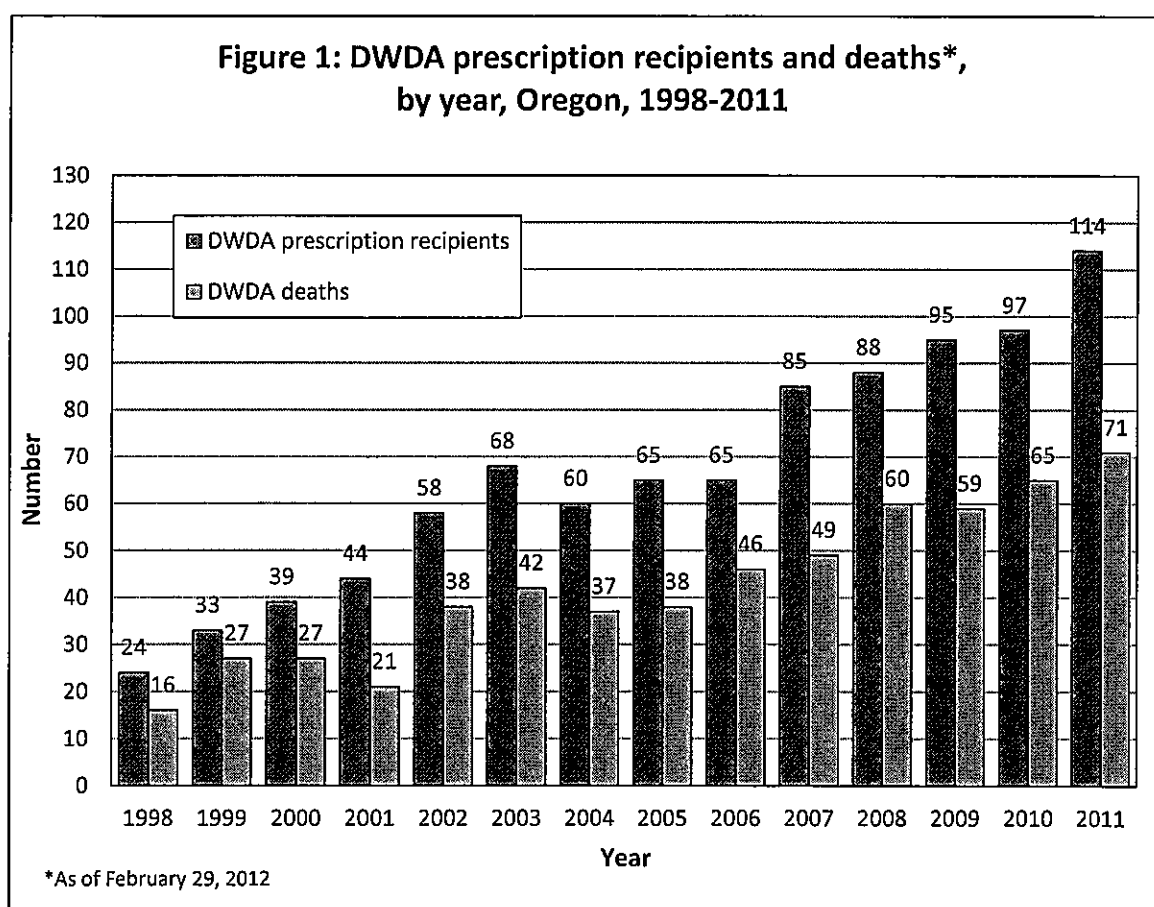
¹³ There have been a total of six patients who regained consciousness after ingesting prescribed lethal medications. These patients are not included in the total number of DWDA deaths. These deaths occurred in 2005 (1 death), 2010 (2 deaths), 2011 (2 deaths) and 2012 (1 death). Please refer to the appropriate years' annual reports on our website (<http://www.healthoregon.org/dwd>) for more detail on these deaths.

¹⁴ Previous reports listed 20 records missing the date care began with the attending physician. Further research with these cases has reduced the number of unknowns.

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Oregon's Death with Dignity Act--2011

Oregon's Death with Dignity Act (DWDA), enacted in late 1997, allows terminally-ill adult Oregonians to obtain and use prescriptions from their physicians for self-administered, lethal doses of medications. The Oregon Public Health Division is required by the Act to collect information on compliance and to issue an annual report. The key findings from 2011 are listed below. The number of people for whom DWDA prescriptions were written (DWDA prescription recipients) and deaths that occurred as a result of ingesting prescribed DWDA medications (DWDA deaths) reported in this summary are based on paperwork and death certificates received by the Oregon Public Health Division as of February 29, 2012. For more detail, please view the figures and tables on our web site at <http://public.health.oregon.gov/ProviderPartnerResources/EvaluationResearch/DeathwithDignityAct/Pages/ar-index.aspx>.



- As of February 29, 2012, prescriptions for lethal medications were written for 114 people during 2011 under the provisions of the DWDA, compared to 97¹ during 2010 (Figure 1). At the time of this

¹ The Oregon Public Health Division's 2010 Report lists 96 prescriptions because the report listed data as of January 7, 2011. Information on one additional prescription written in 2010 was received following the date of the report.

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report, there were 71 known DWDA deaths during 2011. This corresponds to 22.5 DWDA deaths per 10,000 total deaths.²

- Since the law was passed in 1997, a total of 935 people have had DWDA prescriptions written and 596 patients have died from ingesting medications prescribed under the DWDA.
- Of the 114 patients for whom DWDA prescriptions were written during 2011, 64 (56.1%) ingested the medication; 63 died from ingesting the medication, and one patient ingested the medication but regained consciousness before dying of underlying illness and is therefore not counted as a DWDA death. The patient regained consciousness approximately 14 hours following ingestion and died about 38 hours later. Incomplete ingestion was reported for the patient.
- Nine patients with prescriptions written in previous years ingested the medication during 2011; eight of these patients died from ingesting the medication, and one ingested the medication but regained consciousness before dying of underlying illness and is therefore not counted as a DWDA death. The patient briefly regained consciousness following ingestion and died approximately 30 hours later. Possible medication tolerance was reported for the patient. Thus, two patients ingesting lethal medication in 2011 awoke and ultimately died of their underlying illness. One patient received their prescription in 2011 and the other received their prescription in 2010.
- Twenty-five (25) of the 114 patients who received DWDA prescriptions during 2011 did not take the medications and died of their underlying illness.
- Ingestion status is unknown for 25 patients for whom DWDA prescriptions were written during 2011. Three of these patients died and follow-up questionnaires were received, but ingestion status could not be determined. For the remaining 22 patients, both death and ingestion status are pending (Figure 2).
- Of the 71 DWDA deaths during 2011, most (69.0%) were aged 65 years or older; the median age was 70 years. As in previous years, most were white (95.6%), well-educated (48.5% had a least a baccalaureate degree), and had cancer (82.4%).
- Most (94.1%) patients died at home; and most (96.7%) were enrolled in hospice care either at the time the DWDA prescription was written or at the time of death. Most (96.7%) had some form of health care insurance, although the number of patients who had private insurance (50.8%) was lower in 2011 than in previous years (68.0%), and the number of patients who had only Medicare or Medicaid insurance was higher than in previous years (45.9% compared to 30.4%).
- As in previous years, the three most frequently mentioned end-of-life concerns were: decreasing ability to participate in activities that made life enjoyable (90.1%), loss of autonomy (88.7%), and loss of dignity (74.6%).

² Rate per 10,000 deaths calculated using the total number of Oregon resident deaths in 2009 (31,547), the most recent year for which final death data is available.

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- One of the 71 DWDA patients who died during 2011 was referred for formal psychiatric or psychological evaluation. Prescribing physicians were present at the time of death for six patients (8.5%) during 2011 compared to 18.7% in previous years.
- A procedure revision was made mid-year in 2010 to standardize reporting on the follow-up questionnaire. The new procedure accepts information about the time of death and circumstances surrounding death only when the physician or another health care provider was present at the time of death. Due to this change, data on time from ingestion to death is available for eight of the 71 DWDA deaths during 2011. Among those eight patients, time from ingestion until death ranged from 15 minutes to 1.5 hours.
- Sixty-two (62) physicians wrote the 114 prescriptions provided during 2011 (range 1-14 prescriptions per physician).
- During 2011, no referrals were made to the Oregon Medical Board for failure to comply with DWDA requirements.

Figure 2: Summary of DWDA prescriptions written and medications ingested in 2011, as of February 29, 2012

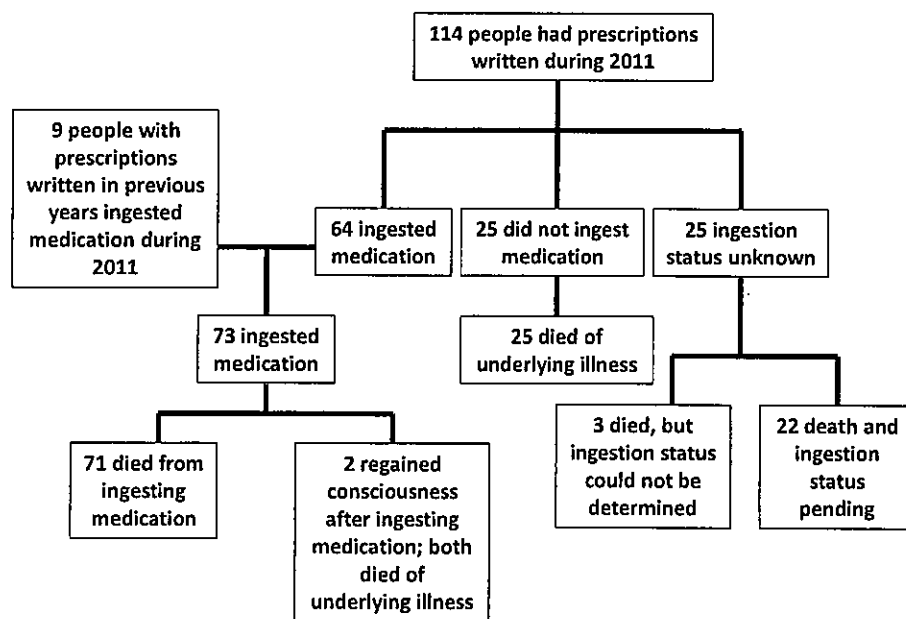


Table 1. Characteristics and end-of-life care of 596 DWDA patients who have died from ingesting a lethal dose of medication as of February 29, 2012, by year, Oregon, 1998-2011

Characteristics	2011 (N=71)	1998-2010 (N=525)	Total (N=596)
Sex	N (%) ¹	N (%) ¹	N (%) ¹
Male (%)	26 (36.6)	282 (53.7)	308 (51.7)
Female (%)	45 (63.4)	243 (46.3)	288 (48.3)
Age			
18-34 (%)	0 (0.0)	6 (1.1)	6 (1.0)
35-44 (%)	1 (1.4)	13 (2.5)	14 (2.3)
45-54 (%)	5 (7.0)	39 (7.4)	44 (7.4)
55-64 (%)	16 (22.5)	107 (20.4)	123 (20.6)
65-74 (%)	23 (32.4)	147 (28.0)	170 (28.5)
75-84 (%)	18 (25.4)	150 (28.6)	168 (28.2)
85+ (%)	8 (11.3)	63 (12.0)	71 (11.9)
Median years (range)	70 (41-96)	71 (25-96)	71 (25-96)
Race			
White (%)	65 (95.6)	514 (97.9)	579 (97.6)
African American (%)	0 (0.0)	1 (0.2)	1 (0.2)
American Indian (%)	0 (0.0)	1 (0.2)	1 (0.2)
Asian (%)	0 (0.0)	7 (1.3)	7 (1.2)
Pacific Islander (%)	1 (1.5)	0 (0.0)	1 (0.2)
Other (%)	0 (0.0)	0 (0.0)	0 (0.0)
Two or more races (%)	0 (0.0)	0 (0.0)	0 (0.0)
Hispanic (%)	2 (2.9)	2 (0.4)	4 (0.7)
Unknown	3	0	3
Marital Status			
Married (%)	26 (38.2)	245 (46.7)	271 (45.7)
Widowed (%)	19 (27.9)	115 (21.9)	134 (22.6)
Never married (%)	7 (10.3)	42 (8.0)	49 (8.3)
Divorced (%)	16 (23.5)	123 (23.4)	139 (23.4)
Unknown	3	0	3
Education			
Less than high school (%)	3 (4.4)	37 (7.1)	40 (6.8)
High school graduate (%)	9 (13.2)	130 (24.9)	139 (23.5)
Some college (%)	23 (33.8)	125 (23.9)	148 (25.0)
Baccalaureate or higher (%)	33 (48.5)	231 (44.2)	264 (44.7)
Unknown	3	2	5
Residence			
Metro counties (%) ²	27 (39.7)	226 (43.0)	253 (42.7)
Coastal counties (%)	6 (8.8)	41 (7.8)	47 (7.9)
Other western counties (%)	31 (45.6)	219 (41.7)	250 (42.2)
East of the Cascades (%)	4 (5.9)	39 (7.4)	43 (7.3)
Unknown	3	0	3
End of life care			
Hospice			
Enrolled (%) ³	59 (96.7)	463 (88.9)	522 (89.7)
Not enrolled (%)	2 (3.3)	58 (11.1)	60 (10.3)
Unknown	10	4	14
Insurance			
Private (%) ⁴	31 (50.8)	351 (68.0)	382 (66.2)
Medicare, Medicaid or Other Governmental (%)	28 (45.9)	157 (30.4)	185 (32.1)
None (%)	2 (3.3)	8 (1.6)	10 (1.7)
Unknown	10	9	19

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Characteristics	2011 (N=71)	1998-2010 (N=525)	Total (N=596)
Underlying illness			
Malignant neoplasms (%)	56 (82.4)	424 (80.8)	480 (80.9)
Lung and bronchus (%)	16 (23.5)	96 (18.3)	112 (18.9)
Breast (%)	11 (16.2)	41 (7.8)	52 (8.8)
Colon (%)	2 (2.9)	34 (6.5)	36 (6.1)
Pancreas (%)	4 (5.9)	38 (7.2)	42 (7.1)
Prostate (%)	1 (1.5)	25 (4.8)	26 (4.4)
Ovary (%)	3 (4.4)	22 (4.2)	25 (4.2)
Other (%)	19 (27.9)	168 (32.0)	187 (31.5)
Amyotrophic lateral sclerosis (%)	2 (2.9)	42 (8.0)	44 (7.4)
Chronic lower respiratory disease (%)	5 (7.4)	20 (3.8)	25 (4.2)
Heart Disease (%)	1 (1.5)	9 (1.7)	10 (1.7)
HIV/AIDS (%)	0 (0.0)	8 (1.5)	8 (1.3)
Other illnesses (%) ⁵	4 (5.9)	22 (4.2)	26 (4.4)
Unknown	3	0	3
DWDA process			
Referred for psychiatric evaluation (%)	1 (1.4)	39 (7.4)	40 (6.7)
Patient informed family of decision (%) ⁶	70 (98.6)	423 (93.8)	493 (94.4)
Patient died at			
Home (patient, family or friend) (%)	64 (94.1)	498 (94.9)	562 (94.8)
Long term care, assisted living or foster care facility (%)	4 (5.9)	21 (4.0)	25 (4.2)
Hospital (%)	0 (0.0)	1 (0.2)	1 (0.2)
Other (%)	0 (0.0)	5 (1.0)	5 (0.8)
Unknown	3	0	3
Lethal medication			
Secobarbital (%)	56 (78.9)	318 (60.6)	374 (62.8)
Pentobarbital (%)	15 (21.1)	200 (38.1)	215 (36.1)
Other (%) ⁷	0 (0.0)	7 (1.3)	7 (1.2)
End of life concerns⁸			
	(N=71)	(N=521)	(N=592)
Losing autonomy (%)	63 (88.7)	475 (91.2)	538 (90.9)
Less able to engage in activities making life enjoyable (%)	64 (90.1)	459 (88.1)	523 (88.3)
Loss of dignity (%) ⁹	53 (74.6)	333 (84.1)	386 (82.7)
Losing control of bodily functions (%)	24 (33.8)	294 (56.4)	318 (53.7)
Burden on family, friends/caregivers (%)	30 (42.3)	184 (35.3)	214 (36.1)
Inadequate pain control or concern about it (%)	23 (32.4)	111 (21.3)	134 (22.6)
Financial implications of treatment (%)	2 (2.8)	13 (2.5)	15 (2.5)
Health-care provider present¹⁰			
	(N=71)	(N=455)	(N=526)
When medication was ingested ¹¹			
Prescribing physician	6	94	100
Other provider, prescribing physician not present	3	228	231
No provider	5	67	72
Unknown	57	66	123
At time of death			
Prescribing physician (%)	6 (8.5)	83 (18.7)	89 (17.3)
Other provider, prescribing physician not present (%)	2 (2.8)	252 (56.9)	254 (49.4)
No provider (%)	63 (88.7)	108 (24.4)	171 (33.3)
Unknown	0	12	12
Complications¹²			
	(N=71)	(N=525)	(N=596)
Regurgitated	1	21	22
Seizures	0	0	0
None	11	456	467
Unknown	59	48	107
Other outcomes			
Regained consciousness after ingesting DWDA medications ¹²	2	3	5

Oregon Public Health Division

Characteristics	2011 (N=71)	1998-2010 (N=525)	Total (N=596)
Timing of DWDA event			
Duration (weeks) of patient-physician relationship ¹³			
Median	12	12	12
Range	1-1379	0-1905	0-1905
Number of patients with information available	71	523	594
Number of patients with information unknown	0	2	2
Duration (days) between 1st request and death			
Median	47	46	46
Range	15-872	15-1009	15-1009
Number of patients with information available	71	525	596
Number of patients with information unknown	0	0	0
Minutes between ingestion and unconsciousness ¹¹			
Median	5	5	5
Range	2-10	1-38	1-38
Number of patients with information available	8	454	462
Number of patients with information unknown	63	71	134
Minutes between ingestion and death ¹¹			
Median	27	25	25
Range (minutes - hours)	15min-1.5hrs	1min-104hrs	1min-104hrs
Number of patients with information available	8	459	467
Number of patients with information unknown	63	66	129

¹ Unknowns are excluded when calculating percentages.

² Clackamas, Multnomah, and Washington counties.

³ Includes patients that were enrolled in hospice at the time the prescription was written or at time of death.

⁴ Private insurance category includes those with private insurance alone or in combination with other insurance.

⁵ Includes deaths due to benign and uncertain neoplasms, other respiratory diseases, diseases of the nervous system (including multiple sclerosis, Parkinson's disease and Huntington's disease), musculoskeletal and connective tissue diseases, viral hepatitis, diabetes mellitus, cerebrovascular disease, and alcoholic liver disease.

⁶ First recorded beginning in 2001. Since then, 21 patients (4.0%) have chosen not to inform their families, and 8 patients (1.5%) have had no family to inform. There was one unknown case in 2002, two in 2005, and one in 2009.

⁷ Other includes combinations of secobarbital, pentobarbital, and/or morphine.

⁸ Affirmative answers only ("Don't know" included in negative answers). Categories are not mutually exclusive. Data unavailable for four patients in 2001.

⁹ First asked in 2003. Data available for 71 patients in 2011, 396 patients between 1998-2010, and 467 patients for all years.

¹⁰ The data shown are for 2001-2011 since information about the presence of a health care provider/volunteer, in the absence of the prescribing physician, was first collected in 2001.

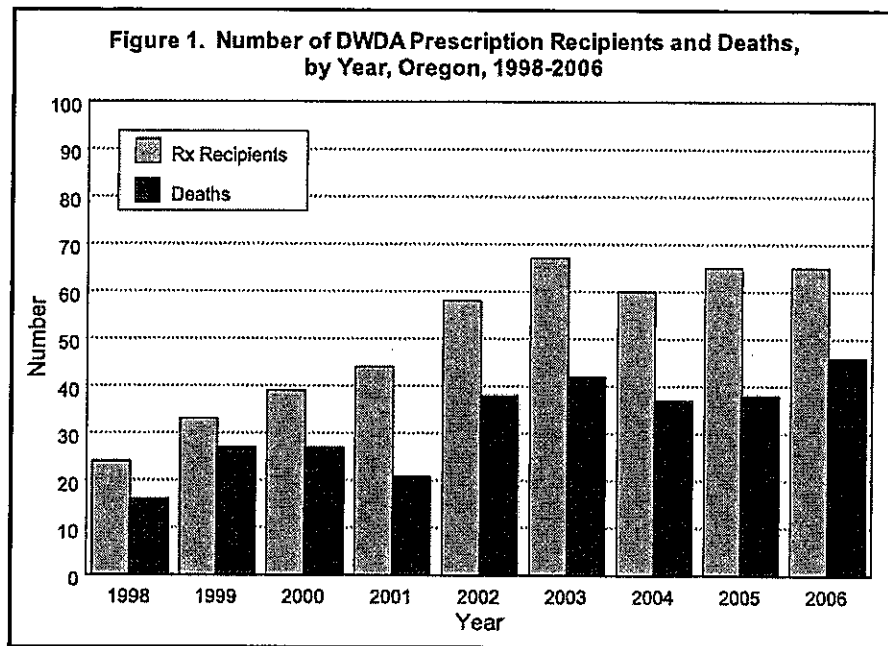
¹¹ A procedure revision was made mid-year in 2010 to standardize reporting on the follow-up questionnaire. The new procedure accepts information about time of death and circumstances surrounding death only when the physician or another health care provider is present at the time of death. This resulted in a larger number of unknowns beginning in 2010.

¹² Patients who regained consciousness after ingesting prescribed medications are not included in the total number of DWDA deaths. In 2005, one patient regained consciousness 65 hours after ingesting the medication, subsequently dying from underlying illness 14 days after awakening. In 2010, two patients regained consciousness after ingesting medications. One patient regained consciousness 88 hours after ingesting the medication, subsequently dying from underlying illness three months later. The other patient regained consciousness within 24 hours, subsequently dying from underlying illness five days following ingestion. In 2011, two patients regained consciousness after ingesting the medication. One of the patients very briefly regained consciousness after ingesting the prescribed medication and died from underlying illness about 30 hours later. The other patient regained consciousness approximately 14 hours after ingesting the medication and died from underlying illness about 38 hours later.

¹³ Previous reports listed 20 records missing the date care began with the attending physician. Further research with these cases has reduced the number of unknowns.

Oregon's Death with Dignity Act - 2006

Under Oregon's Death with Dignity Act (DWDA), terminally-ill adult Oregonians are allowed to obtain and use prescriptions from their physicians for self-administered, lethal medications. The Oregon Public Health Division is required by the Act to collect information on compliance and to issue an annual report. The key findings from 2006 are listed below. For more detail, please view Table 1.



- During 2006, 65 prescriptions for lethal medications under the provisions of the DWDA were written (figure 1). Of these, 35 patients took the medications, 19 died of their underlying disease, and 11 were alive at the end of 2006. In addition, 11 patients with earlier prescriptions died from taking the medications, resulting in a total of 46 DWDA deaths during 2006. This corresponds to an estimated 14.7 DWDA deaths per 10,000 total deaths.
- Forty physicians wrote the 65 prescriptions (range 1-7).
- Since the law was passed in 1997, 292 patients have died under the terms of the law.

- As in prior years, participants were more likely to have cancer (87%), and have more formal education (41% had at least a baccalaureate degree) than other Oregonians who died. Patients who died in 2006 were slightly older (median age 74 years) than in previous years (median age 69 years).
- Most patients died at home (93%); and were enrolled in hospice care (76%), although the number enrolled in hospice was less than in previous years (87%).
- All patients, except one, had some form of health insurance: 64% had private insurance and 33% had Medicare or Medicaid.
- Complications were reported in four patients during 2006; they all regurgitated some of the medication.
- As in previous years, the most frequently mentioned end-of-life concerns were: loss of autonomy (96%), decreasing ability to participate in activities that made life enjoyable (96%), and loss of dignity (76%). During 2006, more participants were concerned about inadequate pain control (48%) than in previous years (22%).
- During 2006, 10 referrals were made to the Board of Medical Examiners (BME) for incorrectly completed reporting forms. The BME found no violations of "good faith compliance" with the Act and did not sanction any physicians for "unprofessional conduct" regarding the Act.

Table 1. Characteristics and end-of-life care of 292 DWDA patients who died after ingesting a lethal dose of medication, by year, Oregon, 1998-2006

Characteristics	2006 (N = 46)*	1998-2005 (N= 246)*	Total (N = 292)*
Sex			
Male (%)	26 (57)	131 (53)	157 (54)
Female (%)	20 (43)	115 (47)	135 (46)
Age			
18-34 (%)	0 (0)	3 (1)	3 (1)
35-44 (%)	1 (2)	7 (3)	8 (3)
45-54 (%)	2 (4)	26 (11)	28 (10)
55-64 (%)	10 (22)	45 (18)	55 (19)
65-74 (%)	11 (24)	72 (29)	83 (28)
75-84 (%)	15 (33)	72 (29)	87 (30)
85+ (%)	7 (15)	21 (9)	28 (10)
Median years (range)	74 (36-96)	69 (25-	70 (25-

	94)		96)	
Race				
White (%)	45 (98)	239 (97)	284 (97)	
Asian (%)	0 (0)	6 (2)	6 (2)	
American Indian (%)	0 (0)	1 (<1)	1 (<1)	
Hispanic (%)	1 (2)	0 -	1 (<1)	
Marital status				
Married (%)	23 (50)	110 (45)	133 (46)	
Widowed (%)	8 (17)	55 (22)	63 (22)	
Divorced (%)	10 (22)	64 (26)	74 (25)	
Never married (%)	5 (11)	17 (7)	22 (8)	
Education				
Less than high school (%)	4 (9)	21 (9)	25 (9)	
High school graduate (%)	11 (24)	71 (29)	82 (28)	
Some college (%)	12 (26)	52 (21)	64 (22)	
Baccalaureate or higher (%)	19 (41)	102 (42)	121 (41)	
Residence				
Metro counties (%) [†]	18 (39)	95 (39)	113 (39)	
Coastal counties (%) [‡]	2 (4)	19 (8)	21 (7)	
Other western counties (%)	19 (41)	117 (48)	136 (47)	
East of the Cascades (%)	7 (15)	15 (6)	22 (8)	
Underlying illness				
Malignant neoplasms (%)	40 (87)	196 (80)	236 (81)	
Lung and bronchus (%)	6 (13)	48 (20)	54 (18)	
Pancreas (%)	7 (15)	20 (8)	27 (9)	
Breast (%)	2 (4)	23 (9)	25 (9)	
Colon (%)	3 (7)	16 (7)	19 (7)	
Prostate	2 (4)	13 (5)	15 (5)	
Other (%)	20 (43)	76 (31)	96 (33)	
Amyotrophic lateral sclerosis (%)	3 (7)	20 (8)	23 (8)	
Chronic lower respiratory disease (%)	0 (0)	11 (4)	11 (4)	
HIV/AIDS (%)	1 (2)	5 (2)	6 (2)	
Illnesses listed below (%) ^ψ	2 (4)	14 (6)	16 (5)	
End of Life Care				
Hospice				
Enrolled (%)	35 (76)	213 (87)	248 (86)	
Not enrolled (%)	11 (24)	31 (13)	42 (14)	
Unknown	-	2	2	
Insurance				
Private (%)	29 (64)	151 (62)	180 (62)	
Medicare or Medicaid (%)	15 (33)	90 (37)	105 (36)	
None (%)	1 (2)	2 (1)	3 (1)	
Unknown	1	3	4	
End-of-life Concerns[§]				
Losing autonomy (%)	44 (96)	207 (86)	251 (87)	
Less able to engage in activities making life enjoyable (%)	44 (96)	206 (85)	250 (87)	
Loss of dignity (%) ^{**}	35 (76)	96 (82)	131 (80)	

Losing control of bodily functions (%)	27 (59)	138 (57)	165 (57)
Burden on family, friends/caregivers (%)	20 (43)	90 (37)	110 (38)
Inadequate pain control or concern about it (%)	22 (48)	54 (22)	76 (26)
Financial implications of treatment (%)	0 -	7 (3)	7 (2)
PAS Process			
Referred for psychiatric evaluation (%)	2 (4)	34 (14)	36 (13)
Patient died at			
Home (patient, family or friend) (%)	43 (93)	232 (94)	275 (94)
Long term care, assisted living or foster care facility (%)	2 (4)	11 (4)	13 (4)
Hospital (%)	0 -	1 (<1)	1 (<1)
Other (%)	1 (2)	2 (1)	3 (1)
Lethal Medication			
Secobarbital (%)	31 (67)	105 (43)	136 (47)
Pentobarbital (%)	15 (33)	137 (56)	152 (52)
Other (%)	0 -	4 (2)	4 (1)
Health-care Provider Present When Medication Ingested^{††}			
Prescribing physician (%)	15 (33)	48 (28)	63 (29)
Other provider, prescribing physician not present (%)	23 (51)	92 (54)	115 (53)
No provider (%)	7 (16)	31 (18)	38 (18)
Unknown	1	5	6
Complications			
Regurgitated (%)	4 (9)	12 (5)	16 (6)
Seizures (%)	0 -	0 -	0 -
Awakened after taking prescribed medication (%)	0 (##)	1 (##)	1 (##)
None (%)	40 (91)	229 (95)	269 (94)
Unknown	2	5	7
Emergency Medical Services			
Called for intervention after lethal medication ingested (%)	0 -	0 -	0 -
Calls for other reasons (%) ^{ψψ}	1 (2)	3 (1)	4 (1)
Not called after lethal medication ingested (%)	45 (98)	239 (99)	284 (99)
Unknown	-	4	4
Timing of PAS Event			
Duration (weeks) of patient-physician relationship			
Median	15	12	12
Range	1-767	0-1065	0-1065
Duration (days) between 1 st request and death ^{§§}			
Median	54	39	42
Range	15-747	15-1009	15-1009
Minutes between ingestion and unconsciousness			
Median	5	5	5
Range	1-29	1-38	1-38
Unknown	4	24	28
Minutes between ingestion and death			
Median	29	25	25
Range (minutes - hours)	1 min-16.5 hrs	4 min-48 hrs	1 min-48 hrs
Unknown	3	17	20

* Unknowns are excluded when calculating percentages.

† Clackamas, Multnomah, and Washington counties.

‡ Excluding Douglas and Lane counties.

Ψ Includes aortic stenosis, alcoholic hepatic failure, cardiomyopathy, congestive heart failure, corticobasal degeneration, diabetes mellitus with renal complications, digestive organ neoplasm of unknown behavior, emphysema, endocarditis, hepatitis C, myelodysplastic syndrome, organ-limited amyloidosis, pulmonary disease with fibrosis, scleroderma, and Shy-Drager syndrome.

§ Affirmative answers only ("Don't know" included in negative answers). Available for 17 patients in 2001.

** First asked in 2003.

†† The data shown are for 2001-2006. Information about the presence of a health care provider/volunteer, in the absence of the prescribing physician, was first collected in 2001. Attendance by the prescribing physician has been recorded since 1998. During 1998-2006, the prescribing physician was present when 35% of the patients ingested the lethal medication.

‡‡ Historically, the Annual Report tables list information on patients who died as a result of ingesting medication prescribed under the provisions of the Death with Dignity Act. Because one patient regained consciousness after ingesting the lethal medication and then died 14 days later from his/her illness rather than from the medication, the complication is recorded here but the patient is not included in the total number of PAS deaths.

ΨΨ Calls included three to pronounce death and one to help a patient who had fallen.

§§ Note that an extended period of time may elapse from the patient's first request until the attending physician writes a prescription for the lethal medication.