Seventh 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 seventh annual report, we characterize the 37 Oregonians who, in 2004, ingested 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 1998-2004 with other Oregonians who died of the same underlying causes.

In 2004, 40 physicians wrote a total of 60 prescriptions for lethal doses of medication, the first decrease in the annual total of prescriptions written since PAS became legal in Oregon. 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-five of the 2004 prescription recipients died after ingesting the medication. Of the 25 recipients who did not ingest the prescribed medication in 2004, 13 died from their illnesses, and 12 were alive on December 31, 2004. In addition, two patients who received prescriptions during 2003 died in 2004, after ingesting their medication, giving a total of 37 PAS deaths during 2004.

Although five fewer patients ingested lethal medication in 2004 compared to 2003, the trend has been upward since legalization. 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. Paralleling the upward trend in the number of deaths are the ratios of PAS deaths to total deaths: in 1998 there were 5.5 PAS deaths per every 10,000 total deaths, followed by 9.2 in 1999, 9.1 in 2000, 7.0 in 2001, 12.2 in 2002, 13.6 in 2003, and an estimated 12/10,000 in 2004.[1-6]

Compared to all Oregon decedents, PAS participants in 2004 were more likely to have malignant neoplasms (78%), to be younger (median age 64 years), and to have more formal education (51% had at least a baccalaureate degree).

During the past seven years, the 208 patients who took lethal medications differed in several ways from the 64,706 Oregonians dying from the same underlying diseases. Rates of participation in PAS decreased with age, but 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 nine in 10 patients having at least three concerns. The most frequently mentioned end-of-life concerns during 2004 were: a decreasing ability to participate in activities that made life enjoyable, loss of autonomy, and a loss of dignity (see End of Life Concerns, page 14).

During 2004, 25 patients (68%) used pentobarbital as their lethal medication and 12 patients (32%) used secobarbital (see Lethal Medication, page 13).

Complications were reported for three patients during 2004; all involved regurgitation and none involved seizures (see Complications, page 14). One-half of patients became unconscious within five minutes of ingestion of the lethal medication and died within 25 minutes. The range of time from ingestion to death was five minutes to 31 hours. In no case were Emergency Medical Services called.

Although the number of Oregonians ingesting legally prescribed lethal medications has trended upward since 1998, the overall number of terminally ill patients using PAS has remained small, with about one of every 800 deaths among Oregonians in 2004 resulting from physician-assisted suicide.

Introduction

This seventh annual report reviews the monitoring and data collection system that was implemented under Oregon's Death with Dignity Act (DWDA), which legalizes physician-assisted suicide (PAS) for terminally ill Oregon residents. This report summarizes the information collected on patients and physicians who participated in the Act in its seventh year of implementation (January 1, 2004 to December 31, 2004) and examines trends over the seven years since legalization. Using physician reports, interviews, and death certificates, we address the following questions: Is the number of residents using legal PAS in Oregon increasing? Do patients who participated in 2004 resemble patients using PAS in previous years and other Oregonians dying from similar diseases? Have any changes occurred in the PAS process during the past seven years?

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.[7]

Although physician-assisted suicide has been legal in Oregon for seven 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. All patients receiving medication under the Death with Dignity Act have used 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, which was subsequently 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 request was denied. On November 9, 2004, Ashcroft asked the U.S. Supreme Court to review the Ninth Circuit Court's decision and on February 22, 2005, the court agreed to hear the appeal. Arguments will be held during the Supreme Court's next term, beginning in October 2005. At this time, Oregon's law 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 the term "physician-assisted suicide" because it is used in the 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.[7]

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),
- 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 within seven working days of prescribing the medication.[8] Reporting is not required if patients begin the request process but never receive a prescription. In the summer of 1999, the Oregon legislature added a requirement that pharmacists must be informed of the prescribed medication's ultimate 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.[7]

The Oregon Revised Statutes specify that action taken in accordance with the Death with Dignity Act does not constitute suicide, assisted suicide, mercy killing or homicide, under the law.[7]

Methods

The Reporting System

DHS is required by the Act to develop and maintain a reporting system for monitoring and collecting information on PAS.[7] To fulfill this mandate, DHS uses a system involving physician and pharmacist compliance reports, death certificate reviews, and follow-up interviews.[8]

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 has conducted telephone interviews with prescribing physicians after receipt of the patients' death certificates.[9] Each physician was asked to confirm whether the patient took the lethal medications. If the patient had taken the medications, we asked for information that was not available from previous physician reports or death certificates--including insurance status and enrollment in hospice. We asked 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, inadequate pain control, and loss of dignity. We collected information on the time to unconsciousness and death, and asked 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 accepted information they had based on discussions with family members, friends or other health professionals who attended the patients' deaths. We also accepted information directly from these individuals. We did not interview or collect any information from patients prior to their death. In lieu of the telephone interview, physicians had the option of printing the questionnaire from our web site,

completing it at their convenience, and mailing the document to us. Reporting forms and the physician questionnaire are available at: http://www.dhs.state.or.us/publichealth/chs/pas/pasforms.cfm

Data Analysis

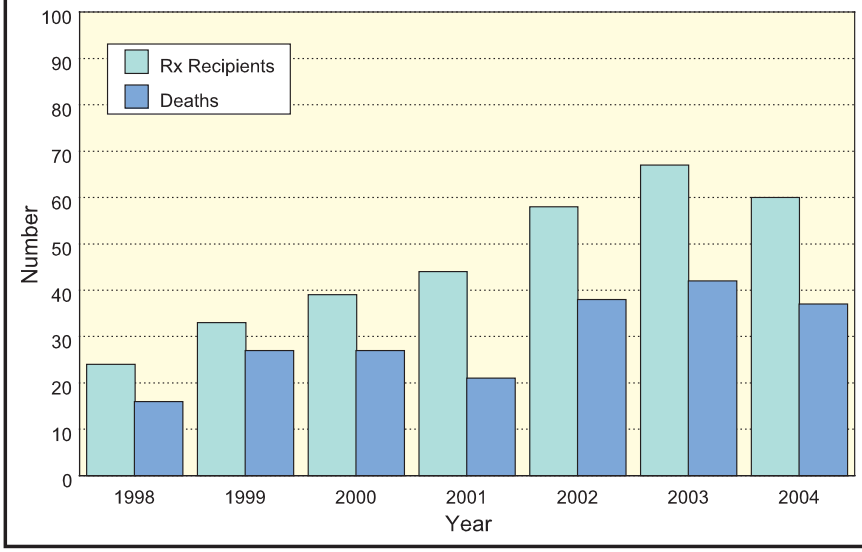
We classified patients by year of participation based on when they ingested the legally-prescribed lethal medication. Using demographic information from 1997-2003 Oregon death certificates (the most recent years for which complete data are available), we compared patients who used legal PAS with other Oregonians who died from the same diseases. Demographic- and disease-specific PAS ratios 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 2004 where the number of resident deaths from 2003 was used as the denominator. SPSS, release 12.0 and PEPI (Computer Programs for Epidemiologists), version 4.0 were used in data analysis. Statistical significance was calculated 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 trended upward over the seven years that PAS has been legal in Oregon. In 2004, 40 physicians wrote 60 prescriptions for lethal doses of medication, the first decline in the annual total of prescriptions written since PAS became legal in 1998. In that year 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. (Note that the 68 prescriptions written in 2003 is one higher than previously reported; documentation for one case was received after the 2003 report was prepared. This patient did not take the medication in 2003 and was still alive as of December 31, 2004.)

Thirty-five of the 2004 prescription recipients died after ingesting the medication. Of the 25 recipients who did not ingest the prescribed medication in 2004, 13 died from their illnesses, and 12 were alive on December 31, 2004. In addition, two patients who received prescriptions during 2003 died in 2004 after ingesting their medication, giving a total of 37 PAS deaths during 2004.

Figure 1. Number of DWDA Prescription Recipients and Deaths, by Year, Oregon, 1998-2004



Although five fewer patients ingested lethal medication in 2004 compared to 2003, the trend has been upward since legalization (*Figure 1*). 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. Paralleling the upward trend in the number of deaths are the ratios of PAS

deaths to total deaths: 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, and an estimated 12/10,000 in 2004.

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 2004.

Patient Characteristics

Patients who used PAS in 2004 were similar to those in previous years except that they were apt to be younger (their median age was 64 compared to 70 for those using PAS in preceding years). (Table 1).

Although year-to-year variations occur, certain demographic patterns have become evident over the past seven years. Males and females were equally likely to take advantage of the DWDA, but terminally ill younger persons were significantly more likely to use PAS than their older counterparts (Table 2). Divorced and never-married persons were about two times more likely to use PAS than married and widowed residents. A higher level of education was strongly associated with the use of PAS; Oregonians with a baccalaureate degree or higher were 8.3 times more likely to use PAS than those without a high school diploma. By region, residents living east of the Cascade Range were less than half as likely to use PAS as those living in western Oregon.

The type of terminal illness is a strong predictor of the likelihood of a patient using PAS (Table 3). The ratios of DWDA deaths to all deaths resulting from the same causes were high for three conditions: amyotrophic lateral sclerosis (ALS) (252.0 per 10,000 decedents dying from the same disease), HIV/AIDS (234.7), and malignant neoplasms (38.4). Among the causes associated with at least five deaths, the lowest rate (9.1) was for patients with chronic lower respiratory diseases (CLRD), such as emphysema. Persons with ALS (Lou Gehrig's disease) were more than 28 times as likely to use PAS as those with CLRD. Persons with HIV/AIDS were also more likely to use PAS.

During 2004, all patients but one died at home, and one died at an assisted living facility. All individuals had some form of health insurance (Table 4). As in previous years, most (89%) of the patients who used PAS in 2004 were enrolled in hospice care. The median length of the patient-physician relationship was 12 weeks.

Physician Characteristics

The prescribing physicians of patients who used PAS during 2004 had been in practice a median of 22 years (range 6-36). Their medical specialties included: family medicine (57%), oncology (22%), internal medicine (8%), and other (14%).

Most physicians (70%) who wrote prescriptions for lethal medication during 2004 wrote a single prescription. Of the 40 physicians who wrote prescriptions in 2004, 28 wrote one prescription, nine wrote two prescriptions, one wrote three prescriptions, another wrote four prescriptions, and one wrote seven 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 2004, the prescribing physician was present 16 percent of the time (6 of 37 patients). Among the remaining 31 patients, 25 (81%) ingested the medication in the presence of another healthcare provider/volunteer.

During 2004, one case involving three issues was referred to the Oregon Board of Medical Examiners. This case involved failure to submit a physician survey in a timely manner, filing an incomplete Attending Physician's Compliance Form, and witnessing of signatures on a patient request form.

Lethal Medication

During 1998-2003, secobarbital was the lethal medication prescribed for 89 of the 171 patients (52%). During 2004, all lethal medications prescribed under the provisions of the DWDA were barbiturates. In 2004, 25 patients (68%) used pentobarbital and 12 patients (32%) used secobarbital. Since the DWDA was implemented, 49% of the PAS patients used secobarbital, 50% used pentobarbital, and 2% used other medications (three used secobarbital/amobarbital and one used secobarbital and morphine).

Complications

During 2004, physicians reported that three patients experienced complications: two patients vomited a small amount of the medication, one of whom died 15 minutes after ingestion and the other 45 minutes after ingestion. A third patient drank one-third of the prescribed medication and vomited, dying 31 hours later.

Three patients fell into unconsciousness after having consumed one-half of the prescribed medication, with death occurring 30 minutes, 2.5 hours, and 7.5 hours after ingestion. Another patient said the lethal medication had a "bad taste" and quit after consuming 750 mg of pentobarbital; this patient died 12 hours later. One patient who ingested the entire dose of lethal medication died 19.5 hours after taking it.

None of the patients regained consciousness after ingesting the lethal medication nor were emergency medical services called.

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. During 2004, one patient (3%) was reported to have one end-of-life concern, three (8%) had two concerns, 10 (27%) had three concerns, 12 (32%) had four concerns, eight (22%) had five concerns, and three (8%) had six concerns. The most frequently reported concerns included, a decreasing ability to participate in activities that make life enjoyable (92%), losing autonomy (87%), and loss of dignity (78%).

Comments

During the seven years since legalization, the number of prescriptions written for physician-assisted suicide and the number of terminally ill patients taking lethal medication has trended upward. However, the number has remained small compared to the total number of resident deaths (30,813 in 2003) with about one in 800 deaths among Oregonians in 2004 resulting from PAS. This proportion is consistent with numbers from a survey of Oregon physicians.[10] A recent large population study of dying Oregonians found that 17% personally considered PAS seriously enough to have discussed the matter with their families 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 seven 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 must be interpreted with caution, Oregon HIV/AIDS patients are also disproportionately likely to use PAS, a finding consistent with studies elsewhere.[15]

Physicians have consistently reported that concerns about loss of autonomy and decreased ability to participate in activities that make life enjoyable are important motivating factors in patient requests for lethal medication across all seven 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.[16]

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 patient's concerns have been addressed by the provider, he or she may choose not to pursue PAS.[17] The availability of PAS as an option in Oregon also may have spurred Oregon doctors to address other end-of life care options more effectively. In one study, Oregon physicians reported that, since the passage of the Death with Dignity Act in 1994, they had made efforts to improve their knowledge of the use of pain medications in the terminally ill, to improve their recognition of psychiatric disorders such as depression, and to refer patients more frequently to hospice.[18]

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Table 1. Demographic characteristics of 208 DWDA patients who died after ingesting a lethal dose of medication, by year, Oregon, 1998-2004.

Characteristics	2004 (N = 37)*	1998-2003 (N= 171)*	Total (N = 208)*
Sex			
Male (%)	18 (49)	90 (53)	108 (52)
Female (%)	19 (51)	81 (47)	100 (48)
Age			
18-34 (%)	1 (3)	2 (1)	3 (1)
35-44 (%)	1 (3)	5 (3)	6 (3)
45-54 (%)	9 (24)	14 (8)	23 (11)
55-64 (%)	8 (22)	29 (17)	37 (18)
65-74 (%)	7 (19)	55 (32)	62 (30)
75-84 (%)	10 (27)	51 (30)	61 (29)
85+ (%)	1 (3)	15 (9)	16 (8)
Median years (Range)	64 (34-89)†	70 (25-94)	69 (25-94)
Race			
White (%)	37 (100)	166 (97)	203 (98)
Asian (%)	0 (0)	5 (3)	5 (2)
Other (%)	0	0	0
Marital status			
Married (%)	15 (41)	75 (44)	90 (43)
Widowed (%)	6 (16)	41 (24)	47 (23)
Divorced (%)	14 (38)	42 (25)	56 (27)
Never married (%)	2 (5)	13 (8)	15 (7)
Education			
Less than high school (%)	2 (5)	16 (9)	18 (9)
High school graduate (%)	11 (30)	51 (30)	62 (30)
Some college (%)	5 (14)	35 (21)	40 (19)
Baccalaureate or higher (%)	19 (51)	69 (40)	88 (42)
Residence			
Metro counties (%)**	16 (43)	67 (39)	83 (40)
Coastal counties (%)***	3 (8)	14 (8)	17 (8)
Other W. counties (%)	17 (46)	79 (46)	96 (46)
E. of the Cascades (%)	1 (3)	11 (6)	12 (6)
Underlying illness			
Malignant neoplasms (%)	29 (78)	135 (79)	164 (79)
Lung and bronchus (%)	7 (19)	33 (19)	40 (19)
Breast (%)	3 (8)	16 (9)	19 (9)
Pancreas (%)	2 (5)	16 (9)	18 (9)
Colon (%)	2 (5)	10 (6)	12 (6)
Other (%)	15 (41)	60 (35)	75 (36)

Characteristics (Cont'd)	**2004 (N=37)***	**1998-2003 (N=171)***	**Total (N=208)***
Underlying Illness (Cont'd)			
Amyotrophic lateral sclerosis (%)	3 (8)	13 (8)	16 (8)
Chronic lower respiratory disease (%)	1 (3)	9 (5)	10 (5)
HIV/AIDS (%)	2 (5)	3 (2)	5 (2)
Illnesses listed below (%)[#]	2 (5)	11 (6)	13 (6)

* Unknowns are excluded when calculating percentages.

** Clackamas, Multnomah, and Washington counties.

*** Excluding Douglas and Lane counties.

† Difference between 2004 and prior years is statistically significant by Mann-Whitney test.

Includes 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 208 patients who died during 1998-2004 after ingesting a lethal dose of medication, compared with 64,706 Oregonians dying from the same underlying diseases.

Characteristics	PAS patients 1998-2004 (N = 208)*	Oregon deaths, same diseases (N =64,706)*	DWDA deaths per 10,000 Oregon deaths	Rate ratio (95% CI**)
Sex				
Male (%)	108 (52)	32,676 (50)	33.1	1.1 (0.8-1.4)
Female (%)	100 (48)	32,030 (50)	31.2	1.0
Age				
18-34 (%)	3 (1)	351 (1)	85.5	7.3 (1.3-25.6)#
35-44 (%)	6 (3)	1,236 (2)	48.5	4.1 (1.3-11.1)
45-54 (%)	23 (11)	4,090 (6)	56.2	4.8 (2.5-9.0)
55-64 (%)	37 (18)	8,278 (13)	44.7	3.8 (2.1-6.8)
65-74 (%)	62 (30)	15,808 (24)	39.2	3.3 (1.9-5.7)
75-84 (%)	61 (29)	21,427 (33)	28.5	2.4 (1.4-4.2)
85+ (%)	16 (8)	13,516 (21)	11.8	1.0
Median years	69 (25-94)	76		
Race				
White (%)	203 (98)	62,878 (97)	32.3	1.0
Asian (%)	5 (2)	680 (1)	73.5	2.3 (0.7-5.5)##
Other (%)	0	1,135 (2)	0	0
Unknown	*0*	*13*		
Marital status				
Married (%)	90 (43)	31,302 (49)	28.8	1.0
Widowed (%)	47 (23)	21,317 (33)	22.0	0.8 (0.5-1.1)
Divorced (%)	56 (27)	9,246 (14)	60.6	2.1 (1.5-2.9)+
Never married (%)	15 (7)	2,693 (4)	55.7	1.9 (1.1-3.3)+
Unknown	*0*	*148*		
Education				
Less than high school (%)	18 (9)	15,302 (24)	11.8	1.0
HS graduate (%)	62 (30)	27,663 (43)	22.4	1.9 (1.1-3.2)
Some college (%)	40 (19)	11,771 (19)	34.0	2.9 (1.7-5.0)
Baccalaureate or higher (%)	88 (42)	9,061 (14)	97.1	8.3 (5.0-13.7)#
Unknown	*0*	*909*		
Residence				
Metro counties (%)	83 (40)	23,332 (36)	35.6	1.0
Coastal counties (%)	17 (8)	5,292 (8)	32.1	0.9 (0.5-1.5)
Other W. counties (%)	96 (46)	26,989 (42)	35.6	1.0 (0.8-1.3)
E. of the Cascades (%)	12 (6)	9,093 (14)	13.2	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 208 patients who died during 1998-2004 after ingesting a lethal dose of medication, compared with 64,706 Oregonians dying from the same underlying diseases.

Underlying illnesses	PAS patients 1998-2004 (N = 208)	Oregon deaths, same diseases (N =64,706)	DWDA deaths per 10,000 Oregon deaths	Rate ratio (95% CI*)
Malignant neoplasms (%)	164 (79)	42,717 (66)	38.4	4.2 (2.2-8.0)+
Lung and bronchus (%)	40 (19)	14,096 (22)	28.4	3.1 (1.6-6.2)+
Breast (%)	19 (9)	3,587 (6)	53.0	5.8 (2.7-12.5)+
Pancreas (%)	18 (9)	2,563 (4)	70.2	7.7 (3.6-16.7)+
Colon (%)	12 (6)	3,713 (6)	32.3	3.5 (1.5-8.2)+
Ovary (%)	12 (6)	1,364 (2)	88.0	9.7 (3.8-25.2)++
Prostate (%)	10 (5)	3,085 (5)	32.4	3.6 (1.3-9.5)++
Skin (%)	9 (4)	812 (1)	110.8	12.3 (4.4-33.7)++
Other (%)	44 (21)	13,497 (21)	32.6	3.6 (1.8-7.1)+
Amyotrophic lateral sclerosis (%)	16 (8)	635 (1)	252.0	28.3 (12.0-70.0)++
Chronic lower respiratory dis. (%)	10 (5)	10,963 (17)	9.1	1.0
HIV/AIDS (%)	5 (2)	213 (<1)	234.7	26.3 (7.0-85.3)++
Illnesses listed below (%)#	13 (6)	10,178 (16)	12.8	1.4 (0.6-3.2)

* Confidence interval.

\# Includes 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 208 Oregonians who died after ingesting a lethal dose of medication, by year, 1998-2004.

Characteristics	2004 (N=37)*	1998-2003 (N=171)*	Total (N=208)*
End of Life Care			
Hospice			
Enrolled (%)	33 (89)	145 (86)	178 (86)
Not enrolled (%)	4 (11)	24 (14)	28 (14)
Unknown	-	*2*	*2*
Insurance			
Private (%)	27 (73)	102 (61)	129 (63)
Medicare or Medicaid (%)	10 (27)	64 (38)	74 (36)
None (%)	-	2 (1)	2 (1)
Unknown	-	*3*	*3*
End of Life Concerns[+]			
Losing autonomy (%)	32 (87)	145 (87)	177 (87)
Less able to engage in activities making life enjoyable (%)	34 (92)	138 (83)	172 (84)
Loss of dignity (%)[++]	29 (78)	31 (82)	60 (80)
Losing control of bodily functions (%)	24 (65)	97 (58)	121 (59)
Burden on family, friends/caregivers (%)	14 (38)	60 (36)	74 (36)
Inadequate pain control or concern about it (%)	8 (22)	37 (22)	45 (22)
Financial implications of treatment (%)	2 (5)	4 (2)	6 (3)
PAS Process			
Referred for psychiatric evaluation (%)	2 (5)	30 (18)	32 (16)
Patient died at			
Home (patient, family or friend) (%)	36 (97)	160 (94)	196 (94)
Long term care, assisted living or foster care facility (%)	1 (3)	8 (5)	9 (4)
Hospital (%)	0	1 (1)	1 (<1)
Other (%)	0	2 (1)	2 (1)
Lethal Medication			
Secobarbital (%)	12 (32)	89 (52)	101 (49)
Pentobarbital (%)	25 (68)	78 (46)	103 (50)
Other (%)	0	4 (2)	4 (2)
Health-care provider present when medication ingested[†]			
Prescribing physician (%)	6 (16)	34 (34)	40 (29)
Other provider, when prescribing physician not present (%)	25 (68)	49 (49)	73 (54)
No provider (%)	6 (16)	16 (16)	22 (16)
Unknown	*0*	*2*	*2*
Complications			
Regurgitated (%)	3 (8)	7 (4)	10 (5)
Seizures (%)	0	0	0
Neither (%)	34 (92)	160 (96)	194 (95)
Unknown	0	4	4

Characteristics (cont'd)	2004 (N=37)*	1998-2003 (N=171)*	Total (N=208)*
Emergency Medical Services			
Called for intervention after lethal medication ingested (%)	0	0	0
Calls for other reasons (%)**	0	2 (1)	2 (1)
Not called after lethal medication ingested (%)	37 (100)	166 (99)	203 (99)
Unknown	*0*	*3*	*3*
Timing of PAS Event			
Duration (weeks) of patient-physician relationship			
Median	12	13	12
Range	0-1065	0-851	0-1065
Duration (days) between 1st request and death			
Median	33	39	38
Range	15-593	15-737	15-737
Minutes between ingestion and unconsciousness			
Median	5	5	5
Range	1-30	1-38	1-38
Unknown	*2*	*19*	*21*
Time between ingestion and death			
Median (minutes)	25	25	25
Range (minutes-hours)	5m-31h	4m-48h	4m-48h
Unknown(minutes)	*3*	*12*	*15*

* Unknowns are excluded when calculating percentages unless otherwise noted.

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

† The data shown are for 2001-2004. 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 1998-2004 the prescribing physician was present when 38% of the patients ingested the lethal medication.

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

++ First asked in 2003.