Can Legalization Improve End-of-Life Care? An Empirical Analysis of the Results of The Legalization of Euthanasia and Physician-Assisted Suicide in the Netherlands and Oregon

Jackson B. Pickett, *University of Houston - Main*
Can Legalization Improve End-of-Life Care?

An Empirical Analysis of the Results of the Legalization of Euthanasia and Physician-Assisted Suicide in the Netherlands and Oregon

by Jackson Pickett
Table of Contents

I. INTRODUCTION .................................................................................................................. 4

II. LAW AND STATUTES OF THE NETHERLANDS .................................................... 13

A. Dutch Common Law ........................................................................................................... 13
   1. Justification of Necessity ................................................................................................. 13
   2. Psychiatric patients ........................................................................................................ 17
   3. Infants ............................................................................................................................ 19
   4. Lack of Patient Consent ............................................................................................... 22
   5. Normal Medical Practice ............................................................................................. 23

B. Legalized of Euthanasia .................................................................................................... 24

III. Oregon Assisted Suicide Law ..................................................................................... 26

A. American Common Law and Oregon’s Statute ............................................................. 26

B. Death with Dignity Act Requirements ........................................................................... 28

IV. ANALYSIS – NETHERLANDS .................................................................................... 30

A. End-of-Life Practice Unchanged by Legalization ......................................................... 30

B. Physicians Avoid Reporting ............................................................................................ 37

C. Reporting Leads to Avoidance of Reporting .................................................................. 39

D. Is the No Consent Group Murder? ................................................................................. 41
   1. Most No Consent Is Normal Medical Care ..................................................................... 41
   2. “No Consent” Resembles Treatment of Symptoms ....................................................... 44

E. Vulnerable Groups Are Protected .................................................................................... 46
   1. Mentally Handicapped Patients ................................................................................... 49
   2. Psychiatric Patients ....................................................................................................... 52
3. Children........................................................................................................... 53

F. Complications.................................................................................................... 55

V. ANALYSIS – OREGON.......................................................................................... 56

A. Assisted Suicide Is Rare, But Increasing......................................................... 56
B. Patients Control Manner of Death................................................................. 58
C. Complications.................................................................................................... 59

VI. ANALYSIS – OBSERVATIONS, LIMITATIONS, AND RECOMMENDATIONS...................................................... 60

A. Empirical Observations..................................................................................... 60
   1. Physicians Comply with the Law................................................................. 60
   2. Vulnerable Groups Are Underrepresented.................................................. 61
   3. No Consent Is Mainly Normal Medical Treatment................................. 64
   4. Legalization Shapes Physician Behavior.................................................... 66
   5. Reporting Improves End-of-Life Care......................................................... 68
B. Limitations of Empirical Studies..................................................................... 70
   1. No Controls and Unclear Causality............................................................. 70
   2. Classification Bias....................................................................................... 73
C. Recommendations Suggested by Empirical Studies................................. 75
   1. Screening for Suspicious Deaths................................................................. 75
   2. Reporting to Improve End-of-Life Care...................................................... 75
   3. Avoid Waiting Periods or Extensive Evaluations....................................... 77

VII. CONCLUSION.................................................................................................. 77
I. INTRODUCTION

Imagine that you are dying of cancer that has spread throughout your body.¹ After multiple medical opinions you are convinced that death is near.² You ask your physician to end your suffering.³ If your physician intends to end

³ Multiple values conflict here: patient autonomy and the physician’s duty to end suffering vs. the physician’s duty not to kill and the requirement that the patient be competent and make a rational decision. Margaret P. Battin & Timothy E. Quill, False Dichotomy versus Genuine Choice:
your life by relieving your pain with morphine, she can be charged with murder.\textsuperscript{4} If she intends only to end your pain with morphine, her action will be ignored by the law.\textsuperscript{5} As a practical matter, by using intent to separate murder from routine medical care, the law has added uncertainty to medical end-of-life decision making.\textsuperscript{6}

The hypothetical end-of-life medical decision described is very common. About 2.4 million people die each year in the United States.\textsuperscript{7} Although many deaths reflect a


\textsuperscript{5} See Cantor, supra note 3, at 422-29.

\textsuperscript{6} Castellano, supra note 4, at 225-30.

\textsuperscript{7} WHO Mortality Database, supra note 1.
sudden process, such as accidents, it is common for diseases to progress to a point where further medical treatment becomes futile. When this happens, death can become predictable and painful. In this situation some patients demand physicians end their suffering.

There are several ways physicians end their patient’s suffering. Physicians can treat their patient’s symptoms with medications which will end their patient’s suffering.

---

8 About 100,000 deaths were due to accidents in 2000 in the United States. Id.


10 SUPPORT Principal Investigators, A Controlled Trial to Improve Care for Seriously Ill Hospitalized Patients: The Study to Understand Prognoses and Preferences for Outcomes and Risks of Treatments (SUPPORT), 274 JAMA 1591, 1593-95 (1995); Margaret Pabst Battin, Ending Life, Ethics and the Way We Die 20-21 (2005).

11 Cantor, supra note 3, at 409-27.
and also their life.\textsuperscript{12} For example, morphine can relieve a
dying patient’s pain but can also stop breathing; this form
of killing is acceptable in many countries\textsuperscript{13} and will be
called the treatment of symptoms.\textsuperscript{14} Also, it is legal for a
physician to end medical treatment of a dying patient even
if this kills the patient.\textsuperscript{15} This will be called ending of

\begin{thebibliography}{9}
\bibitem{12} Timothy E. Quill, et al., \textit{The Rule of Double Effect - A
Critique of Its Role in End-of-Life Decision Making}, 337 \textit{New
\bibitem{13} BATTIN, \textit{supra} note 10, at 49-55; N. Ferreira, \textit{Latest Legal
and Social Developments in the Euthanasia Debate: Bad Moral
Consciences and Political Unrest}, 26 \textit{MED. \\& L.} 387, 390
(2007) (listing Albania, Denmark, Finland, Germany,
Switzerland and the UK as countries where it is legal to
use large doses of pain killers that shorten a patient’s
life); Vaco v. Quill, 521 U.S. 793, 802 (1996) (accepting
in dicta that “painkilling drugs may hasten a patient’s
death, but the physician’s purpose and intent is, or may
be, only to ease his patient’s pain”).
\bibitem{14} QUILL ET AL., \textit{supra} note 12, at 1768; Peter L. Bailey, et
al., \textit{Effects of Intrathecal Morphine on the Ventilatory
\bibitem{15} Cantor, \textit{supra} note 3, at 410-15.
\end{thebibliography}
treatment. It is legal to sedate dying patients associated with measures which hasten the patient’s death; this is terminal sedation.\textsuperscript{16} In practice the most common ways for physicians to end their patients’ life are those accepted in their jurisdiction.\textsuperscript{17}

With rare exceptions it is illegal for a physician intentionally to give a dying patient a medication to end the patient’s life.\textsuperscript{18} This ban includes euthanasia, where a physician intentionally kills a dying patient, at the

\textsuperscript{16} Id. at 409-10; Quill et al., supra note 12, at 1769-70; Castellano, supra note 4, at 211 (2007) (stating there is no legal precedent in the United States); Vaco, 521 U.S. at 802.


\textsuperscript{18} Suzanne Rode, \textit{End-of-Life Decisionmaking for Patients in Persistent Vegetative States: A Comparative Analysis}, 30 \textit{Hastings Int'l & Comp. L. Rev.} 477, n.27 (2007) (listing Belgium, Columbia, Japan and the Netherlands as countries where euthanasia is legal; in addition to these countries, physician-assisted suicide is legal in Germany, Switzerland, the United Kingdom and Oregon).
patient’s request, by giving a lethal medication. Assisted suicide is where the physician intentionally gives a dying patient a lethal medication which the patient takes. Both voluntary euthanasia and assisted suicide require that the patient be able to make a reasoned decision, or be competent, and request the lethal medication from the physician. Dividing the legal from the illegal, or the legal classification, depends on the intent of the physician and consent of the patient.

This legal classification breaks down in practice. Physician intent may be hard to discern as the same medication can be used in treatment of symptoms and euthanasia; both will end in the death of the patient.

---


21 Lewis, supra note 19, at 4-5. Euthanasia is involuntary when the patient is capable of consenting but does not do so. Id. at 5.

22 Cantor, supra note 3, at 409-10; Quill, supra note 12, at 1769.

23 Quill, supra at note 12, at 1769-70.
Discerning intent is “mission impossible.” Consent of the patient is not required when a physician determines that medical treatment is futile and ends medical treatment without consent of the patient. Conversely, depressed or incompetent patients may consent inappropriately to euthanasia or physician-assisted suicide. A legal classification based on physician intent and patient consent fails to cleanly separate murder from medical care.

Although it is logical to classify euthanasia as murder, most physicians performing euthanasia are not punished. This logical inconsistency of the law will be sorely tested as medical technology makes it possible to

24 Cantor, supra at note 3, at 423.
25 Kasman, supra note 9, at 1054.
27 Cantor, supra note 3, at 427-29.
28 Cantor, supra note 3, at 423; Castellano, supra note 4, at 225-29.
extend life beyond the desires of many dying patients. The meaningless extension of the dying process by medical technology will be aggravated by the aging of the world population. Millions of dying patients will push for legalization so that they can control how their lives end.

Fortunately for legalization efforts, there are an impressive series of reports from the Netherlands and Oregon summarizing the results of legalization of assisted

---


31 The World Health Organization estimated that 55.7 million adults died in 2000. Emmanuela Gakidou, et al., Adult Mortality: time for a reappraisal, 33 Int. J. Epidemiol. 710, 712 (2004). In the Netherlands about 2% of all deaths are due to assisted suicide or euthanasia. Van der Heide, supra note 17, at 1961. Two percent of 55.7 million deaths a year is 1.1 million annual requests.
suicide and euthanasia.\textsuperscript{32} The analysis of these reports shows that reporting and legalization shape physician behavior. In the Netherlands, physicians are nineteen-times more likely to end dying patient’s lives using procedures where reporting is not required.\textsuperscript{33} Conversely, reporting in Oregon channels patients requesting assisted suicide into hospice care and promotes treatment of pain.\textsuperscript{34}

This article will first review the common law and statutes of the Netherlands and Oregon. Next, it will analyze the empirical results from the Netherlands and Oregon. Third, it will make observations based on the empirical data, point out limitations of these empirical studies and make recommendations based on these empirical studies. In the conclusion I will argue that a valid goal of legalization is optimal end-of-life care.

\textsuperscript{32} Sullivan, supra note 29, at 598; Van der Heide, supra note 17, at 1957.

\textsuperscript{33} Infra note 146 and associated table.

II. LAW AND STATUTES OF THE NETHERLANDS

A. Dutch Common Law

1. Justification of Necessity.

According to the Dutch Penal Code, euthanasia and assisted suicide are crimes.\textsuperscript{35} However, Dutch courts usually do not punish a physician who ends the suffering of a dying patient.\textsuperscript{36} Punishment is avoided by finding that euthanasia or assisted suicide is justified because the physician was

\textsuperscript{35} Article 293: “A person who takes the life of another person at that other person’s express and earnest request is liable for a term of imprisonment of not more than twelve years or a fine of the fifth category.” John Griffiths, et al., Euthanasia and Law in the Netherlands 308 (1998), quoting a translation in The Dutch Penal Code (L. Rayar & S. Wadsworth trans. 1997). Article 294: “A person who intentionally incites another to commit suicide, assists in the suicide of another, or procures for that person the means to commit suicide, is liable to a term of imprisonment of not more than three years or a fine of the fourth category, where the suicide ensues.” Id. at 308. A fourth category fine is f 25,000 and a fifth category fine is f 100,000. Id. at 307.

\textsuperscript{36} Id. at 273.
forced to choose between ending his patient’s suffering or preserving his patient’s life.\textsuperscript{37} This justification, or defense, of necessity was accepted by the Dutch Supreme Court in the \textit{Schoonheim} case.\textsuperscript{38}

The \textit{Schoonheim} case involved a general physician whose 93-year-old patient requested that he end her life.\textsuperscript{39} She made her first request in 1981, because she was bed ridden due to a hip fracture; this request was rejected.\textsuperscript{40} By 1982 she was unable to eat or drink and again requested her doctor end her life.\textsuperscript{41} Her physician found she “was in full possession of her faculties.”\textsuperscript{42} Both her son and the physician-assistant agreed that euthanasia was

\begin{itemize}
\item \textsuperscript{37} \textit{Id.} at 62. Article 40: “A person who commits an offense as a result of a force he could not be expected to resist is not criminally liable.” \textit{Id.} at 307.
\item \textsuperscript{38} \textit{Nederlandse Jurisprudentie} 1985, no. 106, translated in \textit{Griffiths et al., supra} note 35, at 322.
\item \textsuperscript{39} \textit{Id.} at 322–28.
\item \textsuperscript{40} \textit{Id.} at 323.
\item \textsuperscript{41} \textit{Id.}
\item \textsuperscript{42} \textit{Id.} at 324.
\end{itemize}
appropriate.\textsuperscript{43} The physician reported her death to the police.\textsuperscript{44}

The Dutch Supreme Court held that the physician violated Article 293 of the Dutch Penal Code by taking his patient’s life, but accepted the justification of necessity provided by Article 40 of the Dutch Penal Code,\textsuperscript{45} which encompasses the defenses of duress and necessity.\textsuperscript{46} The court accepted that the justification of necessity occurred because the physician was forced to choose between conflicting duties: the duty to end suffering vs. the duty

\textsuperscript{43} \textit{Id.}

\textsuperscript{44} \textit{Id.} Doctors must fill out a death certificate stating whether their patient’s death was due to natural causes or not. \textit{Id.} at 39. If the death is not due to natural causes, as in euthanasia, then the coroner reports the death to the prosecutor. \textit{Id.} at 39-40.

\textsuperscript{45} GRIFFITHS ET AL., \textit{supra} note 35 (Article 293); GRIFFITHS ET AL., \textit{supra} note 37 (Article 40); GRIFFITHS ET AL., \textit{supra}. note 35, at 324-28.

\textsuperscript{46} \textit{Id.} at 326.
to preserve life. The Schoonheim case left unresolved when the justification of necessity would be successful.

Reported in the same year, the Admiraal case defined the requirements for using the defense of necessity. In the Admiraal case the court used the “requirement of careful practice” standard to acquit an anesthesiologist who performed euthanasia. The “requirements of careful practice” defined by the Dutch Medical Association included that:

1. The request for euthanasia must be voluntary;
2. The request must be well-considered;
3. The patient’s desire to die must be a lasting one;
4. The patient must experience his suffering as unacceptable for him . . . ; [and]
5. The doctor concerned must consult a colleague.

After the Admiraal case the Minister of Justice informed the Dutch Medical Association that physicians who met the

\[47\] Id. at 326-28.
\[48\] Id. at 61-63.
\[50\] Id. at 66-67.
\[51\] Id. at 66.
“requirements of careful practice” would not be prosecuted.\textsuperscript{52}

2. Psychiatric patients

The next question facing the Dutch Supreme Court was whether euthanasia should be limited to patients with a somatic illness.\textsuperscript{53} The Chabot case involves a 50-year-old despondent woman who requested that her psychiatrist end her life after her son committed suicide, her father died of cancer and she divorced a violent husband.\textsuperscript{54} She had previously attempted suicide and was concerned that a second suicide attempt would result in commitment to a mental institution.\textsuperscript{55} Her psychiatrist consulted four other psychiatrists, a general physician, and a professor of ethics, as well as family members.\textsuperscript{56} The medical consultants reviewed the patient’s medical records, but did not examine her.\textsuperscript{57} All agreed her diagnosis of an

\begin{thebibliography}{9}
\bibitem{52} Id. at 67.
\bibitem{53} Nederlandse Jurisprudentie 1994, no. 656, translated in Griffiths \textit{et al.}, supra note 35, at 329-40.
\bibitem{54} Id. at 330.
\bibitem{55} Id. at 330-31.
\bibitem{56} Id. at 331.
\bibitem{57} Id. at 331-2.
\end{thebibliography}
adjustment disorder; there was no evidence of a somatic disease.\textsuperscript{58} The patient refused any medical treatment other than euthanasia.\textsuperscript{59} The psychiatrist reported her euthanasia to the coroner.\textsuperscript{60}

The Dutch Supreme Court found that the defense of necessity did not require a somatic illness or that the patient be in the terminal phase of an illness, but did, however, require exceptional care by the physician when his patient was not dying of a somatic illness.\textsuperscript{61} Exceptional care usually requires the judgment of another qualified physician based on his examination of the patient.\textsuperscript{62} Because there was no report from an independent physician who examined the patient, the defense of necessity was rejected and the defendant was found to be guilty. He was

\textsuperscript{58} \textit{Id.} at 332. While two-thirds of suicides are due to depression, depression was not the diagnosis in this patient. John G. Tierney II, \textit{Treatment-Resistant Depression: Managed Care Considerations}, 13 J. MANAG. CARE PHARM. S2, S3 (Supp. S-a 2007).

\textsuperscript{59} Griffiths \textit{et al.}, \textit{supra} note 35, at 332.

\textsuperscript{60} \textit{Id.} at 330.

\textsuperscript{61} \textit{Id.} at 334-35.

\textsuperscript{62} \textit{Id.} at 336.
not punished, but later, a Medical Disciplinary Tribunal reprimanded the psychiatrist. By finding that euthanasia is appropriate for suffering in the absence of a terminal somatic disease, the Dutch Supreme Court expanded the range of suffering where physicians could consider euthanasia.

3. Infants

A Dutch Court of Appeals accepted the justification of necessity and did not punish the euthanasia of an infant in the Kadijk case. The case involved a baby girl that was born with congenital defects due to trisomy-13. Trisomy 13, or Patau syndrome, is characterized by small eyes, cleft lip and an abnormal number of fingers or toes. In

63 Id. at 337-38.
64 Id. at 338-40.
65 Id. at 336.
67 Id. at 342.
addition to periodically needing mechanical ventilation and having limited kidney function, the infant developed a skull defect through which the brain linings protruded and became infected. When moved, the infant appeared to be in pain and was only expected to live for a few days. As a result, further medical treatment or surgical treatment was rejected, as it would only prolong the dying process. The parents requested that the physician end the infant’s life. The infant was examined by another physician, and the attending physician consulted over the phone with a pediatrician. The three physicians agreed euthanasia was appropriate, agreed on the means to use, and the infant died in her mother’s arms. The physician reported the euthanasia of the infant.

69 GRIFFITHS ET AL., supra note 35, at 342.

70 Id. at 342-43.

71 Id. at 343.

72 Id.

73 Id. at 343, 348.

74 Id. at 343.

75 Id.

76 Id. at 343-44.

77 Id. at 344-45.
The Minister of Justice required that courts review the physician’s ending of the infant’s life.\textsuperscript{78} The Court of Appeals reviewed the case and based on expert testimony accepted the diagnosis of trisomy-13 and the brief life that diagnosis implied.\textsuperscript{79} The court accepted the unanimous opinion of the experts that the parent’s request for the infant to die at home without further medical or surgical treatment was reasonable and should have been honored.\textsuperscript{80} Nonetheless the court found that the physician’s decision to end the infant’s life was murder.\textsuperscript{81} However, the court held that infant’s murder was justified because:

1. the fact that there was no doubt about the diagnosis and the prognosis based on it, and that the parents as well as the defendant were familiar with these;

\textsuperscript{78} Id. at 346.

\textsuperscript{79} Id. at 348.

\textsuperscript{80} Id.

\textsuperscript{81} Article 289: “A person who intentionally and with premeditation takes the life of another person is guilty of murder and liable to life imprisonment or a term of imprisonment of not more than twelve years or a fine of the fifth category.” John Griffiths, et al., Euthanasia and Law in the Netherlands 308 (1998), \textit{quoting a translation in The Dutch Penal Code} (L. Rayar & S. Wadsworth trans. 1997).
2. the fact that there was no doubt at all as to the well-considered consent of the parents to the termination of life;
3. the fact that the defendant secured the advice of an independent, experienced doctor (GP) and consulted one of the responsible pediatricians;
4. the fact that he brought about the baby’s death in a conscientious and careful manner . . .; and
5. the fact that he has carefully given account of his conduct in this matter. 82

The Court of Appeals did not punish the euthanasia of an infant who could not consent. 83

4. Lack of Consent

The Dutch Supreme Court did not punish a physician who ended the life of a dying patient without her consent in the Van Oijen case. 84 A dying 84-year-old woman became unconscious, but suffered with necrosis of her heels and hip. 85 Her physician gave her pain medication and a sedative to ease her suffering. 86 Her suffering persisted

82 Id. at 350-51.
83 Id.
85 Bohlander, supra note 84, at 401.
86 Id. at 401-02.
and the physician consulted with her daughters. The daughters thought her suffering should end because “you wouldn’t do that to a dog.” The physician ended the patient’s life by giving her a drug that paralyzed her muscles. In this case, the court rejected the defense of necessity because the patient’s suffering was not unbearable, the failure to consult other physicians and the use of a drug that did not treat the patient’s symptoms. Although the Dutch Supreme Court found the physician guilty of murder, the Court did not punish him. The Dutch Supreme Court accepted that ending a dying patient’s life without her consent could be excused by the defense of necessity.

5. Normal Medical Practice

For Dutch courts, normal medical practice includes ending a patient’s life by treatment of symptoms or ending

---

87 Id. at 402.
88 Id.
89 Id.
90 Id. at 402-03.
91 Sheldon, supra note 84, at 509.
92 Bohlander, supra note 84, at 402.
of treatment.\textsuperscript{93} Treatment of symptoms often involves the use of pain or sedative medications; both can hasten a patient's death.\textsuperscript{94} Physicians who end their patients' lives by treatment of symptoms or ending of treatment may report their patients' deaths as natural.\textsuperscript{95} The report of a natural death will not trigger further investigation by the prosecutor.\textsuperscript{96} Avoiding a possible investigation by the prosecutor may encourage some physicians to classify more deaths as natural.\textsuperscript{97}

\textbf{B. Legalized of Euthanasia}

In 2002 the Dutch Parliament legalized euthanasia and physician-assisted suicide by modifying the Dutch Penal Code.\textsuperscript{98} The Termination of Life on Request and Assisted Suicide Act allowed euthanasia if a physician followed the

\begin{itemize}
\item \textsuperscript{93} \textit{Griffiths et al.}, supra note 35, at 95.
\item \textsuperscript{95} \textit{Griffiths et al.}, supra note 35, at 95-97.
\item \textsuperscript{96} \textit{Id.} at 236.
\item \textsuperscript{97} \textit{Id.} at 205.
\end{itemize}
requirements of due care. Due care requires that the physician:

a. holds the conviction that the request by the patient was voluntary and well-considered,
b. holds the conviction that the patient’s suffering was lasting and unbearable,
c. has informed the patient about the situation he was in and about his prospects,
d. and the patient hold the conviction that there was no other reasonable solution for the situation he was in,
e. has consulted at least one other, independent physician who has seen the patient and has given his written opinion on the requirements of due care.

The Act permits euthanasia of children as young as 12 years with their parent’s consent. The reporting requirements were modified to include review of unnatural deaths by the regional review committee in addition to review by the public prosecutor. A favorable report by the regional review committee ends the review process; this reduces the power of the prosecutor. Additionally, the regional review committee provides an annual report giving summary

---

99 Id. at 38.
100 Id. at 39.
101 Id. at 38.
102 Id. at 41–42.
103 Id. at 42–44.
information for all deaths\textsuperscript{104} that allows for an evaluation of Dutch assisted suicide and euthanasia in practice.\textsuperscript{105}

III. Oregon Assisted Suicide Law

   A. American Common Law and Oregon’s Statute

   Unlike the Netherlands where euthanasia law evolved over decades,\textsuperscript{106} Ballot Measure 16, or the Oregon Death with Dignity Act was passed by 51% to 49% in a referendum vote in 1994.\textsuperscript{107} Given the “storm of protest” over the close vote, a legal challenge was expected.\textsuperscript{108} The first challenge to the Act, Lee v. Oregon, yielded an injunction stopping assisted suicide,\textsuperscript{109} but on review the appellate court found no “actual injury, as required for standing” and vacated the trial court decision.\textsuperscript{110}

\textsuperscript{104} Id. at 44.

\textsuperscript{105} Van der Heide, supra note 17, at 1957-58.

\textsuperscript{106} GRIFFITHS ET AL., supra note 35, at 89.


\textsuperscript{108} Id. at 273.


\textsuperscript{110} Lee v. Oregon, 107 F.3d 1382, 1383 (9th Cir. 1997).
At about the same time the United States Supreme Court encouraged challenges to the Oregon Act by holding that New York and Washington could ban assisted suicide.\footnote{Washington v. Glucksberg, 521 U.S. 702, 702 (1997); Vaco v. Quill, 521 U.S. 793, 793 (1996).} In a direct attack on the Act, the United States Attorney General asserted that controlled substances must be used only for a "legitimate medical purpose"\footnote{21 C.F.R. § 1306.04 (2005).} and argued that assisted suicide was not a legitimate medical purpose.\footnote{Gonzales v. Oregon, 546 U.S. 243, 243 (2006).} The Supreme Court struck down this frontal assault by holding that the Controlled Substance Act could not be used by "the Attorney General to prohibit physicians from prescribing regulated drugs for use in physician-assisted suicide under state law permitting the procedure."\footnote{Id. at 244.} Having survived court challenges, the Act was put to a second referendum vote and passed 60% to 40% in 1997.\footnote{Cohen-Almagor & Hartman, supra note 107, at 274.}
B. Death with Dignity Act Requirements

The Oregon Death with Dignity Act is limited to adults, over age 18,\textsuperscript{116} who can make and communicate their three separate requests,\textsuperscript{117} survive two waiting periods,\textsuperscript{118} and have an illness that will cause the patient’s death in six months or less.\textsuperscript{119} The two waiting periods include: (1) at least fifteen days must pass between the first request and the writing of the prescription and (2) two days between the written request and writing of the prescription.\textsuperscript{120} A consulting physician is required to


\textsuperscript{117} Or. Rev. Stat. § 127.800(3) (2007) (defining “capable”);


\textsuperscript{120} Or. Rev. Stat. § 127.850 (2007).
evaluate the patient.\textsuperscript{121} Also the patient must be evaluated to exclude disorders, such as depression, which impair judgment.\textsuperscript{122} Because aiding another in suicide is manslaughter in Oregon,\textsuperscript{123} the Act gives complying physicians immunity from criminal and civil liability, as well as professional disciplinary action.\textsuperscript{124} Finally, physicians are required to file copies of prescriptions with the Department of Health Services, which then publishes annual statistical reports.\textsuperscript{125}

\textsuperscript{121} Or. Rev. Stat. § 127.820 (2007) (requiring written conformation of terminal illness, as well as voluntary and capable consent).

\textsuperscript{122} Or. Rev. Stat. § 127.825 (2007) (requiring consultation with psychiatric or psychological evaluation if needed).


IV. ANALYSIS - NETHERLANDS

A. End-of-Life Practice Unchanged by Legalization

Paradoxically, the annual rate of euthanasia was reduced significantly by legalization.\textsuperscript{126} The Dutch have published surveys of physician-assisted death before and after the legalization of euthanasia in 2002.\textsuperscript{127} The surveys included estimates of the frequency of euthanasia, physician-assisted suicide, physician-assisted death without the patient’s explicit consent (the “no consent” group), treatment of symptoms and ending of treatment.\textsuperscript{128} The results of these surveys are shown in Table 1 and Figures 1 and 2.

\footnotesize
\textsuperscript{126} Smies, \textit{supra} note 98, at 38.


\textsuperscript{128} Van der Heide, \textit{supra} note 17, at 1961.
Table 1. Percentage of all Dutch deaths due to euthanasia, physician-assisted suicide, and physician induced death without consent (No Consent), as well as deaths hastened by treatment of symptoms, due to ending of treatment and terminal sedation in 1990, 1995, 2001 and 2005 based death certificates.\(^{129}\)

<table>
<thead>
<tr>
<th></th>
<th>1990</th>
<th>1995</th>
<th>2001</th>
<th>2005</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Euthanasia</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Percentage of deaths</td>
<td>1.7%</td>
<td>2.4%</td>
<td>2.6%</td>
<td>1.7%</td>
</tr>
<tr>
<td>Confidence interval</td>
<td>1.4-2.1</td>
<td>2.1-2.6</td>
<td>2.3-2.8</td>
<td>1.5-1.8</td>
</tr>
<tr>
<td><strong>Physician-Assisted Suicide</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Percentage of deaths</td>
<td>0.2%</td>
<td>0.2%</td>
<td>0.2%</td>
<td>0.1%</td>
</tr>
<tr>
<td>Confidence interval</td>
<td>0.1-0.3</td>
<td>0.1-0.3</td>
<td>0.1-0.3</td>
<td>0.1-0.1</td>
</tr>
<tr>
<td><strong>No Consent</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Percentage of deaths</td>
<td>0.8%</td>
<td>0.7%</td>
<td>0.7%</td>
<td>0.4%</td>
</tr>
<tr>
<td>Confidence interval</td>
<td>0.6-1.1</td>
<td>0.5-0.9</td>
<td>0.5-0.9</td>
<td>0.2-0.6</td>
</tr>
<tr>
<td><strong>Treatment of Symptoms</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Percentage of deaths</td>
<td>18.8%</td>
<td>19.1%</td>
<td>20.1%</td>
<td>24.7%</td>
</tr>
<tr>
<td>Confidence interval</td>
<td>18-20</td>
<td>18-20</td>
<td>19-21</td>
<td>23.5-26</td>
</tr>
<tr>
<td><strong>Ending of Treatment</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Percentage of deaths</td>
<td>17.9%</td>
<td>20.2%</td>
<td>20.2%</td>
<td>15.6%</td>
</tr>
<tr>
<td>Confidence interval</td>
<td>17-19</td>
<td>19-21</td>
<td>19-21</td>
<td>15-16</td>
</tr>
<tr>
<td><strong>Terminal Sedation</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Percentage of deaths</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>8.2%</td>
</tr>
<tr>
<td>Confidence interval</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>7.8-8.6</td>
</tr>
</tbody>
</table>

\(^{129}\) Onwuteaka-Philipsen, supra note 127, at 395-96; Van der Heide, supra note 17, at 1961. The confidence interval was calculated to include 95% of the expected percentages. Onwuteaka-Philipsen, supra note 127, at 395-96.
Figure 1. Percentage of all Dutch deaths due to euthanasia and assisted suicide in 1990 (90), 1995 (95), 2001 (01) and 2005 (05) based death certificates. Total number of deaths in Netherlands in 1990 was 128,828, in 1995 was 135,625, in 2001 was 140,377 and in 2005 was 136,402. The bars show the 95% confidence levels and lines connect the means of the groups.

130 Onwuteaka-Philipsen, supra note 127, at 396; Van der Heide, supra note 17, at 1959.
The most common end-of-life practices are treatment of symptoms, ending of treatment, and terminal sedation (not shown in the Figures). Terminal sedation is a form of treating the patient’s symptoms using a sedative drug. Next in frequency is euthanasia and the least common are

\[131\] Id.

\[132\] Quill, supra note 12, at 1769; Rietjens, supra note 94, at 752.
physician-assisted suicide and ending life without consent of the patient (the “no consent” group). Figure 2 shows that the “no consent” group declined in frequency between 1990 and 2005 from 0.8% to 0.4% but otherwise was relatively constant. The general pattern is that hastening a patient’s death by treatment of symptoms or ending of treatment is much more common than euthanasia or physician-assisted suicide (see Table 1).

Although the legalization of euthanasia in 2002 might be expected to be associated with an increase in frequency of euthanasia; the opposite occurred (see Figure 1). Euthanasia significantly declined in frequency in 2005 when compared with 2001; physician-assisted suicide shows a similar trend (see Table 1 and Figure 1).133 This decline shows that the effect of changing the Dutch Criminal Code

133 The lack of overlap of the 95% confidence intervals between two groups shows that the chance of this difference is less than 5%, a level of difference typically labeled as statistically significant. Jerrold H. Zar, Biostatistical Analysis 103-04 (2d ed. 1984).
was minor, even when measured three years after the change.\textsuperscript{134}

Likewise, between 1990 and 2005 Dutch common law failed to punish euthanasia in the Chabot\textsuperscript{135} (no somatic disease), Kadijk\textsuperscript{136} (infant) and Van Oijen\textsuperscript{137} (no consent) cases. This failure to punish would have been expected to increase the rate of euthanasia and assisted suicide, but between 1990 and 2005 euthanasia and physician-assisted suicide were relatively constant (see Table 1 and Figure 1 above).\textsuperscript{138} Again, the absence of a dramatic change in the rates of euthanasia and physician-assisted suicide between

\textsuperscript{134} Aging of the Dutch population only explained 0.1\% of the decline. Van der Heide, supra note 17, at 1962. The decrease in the euthanasia rate was not associated with an increase in the proportion of terminal cancer patients or a change in the mix of physicians who practiced euthanasia. Id. at 1962. Terminal sedation explains some of the decline. Id. at 1962-63.

\textsuperscript{135} See supra text accompanying notes 53-65.

\textsuperscript{136} See supra text accompanying notes 66-83.

\textsuperscript{137} See supra text accompanying notes 83-92.

\textsuperscript{138} Van der Heide, supra note 17, at 1961.
1990 and 2005 shows that the effect of the Dutch legal decisions during this period is slight (see Figure 1).

The practice of euthanasia and physician-assisted suicide were determined by case law and reporting requirements that evolved before the national surveys, which started in 1990.\textsuperscript{139} Most of the elements of the 2002 Act can be found in Dutch case law going back to the Admirall case in 1985.\textsuperscript{140} Between 1982 and 1990 the Dutch evolved a national reporting system that required that all cases of euthanasia and physician-assisted suicide be reported to the coroner and the prosecutor.\textsuperscript{141} Review by 

\textsuperscript{139} Griffiths et al., supra note 35, at 66-67. Similar elements can be found in the Versluis case in 1967 and the Postma case in 1973. Id. at 47-48, 51-54, 60, 114-18.

\textsuperscript{140} Supra text accompanying notes 49-52.

\textsuperscript{141} Griffiths et al., supra note 35, at 114-18. A written report is required to be submitted to the coroner explaining the medical reasons for euthanasia or physician-assisted suicide, the patient’s request, discussions with family members, explanations for why euthanasia was performed without an explicit request, the results of consultations and the details of the life-ending treatment. Id. at 308-13. Between 1990 and 2005 the reporting rate
the prosecutor of all cases of euthanasia and physician-assisted suicide with the possibility of criminal prosecution may have caused some physicians to favor methods of physician-assisted death that did not require reporting.\textsuperscript{142}

\textbf{B. Physicians Avoid Reporting}

Dutch surveys of physician-assisted death show physicians are much more likely to end patients’ lives by methods that do not require reporting (see Figures 1 and 2).\textsuperscript{143} Physicians do not have to report ending a patient’s life by treatment of symptoms (which includes terminal sedation) and ending of treatment because Dutch common law accepts them as normal medical practice.\textsuperscript{144} Physicians are required only to report physician-assisted suicide, for euthanasia and physician-assisted suicide rose from 18.0\% to 80.2\%. Gerrit van der Wal et al., \textit{Evaluation of the Notification Procedure for Physician-Assisted Death in the Netherlands}, 335 \textit{New Engl. J. Med.} 1706, 1707 (2007); Van der Heide et al., \textit{supra} note 17, at 1961.

\textsuperscript{142} Griffiths et al., \textit{supra} note 35, at 205.

\textsuperscript{143} Supra text accompanying notes 93-97.

\textsuperscript{144} Id.
euthanasia and patients in the “no consent” group.  

Table 2 shows the ratio of cases where no reporting is required to cases where reporting is required.

Table 2. Frequency of physician-assisted death in groups where reporting is required vs. where reporting is not required.

<table>
<thead>
<tr>
<th></th>
<th>Required</th>
<th>Not Required</th>
<th>Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Euthanasia</td>
<td>Treatment of symptoms</td>
<td>No report to do</td>
</tr>
<tr>
<td></td>
<td>Assisted suicide</td>
<td>Terminal sedation</td>
<td>Ending of treatment</td>
</tr>
<tr>
<td>1990</td>
<td>1.9%</td>
<td>36.7%</td>
<td>19</td>
</tr>
<tr>
<td>1995</td>
<td>2.6%</td>
<td>39.3%</td>
<td>15</td>
</tr>
<tr>
<td>2001</td>
<td>2.8%</td>
<td>40.3%</td>
<td>14</td>
</tr>
<tr>
<td>2005</td>
<td>1.8%</td>
<td>48.5%</td>
<td>27</td>
</tr>
<tr>
<td>Mean</td>
<td>2.3%</td>
<td>41.2%</td>
<td>19</td>
</tr>
</tbody>
</table>

Table 2 shows that physicians are nineteen-times more likely to end a dying patient’s life by means that do not require reporting. Smies argues that Dutch common law effectively legalized euthanasia and assisted suicide with the Admiraal case in 1985. However, if euthanasia and

---

145 Griffiths et al., supra note 35, at 115.

146 Van der Heide, supra note 17, at 1961. The ratio is: (1) 15 if the no consent group is included with euthanasia and assisted suicide and (2) 19 if the no consent group is included with treatment of symptoms, terminal sedation and ending of treatment.

147 Smies, supra note 98, at 40, 62; supra text accompanying notes 49–52 (describing the Admiraal case).
assisted suicide are *de facto* legal, then legalization is not the explanation of the ratio of nineteen.  

### C. Reporting Leads to Avoidance of Reporting

Between 1990 and 2005 the reporting of cases of euthanasia and assisted suicide increased four-fold. At the same time physician-assisted deaths that did not require reporting increased as shown in Figure 3.

![Fraction of Non-Reporting Deaths vs. Reporting Rate](image)

**Figure 3.** Fraction of physician-assisted deaths that do not require reporting plotted as a function of the annual reporting rate. The calculated slope is 0.19% increase in non-reported deaths for each 1% increase in the reporting rate.

---

148 Both the numerator; treatment of symptoms, terminal sedation and ending of treatment; and denominator; euthanasia and assisted suicide; would be legal. Smies, *supra* note 98, at 40, 62.

149 Van der Heide, *supra* note 17, at 1964.
rate. The correlation coefficient is 0.95, the degrees of freedom are 2, and the p-value is 0.05.\textsuperscript{150}

Figure 3 shows that as the reporting rate rose from 18% in 1990 to 80% in 2005,\textsuperscript{151} the fraction of physician-assisted deaths which did not require reporting rose from 36.7% to 48.5% (see Table 2). This gives a slope of \((48.5\% - 36.7\%)/(80\% - 18\%)\) or 0.19 which is the same as the calculated slope (see legend of Figure 3). The correlation coefficient is 0.95, which is marginally significant with a p-value of 0.05.\textsuperscript{152} For each 5% increase in the reporting rate there will be about a 1% increase in physician-assisted deaths that do not require reporting. The increase in physician-assisted deaths which do not require reporting might be due to the increasing use of terminal sedation (see Table 1).

\textsuperscript{150} Zar, supra note 133, at 308, 570.


\textsuperscript{152} Zar, supra note 133, at 308, 570. The correlation drops to 0.88 if terminal sedation is excluded.
D. Is the No Consent Group Murder?

1. Most No Consent Is Normal Medical Care

It is potentially troubling that Dutch physicians end the lives of many dying patients without their explicit consent at the time of the patients’ death; this is the “no consent” group.\textsuperscript{153} As Table 3 shows most “no consent” deaths occur with treatment of symptoms (Treat Symptoms) or ending of treatment.

Table 3. Number of physician-assisted deaths without explicit consent at the time the patient’s death.\textsuperscript{154}

<table>
<thead>
<tr>
<th>No Euthanasia\textsuperscript{+} Consent</th>
<th>Treat Symptoms</th>
<th>Ending of Treatment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physician-assisted death\textsuperscript{*}</td>
<td>2.6%</td>
<td>0.7%</td>
</tr>
</tbody>
</table>

\textsuperscript{153} GRIFFITHS ET AL., supra note 35, at 226–28.

\textsuperscript{154} The calculation involved taking the total number of Dutch deaths in 1995, or 135,675, multiplying by the percentage of physician associated deaths, 0.7% for the “no consent” group, then multiplying by the percentage of patients not giving explicit consent, 100% for the “no consent” group, to give 135,675 * 0.007 * 1.0, or 950. Onwuteaka-Philipsen et al., supra note 127, at 396; Paul J. van der Maas et al., Euthanasia, Physician-Assisted Suicide, and Other Medical Practices Involving the End of Life in the Netherlands, 1990–1995, 335 NEW ENG. J. MED. 1699, 1704 (1996).
No explicit request† 0% 100% 66% 76%
Number of deaths 0 950 17,103 20,828

† Euthanasia group included physician-assisted suicide.
* See supra data for 1995 national survey shown in Table 1.
† No explicit request at the time life ended, but discussion with patient or patient wish could have taken place at an earlier time.

As Table 3 shows the “no consent” group makes up only about 2.5% of the total number deaths lacking explicit consent at the time of the patient’s death. Also, as shown in Figure 4, the fraction of deaths without explicit consent at the time of death is similar in the “no consent,” treatment of symptoms and ending of treatment groups.

![No Explicit Consent vs. Type of Death](image)

Figure 4. The percentage of patients not giving consent at the time of death is plotted as a function of the type of death. E/AS is the euthanasia and assisted suicide group, NC is the “no consent” group, RX is the treatment of symptoms group and NORX is the ending of treatment group. NC90 refers to data for the “no consent” group from 1990,
NC95 to data from 1995 and NCB is the combined data from 1990 and 1995. Both the RX and NORX groups were also calculated (as RXC and NRXC) after removing patients where it was unknown whether they had consented or not, or 15% for the RX group and 5% for the NORX group. Bars show the 95% confidence intervals, lines connect the means of similar groups and the number of patients is shown above the 95% confidence intervals.\textsuperscript{155}

The 95% confidence intervals of the fraction of patients without consent at the time of death in the “no consent” group overlaps the 95% confidence intervals of the fractions in the treatment of symptoms and ending of treatment groups (see Figure 4). The overlap of 95% confidence intervals shows that there is no statistically significant difference between these groups at the 0.05 level of confidence.\textsuperscript{156} This suggests that the lack of consent may be a normal part of dying process where

\textsuperscript{155} Van der Maas et al., supra note 154, at 1699. Standard error of percentage ($se_p$) is $se_p = \sqrt{\frac{p(1-p)}{N-1}}$ where $p$ is the percentage and $N$ is the number of patients. ZAR, supra note 133, at 377. The 95% confidence interval is $p \pm \left( Z_{a(2)} * se_p + \frac{1}{2N} \right)$ where $Z_{a(2)}$ is 1.96 for $N > 30$. ZAR, supra note 133, at 379, 482-83. The 95% confidence intervals are larger when the number (N) in the group is smaller.

\textsuperscript{156} Supra note 137.
patients become unable to consent as their disease progresses.\textsuperscript{157}

2. “No Consent” Resembles Treatment of Symptoms

An inability to consent is a common reason for “no consent” deaths. In the 1995 Dutch national survey about 50-80\% of patients in the “no consent” group were not competent to consent at the time of their death.\textsuperscript{158} A lack of competence was common in the treatment of symptoms group (47\%) and ending of treatment group (67\%).\textsuperscript{159} Also, about 50\% to 60\% of patients in the “no consent” group had discussed or stated a wish for physician-assisted death vs. 43\% in the treatment of symptoms group.\textsuperscript{160} For example, in the 2005 survey, 60\% of the “no consent” group had expressed a wish for physician-assisted death before the time of death and the remaining 40\% had became unable to consent by the time of death.\textsuperscript{161} Furthermore, discussion took place with relatives in 70\% to 100\% of patients in the

\begin{footnotesize}
\begin{itemize}
\item[\textsuperscript{157}] Van der Maas et al., supra note 154, at 1704.
\item[\textsuperscript{158}] Id.
\item[\textsuperscript{159}] Id.
\item[\textsuperscript{160}] Id.
\item[\textsuperscript{161}] Van der Heide et al., supra note 17, at 1960.
\end{itemize}
\end{footnotesize}
“no consent” group. In the “no consent” group, morphine was used to end the patient’s life in 81% vs. 84% for the treatment of symptoms group. The “no consent” group was also similar to the treatment of symptoms group in that the estimated shortening of life was less than a week in 91% of the “no consent” group vs. 80% of the treatment of symptoms group. In these ways the “no consent” group is similar to the treatment of symptoms group. In both the “no consent” and treatment of symptoms groups, death may have been due to the patient’s disease and not morphine treatment as high doses of morphine may not be lethal.

162 Id. at 1963; Van der Maas et al., supra note 154, at 1704.
163 Van der Maas et al., supra note 154, at 1704 (including other drugs with morphine).
164 Id.
165 See Id.
166 Michaela Bercovitch et al., High Dose Morphine Use in the Hospice Setting: A Database Survey of Patient Characteristics and Effect on Life Expectancy, 86 CANCER 871, 875-76 (1999); Michaela Bercovitch & Abraham Adunsky, Patterns of High-Dose Morphine Use in a Home-Care Hospice Service: Should We Be Afraid of It?, 101 CANCER 1473, 1476
In sum, most of the “no consent” deaths were in patients who had expressed their desire for physician-assisted death. The remaining patients were unable to consent and in most of these patients Dutch physicians treated their symptoms with pain medications.

E. Vulnerable Groups Are Protected

The Dutch national surveys show the demographic characteristics of patients that select assisted suicide or euthanasia. First, there is an inverse relationship with age, with the oldest patients, age > 80 years, being the least likely to choose assisted suicide or euthanasia. Generally, men are more likely to select euthanasia or assisted suicide. The most common causes of death,

(2004) (showing patients can tolerate 600 milligrams of morphine a day).

167 Van der Heide et al., supra note 17, at 1960; Van der Maas et al., supra note 154, at 1704.

168 Van der Heide et al., supra note 17, at 1963; Van der Maas et al., supra note 154, at 1704.

169 Onwuteaka-Philipsen et al., supra note 127, at 397; Van der Heide et al., supra note 17, at 1962.

170 Id.

171 Id.
cancer and vascular disease, are those seen in patients selecting euthanasia or assisted suicide.\textsuperscript{172} Additionally, euthanasia and assisted suicide were most often done by a family physician, who probably best knew the patient, and not by a specialist or nursing home physician.\textsuperscript{173} The Dutch national studies do not include data about the patient’s financial status, but in the Netherlands health insurance is nearly universal.\textsuperscript{174} There is no evidence that patients without insurance or elderly patients are more likely to select euthanasia.\textsuperscript{175}


\textsuperscript{173} Onwuteaka-Philipsen et al., supra note 127, at 397; Van der Heide et al., supra note 17, at 1962.

\textsuperscript{174} Griffiths et al., supra note 35, at 31; Alain C. Enthoven & Wynard P.M.M. van de Ven, Going Dutch - Managed-Competition Health Insurance in the Netherlands, 357 NEW ENGL. J. MED. 2421, 2421 (2007).

\textsuperscript{175} Id.; Onwuteaka-Philipsen et al., supra note 127, at 397; Van der Heide et al., supra note 17, at 1962.
Many patients in the Netherlands consider euthanasia, but few chose to die that way.\textsuperscript{176} Patients are about three-times more likely to be interested in the possibility of euthanasia or assisted suicide at some future time, rather than at a specific time.\textsuperscript{177} A little less than one-half (44\%) of the requests are approved.\textsuperscript{178} The most common reasons for selecting euthanasia or assisted suicide are "pointless suffering"\textsuperscript{179} (75\%) and "deterioration or loss of dignity" (89\%); the least common are "depressed" (4\%) and "not wanting to be a burden on family" (13\%).\textsuperscript{180} Unrelieved pain is rarely (5\%) the only reason for selecting assisted suicide or euthanasia, but is a factor in the decision in about 40\%.\textsuperscript{181} Some symptoms, such as "pointless suffering," "tiredness," "tired of living" and "not wanting to be a burden on family," might suggest depression, which is potentially treatable; patients with these symptoms were

\begin{itemize}
\item[\textsuperscript{176}] Griffiths et al., supra note 35, at 212.
\item[\textsuperscript{177}] Onwuteaka-Philipsen et al., supra note 127, at 396.
\item[\textsuperscript{178}] Jansen-van der Weide et al., supra note 26, at 1702.
\item[\textsuperscript{179}] Part of the requirements of Act of 2002 legalizing euthanasia. Smies, supra note 98, at 39.
\item[\textsuperscript{180}] Jansen-van der Weide et al., supra note 26, at 1700-01.
\item[\textsuperscript{181}] Griffiths et al., supra note 35, at 222.
\end{itemize}
more likely to have their requests rejected.\textsuperscript{182} In addition to depression, the other main reasons to reject a patient’s request are the patient’s lack of competence, the degree of suffering was not sufficient to warrant physician-assisted death, or alternative treatments were available.\textsuperscript{183} The factors that guided the physician’s rejection of a patient’s request for physician-assisted death reflect the legal requirements of the 2002 Act.\textsuperscript{184}

1. Mentally Handicapped Patients

Dutch physicians typically end the lives of their mentally handicapped patients by stopping of treatment (see Table 4).\textsuperscript{185}

\begin{flushleft}
\textsuperscript{182} Id. at 1703.
\textsuperscript{183} Id.
\textsuperscript{184} Smies, supra note 98, at 39.
\textsuperscript{185} G.J.M.W. van Thiel et al., Retrospective study of doctors’ “end-of-life decisions” in caring for mentally handicapped people in institutions in the Netherlands, 314 Brit. Med. J. 88, 89 (1997); Van der Maas et al., supra note 154, at 1701; Onwuteaka-Philipsen et al., supra note 127, at 396. Confidence intervals were calculated for MHP patients. ZAR, supra note 155.
\end{flushleft}
Table 4. Proportion of end-of-life decisions made with mentally handicapped patients (MHP) compared with the general population (Gen. Pop.).

### Ending of Treatment

<table>
<thead>
<tr>
<th></th>
<th>All MHP</th>
<th>MHP 1995</th>
<th>Gen. Pop.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percentage of deaths</td>
<td>30%</td>
<td>34%</td>
<td>20%</td>
</tr>
<tr>
<td>Confidence interval</td>
<td>27-33</td>
<td>28-40</td>
<td>19-21</td>
</tr>
</tbody>
</table>

### Treatment of Symptoms

<table>
<thead>
<tr>
<th></th>
<th>All MHP</th>
<th>MHP 1995</th>
<th>Gen. Pop.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percentage of deaths</td>
<td>11%</td>
<td>10%</td>
<td>19%</td>
</tr>
<tr>
<td>Confidence interval</td>
<td>9-13</td>
<td>6-14</td>
<td>18-20</td>
</tr>
</tbody>
</table>

### Euthanasia

<table>
<thead>
<tr>
<th></th>
<th>All MHP</th>
<th>MHP 1995</th>
<th>Gen. Pop.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percentage of deaths</td>
<td>0.5%</td>
<td>0%</td>
<td>2.4%</td>
</tr>
<tr>
<td>Confidence interval</td>
<td>0-1.0</td>
<td>-</td>
<td>2.1-2.6</td>
</tr>
</tbody>
</table>

All MHP is all of the 859 mentally handicapped patients and MHP 1995 is the 222 mentally handicapped patients in 1995. General population data is from 1995 based on 5146 patients.

Compared with the general population mentally handicapped patients are more likely to have their lives ended by ending of treatment and less likely to have their lives ended by treatment of symptoms or by euthanasia (see Table 4). As shown by the lack of overlap of the 95% confidence intervals, these differences are significant at the 0.05 level of confidence.186 Clearly Dutch physicians are reluctant to take active measures to end a mentally handicapped patient’s life (see Table 4).

---

186 Zar, supra note 133, at 103-04.
The reason for this passive ending of life is that mentally handicapped patients are rarely competent (6%) and rarely make explicit requests to have their lives ended (3%).187 About 35% to 40% of all handicapped patients appeared to communicate a desire to have their lives ended by “non-autonomous” requests, where for example the patient said “they wanted to go to heaven,” or by non-verbal means, such as resisting all medical treatment.188 Dutch physicians caring for mentally handicapped patients discuss their end-of-life decision with relatives or representative (75%) and other physicians (69%).189 In the rare cases where physicians actively ended their patients’ lives, 4 of 859 cases or 0.47%, the mentally handicapped patients were suffering substantially despite all other treatment measures or were in the terminal phase of their illnesses.190 Mentally handicapped patients are underrepresented in the euthanasia group.

187 Van Thiel et al., supra note 185, at 89-90.

188 Id. at 89.

189 Id. at 90.

190 Id. at 89-90.
2. Psychiatric Patients

Dutch psychiatrists receive about 320 requests for physician-assisted suicide each year and assist in 2 to 5 suicides.\textsuperscript{191} A typical patient requesting assistance with suicide is a 45 year old woman with a mood disorder, who has refused medication and psychotherapy and sees no hope of improvement of her unbearable mental suffering.\textsuperscript{192} Most patient requests were refused because the psychiatrist thought the patients’ mental disorder could be treated (61%), their suffering was not unbearable (32%), or the psychiatrist opposed assisted suicide in principle (31%).\textsuperscript{193} About 21% of patient requests lead to further consultation by other physicians to see if the request was well considered (58%) or if there were other treatment options (58%).\textsuperscript{194} After the consultative process, only in 2% of

\footnotesize
\textsuperscript{191} Johanna H. Groenewoud, et al., Physician-Assisted Death in Psychiatric Practice in the Netherlands, 336 NEW ENG. J. MED. 1795, 1795-96 (1997). About 400,000 Dutch patients receiving mental health care, so less than 0.1% make requests. Id. at 1800.

\textsuperscript{192} Id. at 1796-97.

\textsuperscript{193} Id.

\textsuperscript{194} Id.
patients did the psychiatrist assist in the patient’s suicide, although 16% of requesting patients committed suicide by themselves.\textsuperscript{195} Of the patients that the psychiatrists aided in their suicide, about half had severe medical diseases.\textsuperscript{196} Over time 35% of patients no longer wanted to commit suicide, but 28% made persistent requests for the psychiatrist to aid their suicide.\textsuperscript{197} Overall, Dutch psychiatrists closely follow the legal requirements created by the Dutch Supreme Court.\textsuperscript{198}

3. Children

The ways Dutch physicians end dying children’s lives are shown in Table 5.\textsuperscript{199}

\textsuperscript{195} Id.

\textsuperscript{196} Id. at 1798, 1800.

\textsuperscript{197} Id. at 1797.

\textsuperscript{198} Supra text accompanying notes 61-65.

\textsuperscript{199} Astrid M. Vrakking et al., Medical End-of-life Decisions for Children in the Netherlands, 159 ARCH. PEDIATR. ADOLESC. MED. 802, 804, 808 (2005).
Table 5. End-of-life decisions in children aged 3 months to 17 years compared with adults.\(^2\)

<table>
<thead>
<tr>
<th>Decision</th>
<th>Children</th>
<th>Adults*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ending of treatment (17)</td>
<td>12%</td>
<td>20.2%</td>
</tr>
<tr>
<td></td>
<td>7.8-17%</td>
<td>19-21</td>
</tr>
<tr>
<td>Treatment of symptoms (21)</td>
<td>21%</td>
<td>20.1%</td>
</tr>
<tr>
<td></td>
<td>16-28</td>
<td>19-21</td>
</tr>
<tr>
<td>Euthanasia (1)</td>
<td>0.7%</td>
<td>2.6%</td>
</tr>
<tr>
<td></td>
<td>0.1-3.6</td>
<td>2.3-2.8</td>
</tr>
<tr>
<td>Physician-assisted suicide</td>
<td>0</td>
<td>0.2%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0.1-0.3</td>
</tr>
<tr>
<td>No consent (3)</td>
<td>2.0%</td>
<td>0.7%</td>
</tr>
<tr>
<td></td>
<td>0.8-5.2</td>
<td>0.5-0.9</td>
</tr>
</tbody>
</table>

Number in parenthesis is the number of children studied. * Adult data is from the national survey data for 2001.\(^1\)

Euthanasia, physician-assisted suicide and ending of treatment were less common in children than adults (see Table 5). Treatment of symptoms was about the same in children and adults (see Table 5). The rate of “no consent” physician-assisted death, often done at the explicit request of the child’s parents, was relatively high, but the 95% confidence intervals overlapped the adult rate (see Table 5).\(^2\) The relatively high “no consent” rate is related to the inability of most (80%) children to

\(^{200}\) Id. at 804; Onwuteaka-Philipsen et al., supra note 127, at 396.

\(^{201}\) Id.

\(^{202}\) Vrakking et al., supra note 199, at 804.
End-of-life decisions were always discussed with the child’s parents and made at the request of parents in 50% of children. Like adults, the most common diagnosis was cancer in 12 of 20, or 60% vs. about 80% in adults. Also, as in the treatment of symptoms group in adults, the most common drug used in all groups was morphine. Estimated shortening of life in children was < 1 week in 40%. Dutch end-of-life decisions are similar in children and adults, except that ending of treatment is much less common in children.

F. Complications

Prolonged death or failure to induce coma are the main complications of euthanasia (4.3%) and assisted suicide (12%). Assisted suicide is limited by problems with oral

203 Id. at 805.

204 Id. at 806.

205 Id.; Van der Maas et al., supra note 154, at 1703.

206 Vrakking et al., supra note 199, at 806; Van der Heide et al., supra note 17, at 1963.

207 Vrakking et al., supra note 199, at 806.

208 Johanna H. Groenewoud et al., Clinical Problems with the Performance of Euthanasia and Physician-Assisted Suicide the Netherlands, 342 NEW ENG. J. MED. 551, 555 (2000).
administration (6.1%) due to nausea and vomiting (3.5%).\textsuperscript{209}
The main additional problem with euthanasia is finding a suitable vein to inject the lethal medication in 1.9%.\textsuperscript{210}
Time to death is about 10 minutes for euthanasia and about 30 minutes for assisted suicide.\textsuperscript{211}

**ANALYSIS – OREGON**

**A. Assisted Suicide Is Rare, But Increasing**

Over the first nine years of the Death with Dignity Act relatively few patients have chosen assisted suicide, but the rate is increasing (see Table 6 and Figure 5).\textsuperscript{212}

Table 6. Annual prescriptions, deaths, and deaths per 10,000 population in Oregon.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Prescriptions</td>
<td>24</td>
<td>33</td>
<td>39</td>
<td>44</td>
<td>58</td>
<td>67</td>
<td>60</td>
<td>64</td>
<td>65</td>
</tr>
<tr>
<td>Deaths</td>
<td>16</td>
<td>27</td>
<td>27</td>
<td>21</td>
<td>38</td>
<td>42</td>
<td>37</td>
<td>38</td>
<td>46</td>
</tr>
<tr>
<td>Deaths/10,000</td>
<td>5.5</td>
<td>9.2</td>
<td>9.1</td>
<td>7.0</td>
<td>12.2</td>
<td>13.6</td>
<td>12.3</td>
<td>12</td>
<td>14.7</td>
</tr>
</tbody>
</table>

\textsuperscript{209} Id.
\textsuperscript{210} Id.
\textsuperscript{211} Id. Reported numbers are medians. Id.
Figure 5. Oregon physician-assisted suicide data from 1998 to 2006, including the number of prescriptions written (diamonds), deaths per year (squares), and deaths per 10,000 population per year (triangles). Lines are based on linear regression.

Linear regression confirms that the number of prescriptions, deaths per year and deaths per year per 10,000 population are increasing (see Table 7 and Figure 5).

Table 7. Regression analysis of Oregon physician-assisted suicide data.

<table>
<thead>
<tr>
<th></th>
<th>Prescriptions</th>
<th>Deaths/Year</th>
<th>Deaths/10,000/Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Slope coefficient</td>
<td>5.37</td>
<td>3.23</td>
<td>0.97</td>
</tr>
<tr>
<td>Slope t-test †</td>
<td>6.74</td>
<td>4.80</td>
<td>4.45</td>
</tr>
<tr>
<td>p-value</td>
<td>p &lt; 0.0003</td>
<td>p &lt; 0.002</td>
<td>p &lt; 0.003</td>
</tr>
</tbody>
</table>

†Slope t-test is the ratio of the slope coefficient to the standard of error of the slope. The p-value measures the statistical significance of the slope. The units of the slope vary, for example for prescriptions the unit is number of prescriptions per year.
All the slope coefficients are positive and statistically significant (see Table 7). If this linear relationship persists, then in 2007 the deaths/10,000/year should increase, by 0.97, to about 16 deaths/10,000/year.

B. Patients Control the Manner of Death

The most common reasons patients choose assisted suicide was a loss of: (1) autonomy (87%), (2) ability to do pleasurable activities (87%), or (3) bodily function (57%); the least common are financial reasons (2%) and inadequate treatment of pain (26%). The patients selecting assisted-suicide are similar to other dying patients in age (median age 70), race (white in 97%) and sex (male 54%), but were more likely to have at least a college degree (41%). Most patients requesting assisted suicide had cancer (81%) and were enrolled in hospice care.

213 Id.

Interestingly, patients requesting assisted suicide were less likely (21%) to be completely disabled than patients with similar diagnoses (84%). Family members often describe patients selecting assisted suicide as desiring to control the manner of their death.

C. Complications

A primary care doctor or oncologist, who has practiced medicine for about twenty years, prescribes the lethal medication, which is almost always a barbiturate. Coma is induced in 5 to 10 minutes and death in 25 to 30 minutes. Complications include regurgitation in 5% to 9%
and 1 of 292 patients awoke and died two weeks later of his (or her) illness.\footnote{Id. at 14.}

\section*{VI. ANALYSIS – EMPIRICAL OBSERVATIONS, LIMITATIONS, AND RECOMMENDATIONS}

\subsection*{A. Empirical Observations}

\subsubsection*{1. Physicians Comply with the Law}

The empirical evidence shows that physicians comply with the law.\footnote{Van der Wal et al., \textit{supra} note 141, at 1706.} In the Netherlands all unnatural deaths are screened by the prosecutor.\footnote{Id. at 1706.} Between 1991 and 1995, 6,324 cases of euthanasia and assisted suicide were reported resulting in prosecution of 13 (0.17\%) physicians.\footnote{Id.} Of 20 published cases, 3 physicians were found guilty but not punished and 6 were given suspended sentences.\footnote{Id. at 1709.} Although physician compliance is good in reported cases of assisted suicide and euthanasia, about 20\% of cases are not reported.\footnote{Van der Heide et al., \textit{supra} note 17, at 1964 (reporting rate was 80.2\% in 2005).} A comparison of a
stratified random sample of 68 reported and 68 unreported cases revealed a failure to meet procedural requirements in the unreported cases.\textsuperscript{226} The unreported cases were more likely to lack a written request (44\% vs. 73\%), consultation with another physician (11\% vs. 94\%) and written report (57\% vs. 97\%).\textsuperscript{227} Both the unreported and reported cases meet the substantive legal requirements.\textsuperscript{228} Oregon lacks a mechanism to detect underreporting or failure to comply with law.\textsuperscript{229} Overall, physicians in the Netherlands comply with the law in more than 99\% of the cases.

2. Vulnerable Groups Are Underrepresented

In both the Netherlands and Oregon, vulnerable groups are less likely to select euthanasia or assisted suicide.\textsuperscript{230} Patients selecting euthanasia or assisted suicide are

\begin{footnotesize}
\textsuperscript{226} Van der Wal et al., supra note 141, at 1708.
\textsuperscript{227} Id.
\textsuperscript{228} Id. at 1709.
\textsuperscript{229} Sullivan et al., supra note 29, at 603; Chin et al., supra note 216, at 603; Cohen-Almagor & Hartman, supra note 107, at 290.
\textsuperscript{230} Supra text associated with notes 169-184, 213-217.
\end{footnotesize}
typically < 80 years of age,\textsuperscript{231} white,\textsuperscript{232} male,\textsuperscript{233} and have insurance.\textsuperscript{234} Also, they have the typical predictable causes of death, such as cancer.\textsuperscript{235} Financial reasons (2\%) and inadequate pain treatment (26\%) are the least common reasons for patients to select assisted suicide in Oregon.\textsuperscript{236} In Oregon, patients selecting assisted suicide are more educated\textsuperscript{237} and less disabled.\textsuperscript{238} The least common reason for selecting euthanasia or assisted suicide in the Netherlands is feeling depressed (4\%).\textsuperscript{239} Thus, patients

\textsuperscript{231} Supra text associated with note 170; Annual Report, supra note 214.

\textsuperscript{232} Supra text associated with note 214.

\textsuperscript{233} Supra note 171 and associated text; Annual Report, supra note 214.

\textsuperscript{234} Enthoven & van de Ven, supra note 174, at 2421; Annual Report, supra note 216.

\textsuperscript{235} Supra text associated with note 172; Annual Report, supra note 214.

\textsuperscript{236} Annual Report, supra note 214.

\textsuperscript{237} Sullivan et al., supra note 29, at 600.

\textsuperscript{238} Chin et al., supra note 216, at 580.

\textsuperscript{239} Jansen-van der Weide et al., supra note 26, at 1700-01.
selecting euthanasia or assisted suicide are younger, more highly educated, and relatively affluent.\textsuperscript{240}

The mentally handicapped,\textsuperscript{241} psychiatric patients\textsuperscript{242} and children\textsuperscript{243} are underrepresented among patients selecting euthanasia or assisted suicide in the Netherlands. Physicians were more likely to stop treatment in the mentally handicapped and less likely to end their lives by treatment of symptoms or euthanasia.\textsuperscript{244} These differences are statistically significant at the 0.05 level of confidence.\textsuperscript{245} Psychiatrists only grant 2\% of requests for assisted suicide\textsuperscript{246} versus an approval rate for euthanasia or assisted suicide of 44\% in the general population.\textsuperscript{247} Euthanasia and assisted suicide are rare in children\textsuperscript{248} with

\textsuperscript{240} See supra notes 214-16 and associated text.

\textsuperscript{241} Supra notes 185-190 and associated text.

\textsuperscript{242} Supra notes 191-98 and associated text.

\textsuperscript{243} Supra notes 199-207 and associated text.

\textsuperscript{244} Supra notes 185-86 and associated text.

\textsuperscript{245} Id.

\textsuperscript{246} Groenewoud, et al., supra note 191, at 1797.

\textsuperscript{247} Supra note 178 and associated text.

\textsuperscript{248} Supra notes 199-201 and associated text.
rates that are less than those in the adult population.\textsuperscript{249} The difference for assisted suicide is statistically significant at the 0.05 level of confidence.\textsuperscript{250} The main reason mentally handicapped\textsuperscript{251} and children\textsuperscript{252} are underrepresented is their lack of ability to consent. For psychiatric patients the main reason they are underrepresented is their mental disorder could be treated.\textsuperscript{253} The empirical evidence from both the Netherlands and Oregon is that vulnerable groups are less likely to select assisted suicide or euthanasia.

3. No Consent Is Mainly Normal Medical Treatment

Most physician-aided deaths without the patient’s consent occur with treatment of symptoms or ending of treatment; both are part of normal medical treatment.\textsuperscript{254}

\begin{flushleft}
\textsuperscript{249} Id.
\textsuperscript{250} Supra note 133.
\textsuperscript{251} Supra note 187-88 and associated text. The mentally handicapped also were unable to communicate their request. Id.
\textsuperscript{252} Supra note 203 and associated text.
\textsuperscript{253} Supra note 193 and associated table.
\textsuperscript{254} Data is limited to the Netherlands. Supra note 154 and associated table.
\end{flushleft}
Reports from the Netherlands separate a “no consent” group from euthanasia and assisted suicide.\(^{255}\) A comparison of the “no consent” group with the treatment of symptoms group shows the two groups are similar.\(^{256}\) The similarities include: (1) a lack of competence at the time of death;\(^{257}\) (2) frequent expression of wish to have life ended at an earlier time;\(^{258}\) (3) the use of morphine to end the patient’s life;\(^{259}\) and (4) estimated shortening of the patient’s life by less than a week.\(^{260}\) Furthermore, many of the “no consent” deaths may be due to the patient’s terminal illness, as high doses of morphine may not be lethal.\(^{261}\) Overall the empirical evidence favors the conclusion that most of the “no consent” group should be viewed as a part of normal medical care.

\(^{255}\) Supra note 128-29 and associated text and table.

\(^{256}\) Supra notes 158-68 and associated text.

\(^{257}\) Supra notes 158-59 and associated text.

\(^{258}\) Supra note 160-61 and associated text.

\(^{259}\) Supra note 163 and associated text.

\(^{260}\) Supra note 164 and associated text.

\(^{261}\) Supra note 166 and associated text.
4. Legalization Shapes Physician Behavior

Despite formal legalization in 2002\textsuperscript{262} and de facto legalization in the 1980s,\textsuperscript{263} Dutch physicians are 19-times more likely to choose methods of physician-assisted death which do not require reporting.\textsuperscript{264} Also, as reporting increased 4-fold, from 18\% to 80\%, the fraction of physician-assisted deaths not requiring reporting increased.\textsuperscript{265} This shows that reporting encourages physicians to choose methods of physician-assisted death which avoid reporting.\textsuperscript{266} While the requirement of reporting may reduce euthanasia and assisted suicide, legalization allows Dutch patients to select either. A comparison of the Dutch results with those from other European countries might show the net effect of legalization and reporting on the rate of euthanasia and assisted suicide.

\begin{itemize}
\item \textsuperscript{262} Supra note 98 and associated text.
\item \textsuperscript{263} Supra note 147 and associated text.
\item \textsuperscript{264} Supra note 146 and associated table.
\item \textsuperscript{265} Supra note 150 and associated figure.
\item \textsuperscript{266} Supra note 142 and associated text.
\end{itemize}
Except for euthanasia, the Dutch are similar to other European countries in their choice of methods of physician-assisted dying (see Table 8).\textsuperscript{267}

Table 8. Comparison of end-of-life decisions in six European countries.\textsuperscript{268}

<table>
<thead>
<tr>
<th></th>
<th>Belgium</th>
<th>Denmark</th>
<th>Italy</th>
<th>Netherlands</th>
<th>Sweden</th>
<th>Switzerland</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Euthanasia</strong></td>
<td>0.3%</td>
<td>0.06%</td>
<td>0.04%</td>
<td>2.6%</td>
<td>-</td>
<td>0.27%</td>
</tr>
<tr>
<td></td>
<td>.16-.58</td>
<td>.01-.26</td>
<td>0-.27</td>
<td>2.2-3.0</td>
<td>-</td>
<td>.14-.51</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Belgium</th>
<th>Denmark</th>
<th>Italy</th>
<th>Netherlands</th>
<th>Sweden</th>
<th>Switzerland</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Assisted Suicide</strong></td>
<td>0.01%</td>
<td>0.06%</td>
<td>0</td>
<td>0.21%</td>
<td>-</td>
<td>0.36%</td>
</tr>
<tr>
<td></td>
<td>0-.28</td>
<td>.01-.26</td>
<td>-</td>
<td>.12-.38</td>
<td>-</td>
<td>.20-.63</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Belgium</th>
<th>Denmark</th>
<th>Italy</th>
<th>Netherlands</th>
<th>Sweden</th>
<th>Switzerland</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>No Consent</strong></td>
<td>1.5%</td>
<td>0.67%</td>
<td>0.06%</td>
<td>0.6%</td>
<td>0.23%</td>
<td>0.42%</td>
</tr>
<tr>
<td></td>
<td>1.1-2.0</td>
<td>.44-1.0</td>
<td>.01-.29</td>
<td>.43-.84</td>
<td>.11-.47</td>
<td>.25-.70</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Belgium</th>
<th>Denmark</th>
<th>Italy</th>
<th>Netherlands</th>
<th>Sweden</th>
<th>Switzerland</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Treatment of Symptoms</strong></td>
<td>22%</td>
<td>26%</td>
<td>19%</td>
<td>20%</td>
<td>21%</td>
<td>22%</td>
</tr>
<tr>
<td></td>
<td>21-24</td>
<td>24-28</td>
<td>17-20</td>
<td>19-21</td>
<td>20-22</td>
<td>21-23</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Belgium</th>
<th>Denmark</th>
<th>Italy</th>
<th>Netherlands</th>
<th>Sweden</th>
<th>Switzerland</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Ending Treatment</strong></td>
<td>15%</td>
<td>14%</td>
<td>4%</td>
<td>20%</td>
<td>14%</td>
<td>28%</td>
</tr>
<tr>
<td></td>
<td>13-16</td>
<td>13-15</td>
<td>3-5</td>
<td>19-21</td>
<td>13-16</td>
<td>26-29</td>
</tr>
</tbody>
</table>

The number of patients studied is 2950 in Belgium, 2939 in Denmark, 2604 in Italy, 5384 in Netherlands, 3248 in Sweden and 3355 in Switzerland.


\textsuperscript{268} Id.
As shown in Table 8, euthanasia is 15-times more common in the Netherlands than the average of the other European countries. At the time of this study, euthanasia was only legal in the Netherlands.\textsuperscript{269} The Dutch rate of assisted suicide overlaps the 95% confidence intervals of other European countries except for Italy which is significantly lower (see Table 8). The 95% confidence interval of the Dutch “no consent” groups overlaps about half of the other European countries (see Table 8). In the Netherlands 40% of physician-assisted deaths are due to treatment of symptoms and ending treatment vs. a 40% average for the other European countries excluding Italy (see Table 8). The clearest effect of legalization and reporting is to increase the rate of euthanasia.

5. Reporting Improves End-of-Life Care

In Oregon legalization and reporting of assisted suicide stimulated the treatment of pain, the development of hospice care and the medical system to allow more patients to die at home.\textsuperscript{270} In both the Netherlands and Oregon, pain is not a dominant reason to choose euthanasia.

\textsuperscript{269} Van der Heide, supra note 267, at 346.

\textsuperscript{270} Quill, supra note 34, at 1912.
or assisted suicide.\textsuperscript{271} This is true even though about half of deaths reported in the SUPPORT study had moderate to severe pain in the last 3 days before death.\textsuperscript{272} Furthermore, after legalization of assisted suicide, Oregon increased its use of morphine by 70\% between 1994 and 1996 and as a result led the nation in the amount of morphine prescribed per person.\textsuperscript{273}

After the referendum in Oregon, hospice care expanded and includes 86\% of all assisted suicide patients.\textsuperscript{274} The increase in the availability of hospice care is a factor explaining why Oregon has the lowest rate of death in hospitals in the United States.\textsuperscript{275} When given the choice most patients would choose to die at home.\textsuperscript{276} In Oregon

\textsuperscript{271} Supra note 181 and associated text (Netherlands); supra note 213 and associated text (Oregon).

\textsuperscript{272} SUPPORT, supra note 10, at 1594.


\textsuperscript{274} Table 1, supra note 214.

\textsuperscript{275} Tolle et al., supra note 273, at 567.

\textsuperscript{276} Id.
reporting of assisted suicide lead to improved end-of-life care.

B. Limitations of Empirical Studies

1. Lack of Controls and Unclear Causality

Some obvious limitations of this study are its reliance on data from surveys, the comparison of groups which differ in more than one way, and the inability to infer causality from correlation. The strengths of the Dutch national surveys are large numbers, survey reporting rates of about 75%, and comparisons of rates based on death certificates and interviews.²⁷⁷ The Oregon annual reports cover all cases reported.²⁷⁸ In addition the Dutch studied the 20% of euthanasia and assisted suicides that were not reported, finding mainly procedural deficiencies; this was not done in Oregon.²⁷⁹ Reporting rates of 75% or more reduces the risk that the surveys are unrepresentative.²⁸⁰ Dutch studies on mentally handicapped patients, psychiatric

²⁷⁷ Van der Heide et al., supra note 17, at 1958-59; Onwuteaka-Philipsen, supra note 127, at 395-96.
²⁷⁸ Annual Report, supra note 214.
²⁷⁹ Supra notes 226-29 and associated text.
patients and children are based on smaller numbers, have survey response rates of more than 80% and except for children lacked a comparison of death certificates and interviews.\textsuperscript{281} Interviews were confidential, while death certificates were reviewed by the prosecutor.\textsuperscript{282} A comparison of the death certificate rates with those from interviews gives an estimate of underreporting.\textsuperscript{283} Thus, Dutch studies on mentally handicapped and psychiatric patients might be biased by underreporting.\textsuperscript{284}

None of the results are based on experimental studies of matched groups studied before and after legalization of

\textsuperscript{281} Van Thiel et al., supra note 185, at 89-90 (handicapped physician reporting rate is 88%); Groenewoud et al., supra note 191, at 1795-96 (psychiatric physician reporting rate is 83%); Vrakking et al., supra note 199, at 803 (pediatric reporting rate of 91%).

\textsuperscript{282} Supra note 141 and associated text; Van der Heide, supra note 17, at 1958-60.

\textsuperscript{283} See van der Heide, supra note 17, at 1958-60.

\textsuperscript{284} Id.
euthanasia and assisted suicide.\textsuperscript{285} Also in the Netherlands, \textit{de facto} legalization and reporting requirements largely occurred before the large national surveys between 1990 and 2005.\textsuperscript{286} This makes it difficult to separate the effect of legalization and reporting.\textsuperscript{287}

There is a positive correlation between the rate of reporting and the rate of physician-assisted death that do not require reporting.\textsuperscript{288} This suggests the reporting effect may be separate from legalization.\textsuperscript{289} However, correlation does not prove causality.\textsuperscript{290} Another weakness of the relationship is the correlation is only based on four data points.\textsuperscript{291} Although it is plausible that physicians would favor methods of physician-assisted death

\textsuperscript{286} \textit{Supra} notes 141 \& 148 and associated text.
\textsuperscript{287} \textit{Id.}
\textsuperscript{288} \textit{Supra} notes 150-52 and associated text and figure.
\textsuperscript{289} \textit{Id.}
\textsuperscript{290} \textit{ZAR, supra} note 133, at 278.
\textsuperscript{291} The 95\% confidence interval is wider with small numbers. \textit{Id.} at 311.
that avoid reporting, this ignores the patient’s wishes.\footnote{292}{Thomas Preston, et al., The Role of Autonomy in Choosing Physician Aid in Dying, in PHYSICIAN-ASSISTED DYING: THE CASE FOR PALLIATIVE CARE AND PATIENT CHOICE 39-54 (Timothy E. Quill & Margaret P. Battin eds. 2004).}

Empirical studies can describe the results of legalization, but can only suggest a causal relationship between legalization and the results.

\section*{2. Classification Bias}

Empirical studies are limited to data reported by physicians.\footnote{293}{Supra notes 128 & 214.} Where the law has made euthanasia illegal, European physicians report low rates of euthanasia, often less than 0.3\%\footnote{294}{Supra note 267 and associated table.}. The rate of euthanasia rate in the Netherlands is 15-times higher, about 2.6\%.\footnote{295}{Id.} But, what if the euthanasia rate was 2\% in all of Europe, but classified as treatment of symptoms where euthanasia is illegal;\footnote{296}{See supra note 11-14 and associated text.} this is classification bias.\footnote{297}{The Dutch call this “constructability.” GRIFFITHS ET AL., supra note 35, at 278.} Then treatment of symptoms
would be 2% higher where euthanasia is illegal. Excluding the Netherlands, the average treatment of symptoms rate is 22% in Europe vs. 20% in the Netherlands. Empirical studies can not exclude the possibility that the only effect of legalization is to change the way 2% of deaths are classified in reports by physicians. A similar reclassification could explain why Dutch national surveys revealed a decrease in euthanasia and an increase in treatment of symptoms in 2005 (supra Table 1). To detect a shift of 2% would require a large numbers of cases. For example, to reduce the 95% confidence interval to 19%-21% requires more than 6,000 cases. The expense of analyzing thousands of cases may explain why Dutch national surveys are only done about every five years. Even empirical studies based on more than a thousand cases can not detect a change of 1%.

298 Supra note 267 and associated table.

299 Supra note 155.

300 Id.

301 Supra note 130 and associated table.
C. Recommendations Suggested by Empirical Studies

1. Screening for Suspicious Deaths

Using the legal system to monitor physician reports is expensive as thousands of cases are reported each year in the Netherlands.\textsuperscript{302} Further, routine screening of reported cases investigated by the prosecutor in the Netherlands leads to indictment in 0.17\%, about half are found guilty but few are punished.\textsuperscript{303} Although routine screening by the prosecutor is costly, it rarely detects substantive violations.\textsuperscript{304} Legal resources should be focused on suspicious deaths where the probability of criminal activity is much higher than a fraction of a percent.

2. Reporting to Improve End-of-Life Care

From an empirical point of view, a better function for legalization would be to encourage optimal end-of-life care with euthanasia and assisted-suicide as only a minor part.\textsuperscript{305} An example would be the monitoring the adequacy of pain treatment, hospice care and presence of insurance as

\begin{footnotesize}
\begin{itemize}
\item \textsuperscript{302} Supra notes 130-32 and associated table and figure legends.
\item \textsuperscript{303} Supra notes 221-23 and associated text.
\item \textsuperscript{304} Id.
\item \textsuperscript{305} Battin & Quill, supra note 3, at 8.
\end{itemize}
\end{footnotesize}
was done in Oregon.\textsuperscript{306} Reports from Oregon show high levels of compliance with 78% of assisted-suicide patients having adequate pain treatment, 86% being in hospice care and 96% having insurance.\textsuperscript{307} To detect 80% compliance with a 95% confidence interval of ±8% (72% to 88%) only takes about 100 cases.\textsuperscript{308}

In addition to requiring only a small number of cases, it would be relatively easy to check the accuracy of physician reporting.\textsuperscript{309} For example, if the accuracy of physician reporting of pain control was doubted, then the degree of pain control could be rated by patients or their families.\textsuperscript{310} Thus, if reporting requirements focused on improving end-of-life care, then there would be a legal incentive for physicians to optimize the care of their dying patients who request assisted suicide or euthanasia.\textsuperscript{311} However, there would be a tendency for physicians not to report cases with less optimal care, so

\textsuperscript{306} Supra note 213, 215 and associated text.
\textsuperscript{307} Id.
\textsuperscript{308} Supra note 155.
\textsuperscript{309} Table 1, supra note 214.
\textsuperscript{310} Sullivan, et al., supra note 29, at 603.
\textsuperscript{311} See supra notes 213-15 and associated text.
studies to detect non-reporting, as done in the Netherlands would be needed.\textsuperscript{312} Detecting classification bias would involve studying cases reported as treatment of symptoms or terminal sedation to see how many were actually euthanasia. By focusing on optimal end-of-life care the law would benefit from the alignment of legal, physician and patient interests.

3. Avoid Waiting Periods or Extensive Evaluations

Delays due to the requirements of optimal end-of-life care are reasonable. However, mandated waiting periods or evaluations unrelated to optimal care only will deny patients control over how they die. The Dutch national surveys show that about 15\% of euthanasia or assisted-suicide patients are expected to die within a day and about 60\% within a week of the time of their request.\textsuperscript{313} Given this high estimated death rate, there should be no required waiting period. Also, required consultations or other evaluations should be capable of being done quickly.

VII. CONCLUSION

One goal of legalizing euthanasia and assisted suicide is to protect patients from harm. Legalization permits

\textsuperscript{312} See supra notes 226-28 and associated text.

\textsuperscript{313} Van der Maas et al., supra note 154, at 1704.
euthanasia and assisted suicide in restricted circumstances and requires reporting. Reporting is done by a physician who has performed euthanasia or assisted suicide. This physician is also the potential offender. Given the source of the report, it is not surprising that the legal system, after reviewing thousands of reports, will only indict a few offenders and punish almost no one.\textsuperscript{314} Routine screening of reports rarely detects criminal offenders.

Another goal of legalization is to gather information about the results of legalization. The results of legalization are quantified in empirical studies. Unfortunately, empirical studies also depend on potentially biased physician reporting. Furthermore, large numbers are needed to generate accurate estimates. For example, over 1,500 cases are needed to generate 95\% confidence intervals of 18\% to 22\% for the treatment of symptoms group.\textsuperscript{315} If a patient’s symptoms were treated with morphine, the physician could classify the death as euthanasia or treatment of symptoms. In jurisdictions where euthanasia is illegal, physicians could classify all of euthanasia deaths (2\%), as treatment of symptoms. This classification

\textsuperscript{314} Supra notes 302-04 and associated text.

\textsuperscript{315} Supra note 155.
bias would increase the treatment of symptoms group by 2%, from 20% to 22%. The new estimate for the treatment of symptoms group, 22%, would fall within the prior estimates 95% confidence interval of 18% to 22%. Thus, empirical studies can not exclude the possibility that the only effect of legalization is to change the classification of 2% of physician-aided deaths. Because of classification bias and small samples, empirical studies are unlikely to detect changes of 2% without studying more than 1,500 cases.\textsuperscript{316} Like the legal system looking for offenders, empirical studies are limited in their ability to detect changes because of small numbers and classification bias.

The limitations due to potential classification bias and small samples qualify the interpretations made by this empirical study. The Dutch annual reports combine a large numbers of cases, a total of about 5,000, with reporting rates of up to 80%.\textsuperscript{317} These surveys show that physicians favor methods of ending patients’ lives which do not require reporting by 19-fold over methods that do require reporting.\textsuperscript{318} A study of European countries shows that

\begin{footnotesize}
\begin{enumerate}
\item[316] Id.
\item[317] Van der Heide et al., supra note 17, at 1961, 1964.
\item[318] Supra table associated with note 146.
\end{enumerate}
\end{footnotesize}
euthanasia is 15-times more common in the Netherlands when compared with the average of the rate in other European countries.\textsuperscript{319} At the time of this study euthanasia was only legal in the Netherlands.\textsuperscript{320} Furthermore, in the Netherlands, as reporting of euthanasia increases, physicians end more patients’ lives by methods that do not require reporting.\textsuperscript{321} Combining these results, it is tempting to conclude that legalization grants patients more autonomy, although physicians are reluctant to end patients’ lives with euthanasia or assisted suicide. This interpretation should be accepted with caution due to potential limitations due to classification bias and small sample size.

One of the most important goals of legalization should be to require physicians to document optimal end-of-life care in their euthanasia and assisted-suicide patients. The definition of optimal end-of-life care should be left to medical experts, who might be guided by empirical studies. These requirements could be condensed into check lists with spaces to explain any deviations from optimal

\textsuperscript{319} Supra text associated with note 267.

\textsuperscript{320} Van der Heide, supra note 267, at 346.

\textsuperscript{321} Supra Figure 3 associated with note 150.
care. The optimal care checklist would not avoid failure to report, so studies measuring reporting rates would have to be done. However, uncertainty due to small samples would be less, because the expected compliance would be high.\textsuperscript{322} For example, to have a 95% confidence interval of 72% to 88%, or 80% ±8%, only requires about 100 cases.\textsuperscript{323} It may be possible to reduce classification bias by studying cases labeled as treatment of symptoms to see if they are in fact euthanasia.\textsuperscript{324} Reducing classification bias is important, because classification of euthanasia as treatment of symptoms could be used to circumvent the requirement that the patient receive optimal end-of-life care. Legalization requires: (1) protecting patients from harm by screening reports for criminal offenders and punishing criminal offenders; (2) penalties to ensure high rates of reporting and low rates of classification bias; and (3) documentation of optimal end-of-life care. If these requirements are met, then a minority of dying

\textsuperscript{322} Supra text associated with note 213-15.

\textsuperscript{323} Supra text associated with note 155.

\textsuperscript{324} See supra text associated with notes 226.
patients (2%) should have the right to control how their lives end.\textsuperscript{325}

\textsuperscript{325} Supra table associated with note 130.