Editors' Note: In the article "High hypothetical interest in physician-assisted death in multiple sclerosis," the opinions of persons with multiple sclerosis (MS) regarding physician-assisted death (PAD) were assessed. Investigators surveyed participants in the North American Research Committee on Multiple Sclerosis Registry regarding PAD. For each of 5 hypothetical situations, respondents indicated whether they definitely would, probably would, probably would not, or definitely would not consider PAD. More than one-third of surveyed patients with MS said they would definitely or probably consider PAD in each of the 5 hypothetical situations and two-thirds would consider requesting PAD for unbearable pain. On multivariable analysis, religiosity, social support, depression, pain, disability, sex, and race were associated with considering PAD in some or all of the situations presented. The authors concluded that depending upon the situation, a large proportion of persons with MS would consider PAD and that the association of depression with considering PAD emphasizes the importance of diagnosing and treating depression. An accompanying editorial, "Physician-assisted death in chronic neurologic diseases," by Bernat and McQuillen, stated that physicians should not suggest to their patients that dying is a better solution than continued life and that for patients who muse about PAD, physicians should have a low threshold for referring them to palliative medicine to achieve optimal symptom palliation including the identification and treatment of depression. Commenting on the study, Dr. Masdeu discusses Leo Alexander's report on medical records left behind by the Nazi regime. Alexander concluded that atrocious crimes committed were, at first, merely a subtle shift in emphasis in the basic attitude of the physicians and that those started with the acceptance that there is such a thing as life not worthy to be lived. Commenting on the editorial, Dr. Bier reminds the readers that among legislative criteria granting the right to practice PAD, there are 4 requirements: requests must be voluntary, persistent, well-thought, and well-informed. Furthermore, he corrects that the law in Belgium allows only active euthanasia and not PAD (the editorial stated that in the Netherlands and Belgium, "voluntary active euthanasia now far surpasses PAD in frequency"). Finally, Dr. Sethi highlights the other side of the argument, explaining that a fundamental belief underlying the right to die (RTD) is that one's body and one's life are one's own to dispose of as one sees fit. He adds that a form of PAD by withholding extraordinary life support measures (such as intubation and mechanical ventilation of terminally ill patients) is already routinely practiced in critical care units across the world and that different religions have different perspectives when it comes to the RTD. Marrie et al., authors of the original study, explain that the issue of PAD in chronic illness is complex and that whether the individual physician supports or opposes PAD, it is clear that people with MS are thinking about this issue and want to talk about it. They also add that perspectives may differ based on religious beliefs, cultural practices, and other factors. Also in response, Drs. Bernat and McQuillen clarify that, from a legal standpoint, the right to die is a slogan since no American court found a constitutionally protected right to die. However, terminally ill patients may voluntarily choose to stop eating and drinking without it being considered suicide. From an ethical perspective, it remains controversial whether death with dignity would be best achieved by legalizing PAD or by enhancing the quality and availability of palliative care.

—Chafic Karam, MD, and Robert C. Griggs, MD

LETTER RE: HIGH HYPOTHETICAL INTEREST IN PHYSICIAN-ASSISTED DEATH IN MULTIPLE SCLEROSIS

Joseph C. Masdeu, Houston: Reading the article by Marrie et al.¹ reminded me of Leo Alexander's

horrifying report, which was published as the lead article in a 1949 issue of the *New England Journal of Medicine (NEJM)*.² As an expert at the Nuremberg trial, Alexander carefully reviewed the extensive medical records left behind by the Nazi regime. In the *NEJM* article,² he mentioned one of the Nazi propaganda movies, *I Accuse*, which depicted the life history of a woman with multiple sclerosis. In the movie, the woman's husband, a doctor, finally kills her to the accompaniment of soft piano music rendered by a sympathetic colleague in an adjoining room. After describing extensively unimaginable cruelty, Alexander concluded:

Whatever proportion those crimes finally assumed, it became evident to all who investigated them that they started from small beginnings. The beginnings at first were merely a subtle shift in emphasis in the basic attitude of the physicians. It started with the acceptance of the attitude, basic in the euthanasia movement, that there is such a thing as life not worthy to be lived.²

1. Marrie RA, Salter A, Tyry T, et al. High hypothetical interest in physician-assisted death in multiple sclerosis. *Neurology* 2017;88:1528–1534.
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LETTER RE: PHYSICIAN-ASSISTED DEATH IN CHRONIC NEUROLOGIC DISEASES

Jean-Christophe Bier, Brussels: I read with interest the editorial by Drs. Bernat and McQuillen¹ on physician-assisted death (PAD) in chronic neurologic disease. I fully support their view that "physicians have a concurrent duty to respect our patients' liberty-based right to determine themselves what constitutes their best outcome." However, it is important to remember that, among legislative criteria granting the right to practice PAD, there are 4 requirements: requests must be voluntary, persistent, well-thought, and well-informed.² Also, and perhaps more importantly, I do not agree that in the Netherlands and Belgium "voluntary active euthanasia now far surpasses PAD in frequency,"¹ because, at least in Belgium, assisted suicide is not possible and voluntary active euthanasia is the only legalized PAD (unlike in Canada, Switzerland, and some US states).³

1. Bernat JL, McQuillen MP. Physician-assisted death in chronic neurologic diseases. *Neurology* 2017;88:1488–1489.
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LETTER RE: HIGH HYPOTHETICAL INTEREST IN PHYSICIAN-ASSISTED DEATH IN MULTIPLE SCLEROSIS AND PHYSICIAN-ASSISTED DEATH IN CHRONIC NEUROLOGIC DISEASES

Nitin K. Sethi, New York: I read with interest the editorial by Drs. Bernat and McQuillen,¹ accompanying the article by Marrie et al.² I share some of the concerns highlighted in the editorial, but want to highlight the other side of the argument.

There is an increasing societal demand for “the right to die with dignity,” which was defined in *The New York Times* as follows:

Every person shall have the right to die with dignity; this right shall include the right to choose the time of one's death and to receive medical and pharmaceutical assistance to die painlessly. No physician, nurse or pharmacist shall be held criminally or civilly liable for assisting a person in the free exercise of this right.³

A fundamental belief underlying the right to die (RTD) is that one's body and one's life are one's own to dispose of as one sees fit. Opponents of the RTD point out that legalizing the RTD may lead to irrational suicides. Different religions have different perspectives when it comes to the RTD. Hinduism accepts the RTD for those with terminal illnesses, allowing death through the nonviolent practice of fasting to death (*prayopavesa*). Some Jains practice *santhara*, by which they seek voluntary death through fasting. Since the decision to practice *santhara* is taken while one possesses a sound mind and awareness of intent, it cannot be equated to suicide, which is usually carried out in haste in the midst of depression. A form of physician-assisted death by withholding extraordinary life support measures (such as intubation and mechanical ventilation of terminally ill patients) is already routinely practiced in critical care units across the world. The right to die with dignity is a fundamental right of every person, but the terms may vary among patients. Doctors are morally obligated to explore patient and family views on these issues and respect them.

1. Bernat JL, McQuillen MP. Physician-assisted death in chronic neurologic diseases. *Neurology* 2017;88:1488–1489.
2. Marrie RA, Salter A, Tyry T, et al. High hypothetical interest in physician-assisted death in multiple sclerosis. *Neurology* 2017;88:1528–1534.
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AUTHOR RESPONSE: HIGH HYPOTHETICAL INTEREST IN PHYSICIAN-ASSISTED DEATH IN MULTIPLE SCLEROSIS

Ruth Ann Marrie, Winnipeg, Canada; Amber Salter, St. Louis; Tuula Tyry, Phoenix; Gary R. Cutter, Stacey Cofield, Birmingham, AL; Robert J. Fox, Cleveland: We appreciate Dr. Masdeu's interest in our article,¹ and Dr. Sethi's comments on our article and the related editorial by Drs. Bernat and McQuillen.²

The issue of physician-assisted death (PAD) in chronic illness is complex. The concerns of Dr. Masdeu regarding the possible erosion of the physician–patient relationship and possible abuse are delineated elsewhere.^{3,4} However, legal opinions, such as those of the Supreme Court of Canada, suggest a prohibition against PAD violates the rights of individuals with “grievous and irremediable medical conditions,”⁵ and that it is possible to enact structured procedures to address concerns related to abuse.⁶ Whether the individual physician supports or opposes PAD, it is clear that people with multiple sclerosis are thinking about this issue and want to talk about it.

Individuals with severe chronic illnesses (e.g., multiple sclerosis), health care providers, and society all have valuable perspectives regarding PAD. Even within these groups, perspectives may differ based on religious beliefs, cultural practices, and other factors. For example, an online survey conducted in California found that support for access to PAD varied by ethnicity, being highest among non-Hispanic white respondents (75.6%) and lowest among African American respondents (59.6%).⁷ Continued open dialogue about these issues is needed. We agree with Dr. Sethi that health care providers need to be prepared to discuss these issues.

1. Marrie RA, Salter A, Tyry T, et al. High hypothetical interest in physician-assisted death in multiple sclerosis. *Neurology* 2017;88:1528–1534.
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AUTHOR RESPONSE: PHYSICIAN-ASSISTED DEATH IN CHRONIC NEUROLOGIC DISEASES

James L. Bernat, Lebanon, NH; Michael P. McQuillen, Palo Alto, CA: We thank Dr. Bier for the correction that the law in Belgium allows only active euthanasia and not physician-assisted death (PAD). Our statement remains true that, in the Netherlands, where both activities are lawful, active euthanasia is more commonly practiced than PAD.¹

We also thank Dr. Sethi for the comment on our editorial,¹ which combined a number of different life-ending acts under the category of the “right to die with dignity.” Enhanced clarity comes through unpacking them.

The legal issues: the right to die is a slogan. No American court found a constitutionally protected right to die. The US Supreme Court ruling in *Cruzan* (1990) did find, in the 14th amendment, a constitutionally protected right to refuse life-sustaining therapy including hydration and nutrition.² Terminally ill patients may voluntarily choose to stop eating and drinking without it being considered suicide. This act is treated as analogous to the right to refuse life-sustaining therapy. The US Supreme Court (1997) found no constitutionally protected right to request and receive PAD (suicide) and permitted states to enact laws as they saw fit to make such practices lawful or unlawful.³

The ethical perspective: we agree that it would be best if everyone could die with dignity. What is controversial is whether that goal would be best achieved by legalizing PAD or by enhancing the quality and availability of palliative care. Reasonable people can disagree on this point; as a result, states enacted varying and evolving laws.

1. Bernat JL, McQuillen MP. Physician-assisted death in chronic neurologic diseases. *Neurology* 2017;88:1488–1489.
2. *Cruzan v Director, Missouri Dept of Health*. 110 S. Ct. 2841, 1990.
3. *Washington v Glucksberg*. 117 S. Ct. 2302, 1997.

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CORRECTION

White matter microstructure, cognition, and molecular markers in fragile X premutation females

The article “White matter microstructure, cognition, and molecular markers in fragile X premutation females” by A.L. Shelton et al.¹ was published ahead of print on May 5, 2017. After it posted, there were errors noted in figure 2 that were corrected with the print version published on May 30, 2017. The version that was published ahead of print showed lines of best fit for 3 plots which did not remain significant after the authors reanalyzed their data to include a multiple correction factor. The corrected figure 2 contains 8 plots and reflects data that remained significant after the reanalysis. The legend and text referencing the correction were revised to include the additional plot graphs. The authors regret the errors.

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