**Appendix**

**A. Legal framework of physician-assisted death**

The legal framework for PAD as of early 2018 is presented below. The legal framework is presented by geographic region; nonetheless, the legal framework is contrasted by inequality-adjusted human development index (IHDI). The legal framework from countries with a very high IHDI (i.e. Netherlands, Switzerland; IHDI>0.850) and a high IHDI (i.e. Belgium, Canada, Luxemburg, and United States; 0.850>IHDI>0.736) will be contrasted to a country with a medium IHDI (i.e. Mexico; 0.736>IHDI>0.563) and another with a low IHDI (i.e. Colombia; 0.563>IHDI>0.394).[46]

**1. Definitions and legal due care criteria for PAD**

Physician assistance in dying or physician-assisted death (PAD) refers to physician-assisted suicide (PAS) and voluntary active euthanasia.[28] PAS is when a physician, upon patient request, provides a lethal medication, while meeting the legal due care criteria for PAD.[47] In contrast, voluntary active euthanasia alludes to the administration of a lethal medication by a physician at the request of a patient.[47] While both voluntary active euthanasia and PAS are legal in the Netherlands, Luxemburg, Colombia, and Canada; only voluntary active euthanasia as form of PAD is legal in Belgium while only PAS as form of PAD is legal in Switzerland, Oregon, Washington, Montana, Vermont and California.[48] Since most countries have adopted a version similar to the Dutch due care criteria, we have opted to follow these criteria. The due care criteria for PAD in the Dutch Euthanasia Act are: 1) the attending physician has come to the conviction that the request from the patient is voluntary and well-considered; 2) the attending physician has come to the conviction that the suffering of the patient is unbearable and without prospect of improvement; 3) the physician has informed the patient of his situation and prospects; 4) there are no more reasonable alternatives for the patient to relieve suffering; 5) the physician has consulted an independent physician; and 6) the physician has terminated the patient’s life or provided assistance with suicide with due medical care and attention.[20, 29, 32] In the next subsections, the legal framework regarding PAD from civil law legal systems (e.g. the European Union and Latin American countries), as well as common law countries (i.e. United States of America and Canada) will be presented.

**2. European legal framework for PAD**

**2.1. The Netherlands**

In the Netherlands, PAD was legalized in 2002 under the Dutch Termination of Life on Request and Assisted Suicide Act. Aiming to provide the legal framework and to increase the degree of due care exercised by physicians when performing a PAD.[31] The statutory procedure governing PAD is based on the assumption that the action to terminate life is taken by the attending physician; defining an attending physician as the physician who has a medical treatment contract with the treating patient.[29] Under Article 446 of the Dutch Civil Code, a medical treatment contract exists if, “in the pursuance of a medical occupation or enterprise, a natural or legal person undertakes to carry out medical interventions that directly affect the patient”.[29] Under Dutch law (i.e. Section 7(2) of the Burial and Cremation Act), the physician must submit a written report of the termination of life, with reasons and observance of due care requirements, to the municipal forensic pathologist after performing the act.[29,31] The pathologist then performs an external examination of the body and verifies the procedure and substances used to terminate the patient’s life.[29] This report is forwarded to a regional committee or RTE (Regionale Toetsingscommissies Euthanasie, Regional Euthanasia Review Committee; i.e. composed of a lawyer, a physician and an expert on ethical or philosophical issues), which determines within six weeks if statutory due care requirements were met. [29,31] If the physician has complied with all due care requirements, the procedure is deemed complete; however, if lack of due care is determined, the case is forwarded to the Public Prosecution Service and the Health Care Inspectorate.[29, 31, 33] All cases suspected of having not complied with the due care criteria must be discussed with all five regional committees before a final determination is made.[49] PAD is not considered to be punishable if the conditions for due care are met and the termination is carried out by a physician.[31] Patients with dementia may request PAD under two conditions. First, while preserving their decision-making capacity at an early stage, the patient is experiencing extreme mental suffering due to his/her dementia diagnosis.[28] Secondly, when the patient, who has previously requested an advance euthanasia directive (AED), progresses to late-stage dementia and his/her symptoms become severe.[28] The regional committee expects the physician to act “very cautiously” and to have “extremely careful decision-making” when a patient suffering from dementia request euthanasia.[31]

End-of-life decisions have become more prominent in Dutch society. Patients have actively participated in this decision-making progress at an increasing rate, from 39% in 1990 to 58% in 2015.[50] The number of requests for PAD has continuously increased in the Netherlands with each lustrum. According to the RTE, from 2002-2006, 9439 PADs were notified, increasing to 13918 from 2007-2011, and to 25930 from 2012 to 2016. The number of cases in which the attending physician acted without due care has changed: 21 cases from 2002-2006 (0.22%), 35 from 2007-2011 (0.25%), and 33 from 2012 to 2016 (0.13%).

In the Netherlands patients and physicians are increasingly opting for continuous deep sedation as an end-of-life alternative. Continuous deep sedation has increased from 8.2% in 2005 to 12.3% in 2010, reaching its highest rate in 2015 of 18.3%;[50] however, patient consent for deep sedation was not reported and therefore the level self-determination cannot be determined for this end-of-life practice. The percentage of all deaths that PAD accounts in the Netherlands remained stable from 1990 to 2010 ranging from 1.8% to 2.9% (i.e. 1.9% in 1990, 2.6% in 1995, 2.8% in 2001, 1.8% in 2005, and 2.9% in 2010); the last survey suggest an increase to 4.6% in 2015.[50] As a result of the Euthanasia Act of 2002, physicians reported cases of termination of life more frequently in the Netherlands; while in 1990 the reporting rate was 18.0%, had risen to 40.7% in 1995, to 54.1% in 2001, by 2005 the percentage reached to 80.2%; the main reason the physician did not notify is that they did not believe that an end-of-life procedure was performed.[31,50] In the cases that the physician did not notify, sedatives and morphine were most often used; moreover, 99% of the cases reporting a PAD used an appropriate neuromuscular-blocking agent and coma-inducing substance.[49] The Netherlands has consistently maintained a low rate of patient’s life ended without their explicit consent at 0.3% (i.e. 0.2-0.4%) from 2005 to 2015; also with a decrease from pre-legislation levels of 0.7-0.8%.[50] In the Netherlands ending life without explicit request has decreased from 0.8% in 1990 to 0.3% in 2015.[50]

**2.2. Belgium**

Under Belgian law, PAS is not explicitly permitted.[51, 52] While no age restrictions are imposed by Belgian law (i.e. 2014 Child Euthanasia Amendment), the law in Luxemburg requires the patient to be 18 years or older.[51] According to the Belgian Euthanasia Act of 2002, the patient must repeatedly state his desire for PAD; additionally, the physician must confirm that the requests are voluntary, well-considered, and not the result of coercion.[35] The request must be done in a written document, be dated and signed by the patient. If unable to sign the document, the patient can assign a person to sign on his behalf or have an AED, which must be witnessed by two individuals; the request is valid for five years.[53] The Belgian Euthanasia Act stipulates that in cases involving non-terminal illnesses (e.g. quadriplegia and neurodegenerative disorders) a one-month moratorium on the PAD request must elapse.[35] Belgian law dictates that the physician must report the PAD to the Federal Control and Evaluation Commission; similarly, the law in Luxemburg stipulates that the physician must first check if the request for PAD has been registered with the National Commission for Control and Assessment and notify the commission within eight days of executing the PAD.[51] Belgian law does not explicitly prohibit PAD on patients with dementia. Considering that patients with dementia are recognized to have a more prolonged survival than terminal illnesses, a third physician (i.e. expert on the disease, according to the law) must be consulted before the request for PAD is granted by the treating physician.[54] Nonetheless, euthanasia for patients with dementia is currently a topic of debate in Belgium due to its historical and political intricacy,[52] moral implications,[35] and the complexity associated with the physician’s end-of-life decision-making.[55]

Belgium has experienced an overall increase in the number of requests, from 3.5% in 2007 to 6.0% of deaths in 2013, and the proportion of requests granted, from 56.3% to 76.8%, made in the same six-year window.[56] Prevalence of PAD has also increased in Belgium, from 3.2% in 1998 to 5.4% in 2007, reaching 10.6% in 2013.[56] In Belgium, the rate of patients whose life is ended without their explicit request (i.e. most likely involving the use of opioids in a patient with less than a week of life expectancy) was 1.7% in 2013, showing a decrease from 3.2% in 1998.[56] Additionally, in a comparative study in 2001, Belgium had the highest rate of hastening death without the explicit request of the patient with 1.5%.[57]

**2.3. Switzerland and Luxemburg**

Switzerland was the first country to decriminalize PAS in 1942.[58] Although Swiss law does not consider suicide as a crime or assisting in a suicide as complicity in a crime, a police inquiry is initiated once an unnatural death occurs and prosecution only results if doubts about the patient’s mental competence and autonomous choice are raised.[58] The law in Switzerland does not place age restrictions, require specific diagnoses, nor is limited to Swiss citizens.[58] Approximately 600 non-citizens had PAS from 2008 to 2012, predominantly from Germany (268) and United Kingdom (126).[51] A revision of the law in 1997 by a parliamentary commission recommended euthanasia to remain illegal.[58] Interestingly, Swiss law does not grant physicians any special privileges to assist in suicide; furthermore, non-physician Swiss citizens can legally assist in suicide based on altruistic motivations.[58] In 2002, voluntary euthanasia was legalized in Belgium, meanwhile, both forms of PAD were legalized in Luxemburg in 2009.[51]

**3. Canada** **and United States legal framework for PAD**

Canada decriminalized PAD in 2016. The path towards the recent Canadian legislation was different than in European countries. The Canadian law is a result from a Supreme Court of Canada ruling (i.e. Lee Carter vs. Attorney General of Canada), where the court ruled that prohibition of PAD violated the constitutional right to “life, liberty, and security of the person”.[59] This law allows for competent adults with a “grievous and irremediable” illness who voluntarily request a PAD to be granted this procedure as an act to alleviate their suffering since no other available therapeutic interventions are possible.[60] While the law restricts eligibility to patients whose death is within proximity, it does not allow for AEDs, eligibility for minors, nor patients seeking assistance as result of a mental disorder.[60] Canada has a ten-day waiting period between the time the patient submits a written request and the arrangement of the PAD to take place.[48]

In 1994 the Death with Dignity Act was approved, becoming effective in 1997 after a hearing in the U.S. Supreme Court.[57] After Oregon, similar laws were approved decriminalizing PAS in the states of Washington (2009), Montana (2009), Vermont (2013), and California (2015).[48] In Oregon, the patient must make two verbal and one written request to obtain medication to perform the PAD, while the requests are witnessed by two independent individuals.[53] Furthermore, a second physician opinion must declare the patient competent and consider him well informed about his decision; additionally, the physician must inform the patient that he can withdraw his request at any time, notify Oregon’s Department of Human Services once the prescription has been written, and must maintain a record of the diagnosis, prognosis, requests, counseling offered and any attempts to retract the request in the patient’s medical record.[53] Oregon, as well as all other US states that allow PAS require a 15-day moratorium between the first oral request and a two-day waiting period between the written request and administration of the prescription.[48] Recently, the American College of Physicians stated their opposition to the legalization of PAS; taking into consideration the patient-physician relationship, perspectives regarding trust in the profession and the role of the medical profession in society.[61]

**4. Latin American legal framework for PAD**

Colombia is the only country in Latin America where PAD is legal. Legalized in 1997, PAD has just recently been regulated by the Colombian Ministry of Health.[51] The procedure must take place in a hospital and only adult patients with incoercible pain and unbearable suffering are eligible for the PAD procedure.[51] Colombia is the only country that requires prior approval by an independent committee of all euthanasia cases.[48] Additional requirements for PAD are that the patient must consciously request PAD and a multidisciplinary team (i.e. a medical specialist, a lawyer, and a psychiatrist or clinical psychologist) must authorize and supervise the procedure.[51] Interestingly, the first legally assisted death in Latin America was performed in July 2015.[51]

In Mexico PAD is illegal. Euthanasia is considered a homicide and carries a 10 to a 14-year prison sentence, while PAS is classified as an assisted homicide and carries a 2 to a 5-year prison sentence.[62] In 2008, Mexico City approved a law (i.e. “Ley de Voluntad Anticipada”) that legalizes advance health care directives (AHD), allowing citizens to establish a medical directive regarding the continuation or termination of treatments that extend life under conditions that the subject deems not worth living.[63] This law absolves the physician who discontinues the treatments aimed at extending the life of any legal prosecution. Approximately half (i.e. 15 out of the 31) of the states in Mexico have an AHD law similar to that of the country’s capital.[62] As of January 30, 2017, the constitution of Mexico City under article 11 incorporates the right of personal self-determination, incorporating the right to live with dignity, which in its own right includes the right of a death with dignity.[64] Along with the AHD law, the General Health Law (i.e. “Ley General de Salud”) establishes that patients with terminal illnesses must be offered palliative care measures.[65] Among the palliative care options, the patient may receive palliative sedation. Even though PAD is illegal, the patient has the right to request irreversible deep sedation; meanwhile, the physician is protected by law.[62] For a thorough analysis of the cultural and political attitudes, as well as current and future perspectives toward PAD in Mexico we refer the reader to the text by Asunción Álvarez del Río (2017).[62]

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