

Pharmacy practice in the domain of assisted dying: A mapping review of the literature

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“Pharmacy practice in the domain of assisted dying: A mapping review of the literature”

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1 **Pharmacy practice in the domain of assisted dying: A mapping review of the**
2 **literature**

3 **ABSTRACT**

4 Background

5 The scope and roles of pharmacists worldwide are undergoing dramatic change. Patient-
6 focused care aimed at caring for people that seek medical assistance in dying is among
7 the newest roles. While pharmacists have been involved in medically assisted dying in
8 some international jurisdictions for over two decades, little is known about their actual
9 lived experiences.

10 Objective

11 To map the literature concerning pharmacy practice in the assisted dying domain to
12 clarify apparent research gaps.

13 Methods

14 A mapping review was performed following a systematic search of Medline, CINAHL
15 and IPA to locate academic papers and reports relating to pharmacists' involvement in
16 assisted dying published between 1990 and 2019. Searches included articles in English,
17 French, and Dutch. References and citations of articles were searched to identify
18 additional articles.

19 Results

20 A total of 43 articles were selected, including commentaries (n=26), reports (n=2), a
21 scoping literature review (n=1), and empirical studies (n=14). Most commentaries
22 centered on pharmacists' roles, ethico-legal and moral challenges, and educational
23 concerns in relation to participation. Of the 14 empirical studies, 12 studies were
24 designed around surveys that focused on pharmacists' attitudes, and opinions
25 concerning assisted dying. Other methodologies included thematic analysis of moral
26 dilemmas, experimental design identifying attitudes to sedation at end of life, and
27 analysis of documents such as guidelines, position statements, and standards of practice.

28 Two studies utilized a qualitative research approach. A significant gap was found with
29 respect to research exploring the actual experience of pharmacists' practice in medically
30 assisted dying.

31 Conclusion

32 There is an absence of studies exploring pharmacists' actual experiences in assisted
33 dying practice. Research involving pharmacists that participate in legally sanctioned
34 assisted dying will facilitate a meaningful understanding of the lived experience of
35 pharmacy practice in this domain.

36 Keywords

37 Pharmacy; medical assistance in dying; assisted dying; aid in dying; suicide, assisted;
38 euthanasia; mapping review.

39 **Introduction**

40 Over the past several years, health care policy in many developed nations has
41 been changing and evolving.¹ The scope and roles of practice for health practitioners,
42 including pharmacists, has also been changing and developing rapidly.²⁻⁵ Practicing
43 patient-focused care aimed at lawfully assisting individuals to accomplish their own
44 death has expanded to include a number of international jurisdictions.⁶ Different
45 terminology is used to describe this practice, including medical assistance in dying
46 (MAiD), physician assisted suicide (PAS) and voluntary assisted dying (VAD). These
47 terms are defined and discussed by Varadarajan et al. 2016.⁶

48 Recently, the Australian State of Victoria passed the Voluntary Assisted Dying
49 (VAD) Bill 2017, for commencement on June 19 2019⁷, making it the newest
50 jurisdiction to legally allow assisted death. In doing so, Victoria joins Belgium, Canada,
51 Colombia, Luxembourg, the Netherlands and the States of California, Colorado,
52 Oregon, Vermont and Washington, and the District of Columbia in the United States of
53 America, all of which have introduced laws permitting some form of assisted death.⁸
54 Switzerland, while not having explicit legislation surrounding assisted death, permits
55 suicide assistance in circumstances not driven by “selfish motives”.^{9,10} The Swiss model
56 is also not orchestrated as an entirely medical issue, allowing for key roles to be
57 undertaken by non-physicians.¹¹

58 The increasing trend to legally legitimize some form of assisted dying appears to
59 reflect the evolution of social norms from those of prohibition to a more permissive
60 stance.¹² Some have pointed to an observable change in Western societies with aging
61 populations, toward increasing secularism, individual autonomy and a demand for
62 personal control.⁸ It is suggested that these factors, among others, may act as drivers
63 toward greater permissiveness.¹³ Regardless of the societal drivers, health care practice
64 that incorporates participation in assisting patients to achieve their own death, presents

65 challenges and new considerations for all professionals who do not recuse themselves
66 due to conscientious objection. As reviewed by Fujioka, Mirza, McDonald and
67 Klinger¹⁴, aspects of practice in the domain of assisted dying may include:
68 consulting/supporting patients and other staff members with requests, assessing
69 eligibility, administering/dispensing the lethal drugs, providing aftercare to bereaved
70 relatives, and regulatory oversight.

71 The Victorian legislative development process has been guided by reviews of
72 assisted dying laws from a range of developed nations.¹⁵ The resultant Victorian statute⁷
73 and its accompanying regulations¹⁶ provide a comprehensive description of criteria,
74 minimum procedural requirements, necessary permits and rules, and procedures
75 governing prescribing, dispensing and disposing of VAD substances. While the legal
76 contexts and procedures are quite thoroughly covered, such documents understandably
77 cannot illuminate how health practitioners will experience the fine-grained
78 implementation of the procedures, with their dying patients and those that care-for and
79 love them, over time.

80 The Pharmaceutical Society of Australia (PSA) acknowledges that pharmacists
81 will have a crucial role in the VAD processes when the Victorian legislation is
82 implemented in 2019.¹⁷ At the time of writing of this article, pharmacist representatives
83 are involved in a range of VAD implementation taskforce projects, including the
84 drafting of the Regulations to support the statute.^{18,19} As Australian pharmacists try to
85 come to grips with the idea of assisting patients that seek their own death, some may
86 find professional involvement incompatible with their philosophy of healthcare.¹⁷ Some
87 will not feel this incompatibility and will agree to participate in the necessary practices
88 strictly according to the law, its regulations and professional guidelines. For these
89 pharmacists, and for those that are still in active contemplation, the informed

90 experiences of pharmacists that are already *actually* practicing in this area in
91 international jurisdictions may prove to be very helpful.

92 Pharmacists have been involved in medically assisted dying in some
93 international jurisdictions since the early 2000's, (e.g. Netherlands). Other jurisdictions
94 have only recently implemented assisted dying laws (e.g. Canada, 2016). In Victoria,
95 VAD will commence in June 2019.⁷ The laws and regulations are no longer theoretical
96 and the general procedures that pharmacists must follow are known. Consequently, the
97 Australian pharmacy profession is currently experiencing a period of tense anticipation.
98 Perhaps pharmacists are now less concerned with the question "What will I have to
99 do?", and more with the question "How will I experience this practice if I do it?".

100 The aim of this research was to clarify an apparent research gap concerning the
101 experience of pharmacy practice in the domain of assisted dying by undertaking a
102 mapping review of the literature.²⁰ The mapping review methodology²⁰ has been used as
103 a means to characterize extant studies according to their theoretical perspective by
104 observation of study design, identifying gaps in the knowledge base and to provide a
105 transparent and organized summary of literature from which further research decisions
106 can be made. The mapping review is presented as the preparative phase for a planned
107 multi-phase international study involving pharmacists that participate in legally
108 sanctioned assisted dying processes. Subsequent research phases are described later in
109 this paper under the heading of 'Future Research'.

110 To begin, the Australian context and Victoria's approach to the planned
111 implementation of VAD is briefly explained. Then a description of the mapping review
112 method and analysis of the international literature pertaining to pharmacists'
113 involvement in assisted dying practices are presented.

114

115

116 *Voluntary Assisted Death (VAD): Australia*

117 As in other international jurisdictions, Australian society is demanding to have
118 control over the decision to end life in particular circumstances, and to have regulated
119 professional assistance to carry out such a decision.²¹ In 2017, legislation in four
120 Australian states was introduced into their respective parliaments regarding assisted
121 dying law and regulation. The state parliament of Victoria passed the Voluntary
122 Assisted Dying (VAD) Bill 2017, on November 29, 2017, for commencement on June
123 19, 2019.⁷ The state parliaments of New South Wales (NSW), South Australia (SA) and
124 Tasmania narrowly rejected similarly structured bills. It is anticipated however, that the
125 bills are likely to be reintroduced to those state parliaments in the near future.²²⁻²⁴ The
126 remaining populous eastern Australian state, Queensland, has ruled out VAD legislation
127 in the near term, but considerable pressure for legislative reform remains as the
128 Victorian state precedent unfolds.²⁵ In August of 2018, a cross-party parliamentary
129 committee in Western Australia (WA) recommended that the WA Government legalise
130 voluntary euthanasia for patients suffering from a terminal illness, to be debated in
131 2019.^{26,27}

132 The Australian Victorian VAD Act delivers a thorough and highly specified set
133 of eligibility criteria, procedures and safeguards.⁷ Eligibility to seek an assisted death
134 requires that the patient be aged 18 years or older, have a legal capacity to make the
135 request, be an Australian citizen and a resident of the state of Victoria for at least 12
136 months prior to making the request. Further criteria require that the patient:

- 137 • be ‘diagnosed with a disease, illness or medical condition’ and that is
138 incurable; *and*
- 139 • is advanced, progressive and will cause death; *and*
- 140 • is expected to cause death within the next 6 months (although, if the disease
141 is neurodegenerative, the life expectancy is 12 months or less); *and*

142 • is causing suffering to the individual which cannot be relieved in a manner
143 that they consider tolerable.

144 A patient must be assessed as not suffering solely from a mental illness or a disability
145 that is not terminal, and further, must make three separate written requests for assistance
146 in dying and be assessed by (at least) two different medical practitioners. Medical
147 assessors must also satisfy themselves that the applicant is ‘acting voluntarily and
148 without coercion’. Only the patient that seeks assistance to die can ask for it, and if so
149 granted, can change their mind at any time.

150 The Victorian VAD Act permits both patient self-administration of appropriately
151 prescribed lethal substances as well as euthanasia. In the latter case, a consenting doctor
152 may assist the patient in administering the lethal substances. Each process, (self-
153 administration and euthanasia), is distinct and requires different administration permits
154 (for substances) to be granted during the overall assessment processes.

155 With regards to prescribing, dispensing or disposing of VAD substances, the Act
156 also specifies the information to be provided to the patient requesting voluntary assisted
157 death by both the medicine prescriber and the dispensing pharmacist. Duties for the
158 pharmacist cover aspects such as¹⁶:

- 159 • Provision of information and counselling for the patient regarding self-
160 administration, handling and storage and the necessity of returning for
161 disposal any dispensed VAD substance that was not self-administered. This
162 latter role is to be undertaken by a declared ‘contact person’;
- 163 • Labelling requirements, such as the inclusion of the words “Warning: If
164 ingested this substance will cause death”;
- 165 • Recording and notification procedures;
- 166 • Secure storage of lethal medicines after dispensing through the provision of
167 a ‘locked-box’;

168 • Necessity of pharmacist organized disposal of returned/unused lethal
169 medicines, and the recording of such disposal.

170 The Act also articulates that all potentially affected health practitioners may step away
171 from the VAD processes should they hold conscientious objection.

172 The Victorian Implementation Taskforce is working through many issues
173 pertinent to preparing for the practical implementation of the VAD Act. Of the myriad
174 of briefs taken on by the Taskforce the development of the following are of particular
175 importance for pharmacists and the pharmacy profession:

- 176 • Regulations to support the VAD Act;
- 177 • Best practice substances for use in voluntary assisted dying;
- 178 • Service delivery frameworks and models; and
- 179 • Education and training modules, such as communication skills.

180 At this pivotal time, it is pertinent that we undertake a mapping review of existing
181 literature to explore experiences of pharmacists that perform these duties as part of their
182 professional roles.

183 **Method: A mapping review**

184 Considerations regarding participation in any part of legalized practice to aid
185 dying present serious moral, professional and ethical concerns for the health and other
186 professions involved, including pharmacists.^{14,28} While most community discussion
187 tends to focus upon physicians, patients and their loved ones, pharmacists also have an
188 essential role and carry substantial responsibilities in assisted dying practices.^{13,14,29} A
189 mapping review²⁰ of the literature was conducted for the period 1990 to 2019 so as to
190 locate academic papers and reports relating to the involvement of pharmacists in some
191 form of assisted dying.

192 A mapping review seeks to characterize the literature to identify types of studies,
193 types of knowledge (i.e. epistemology), and consequent research gaps, from which

194 further primary research may be justified.²⁰ While a mapping review relies on
195 systematic searching of the literature, the outcome-aim of this review type is to “map
196 out and categorize existing literature on a particular topic”(p. 2).³⁰ Unlike other
197 literature review methods such as a systematic review, a full appraisal and analysis of
198 the contents of selected literature is not expected.^{20,30} As put by Cooper (2016, p. 76),
199 “...published articles not only represent findings, but, indirectly, represent activity
200 related to the finding.”³¹ In the case of this mapping review, contextualization of a
201 research ‘scene’ (pharmacists’ and assisted dying) is presented, demonstrating both the
202 presence and absence of certain types of studies.²⁰ The mapping review method thus
203 provides an informed basis to consider whether research gaps exist and whether further
204 research is justified.²⁰

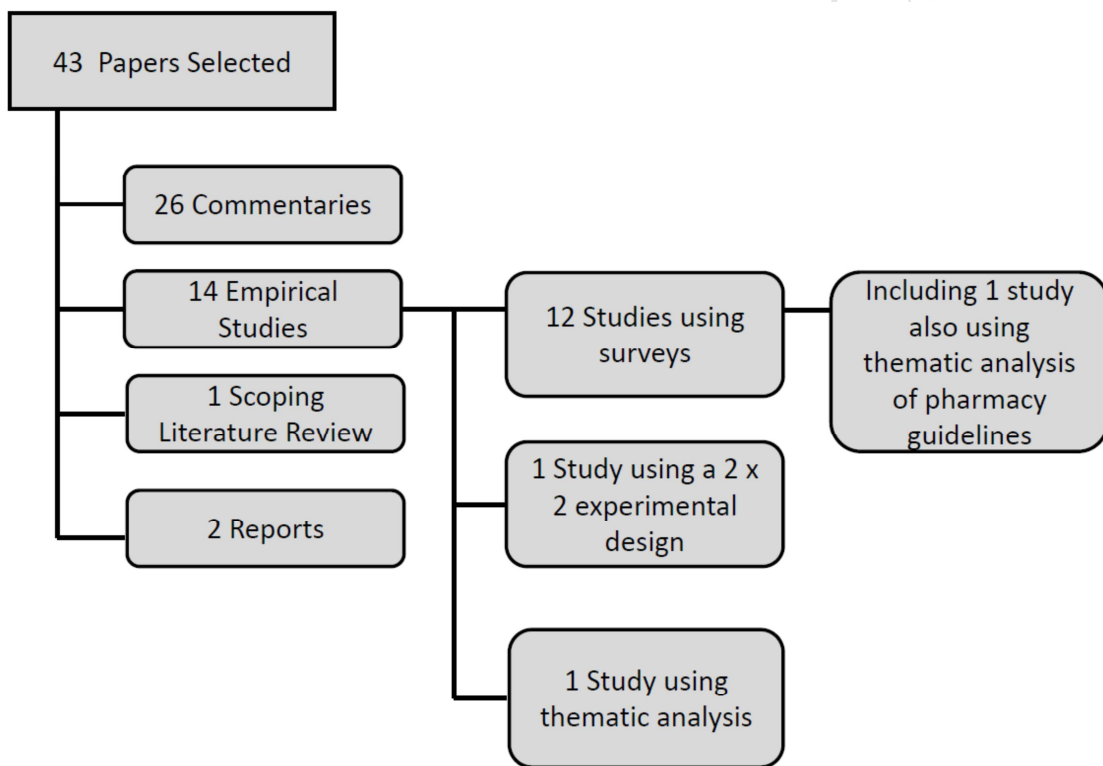
205 To effect the search, relevant literature was identified through a systematic
206 search of Medline, CINAHL (Cumulative Index to Nursing and Allied Health
207 Literature) and IPA (International Pharmaceutical Abstracts) using the strategy
208 (pharmacist OR pharmacists) AND (assisted death OR assisted suicide OR euthanasia
209 OR aid in dying). In order to include literature from the countries where euthanasia or
210 assisted dying is legal, searches included articles in English, French, and Dutch. The
211 references and citations of studies initially uncovered were also searched (snowballing
212 technique) to identify additional articles. An inclusive attitude was taken to selecting
213 papers for analysis. The articles excluded were mainly opinion-based commentaries that
214 did not include explanatory reasoning, balance and references.

215 **Results and Discussion**

216 The aim of this paper was to map the literature concerning pharmacy practice in
217 the assisted dying domain. The table of studies (Table 1) categorizes each article
218 according to both methodology and (where relevant), study design and summarizes the
219 focus and findings of each study. Focus and findings reveal many important elements of

220 knowledge in the assisted dying domain (e.g. prevalent attitudes, views and
 221 perceptions). In contrast, methodology and design of each study reveal the ‘type of
 222 knowledge’ provided by the study and the participants from whom such knowledge
 223 arose. Importantly, the mapping review approach used in this study clarified an apparent
 224 research gap with respect to pharmacists’ actual experience with assisted death.

225 Figure 1 maps the 43 selected papers including commentaries, reports, a
 226 literature review and empirical studies. A more detailed summary of these publications
 227 is presented in Table 1.



228

229 **Figure 1.** The results of the mapping review of the literature relating to the involvement of
 230 pharmacists in some form of assisted dying.

231 **Table 1. Literature concerning pharmacy practice in the assisted dying domain, 1990 – 2019.** Presented in chronological order.

Author(s)	Publication Year	Jurisdiction of Focus	Publication Style or Methodology	Design	Article Focus	Results/Findings/Outcomes
Ciesielski-Carlucci, C. ³²	1992	USA	Commentary		Medication use in euthanasia and ethical issues of concern.	The use of medications for euthanasia is discussed, with emphasis on ethical issues and implications for the pharmacist.
Vivian, J., Slaughter, R., and Calissi, P. ³³	1993	USA	Quantitative	Survey	Attitudes of Michigan pharmacists regarding medically assisted suicide.	Michigan pharmacists have similar views about the propriety of assisted suicide as compared to the general population in the state, with about half of the pharmacists disapproving of the practice in all circumstances and the other half indicating that there are some conditions that warrant participation in this activity.
Rupp, M. T., and Isenhower, H. L. ³⁴	1994	USA	Quantitative	Survey	Pharmacists' attitudes toward physician-assisted suicide.	While almost 70% of participants indicated support for physician assisted suicide, 66% expressed the opinion that it is inappropriate for physicians to involve pharmacists in the process without disclosure and consent; less than 40% indicated they would participate in the practice. Variability in opinions is influenced by personal experiences, religious conviction, and age.
van Wijmen, F. C. B., and Huinck-Mennen, W. H. T. ³⁵	1994	Netherlands	Commentary		An overview of the pharmacist's role in euthanasia.	Specific roles and duties of pharmacists are discussed including jurisdictional context and relevant developments in jurisprudence and regulation.
Rupp, M. T. ³⁶	1995	USA	Commentary		Moral and philosophical issues, assisted death and ethical codes, clinical issues.	Need for research to examine complex issues related to assisted death. Strategies are required to balance the needs of patients and health care providers that express conscientious objection.

Author(s)	Publication Year	Jurisdiction of Focus	Publication Style or Methodology	Design	Article Focus	Results/Findings/Outcomes
Mullan, K., Allen, W. L., and Blushwood, D. B. ³⁷	1996	International	Commentary		To describe a legal structure for the accommodation of pharmacists' rights of conscience in the dispensing of drugs for pharmaceutically assisted death.	Need for pharmacy professional bodies to develop profession specific guidelines policies to safeguard the rights of pharmacists.
van Wijmen, F. C. B., and Huinck-Mennen, W. H. T. ³⁸	1996	Netherlands	Commentary		The role and responsibilities of pharmacists in decisions concerning euthanasia and assisted suicide, and the need for a new code of conduct.	The role and responsibilities of pharmacists are not given sufficient attention from either societal or professional viewpoints. A plea is made to formulate a new code of conduct regarding performing of medical decisions at the end of life.
Wagner, B. K. J. ³⁹	1996	USA	Commentary		Examines both abortion and assisted suicide, and then discusses the role of the pharmacy practitioner.	Personal views expressed that pharmacists' participation in both abortion and assisted suicide is ethically and morally incompatible with their professional oath. Suggests training for pharmacists to enable effective communication with those seeking service.
deBoer, A., Lau, H. S., and Porsius, A. ⁴⁰	1997	Netherlands	Quantitative	Survey	Survey of attitudes and practices with respect to euthanasia and physician-assisted suicide	The majority of participants expressed willingness to participate in physician-assisted suicide.
Onwuteaka-Philipsen, B. D., Muller, M. T., and van der Wal, G. ⁴¹	1997	Netherlands	Quantitative	Survey	Evaluation of a protocol to standardize euthanasia among pharmacists and general medical practitioners.	Both pharmacists and GPs had positive attitudes towards the importance and possibility of the standardisation of euthanatics. The majority of pharmacists and GPs were satisfied with the standard packages. This study shows that the implementation of standardised euthanatics was quite successful.
Slezak, M. ⁴²	1998	USA	Commentary		Informally gathered opinions of Oregon pharmacists regarding participation in new assisted suicide laws.	Article claims opinions are divided.

Author(s)	Publication Year	Jurisdiction of Focus	Publication Style or Methodology	Design	Article Focus	Results/Findings/Outcomes
Woolfrey, J. ⁴³	1998	USA	Commentary		Guidance for practitioners, the uneasy role of hospice, the pharmacist's dilemma, implications for bioethics.	Lack of ongoing monitoring to assess both effectiveness and potential issues post implementation.
Schneiderhan, M. E. ⁴⁴	1999	USA	Commentary		Pharmacy practice and pharmacists' role, ethico-legal issues.	Suggests evaluating the complex interplay of variables that comprise the patient-doctor relationship to develop roadmap for guiding pharmacists' practice.
Veatch, R. M. ⁴⁵	1999	USA	Commentary		Review of published and grey literature focused on moral arguments between the rights of patients and of pharmacists on the basis of conscientious objection.	Emphasizes that pharmacists must rely on considerations involving conscience. Calls for strategies to assist pharmacists in reconciling their own position alongside the interests of the terminally ill.
Voss, D. ²⁹	1999	USA	Commentary		Actual assistance in dying is rendered by nurses, pharmacists, and respiratory technicians who are not included in the decision-making group. This involvement can place them in a contradictory locus between the necessity to act as independent professional and the expectation to obediently comply with the authority of medical practitioners.	The potential contradiction may lead many health care providers to remain silent on the subject of assisted death, diminishing their professionalism and their contribution to public argument.
Yung, D. K., and Whelan, A. M. ⁴⁶	1999	Canada	Quantitative	Survey	The attitudes of pharmacy students and pharmacists towards the role of the pharmacy profession and prescription drugs in assisted suicide were measured and compared.	Many students and pharmacists believed that prescription drugs are an appropriate means to accomplish physician-assisted suicide. Students were more unsure about the appropriateness of licensing bodies setting policies against pharmaceutically assisted suicide. Student and pharmacist respondents with a high level of religious conviction were more critical towards assisted suicide.

Author(s)	Publication Year	Jurisdiction of Focus	Publication Style or Methodology	Design	Article Focus	Results/Findings/Outcomes
Hanlon, T. R. G., Weiss, M. C., and Rees, J. ⁴⁷	2000	UK	Quantitative	Survey	To explore British community pharmacists' views on assisted-suicide, including professional responsibility personal beliefs, and ethico-legal issues	Approximately 90% expressed a wish for inclusion of PAS in a code of ethics that provides guidelines for conscientious objectors. Concern raised regarding that approximately 30% of participants did not want to know the purpose of PAS prescription. This is believed contrary to pharmacists' professional obligations.
Lau, H. S., Riezebos, J., Abas, V., Porsius, A. J., and deBoer, A. ⁴⁸	2000	Netherlands	Quantitative	Survey	To study the attitudes and practices of assisted-dying among pharmacists.	Majority indicated willingness to dispense drugs for euthanasia and PAS in accordance with guidelines.
Naafs, N. J. ⁴⁹	2001	Netherlands	Commentary		Situational description, evolving pharmacy practice, ethical codes and the use of guidelines.	Facilitating euthanasia seen as part of pharmacists' providing patient-centred care by supporting patients to alleviate pain and suffering.
Hackett, E., and Francis, S.-A. ⁵⁰	2003	England and Wales	Quantitative	Survey	Pharmacists views and experiences of PAS in relation to personal characteristics and work environment.	More than 60% respondents reported willingness to dispense medications for voluntary active euthanasia and PAS. A significant minority of pharmacists expressed the view that they did not want to be informed of the intended purpose.
Bilsen, J., Bauwens, M., Bernheim, J., Vander Stichele, R., and Deliens, L. ⁵¹	2005	Belgium	Quantitative	Survey	Pharmacist attitudes and opinions and considerations	Pharmacists willingness to dispense prescriptions for euthanasia contingent on being well informed by the physician alongside having clear practice guidelines developed by own professional organisation.
Blondeau, D., Roy, L., Dumont, S., Godin, G., and Martineau, I. ⁵²	2005	Canada - Quebec	Quantitative	2 x 2 experimental design	To study the influence of two independent variables on pharmacist and doctor attitudes toward sedation at the end of life. The variables were prognosis (long - short) and type of suffering (physical - existential).	The results indicate that the type of suffering influences professionals' attitudes to end-of-life sedation. Pharmacists were more in favour of drugs to sedate patients that exhibited physical pain when compared with psychological (existential) suffering.

Author(s)	Publication Year	Jurisdiction of Focus	Publication Style or Methodology	Design	Article Focus	Results/Findings/Outcomes
Meek, C. ⁵³	2006	UK	Commentary		Commentary on pharmacy practice issues and brief review of other international jurisdictions: issues for pharmacists	Legalisation PAS /euthanasia may have a range of impacts on pharmacy practice and be contrary to the personal beliefs of some pharmacists.
Meek, C. ⁵⁴	2006	UK	Commentary		Commentary on pharmacy practice issues including objection, and the role of professional bodies.	Suggests pharmacists utilise opportunity to shape legislation, thereby influence practice rather than have legislation dictate practice.
Wicclair, M. R. ⁵⁵	2006	USA	Commentary		Examines the obligations of pharmacy licensees and pharmacists in the context of conscience-based objections to filling lawful prescriptions for certain types of medications.	It is argued that the health needs of patients and the professional obligations of pharmacists limit the extent to which pharmacists may refuse to assist patients that have lawful prescriptions for medically indicated drugs.
Fass, J., and Fass, A. ⁵⁶	2011	USA	Commentary		Discusses a range of issues and challenges: Patient eligibility, pharmacist counselling and drug information	Highlights the need for PAS / euthanasia to be incorporated at the curriculum level to adequately prepare pharmacists for their future practice needs.
Boissinot, L., Benamou, M., Léglise, P., Mancret, R., and Huchon-Bécel, D. ⁵⁷	2014	France	Commentary		Though not authorized at present in France, the role of the hospital pharmacist in medically assisted suicide is discussed. This article aims to propose practical thinking on the possible role of the hospital pharmacist in France.	Medically assisted suicide practices, if authorized by law, should remain exceptional, and the law strictly enforced. The pharmacist could be one of the "lawkeepers".
Oakman, B. N., Campbell, H. E., and Runk, L. M. ⁵⁸	2015	USA	Commentary		Moral and philosophical issues, ethical codes, clinical issues, and the influence of patient centered pharmaceutical care on pharmacists participating in actively ending patients' lives.	Argues that, in order to meet their professional obligations, pharmacists must be fully informed about the intended purpose of the medication that they are dispensing and highlight that in knowing, some will be conflicted between their professional and personal beliefs.

Author(s)	Publication Year	Jurisdiction of Focus	Publication Style or Methodology	Design	Article Focus	Results/Findings/Outcomes
Berard, G., and Walker, J. ⁵⁹	2016	Canada	Commentary		Comments on protection of conscience and a range of issues and considerations	Identified concerns related to pharmacists' role in PAS including protection of conscience, providing counselling and drug information.
Varadarajan, R., Freeman, R. A., and Parmar, J. R. ⁶	2016	USA	Commentary		Current practices, medications used and statistics relating to prescription frequency and death rates from the participating States. Pharmacists' roles and ethico-legal issues.	Identified need for legal provisions for participating and non-participating pharmacist.
Cobaugh, D. J. ⁶⁰	2017	USA	Commentary		Pharmacist participation in medical aid in dying	The American Society of Health-System Pharmacists initiated development of policy to safeguard pharmacists' rights to participate/decline participation in PAS including a legislative summary of when PAS is permitted.
Hughes, M. T. ²⁸	2017	USA	Commentary		Issues that pharmacists should consider as they formulate their opinions about policy implications and individual practice.	Highlights the need for pharmacists to carefully consider their position when deciding to participate or to recuse themselves from practice in assisted death.
Li, M., Watt, S., Escaf, M., Gardam, M., Heesters, A., O'Leary, G., and Rodin, G. ¹³	2017	Canada	Report		Synopsis of hospital MAiD implementation (including pharmacy) at University Health Network (UHN) Toronto, Ontario	Advocate for the inclusion of PAS for students of the health and allied health professions and students of social support services.
Buijsen, M. ⁶¹	2018	Netherlands	Commentary		Doctor – Pharmacist relationship	Highlights that in addition to a lack of awareness among doctors that dispensing drugs for the purpose of PAS is not a normal daily activity for pharmacists, there is also lack of clarity surrounding the rights of pharmacists to exercise conscientious objection.

Author(s)	Publication Year	Jurisdiction of Focus	Publication Style or Methodology	Design	Article Focus	Results/Findings/Outcomes
Fujioka, J. K., Mirza, R. M., McDonald, P. L., and Klinger, C. A. ¹⁴	2018	International	Literature review	Scoping review	Health professionals: roles and challenges in relation to MAiD.	Highlights the need for clear guidelines and protocols that define each profession's role, scope of practice and legal boundaries for MAiD.
Harty, C., Chaput, A., Buna, D., Trouton, K., and Naik, V. ⁶²	2018	Canada	Report		To outline best practices for the safe dispensing, administration, and evaluation of the plausibility of an oral MAiD provision.	Compares oral and intravenous administered drugs in terms of time to death. Provides feedback from family regarding experience.
Isaac, S., Chaar, B., and Savulescu, J. ⁶³	2018	Canada	Commentary		Point, counterpoint, on pharmacists' conscientious objection to supply medications for MAiD.	Suggests one way to safeguard the care for patients seeking PAS is to limit admission for medical and pharmacy students to only those that do not object.
Kruijtbosch, M., Göttgens-Jansen, W., Floor-Schreuderling, A., van Leeuwen, E., and Bouvy, M. L. ⁶⁴	2018	Netherlands	Qualitative	Qualitative content analysis	Thematic qualitative content analysis of moral dilemmas described in narratives written by Dutch pharmacists.	Found a diverse range of moral dilemmas experienced by community pharmacists related to autonomy in PAS. Twenty-two themes were identified including end-of-life pharmaceutical care associated with challenges to pharmacists' expertise and autonomy.
Murphy, A. L., O'Reilly, C., Martin-Misener, R., Ataya, R., and Gardner, D. ⁶⁵	2018	Canada	Quantitative	Survey	Community pharmacists' attitudes on suicide	Pharmacist need further education for supporting patients that wish to engage in PAS as within the traditional community pharmacy context, pharmacists do not normally encounter this patient group.
Rupp, M. T. ⁶⁶	2018	USA	Commentary		The fact of death and the notion of good-death.	Rejects the notion that participation in PAS is in violation of professional oath.
Traynor, K. ⁶⁷	2018	USA	Commentary		Colorado MAiD numbers	Outlines policy that affirms pharmacists' right to participate or recuse themselves.
Verweel, L., Rosenberg-Yunger, Z. R., Movahedi, T., and Malek, A. H. ⁶⁸	2018	Canada	Mixed Methods	Thematic document analysis and survey	Thematic document analysis of pharmacy guidelines, position statements and standards of practice from pharmacy regulatory authorities across Canada, and survey of	Need for development of educational resources to support pharmacists with their practice needs in light of changing practice landscape and extended scope of practice.

Author(s)	Publication Year	Jurisdiction of Focus	Publication Style or Methodology	Design	Article Focus	Results/Findings/Outcomes
					pharmacists, students about their perceptions of MAiD.	
Gallagher, A., Gould, O., LeBlanc, M., Manual, L., Brideau-Laughlin, D. ⁶⁹	2019	Canada	Quantitative	Survey	Survey the knowledge and attitudes of hospital pharmacy staff in Canada regarding MAiD and to determine the factors that might influence those opinions.	Most respondents supportive of MAiD. Nearly all respondents reported lacking comprehensive education on the topic. Influential factors on opinions included strong religious beliefs, region and knowledge of legislation.

232 *Study design*

233 Of the 43 selected papers, 26 articles were commentaries including editorials,
234 opinion pieces and descriptive discussions. Fourteen were empirical studies. The
235 remaining 3 comprised: 1 scoping literature review¹⁴ and 2 published reports.^{13,62} Of the
236 14 empirical studies, 12 studies were designed around surveys. One article involving a
237 survey of pharmacist perceptions of medically assisted dying practice by Verweel et
238 al.⁶⁸ also included a thematic document analysis of pharmacy guidelines, position
239 statements and standards of practice from pharmacy regulatory authorities across
240 Canada.

241 Two of the 14 empirical studies did not involve survey design. The article by
242 Kruijtbosch et al.⁶⁴ involved thematic analysis of pharmacists' narratives concerning
243 perceived moral dilemmas in practice. Another article by Blondeau et al.⁵², used a 2 x 2
244 experimental design examining the influence of two independent variables on
245 pharmacists' attitudes toward sedation at the end of life. The articles by Verweel et al.
246 and Kruijtbosch et al. represent the only studies in the summary that utilized a
247 qualitative research approach in the methodology.

248 *Type of knowledge*

249 Of the 43 studies identified, the 26 commentaries provided knowledge through
250 shared 'conjecture' or opinion. Most commentaries centered on pharmacist roles,
251 ethico-legal and moral challenges and educational concerns in relation to participation,
252 or non-participation. The main issues of concern related to ethico-legal concerns and
253 particularly conscientious consideration and objection.^{28,29,36,37,43-45,53,56,57,60,61,63,70} Other
254 than interpreting pharmacist roles in relation to relevant legislation and regulations,
255 some commentaries addressed the contextualization of the principles of pharmaceutical
256 care⁷¹, with the idea of assisting patients to die in certain circumstances.^{44,49}

257 Clearly, the controversial nature of assisted dying has been very motivating for
258 authors to share their views, concerns and advice in commentary. As helpful and
259 insightful as the commentaries may be for thinking through potential issues relating to
260 assisted dying practice, realistically, commentaries can only serve to inform the
261 anticipating practitioner from a theoretical distance. Perhaps such theory is helpful for
262 the initial contemplative stages for pharmacists: whether to opt-in or opt-out of this type
263 of practice participation from the beginning. The commentaries were unable to inform
264 us of how pharmacists that had not sought conscientious objection actually experienced
265 their practice in this area. Lived experience ‘on-the-ground’ so to speak, is more rich
266 and complex than theoretical summaries, no matter how carefully those summaries are
267 constructed.⁷²

268 Twelve of the 14 empirical publications were quantitative survey studies that
269 mainly focused on some aspect of pharmacists’ attitudes, views, and opinions
270 concerning assisted dying. These attitude or sentiment measurements were undertaken
271 through the period 1993 to 2019 and from a range of nations: 4 from Canada, 3 from the
272 Netherlands, 2 from each of the UK and the USA, and 1 from Belgium. All but 2 of the
273 survey studies explored attitudes of pharmacists *without differentiating* between those
274 with *actual experience* of professional participation in lawfully sanctioned assisted
275 death, from those without such experience. Nor did the 2 empirical studies (by
276 Kruijtbosch et al.⁶⁴ and Blondeau et al.⁵²) that did *not* use a survey design specifically
277 focus on participants actually practicing in assisted dying. The lack of differentiation
278 delivered knowledge elements (attitudes, views and opinions), that were not necessarily
279 grounded in actual experience.

280 Of the 2 survey exceptions that studied pharmacists actually involved in assisted
281 dying pharmacy practice, 1 was the study by Lau et al..⁴⁸ This study from the
282 Netherlands collected data from pharmacists who had received *explicit* requests from

283 physicians to dispense drugs for euthanasia or physician-assisted suicide. The
284 researchers collected data relating to participants' concordance of fulfilling requests
285 with process-guidelines that were published by the Royal Dutch Pharmaceutical
286 Association. The other exception was a study by Onwuteaka-Philipsen et al.⁴¹ that was
287 also based in the Netherlands. The study evaluated the implementation of a protocol to
288 standardize euthanasia processes among pharmacists and general medical practitioners.
289 While these two studies selected practitioner-respondents specifically practicing in the
290 assisted dying domain, the foci of the studies were on concordance with process
291 guidelines and evaluation of a standardization process, respectively. Neither study
292 addressed aspects of the day-to-day lived experience of involved practitioners.

293 A recent study from Canada highlighted many areas of complexity and
294 uncertainty that need to be foregrounded and addressed. Verweel et al.⁶⁸ pointed out that
295 Canadian pharmacists' roles in medical assistance in dying are complex, and in many
296 instances, roles lack clarity. Uncertainties were situated around how to reconcile
297 practice standards with moral convictions, while at the same time "maintaining
298 collaborative relationships with their patients" (p. 128). The analysis of survey
299 responses by Verweel et al. also highlighted concerns regarding the potential for the
300 experience of moral and professional distress through participation.⁶⁸ Their document
301 analysis of published Canadian guidelines revealed the absence of any reference to the
302 emotional impact- that pharmacists may experience, or to coping strategies that
303 pharmacists might use in the event of experienced emotional distress. They concluded
304 that there was a need for relevant professional development, especially regarding
305 "communication" and "cop(ing) with negative emotions associated with MAiD" (p.
306 129). Such needs underscore the necessity of illuminating what is truly important,
307 relevant and required, from pharmacists already participating in assisted dying practice.

308

310 The mapping review of the literature 1990-2019 drew attention to the change in
311 pharmacists' roles in the assisted dying domain with respect to the moral and ethical
312 tensions associated with this change,^{32,36,39,43-45,53,59,64,66} the importance of conscious
313 objection and the rights of professionals,^{28,60,67} efficacy of medication protocols, and the
314 contribution of guidelines and procedures,⁶² as well as the contribution of guidelines
315 and protocols in defining and performing the role.^{14,37,41,48} The literature highlighted a
316 need for education to prepare pharmacists for this role^{68,69} including resources for
317 practice and continuing professional development,^{65,68} entry to practice curriculum⁵⁶ and
318 potential changes to pharmacy program admission policies to recruit individuals who
319 are fully aware of pharmacists' changing roles in this domain.⁶³ More recent research
320 highlighted issues related to pharmacists' practice in assisted dying such as perceiving a
321 lack of knowledge of MAiD processes, as well as collaboration and changing
322 relationships with physicians.^{61,68} However there is little published about the lived
323 experiences of pharmacists actually involved in assisted dying. This reveals an
324 epistemological gap in existing knowledge in that the lived experiences of practitioners
325 actually involved in assisted dying are both under-researched from an appropriate
326 philosophical perspective. Authors have noted that the paucity of research may be
327 because it is difficult for pharmacists to give voice to those experiences.²⁹

328 There are many participating practitioners in the worldwide pharmacy
329 profession that could meaningfully contribute to studies designed to illuminate actual
330 pharmacy practice experiences in the domain of assisted dying. It is time for researchers
331 to lend a hand in capturing these stories and developing a deeper understanding of
332 assisting patients with their own death. Practitioners, policy makers, patients and those
333 calling for education^{65,68,69} would then have something grounded and tangible to guide
334 them.

335 *Limitations*

336 Time constraints generally impact the product of mapping reviews since their
337 execution is connected to and contextualized by the development of a broader research
338 goal that the mapping review is designed to inform.²⁰ The studies reported and mapped
339 in this paper have been presented through broad description, focusing mainly on
340 conclusions that can be drawn from examining study methodology and design, rather
341 than analysis of detailed content. Despite the demonstration of gaps in extant research
342 methodology and design, the mapping review is also necessarily less sophisticated and
343 less thorough than the more common systematic review.²⁰ The mapping review
344 presented here can also serve as an invitation for a more in-depth analysis of the
345 detailed content of the selected papers (e.g. through the systematic review
346 methodology²⁰), that have been published over a 27 year period.

347 *Future research*

348 The identified absence of studies utilizing qualitative methodology to explore
349 the lived experience of pharmacists actually practicing in the domain of assisted dying
350 is important. Such a deficit serves as a motivation to fill the gap. Doing so through
351 planned future research will add a different type of knowledge, beyond the factual and
352 more objectified content of statutes, regulations, policies, procedures and the surveyed
353 opinions and perceptions that surround them. Indeed, exploration of the authentic lived
354 experience of current practitioners from different jurisdictions, but within the same
355 international professional pharmacy-family promises to deliver a deeper and more
356 meaningful understanding of a controversial and potentially problematic practice
357 domain.

358 The next research steps planned by the authors of this study aim to address the
359 knowledge gap through a multi-phase international study. The overall aim of the multi-
360 phase study is to build a more detailed and educationally useful understanding of the

361 lived experiences of pharmacists that are actually involved in assisted dying practice in
362 jurisdictions where assisted dying is permitted. The next phase, currently underway, is
363 to develop an exploratory framework as a guide to inquire about the lived experiences
364 of pharmacists participating in assisted dying practice. The subsequent research phase
365 will apply this framework to first explore the actual experiences of Canadian
366 pharmacists practicing in the MAiD domain, then extend to include practice experiences
367 of pharmacists in jurisdictions of northwest Europe.

368 **Conclusion**

369 The aim of this study was to characterize extant studies according to their
370 theoretical perspective by observation of study design, as well as identify gaps in the
371 evidence base and to provide a transparent and organized summary of literature from
372 which further research decisions can be made. In the mapping review of 43
373 publications, a significant epistemological gap in the literature was identified with
374 respect to empirical research exploring the lived experiences of pharmacists *actually*
375 engaged in the legitimate practice of caring for patients that seek assisted death.
376 Knowledge of pharmacy practice in medically assisted dying, from the viewpoint of the
377 experienced practitioner, is unavailable. Publications to date offer commentary,
378 sentiment measurements and studies into compliance with procedures and protocols.
379 With lawful assisted dying procedures being actively considered by an expanding
380 number of international jurisdictions, pharmacist practitioners, policy makers, patients
381 and educators would be well served by research illuminating pharmacists' authentic
382 practice experiences in the domain of assisted dying. Continuing research along these
383 lines was described.

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390

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