Health professionals' understanding and attitude towards the End of Life Choice Act 2019: a secondary analysis of Manatū Hauora – Ministry of Health workforce surveys

Aida Dehkhoda, Rosemary Frey, Melissa Carey, Xuepeng Jing, Susan Bull, Frederick Sundram, Nicholas R Hoeh, David Menkes, Jacqualine Robinson, Gary Cheung

ABSTRACT

AIM: To determine socio-demographic factors associated with health professionals' understanding of the End of Life Choice Act (the Act), support for assisted dying (AD), and willingness to provide AD in New Zealand.

METHOD: Secondary analysis of two Manatū Hauora – Ministry of Health workforce surveys conducted in February and July 2021.

RESULTS: Our analysis showed (1) older health professionals (age>55) had a better overall understanding of the Act than their young colleagues (age<35), (2) female health professionals were less likely to support and be willing to provide AD, (3) Asian health professionals were less likely to support AD compared to their Pākehā/European counterparts, (4) nurses were more likely to support AD and be willing to provide AD when compared to medical practitioners, and (5) pharmacists were more willing to provide AD when compared to medical practitioners.

CONCLUSION: Several socio-demographic factors, including age, gender, ethnicity, and professional background, are significantly associated with health professionals' support and willingness to provide AD, with likely consequences for the AD workforce availability and service delivery in New Zealand. Future review of the Act could consider enhancing the roles of those professional groups with higher support and willingness to assist in providing AD services in caring for people requesting AD.

As of January 2023, Aotearoa New Zealand is among the 25 jurisdictions/countries that have legalised assisted dying (AD).[1–3] The New Zealand End of Life Choice (EOLC) Act 2019 (the Act) came into force in November 2021 following a twelve-month implementation process. In New Zealand, AD practice encompasses euthanasia and physician-assisted dying, allowing a person with a terminal illness to request medication to end their life if they meet strict criteria.

As a recent addition to New Zealand health services, AD has implications for all health professionals. The Act stipulates that a health practitioner is entitled to conscientiously object to providing AD (Section 8[1] of the Act).[4] Such practitioners are not legally required to disclose their conscientious objection; however, they do have a duty of care to respond when AD is raised. This duty includes informing the patient of their right to seek a replacement practitioner and providing them with information about AD (Sections 9[2] and 10[2] of the Act).[4] This requirement highlights the necessity for all health professionals to be familiar with (1) the AD service and its care pathways, (2) the Act and its regulatory framework, eligibility criteria, and key safeguards, and (3) the three statutory roles established under the Act, including the Registrar (AD), the Support and Consultation for the End of Life in New Zealand Group, and the Review Committee.[5]

The availability of a workforce to provide AD is partly contingent on health professionals' competency and knowledge of the Act and AD services. International studies have highlighted the emotional and psychological burdens of providing AD on health professionals and the impact of these burdens on workforce availability if left unaddressed.[6–8] Given that health professionals in New Zealand will increasingly encounter patients requesting AD, it is important to gain insight into their knowledge and attitudes towards the Act. This insight would help with the provision of AD services by ensuring support is available and minimising the burdens on the workforce.

Manatū Hauora – Ministry of Health (the Ministry) oversees the implementation of AD services in New Zealand and conducted two workforce surveys prior to the implementation of the Act. The purpose of these surveys was to gather baseline national workforce data in relation to the provision of AD. In this study, we analysed survey data to determine the socio-demographic factors associated with health professionals' understanding of the Act, support for and willingness to provide AD.

Methods

Research design

This study is a secondary analysis of two surveys conducted by the Ministry in February 2021 and July 2021. Ethics approval was obtained from The University of Auckland Human Participants Ethics Committee (Reference Number UAHPEC24110).

Participants and setting

The Ministry used snowballing sampling and distributed the two anonymous online surveys to a range of organisations with a request to disseminate the invitation to their health professional members and other relevant networks. These organisations included district health boards, hospices, medical colleges (e.g., general practice, palliative care, and psychiatry), New Zealand Nurses Organisation, education providers (e.g., medical schools), allied organisations (e.g., Cancer Control Agency), government agencies (e.g., Department of Corrections, Te Puni Kōkiri, Disability Support Services, Health Quality & Safety Commission, and the Health and Disability Commissioner), Māori health services and associated organisations, disability organisations, and advocates for aged care (e.g., Age Concern). The first survey was open for four weeks and the second for three weeks.

Workforce surveys

The Ministry developed both surveys. Surveys One and Two contained 14 identical questions collecting respondents' age, gender, ethnicity, health profession, work setting, and location, as well as their understanding of the Act, education/training preference, and areas of interest. The surveys also contained disparate questions. Survey One asked respondents about their support for and willingness to provide AD. Survey Two asked questions on whether respondents had completed and found the Ministry training modules and webinars useful. A combination of "Yes"/"No" answers, Likert Scales, and free-text answers were used, and each survey took approximately 10 minutes to complete. This study analysed responses to the subset of questions listed in Table 1 that were most relevant to the research objectives.

Data cleaning and analysis

We used Microsoft Excel 365 (Version 2202) to re-categorise and re-code some variables to allow comparisons across the two surveys, and Statistical Package for Social Sciences (SPSS) software, Version 28.0 (IBM), for data analysis. We performed Spearman's rank correlation analyses for questions related to the "understanding of the Act" section (Table 1): overall understanding, understanding of eligibility criteria, and understanding of obligations and the right of conscientious objection. We found significant correlations ($p \leq 0.05$) between the responses to these three questions and decided to use only "overall understanding" as the overarching question in subsequent analyses. Descriptive statistics (number and percentages) were calculated to describe socio-demographic information with respect to three main outcomes: overall understanding of the Act, support for, and willingness to provide AD.

Logistic regression was used to assess associations between the socio-demographic variables (independent variables) and the three main outcomes of interest (dependent variables). We dichotomised the responses to the questions on "overall understanding of the Act" and "willingness to provide AD" (refer to Table 1 for details). Odds ratios were reported with a 95% confidence interval. Statistical significance was set at the 5% level.

Results

Survey One received 1,980 responses. Most respondents were older than 45 years (58.1%), female (62.6%), Pākehā/European (81.4%), and worked as medical practitioners (73.4%) in a hospital setting (44.2%). There were 27 (1.4%) and 12 (1.4%) Māori respondents in Survey One and Two respectively. Survey Two had 859 responses and a notably higher proportion of nurses and nurse practitioners (Survey One: 11.1%, Survey Two: 26.4%). All 20 district health boards were represented in both surveys. Table 2 shows the socio-demographic details of the respondents.

Table 3 and Table 4 show the results of "Overall understanding of the Act" in Survey One and Survey Two, respectively. In Survey One, 14.2% of health professionals reported having a very good understanding of the Act. While 52.3% reported

a good understanding, 31.8% reported limited understanding, and 1.7% had no understanding of the EOLC Act (Table 3). Table 4 shows a similar distribution of these responses in Survey Two. Seventy-four point one percent of Māori participants had a good or very good understanding of the Act in Survey One and 33.3% in Survey Two.

Table 5 shows the results of "Support for AD" in Survey One, while Table 6 shows the results of "Willingness to provide AD" in Survey One. We found 46.9% of health professionals supported AD, while only 9.8% would "definitely" provide AD services. Sixty-six point seven percent of Māori participants supported AD in Survey One, but only 3.7% would "definitely" be willing to provide AD services.

Table 7 shows the results of the logistic regression analyses. In Survey One, health professionals aged 55–65 years (OR=1.46, 95% CI=1.06–2.00) and over 65 years old (OR=3.17, 95% CI=1.83–5.48) were more likely to have a good or very good understanding of the Act when compared to those aged under 35 years. In addition, health professionals working in hospice (OR=9.68, 95% CI=1.68–55.70) were more likely to have a good or very good understanding of the Act compared to aged residential care. Similar logistic regression results on "Overall understanding of the Act" were found in Survey Two, which shows consistency across the two surveys.

Several factors were found to be associated with lower support for AD: female gender (OR=0.79, 95% CI=0.64–0.97), health professionals in the South Island (OR=0.78, 95% CI=0.62–0.97), and Asian (OR=0.59, 95% CI=0.42–0.84) and 'other' ethnicities (OR=0.58, 95% CI=0.35-0.95) when compared to Pākehā/European. Conversely, nurses (OR=1.83, 95% CI=1.24–2.69) and 'other' health professionals such as allied health professionals, physio/occupational therapists, and psychologists (OR=4.76, 95% CI=2.38–9.49) were more likely to support AD than medical practitioners.

Women (OR=0.52, 95% CI=0.37–0.74) were less likely to be willing to provide AD than men. In contrast, nurses (OR=4.24, 95% CI=2.47–7.29), pharmacists (OR=4.12, 95% CI=1.68–10.08), and 'other' health professions (OR=4.32, 95% CI=2.14–8.75) were more likely to be willing to be part of providing AD services than medical practitioners who can directly provide AD.

Discussion

This is the first New Zealand study describing socio-demographic factors associated with health professionals' understanding of the Act, support for and willingness to provide AD services in the year before the implementation of voluntary AD. In New Zealand, several studies[9–15] were conducted before the AD legislation was passed to investigate public and health professional support for AD and socio-demographic factors that may influence this attitude. Support for AD in the past 20 years has been relatively stable, averaging about 68% among the New Zealand public.[16] The key findings of this study were: (1) older health professionals (age>55) had a better overall understanding of the Act than younger health professionals (age<35), (2) female health professionals were less likely to support AD and be willing to provide AD, (3) Asian and 'other' health professionals were less likely to support AD when compared with Pākehā/European professionals, (4) nurses were more likely to support and be willing to play a role in AD provision when compared with medical practitioners who can directly provide AD, and (5) pharmacists were more likely to be willing to provide AD when compared with medical practitioners.

Age, understanding of the Act, and support for AD

We found older health professionals had a better understanding of the Act. Older health professionals may have a higher AD literacy because they have been exposed to AD debates for longer, since the first AD Bill was introduced in New Zealand in 1995. Over the 26 years between introducing the first bill and legislation coming into effect, these debates addressed topics such as what should be included in AD legislation, the decision-making process, and the level and legitimacy of the authorities given to those involved in the practice.[17] Similarly, health professionals working in hospices were found to have a better understanding of the Act, probably because they would have been exposed to the AD debate in their workplace due to the nature of their work caring for terminally ill people.[18] In terms of age, a systematic review of physicians' and nurses' motivations to practice AD shows older practitioners are more inclined to provide AD.[19] Although we did not find any association between age and support for or willingness to provide AD among health professionals in our study, our results are consistent with a previous New Zealand study which found age having a negligible association with acceptance of AD among the public,[9] while mixed results about the correlation between age and support for AD

Table 1: Key questions in workforce surveys in February 2021 and July 2021.

Sections	Survey	Likert scale	Dichotomous categories[1]
Understanding of the Act			
1. How well do you think you understand the End of Life Choice Act overall?	1 & 2	a. Not at all b. I have a limited understanding c. I have a good understanding, but there are some gaps d. I have a very good understanding	• a & b • c & d
2. (i) How well do you think you understand the eligibility criteria outlined in the Act?	1		
(ii) How well do you think you understand the eligibility criteria and circumstances where the process must end, as outlined in the Act?	2		
3. How well do you think you understand specific obligations on health practitioners as outlined in the Act, including the right of conscientious objections?	1 & 2		
Attitudes towards the Act			
Support for assisted dying 1. With your current understanding of the Act, please select from one of the following options.	1	a. I support AD in principle b. I oppose AD in principle	
Willingness to provide assisted dying services 2. With your current understanding of the Act, how willing are you to consider providing assisted dying services?	1	a. Unwilling b. Unlikely c. Possibly d. Definitely	• a, b, & c • d

[1] Dichotomous in statistics refers to the division of variables into two groups/values to conduct a Binary Logistic Regression to determine the reason-result relationship of independent variable(s) with the dependent variable.

Table 2: Respondent characteristics in workforce surveys in February 2021 and July 2021.

Socio-demographic details		Survey One (N=1980) n (%)	Survey Two (N=859) n (%)
Age[1]	Under 25	18 (0.9)	15 (1.7)
	25–35	312 (15.8)	131 (15.3)
	35–45	484 (24.4)	159 (18.5)
	45–55	557 (28.1)	233 (27.1)
	55–65	468 (23.6)	254 (29.6)
	Over 65	126 (6.4)	62 (7.2)
	Missing	15 (0.8)	5 (0.6)
Gender	Male	710 (35.9)	251 (29.2)
	Female	1239 (62.6)	601 (70)
	Gender diverse	4 (0.2)	1 (0.1)
	Missing	27 (1.4)	6 (0.7)
Ethnicity	Pākehā/European[2]	1635 (82.6)	696 (81)
	Asian[3]	174 (8.8)	63 (7.3)
	MELAA[4]	32 (1.6)	13 (1.5)
	Māori	27 (1.4)	12 (1.4)
	Pacific	10 (0.5)	7 (0.8)
	Other	42 (2.1)	37 (4.3)
	Missing	60 (3.0)	31 (3.6)
District health boards	North Island	1498 (75.66)	632 (73.57)
	South Island	482 (24.34)	227 (26.43)
Health profession	Medical practitioner	1454 (73.4)	442 (51.5)
	Medical practitioner (psychiatrist)[6]	132 (6.7)	26 (3.0)
	Nurse practitioner	64 (3.2)	40 (4.7)
	Nurse	157 (7.9)	186 (21.7)
	Pharmacist	116 (5.9)	63 (7.3)
	Other[7]	57 (2.9)	102 (11.9)

Table 2 (continued): Respondent characteristics in workforce surveys in February 2021 and July 2021.

Socio-demographic details		Survey One (N=1980) n (%)	Survey Two (N=859)n (%)
Work setting	Aged residential care	22 (1.1)	55 (6.4)
	Community	46 (2.3)	32 (3.7)
	General practice	568 (28.7)	202 (23.5)
	Hospice	64 (3.2)	78 (9.1)
	Hospital	875 (44.2)	409 (47.6)
	Pharmacy	83 (4.2)	32 (3.7)
	Specialist practice	264 (13.3)	9 (1.0)
	Other[8]	58 (2.9)	42 (4.9)

1 Age groups listed in the surveys overlapped: 35–45, 45–55, and 55–65, where they should have been discrete: 35–44, 45–54, and 55–64.
[2] Pākehā refers to white/European New Zealanders. European refers to other Europeans.
[3] Asian in this study refers to Chinese, Indian, Filipino, Sri Lankan, Malaysian, South East Asian, etc.
[4] MELAA: Middle Eastern/Latin American/African.
[5] Three respondents were working in two DHB locations.
[6] The Ministry had presented 'psychiatrist' as a distinct category in both surveys.
[7] Other health professionals included academics, allied health, clinical managers, mental/social health workers, midwives, etc.
[8] Other work settings included educational institutions, urgent care, prison/corrections, non-government organisations, government agencies, etc.

Table 3: Overall understanding of the Act and respondent characteristics in Survey One (February 2021).

Socio-demographic details		**Not at all N (%) 34 (1.7) n (%)**	**Limited N (%) 629 (31.8) n (%)**	**Good N (%) 1036 (52.3) n (%)**	**Very good N (%) 281 (14.2) n (%)**
Age[1]	Under 35[4]	5 (1.5)	124 (37.6)	178 (53.9)	23 (7.0)
	35–45	12 (2.5)	171 (35.3)	242 (50.0)	59 (12.2)
	45–55	13 (2.3)	178 (32.0)	282 (50.6)	84 (15.1)
	55–65	4 (0.9)	133 (28.4)	252 (53.8)	79 (16.9)
	Over 65	0 (0.0)	21 (16.7)	75 (59.5)	30 (23.8)
Gender[2]	Male	13 (1.8)	218 (30.7)	366 (51.5)	113 (15.9)
	Female	21 (1.7)	404 (32.6)	656 (52.9)	158 (12.8)
	Gender diverse	0 (0.0)	0 (0.0)	3 (75.0)	1 (25.0)
Ethnicity[3]	Pākehā/European[5]	25 (1.5)	526 (32.2)	858 (52.5)	226 (13.8)
	Asian[6]	3 (1.7)	65 (37.4)	86 (49.4)	20 (11.5)
	Māori	0 (0.0)	7 (25.9)	16 (59.3)	4 (14.8)
	Pacific	1 (10.0)	1 (10.0)	7 (70.0)	1 (10.0)
	Other[7]	5 (6.8)	15 (20.3)	40 (54.1)	14 (18.9)
District health board[8]	North Island	29 (1.9)	469 (31.3)	796 (53.1)	204 (13.6)
	South Island	5 (1.0)	160 (33.2)	240 (49.8)	77 (16.0)
Health profession	Medical practitioner	24 (1.7)	469 (32.3)	756 (52.0)	205 (14.1)
	Medical practitioner (psychiatrist)[9]	2 (1.5)	38 (28.8)	78 (59.1)	14 (10.6)
	Nurse practitioner	1 (1.6)	17 (26.6)	32 (50.0)	14 (21.9)
	Nurse	3 (1.9)	43 (27.4)	81 (51.6)	30 (19.1)
	Pharmacist	2 (1.7)	48 (41.4)	52 (44.8)	14 (12.1)
	Other	2 (3.5)	14 (24.6)	37 (64.9)	4 (7.0)

Table 3 (continued): Overall understanding of the Act and respondent characteristics in Survey One (February 2021).

Socio-demographic details		**Not at all N (%) 34 (1.7) n (%)**	**Limited N (%) 629 (31.8) n (%)**	**Good N (%) 1036 (52.3) n (%)**	**Very good N (%) 281 (14.2) n (%)**
Work setting	Aged residential care	0 (0.0)	5 (22.7)	14 (63.6)	3 (13.6)
	Community	1 (2.2)	12 (26.1)	25 (54.3)	8 (17.4)
	General practice	9 (1.6)	188 (33.1)	293 (51.6)	78 (13.7)
	Hospice	0 (0.0)	2 (3.1)	34 (53.1)	28 (43.8)
	Hospital	15 (1.7)	282 (32.2)	481 (55.0)	97 (11.1)
	Pharmacy	2 (2.4)	38 (45.8)	34 (41.0)	9 (10.8)
	Specialist practice	6 (2.3)	84 (31.8)	126 (47.7)	48 (18.2)
	Other	1 (1.7)	18 (31.0)	29 (50.0)	10 (17.2)

Missing data: [1] n=15, [2] n=27, [3] n=60
4 The two categories of 'under 25' and '25–35' were combined into one category of 'under 35' for data analysis due to the small number. Age groups listed in the surveys overlapped: 35–45, 45–55, and 55–65, where they should have been discrete: 35–44, 45–54, and 55–64.
[5] Pākehā refers to white/European New Zealanders. European refers to other Europeans.
[6] Asian in this study refers to Chinese, Indian, Filipino, Sri Lankan, Malaysian, South East Asian, etc.
[7] MELAA (Middle Eastern/Latin American/African) was grouped under the 'Other' category due to the small number.
[8] North Island district health boards were combined under the new category of 'North Island,' and South Island district health boards were combined under the new category of 'South Island' for data analysis due to the small number in each district health board.
[9] The Ministry had presented 'psychiatrist' as a distinct category in both surveys.

Table 4: Overall understanding of the Act and respondent characteristics in Survey Two (July 2021).

Socio-demographic details		**Not at all N (%) 26 (3.0) n (%)**	**Limited N (%) 304 (35.4) n (%)**	**Good N (%) 384 (44.7) n (%)**	**Very good N (%) 145 (16.9) n (%)**
Age[1]	Under 35[4]	10 (6.8)	66 (45.2)	61 (41.8)	9 (6.2)
	35–45	5 (3.1)	71 (44.7)	60 (37.7)	23 (14.5)
	45–55	6 (2.6)	71 (30.5)	111 (47.6)	45 (19.3)
	55–65	3 (1.2)	75 (29.5)	118 (46.5)	58 (22.8)
	Over 65	2 (3.2)	18 (29.0)	33 (53.2)	9 (14.5)
Gender[2]	Male	7 (2.8)	86 (34.3)	115 (45.8)	43 (17.1)
	Female	19 (3.2)	216 (35.9)	266 (44.3)	100 (16.6)
	Gender diverse	0 (0.0)	1 (100)	0 (0.0)	0 (0.0)
Ethnicity[3]	Pākehā/European[5]	17 (2.4)	248 (35.6)	308 (44.3)	123 (17.7)
	Asian[6]	4 (6.3)	23 (36.5)	32 (50.8)	4 (6.3)
	Māori	1 (8.3)	7 (58.3)	4 (33.3)	0 (0.0)
	Pacific	0 (0.0)	3 (42.9)	4 (57.1)	0 (0.0)
	Other[7]	3 (6.0)	13 (26.0)	24 (48.0)	10 (20.0)
District health board[8]	North Island	20 (3.2)	230 (36.4)	280 (44.3)	102 (16.1)
	South Island	6 (2.6)	74 (32.6)	104 (45.8)	43 (18.9)
Health profession	Medical practitioner	19 (4.3)	149 (33.7)	190 (43.0)	84 (19.0)
	Medical practitioner (psychiatrist)[9]	0 (0.0)	9 (34.6)	14 (53.8)	3 (11.5)
	Nurse practitioner	0 (0.0)	9 (22.5)	19 (47.5)	12 (30.0)
	Nurse	4 (2.2)	62 (33.3)	91 (48.9)	29 (15.6)
	Pharmacist	2 (3.2)	32 (50.8)	24 (38.1)	5 (7.9)
	Other	1 (1.0)	43 (42.2)	46 (45.1)	12 (11.8)

Table 4 (continued): Overall understanding of the Act and respondent characteristics in Survey Two (July 2021).

Socio-demographic details		**Not at all N (%) 26 (3.0) n (%)**	**Limited N (%) 304 (35.4) n (%)**	**Good N (%) 384 (44.7) n (%)**	**Very good N (%) 145 (16.9) n (%)**
Work setting	Aged residential care	0 (0.0)	20 (36.4)	26 (47.3)	9 (16.4)
	Community	0 (0.0)	12 (37.5)	13 (40.6)	7 (21.9)
	General practice	10 (5.0)	80 (39.6)	87 (43.1)	25 (12.4)
	Hospice	0 (0.0)	14 (17.9)	38 (48.7)	26 (33.3)
	Hospital	14 (3.4)	146 (35.7)	184 (45.0)	65 (15.9)
	Pharmacy	1 (3.1)	18 (56.3)	11 (34.4)	2 (6.3)
	Specialist practice	0 (0.0)	1 (11.1)	4 (44.4)	4 (44.4)
	Other	1 (2.4)	13 (31.0)	21 (50.0)	7 (16.7)

Missing data: [1] n=5, [2] n=6, [3] n=31
4 The two categories of 'under 25' and '25–35' were combined into one category of 'under 35' for data analysis due to the small number. Age groups listed in the surveys overlapped: 35–45, 45–55, and 55–65, where they should have been discrete: 35–44, 45–54, and 55–64.
[5] Pākehā refers to white/European New Zealanders. European refers to other Europeans.
[6] Asian in this study refers to Chinese, Indian, Filipino, Sri Lankan, Malaysian, South East Asian, etc.
[7] MELAA (Middle Eastern/Latin American/African) grouped under the 'Other' category due to the small number.
[8] North Island district health boards were combined under the new category of 'North Island,' and South Island district health boards were combined under the new category of 'South Island' for data analysis due to the small number in each district health board.
[9] The Ministry had presented 'psychiatrist' as a distinct category in both surveys.

Table 5: Support for assisted dying and respondent characteristics in Survey One (February 2021).

Socio-demographic details		**No** **N (%)** **1051 (53.1)** **n (%)**	**Yes** **N (%)** **929 (46.9)** **n (%)**
Age[1]	Under 35[4]	178 (53.9)	152 (46.1)
	35–45	249 (51.4)	235 (48.6)
	45–55	294 (52.8)	263 (47.2)
	55–65	249 (53.2)	219 (46.8)
	Over 65	70 (55.6)	56 (44.4)
Gender[2]	Male	364 (51.3)	346 (48.7)
	Female	670 (54.1)	569 (45.9)
	Gender diverse	3 (75.0)	1 (25.0)
Ethnicity[3]	Pākehā/European[5]	852 (52.1)	783 (47.9)
	Asian[6]	107 (61.5)	67 (38.5)
	Māori	9 (33.3)	18 (66.7)
	Pacific	6 (60.0)	4 (40.0)
	Other[7]	46 (62.2)	28 (37.8)
District health board[8]	North Island	778 (51.9)	720 (48.1)
	South Island	273 (56.6)	209 (43.4)
Health profession	Medical practitioner	814 (56.0)	640 (44.0)
	Medical practitioner (psychiatrist)[9]	65 (49.2)	67 (50.8)
	Nurse practitioner	31 (48.4)	33 (51.6)
	Nurse	66 (42.0)	91 (58.0)
	Pharmacist	61 (52.6)	55 (47.4)
	Other	14 (24.6)	43 (75.4)

Table 5 (continued): Support for assisted dying and respondent characteristics in Survey One (February 2021).

Socio-demographic details		**No** **N (%)** **1051 (53.1)** **n (%)**	**Yes** **N (%)** **929 (46.9)** **n (%)**
Work setting	Aged residential care	8 (36.4)	14 (63.6)
	Community	19 (41.3)	27 (58.7)
	General practice	330 (58.1)	238 (41.9)
	Hospice	43 (67.2)	21 (32.8)
	Hospital	445 (50.9)	430 (49.1)
	Pharmacy	41 (49.4)	42 (50.6)
	Specialist practice	142 (53.8)	122 (46.2)
	Other	23 (39.7)	35 (60.3)

Missing data: [1] n=15, [2] n=27, [3] n=60
4 The two categories of 'under 25' and '25–35' were combined into one category of 'under 35' for data analysis due to the small number. Age groups listed in the surveys overlapped: 35–45, 45–55, and 55–65, where they should have been discrete: 35–44, 45–54, and 55–64.
[5] Pākehā refers to white/European New Zealanders. European refers to other Europeans.
[6] Asian in this study refers to Chinese, Indian, Filipino, Sri Lankan, Malaysian, South East Asian, etc.
[7] MELAA (Middle Eastern/Latin American/African) grouped under the 'Other' category due to the small number.
[8] North Island district health boards were combined under the new category of 'North Island,' and South Island district health boards were combined under the new category of 'South Island' for data analysis due to the small number in each district health board.
[9] The Ministry had presented 'psychiatrist' as a distinct category in both surveys.

Table 6: Willingness to provide assisted dying and socio-demographic information of respondents in Survey One (February 2021).

Socio-demographic details		**Unwilling N (%) 1019 (51.5) n (%)**	**Unlikely N (%) 372 (18.8) n (%)**	**Possibly N (%) 395 (19.9) n (%)**	**Definitely N (%) 194 (9.8) n (%)**
Age[1]	Under 35[4]	163 (49.4)	69 (20.9)	59 (17.9)	39 (11.8)
	35–45	248 (51.2)	98 (20.2)	97 (20.0)	41 (8.5)
	45–55	285 (51.2)	113 (20.3)	108 (19.4)	51 (9.2)
	55–65	250 (53.4)	73 (15.6)	97 (20.7)	48 (10.3)
	Over 65	64 (50.8)	16 (12.7)	31 (24.6)	15 (11.9)
Gender[2]	Male	349 (49.2)	124 (17.5	151 (21.3)	86 (12.1)
	Female	653 (52.7)	245 (19.8)	236 (19.0)	105 (8.5)
	Gender diverse	2 (50.0)	0 (0.0)	2 (50.0)	0 (0.0)
Ethnicity[3]	Pākehā/European[5]	825 (50.5)	322 (19.7)	318 (19.4)	170 (10.4)
	Asian[6]	98 (56.3)	23 (13.2)	42 (24.1)	11 (6.3)
	Māori	7 (25.9)	6 (22.2)	13 (48.1)	1 (3.7)
	Pacific	6 (60.0)	3 (30.0)	1 (10.0)	0 (0.0)
	Other[7]	46 (62.2)	10 (13.5)	11 (14.9)	7 (9.5)
District health board[8]	North Island	756 (50.5)	283 (18.9)	309 (20.6)	150 (10.0)
	South Island	263 (54.6)	89 (18.5)	86 (17.8)	44 (9.1)
Health profession	Medical practitioner	806 (55.4)	280 (19.3)	254 (17.5)	114 (7.8)
	Medical practitioner (psychiatrist)[9]	55 (41.7)	30 (22.7)	37 (28.0)	10 (7.6)
	Nurse practitioner	30 (46.9)	10 (15.6)	21 (32.8)	3 (4.7)
	Nurse	64 (40.8)	26 (16.6)	37 (23.6)	30 (19.1)
	Pharmacist	48 (41.4)	14 (12.1)	30 (25.9)	24 (20.7)
	Other	16 (28.1)	12 (21.1)	16 (28.1)	13 (22.8)

Table 6 (continued): Willingness to provide assisted dying and socio-demographic information of respondents in Survey One (February 2021).

Socio-demographic details		Unwilling N (%) 1019 (51.5) n (%)	Unlikely N (%) 372 (18.8) n (%)	Possibly N (%) 395 (19.9) n (%)	Definitely N (%) 194 (9.8) n (%)
Work setting	Aged residential care	7 (31.8)	2 (9.1)	11 (50.0)	2 (9.1)
	Community	18 (39.1)	10 (21.7)	10 (21.7)	8 (17.4)
	General practice	317 (55.8)	98 (17.3)	110 (19.4)	43 (7.6)
	Hospice	46 (71.9)	9 (14.1)	7 (10.9)	2 (3.1)
	Hospital	437 (49.9)	179 (20.5)	169 (19.3)	90 (10.3)
	Pharmacy	32 (38.6)	9 (10.8)	25 (30.1)	17 (20.5)
	Specialist practice	137 (51.9)	55 (20.8)	50 (18.9)	22 (8.3)
	Other	25 (43.1)	10 (17.2)	13 (22.4)	10 (17.2)

Missing data: [1] n=15, [2] n=27, [3] n=60
4 The two categories of 'under 25' and '25–35' were combined into one category of 'under 35' for data analysis due to the small number. Age groups listed in the surveys overlapped: 35–45, 45–55, and 55–65, where they should have been discrete: 35–44, 45–54, and 55–64.
[5] Pākehā refers to white/European New Zealanders. European refers to other Europeans.
[6] Asian in this study refers to Chinese, Indian, Filipino, Sri Lankan, Malaysian, South East Asian, etc.
[7] MELAA (Middle Eastern/Latin American/African) grouped under the 'Other' category due to the small number.
[8] North Island district health boards were combined under the new category of 'North Island,' and South Island district health boards were combined under the new category of 'South Island' for data analysis due to the small number in each district health board.
[9] The Ministry had presented 'psychiatrist' as a distinct category in both surveys.

Table 7: Logistic regression of overall understanding of the Act, support for and willingness to provide assisted dying.

Socio-demographic details		Overall understanding of the Act				Support for AD		Willingness to provide AD	
		Survey One		Survey Two		Survey One		Survey One	
		OR[1] (CI[2] 95%)	*P* value	OR (CI 95%)	*P* value	OR (CI 95%)	*P* value	OR (CI 95%)	*P* value
Age	Under 35[3]	REF	0.000**	REF	0.001**	REF	0.702	REF	0.564
	35–45	1.05 (0.78–1.42)		1.19 (0.73–1.92)		1.16 (0.86–1.56)		0.74 (0.45–1.21)	
	45–55	1.19 (0.88–1.60)		2.01 (1.28–3.16)		1.01 (0.76–1.36)		0.71 (0.44–1.14)	
	55–65	1.46 (1.06–2.00)		2.27 (1.43–3.59)		0.97 (0.71–1.32)		0.71 (0.43–1.16)	
	Over 65	3.17 (1.83–5.48)		2.14 (1.08–4.25)		0.95 (0.61–1.48)		0.93 (0.47–1.86)	
Gender[4]	Female (versus male)	0.91 (0.73–1.13)	0.395	0.97 (0.68–1.39)	0.906	0.79 (0.64–0.97)	0.025*	0.52 (0.37–0.74)	0.000**
Ethnicity	Pākehā/European[5]	REF	0.595	REF	0.407	REF	0.005**	REF	0.169
	Asian[6]	0.91 (0.64–1.28)		1.05 (0.59–1.90)		0.59 (0.42–0.84)		0.49 (0.25–0.96)	
	Māori	1.38 (0.56–3.40)		0.30 (0.08–1.09)		1.75 (0.73–4.21)		0.21 (0.02–1.65)	
	Pacific	2.34 (0.48–11.33)		1.44 (0.29–7.04)		0.60 (0.16–2.20)		0.00 (0.00)	
	Other[7]	1.27 (0.74–2.18)		1.21 (0.64–2.30)		0.58 (0.35–0.95)		0.82 (0.36–1.88)	

Table 7 (continued): Logistic regression of overall understanding of the Act, support for and willingness to provide assisted dying.

Socio-demographic details		Overall understanding of the Act				Support for AD		Willingness to provide AD	
		Survey One		Survey Two		Survey One		Survey One	
		OR[1] (CI[2] 95%)	*P* value	OR (CI 95%)	*P* value	OR (CI 95%)	*P* value	OR (CI 95%)	*P* value
District health board[8]	South Island (versus North Island)	0.98 (0.78–1.24)	0.903	1.20 (0.85–1.70)	0.284	0.78 (0.62–0.97)	0.029*	0.92 (0.63–1.34)	0.669
Health profession	Medical practitioner	REF	0.962	REF	0.125	REF	0.000**	REF	0.000**
	Medical practitioner (psychiatrist)[9]	1.11 (0.73–1.68)		1.10 (0.42–2.87)		1.14 (0.77–1.67)		0.81 (0.39–1.69)	
	Nurse practitioner	1.11 (0.62–2.01)		1.95 (0.85–4.45)		1.55 (0.90–2.65)		0.86 (0.25–2.88)	
	Nurse	0.97 (0.63–1.48)		0.87 (0.56–1.35)		1.83 (1.24–2.69)		4.24 (2.47–7.29)	
	Pharmacist	1.07 (0.48–2.34)		0.66 (0.30–1.45)		0.85 (0.40–1.78)		4.12 (1.68–10.08)	
	Other	1.27 (0.68–2.40)		0.58 (0.35–0.97)		4.76 (2.38–9.49)		4.32 (2.14–8.75)	

Table 7 (continued): Logistic regression of overall understanding of the Act, support for and willingness to provide assisted dying.

Socio-demographic details		Overall understanding of the Act				Support for AD		Willingness to provide AD	
		Survey One		Survey Two		Survey One		Survey One	
		OR[1] (CI[2] 95%)	*P* value	OR (CI 95%)	*P* value	OR (CI 95%)	*P* value	OR (CI 95%)	*P* value
Work setting	Aged residential care	REF	0.009**	REF	0.002**	REF	0.184	REF	0.453
	Community	0.83 (0.24–2.82)		0.87 (0.32–2.32)		0.75 (0.24–2.30)		1.80 (0.32–10.02)	
	General practice	0.61 (0.21–1.79)		0.55 (0.26–1.15)		0.63 (0.23–1.69)		1.46 (0.30–7.06)	
	Hospice	9.68 (1.68–55.70)		2.60 (1.11–6.12)		0.35 (0.12–1.05)		0.32 (0.04–2.59)	
	Hospital	0.65 (0.22–1.90)		0.89 (0.45–1.77)		0.74 (0.28–1.97)		1.70 (0.36–8.03)	
	Pharmacy	0.31 (0.08–1.26)		0.47 (0.13–1.65)		1.08 (0.29–3.93)		1.17 (0.18–7.54)	
	Specialist practice	0.59 (0.20–1.77)		3.69 (0.39–34.60)		0.69 (0.25–1.88)		1.67 (0.33–8.43)	
	Other	0.53 (0.16–1.72)		1.04 (0.40–2.65)		0.87 (0.29–2.63)		2.22 (0.41–11.90)	

*< 0.05, **< 0.01

[1] OR = Odds Ratio, [2] CI = Confidence Interval

3 The two categories of 'under 25' and '25–35' merged into one category of 'under 35' for data analysis due to the small number.

[4] The 'gender diverse' category was excluded from the analysis due to the small number.

[5] Pākehā refers to white/European New Zealanders. European refers to other Europeans.

[6] Asian in this study refers to Chinese, Indian, Filipino, Sri Lankan, Malaysian, South East Asian, etc.

[7] MELAA (Middle Eastern/Latin American/African) grouped under the 'Other' category due to the small number.

[8] North Island DHBs were combined under the new category of 'North Island,' and South Island DHBs were combined under the new category of 'South Island' for data analysis due to the small number in each DHB.

[9] The Ministry had presented 'psychiatrist' as a distinct category in both surveys.

were reported in other New Zealand studies.[10,16,20]

Gender, support for and willingness to provide AD

Our study found female health professionals were less likely to support or be willing to provide AD compared to their male counterparts. This finding is consistent with previous international reviews where male physicians and nurses are more likely to support AD.[19,21] By contrast, several studies of the New Zealand public have reported support for AD is similar in both genders.[10–12,16] It appears that the relationship between gender and support for AD varies between the public and health professionals in New Zealand. Given that we could not identify any literature exploring this difference, future studies are needed to examine this potentially important finding.

Ethnicity and support for AD

Compared to the predominant European ethnicity, support for AD was significantly lower among Asian and 'other' ethnicities. Previous studies of the New Zealand public have also found Asian and Pacific people were less supportive of AD.[10–12] There has been no previous New Zealand research focussed on Asian health professionals' perspectives on AD, and international literature on this matter is scant. The limited international literature on exploring culture-specific attitudes towards AD has concluded that some non-White ethnic groups, such as Asians, tend to show more humility and accept that not all parts of one's life can be controlled or decided by humans.[22] Of note, no Asian countries have yet legalised AD, which provides an additional indication of possible cultural factors in Asian attitudes towards AD.

Previous New Zealand studies on the general population have shown mixed results regarding support for AD amongst Māori, with some studies reporting very high support at or above 65%,[10,11] or lower support than expected compared to other ethnicities.[12] However, our study did not find any association between Māori health professionals and their support for AD or willingness to provide AD services. Further research into the perspective of Māori public and health professionals on AD and the Act is needed. While mana motuhake (autonomy and self-determination) is important for Māori, this must be balanced against wairua (spiritual) and wider whānau responsibilities. Previous research has raised concerns about the potential harm to Māori if AD is practiced without a full and meaningful understanding of the relationship between mātauranga Māori and AD.[13] Regardless, Māori health professionals have welcomed the opportunity to debate AD kaupapa (agenda), and those who participated in the survey have shown relatively high support for AD. There is a gap in knowledge regarding the link between understanding and willingness to be involved in AD from Māori health professionals' perspective.

Professional background, support for and willingness to provide AD

Nurses in this study were more likely to support AD and be willing to provide AD when compared with medical practitioners. Existing studies suggest that there is a difference between nurses' and physicians' opinions about AD.[15] Other New Zealand studies have also shown nurses are more likely to support AD than physicians,[12,14–16] which is consistent with research elsewhere.[23,24] Nurses are often intimately involved in the care of patients seeking AD and are often the first point of contact in AD requests.[24] Motivations to support AD have arisen from caring for people at the end of life prior to the introduction of the Act and witnessing suffering, despite best efforts in palliative care and sedation. However, the statutory and professional guidelines provide limited information on nurses' scope of practice regarding AD.[14,26]

Given the implications for registered nurses under the Act, New Zealand nurses' regulatory authorities and professional organisations need to support government policy statements ensuring appropriate support is given to those requested AD regardless of the nurses' stances on AD.[14,26] In the Act's statutory framework, only the role of attending nurse practitioners has been recognised as a practitioner who can legally prescribe and administer AD medication. However, this must take place under the instruction of an attending medical practitioner (Section 4[b] of the Act).[4] However, nurse practitioners are not legally allowed to assess AD eligibility despite evidence suggesting they have the competency to do so.[27]

Registered nurses' (RN) roles and responsibilities are, on the other hand, unclear. RN responsibilities may include involvement in practical activities for AD preparation and administration, such as inserting intravenous lines and drawing up medications. The pressure felt by nurses to participate in AD to uphold their duty of care, even though conscientious objection is legally allowed, coupled with a lack of clarity around their obligations and protection, has raised con-

cerns that need to be addressed.[28] Results from this study show that nurses and those identified as 'other' health professionals were more likely to support AD. In contrast, nurses, pharmacists, and 'other' health professionals were more willing to be involved in providing AD when compared to medical practitioners who have a direct role in relation to the AD provision. To better understand the contribution to AD services from various health professionals, further evidence must be generated. For example, under the Act regulation, pharmacists are involved in AD services by dispensing lethal medication. Pharmacists' willingness for a more active role in AD services could be facilitated by reforming the practice and medication protocols preparing for this role through education and resources provided for practice and continuing professional development.[29] Application of these potential changes may, in turn, improve the provision of AD services.

Strengths and limitations

This is the first national large-scale study specifically of health professionals' views regarding the Act in New Zealand. It may provide the foundation for future research on attitudes and workforce data yet to be included in the New Zealand literature. A primary limitation is related to secondary data analysis where the Ministry developed and administered the two surveys; the research team was not responsible for survey content, sampling methods, or how information was collected and recorded. In addition, some issues were found concerning the design of the surveys. For example, the age groups listed in the surveys overlapped: e.g., 35–45, 45–55, and 55–65, rather than being discrete.[30] There were also inconsistencies in some socio-demographic variables and their response categories between the two surveys. For example, Survey One had greater granularity of professional groups and work settings than Survey Two. We used survey documentation and a consultation session with the Ministry's staff to address these issues.

A second limitation is that we were unable to assess changes in the attitudes to AD implementation over time due to the cross-sectional nature of the surveys. Future studies can be conducted, ideally by researchers independent of the Ministry, to assess changes in health professionals' attitudes to AD after the implementation of the Act, along with a community sample for comparison. A further limitation concerns the representativeness of the results; the Ministry did not provide a complete list of organisations to which the surveys were distributed. Thus, survey response rates could not be determined. Finally, New Zealand ethnic groups were unequally distributed in both surveys, notably including Māori (both surveys: 1.4%) and Pacific people (0.5% and 0.8% in Survey One and Two, respectively). This contrasts with the 2021 Medical Council of New Zealand workforce (Māori 4.3% and Pacific peoples 2.1%),[31] 2018 New Zealand Census (Māori 16.5% and Pacific peoples 8.1%),[32] and the 2018–19 Nursing Council of New Zealand workforce (Māori 8%).[33]

Conclusion

This secondary analysis of Manatū Hauora – Ministry of Health EOLC Act workforce surveys shows that socio-demographic factors such as age, gender, ethnicity, and professional background moderate health professionals' support for and willingness to provide AD. Furthermore, an overview of the availability of an AD workforce and delivery of AD services is provided. Since AD has implications for health professionals, there is a need for all health professionals to be familiar with the Act and the AD services. Findings from this study have highlighted that certain health professionals (e.g., younger health professionals) could benefit from continuing education and professional development on these matters. Future research is needed to better understand the lower support for and/or willingness to provide AD among female and Asian health professionals. Future studies could further explore the roles of nurses and pharmacists in AD services, and future review of the Act could consider enhancing the roles of nurses and pharmacists in caring for people requesting AD, given that these professional groups are more likely to support and/or be willing to assist in providing AD services. Future research on health professionals' experiences of being involved in AD would be beneficial to improve our knowledge as the Act is implemented.

COMPETING INTERESTS
AD, RF, MC, XJ, SB, FS, NRH, and DM declare no competing interest. GC and JR are members of Support and Consultation for the End of Life in New Zealand Group. This research is funded by the Auckland Medical Research Foundation.

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AUTHOR INFORMATION
Aida Dehkhoda: Research Fellow, Psychological Medicine, The University of Auckland, Auckland, New Zealand.
Rosemary Frey: Senior Research Fellow, School of Nursing, The University of Auckland, Auckland, New Zealand.
Melissa Carey: Post-Doctoral Research Fellow, School of Nursing, The University of Auckland, Auckland; Senior Lecturer Nursing, University of Southern Queensland, Australia.
Xuepeng Jing: Research Assistant, School of Medicine, The University of Auckland, Auckland, New Zealand.
Susan Bull: Associate Professor, Psychological Medicine, The University of Auckland, Auckland; Nuffield Department of Population Health, University of Oxford, England.
Frederick Sundram: Associate Professor, Psychological Medicine, The University of Auckland, Auckland, New Zealand.
Nicholas R Hoeh: Professional Teaching Fellow, Psychological Medicine, The University of Auckland, Auckland, New Zealand.
David Menkes: Associate Professor, Psychological Medicine, The University of Auckland, Auckland, New Zealand.
Jacqualine Robinson: Associate Professor, School of Nursing, The University of Auckland, Auckland, New Zealand.
Gary Cheung: Associate Professor, Psychological Medicine, The University of Auckland, Auckland, New Zealand.

CORRESPONDING AUTHOR
Aida Dehkhoda: Research Fellow, Psychological Medicine, The University of Auckland, Auckland, New Zealand. E: a.dehkhoda@auckland.ac.nz

REFERENCES
1. Mroz S, Dierickx S, Deliens L, Cohen J, Chambaere K. Assisted dying around the world: a status quaestionis. Ann Palliat Med. 2021 Mar;10(3):3540-3553. doi: 10.21037/apm-20-637.
2. ProCon.ORG [Internet]. States with Legal Medical Aid in Dying (MAID); 2022 [cited 2022 Oct 12]. Available from: https://euthanasia.procon.org/states-with-legal-physician-assisted-suicide/.
3. Queensland University of Technology [Internet]. End of Life Law in Australia: Voluntary Assisted Dying; 2023 [cited 2022 Oct 12]. Available from: https://end-of-life.qut.edu.au/assisteddying.
4. New Zealand Legislation [Internet]. End of Life Choice Act 2019; 2021 [cited 2022 Oct 12]. Available from: https://www.legislation.govt.nz/act/public/2019/0067/latest/DLM7285905.html?search=ts_act%40bill%40regulation%40deemedreg_end+of+life+choice+act+2019_resel_25_a&p=1
5. Manatū Hauora – Ministry of Health [Internet]. Assisted Dying Service; 2022 [cited 2022 Oct 12]. Available from: https://www.health.govt.nz/our-work/life-stages/assisted-dying-service.
6. Cheung G, Frey R, Young J, Hoeh N, Carey M, Vara A et al. Voluntary assisted dying: The expanded role of psychiatrists in Australia and New Zealand. Aust N Z J Psychiatry. 2022 Apr;56(4):319-322. doi: 10.1177/00048674221081419.
7. Evenblij K, Pasman HRW, van Delden JJM, van der Heide A, van de Vathorst S, Willems DL et al. Physicians' experiences with euthanasia: a cross-sectional survey amongst a random sample of Dutch physicians to explore their concerns, feelings and pressure. BMC Fam Pract. 2019 Dec 17;20(1):177. doi: 10.1186/s12875-019-1067-8.
8. Haverkate I, van der Heide A, Onwuteaka-Philipsen BD, van der Maas PJ, van der Wal G. The emotional impact on physicians of hastening the death of a patient. Med J Aust. 2001 Nov 19;175(10):519-22. doi: 10.5694/j.1326-5377.2001.tb143707.x.
9. Rae N, Johnson MH, Malpas PJ. New Zealanders' attitudes toward physician-assisted dying. J Palliat Med. 2015 Mar;18(3):259-65. doi: 10.1089/jpm.2014.0299.
10. Horizon Research [Internet]. New Zealanders' views on end of life choices; 2017 [cited 2022 Nov 21]. Available from: https://www.horizonpoll.co.nz/attachments/docs/horizon-research-end-of-life-choices-survey-r.docx.
11. Horizon Research [Internet]. New Zealanders' views on end of life choices; 2012 [cited 2022 Nov 21]. Available from: https://www.horizonpoll.co.nz/attachments/docs/horizon-research-end-of-life-choices-survey--1.pdf.
12. Lee CH, Duck IM, Sibley CG. Demographic and psychological correlates of New Zealanders

support for euthanasia. N Z Med J. 2017 Jan 13;130(1448):9-17.
13. Malpas P, Anderson A, Wade J, Wharemate R, Paul D, Jacobs P et al. A critical exploration of a collaborative Kaupapa Māori consistent research project on physician-assisted dying. N Z Med J. 2017 Apr 28;130(1454):47–-54.
14. Wilson M, Oliver P, Malpas P. Nurses' views on legalising assisted dying in New Zealand: A cross-sectional study. Int J Nurs Stud. 2019 Jan;89:116-124. doi: 10.1016/j.ijnurstu.2018.03.012.
15. Oliver P, Wilson M, Malpas P. New Zealand doctors' and nurses' views on legalising assisted dying in New Zealand. N Z Med J. 2017 Jun 2;130(1456):10-26.
16. Young J, Egan R, Walker S, Graham-DeMello A, Jackson C. The euthanasia debate: synthesising the evidence on New Zealander's attitudes. Kōtuitui: New Zealand Journal of Social Sciences Online. 2019 Jan 2;14(1):1-21.
17. Jaye C, Lomax-Sawyers I, Young J, Egan R. The people speak: social media on euthanasia/assisted dying. Med Humanit. 2021 Mar 1;47(1):47-55. doi: 10.1136/medhum-2018-011565.
18. Mellett J, Macdonald ME. Medical assistance in dying in hospice: A qualitative study. BMJ Supportive & Palliative Care. 2022 Jan 25. doi: 10.1136/bmjspcare-2021-003191.
19. Vézina-Im LA, Lavoie M, Krol P, Olivier-D'Avignon M. Motivations of physicians and nurses to practice voluntary euthanasia: a systematic review. BMC Palliat Care. 2014 Apr 10;13(1):20. doi: 10.1186/1472-684X-13-20.
20. Frey R, Balmer D. The views of Aotearoa/New Zealand adults over 60 years regarding the End of Life Choice Act 2019. J Relig Health. 2022 Apr;61(2):1605-1620. doi: 10.1007/s10943-021-01359-7.
21. Cayetano-Penman J, Malik G, Whittall D. Nurses' Perceptions and Attitudes About Euthanasia: A Scoping Review. J Holist Nurs. 2021 Mar;39(1):66-84. doi: 10.1177/0898010120923419.
22. Pentaris P, Jacobs L. UK Public's Views and Perceptions About the Legalisation of Assisted Dying and Assisted Suicide. Omega (Westport). 2022 Nov;86(1):203-217. doi: 10.1177/0030222820947254.
23. De Bal N, Gastmans C, Dierckx de Casterlè B. Nurses' involvement in the care of patients requesting euthanasia: a review of the literature. Int J Nurs Stud. 2008 Apr;45(4):626-44. doi: 10.1016/j.ijnurstu.2007.06.009.
24. Kouwenhoven PS, van Thiel GJ, Raijmakers NJ, Rietjens JA, van der Heide A, van Delden JJ. Euthanasia or physician-assisted suicide? A survey from the Netherlands. Eur J Gen Pract. 2014 Mar;20(1):25-31. doi: 10.3109/13814788.2013.813014.
25. van Bruchem-van de Scheur GG, van der Arend AJ, Huijer Abu-Saad H, van Wijmen F, Spreeuwenberg C, ter Meulen R. Euthanasia and assisted suicide in Dutch hospitals: the role of nurses. J Clin Nurs. 2008 Jun;17(12):1618-1626. doi: 10.1111/j.1365-2702.2007.02145.x.
26. Sandham M, Carey M, Hedgecock E, Jarden R. Nurses' experiences of supporting patients requesting voluntary assisted dying: A qualitative meta-synthesis. J Adv Nurs. 2022 Oct;78(10):3101-3115. doi: 10.1111/jan.15324.
27. Hewitt J, Grealish L, Bonner A. Voluntary assisted dying in Australia and New Zealand: Exploring the potential for nurse practitioners to assess eligibility. Collegian. 2023 Feb;30(1). doi: 10.1016/j.colegn.2022.05.002
28. Tsai BC, Menkes DB. New Zealand doctors and euthanasia-legal and practical considerations of the End of Life Choice Act. N Z Med J. 2020 Sep 25;133(1522):149-160.
29. Woods P, Schindel TJ, King MA, Mey A. Pharmacy practice in the domain of assisted dying: A mapping review of the literature. Res Social Adm Pharm. 2020 Mar;16(3):267-276. doi: 10.1016/j.sapharm.2019.05.012.
30. O'Rourke T, O'Rourke D. The ordering and wording of questionnaire items: Part 1. American Journal of Health Studies. 2001;17(3):156-159.
31. Medical Council of New Zealand [Internet]. The New Zealand Medical Workforce in 2021; 2021 [cited 2022 Nov 28]. Available from: https://www.mcnz.org.nz/assets/Publications/Workforce-Survey/d9d2757aad/Workforce-Survey-Report-2021.pdf
32. Statistics NZ [Internet]. Census of Population and Dwellings; 2018 [cited 2022 Nov 28]. Available from: https://datainfoplus.stats.govt.nz/Item/nz.govt.stats/ca28210f-3fd6-415c-a162-ecc07b4a28b0?_ga=2.249487360.62261950.1609878529-57970878.1609878529#/nz.govt.stats/ca28210f-3fd6-415c-a162-ecc07b4a28b0/43
33. Te Kaunihera Taphui o Aotearoa – Nursing Council of New Zealand [Internet]. Tatauranga Ohu Mahi Workforce Statistics 2018-2019; 2019 [cited 2022 Nov 28]. Available from: https://www.nursingcouncil.org.nz/Public/News_Media/Publications/Workforce_Statistics/NCNZ/publications-section/Workforce_statistics.aspx?hkey=3f3f39c4-c909-4d1d-b87f-e6270b531145.