Exploring the impact of e-learning modules and webinars on health professionals' understanding of the End of Life Choice Act 2019: a secondary analysis of Manatū Hauora – Ministry of Health workforce survey

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ABSTRACT

AIM: To explore the importance of health workforce training, particularly in newly regulated healthcare practices such as assisted dying (AD). This study aims to analyse the socio-demographic factors associated with health professionals' completion of the e-learning module and attendance at the two webinars provided by the New Zealand Ministry of Health – Manatū Hauora (MH) and whether completion of the e-learning module and webinars supported health professionals' understanding of the *End of Life Choices Act 2019*.

METHOD: Secondary analysis of the MH workforce surveys conducted in July 2021.

RESULTS: The study findings indicate that health professionals who are older, of Pākehā/European ethnicity and work in hospice settings are more likely to complete the e-learning module, while females are more likely to attend webinars.

CONCLUSION: Despite low completion and attendance rates, the study highlights the positive association between training and health professionals' overall understanding of the *Act*. These results emphasise the need for enhancing training programmes to increase health professionals' knowledge and competence with AD. Furthermore, the research proposes focussing on healthcare practitioners in the early stages of their careers and not directly engaged in offering AD services, as well as Māori and Pasifika health practitioners.

Health workforce training has been regarded as essential to maintain high-quality standards of care and to ensure the safety of providers and recipients of care. Training in newly regulated healthcare, such as assisted dying (AD), can support translating the legislation into practice. Crucially, appropriate AD training clarifies the roles and responsibilities of health professionals in caring for individuals with life-limiting illnesses. AD training has been considered a safeguard for standardising baseline knowledge, enhancing the quality and consistency of decision making by health professionals and supporting the safe and effective operation of the AD process.[1]

In jurisdictions that allow the practice, AD training is provided through online modules, courses, elective programmes and practice guidelines on relevant topics, including palliative care, AD law and regulations, communication skills and end-of-life decision making.[2–5] Despite a proven need for AD training programmes and more formalised and standardised education and training, most jurisdictions have no mandatory training within their statutory practice guidelines.[1,4,6–10] While research from Belgium, the Netherlands, Australia and Canada shows the benefit of training in improving practitioners' competency in applying the law and the quality of AD consultation,[2,3,9,11,12] determining how best to educate health professionals and students remains a challenge.

In Aotearoa New Zealand, AD was introduced under the *End of Life Choice* (EOLC) *Act 2019* (the *Act*) and is part of the mainstream publicly funded healthcare, with the Manatū Hauora – Ministry of Health (MH) responsible for implementing AD services. During the first 12 months of implementation, MH launched an initial e-learning module intending to support health professionals develop a working knowledge of their roles and responsibilities under the *Act*, including the right to conscientiously object. This 20-minute e-learning

2023 Sep 15; 136(1582). ISSN 1175-8716
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module covers 1) an overview of the *Act* and AD, 2) key safeguards in the AD process, and 3) how AD fits into existing health "professionals" roles and responsibilities. Complementing the e-learning module, MH hosted a series of five webinars: Learning from international experience (June 2021), Patient perspective on assisted dying (July 2021), Whānau/family centred end of life care (August 2021), The role of the wider workforce (September 2021), and A person's right and a practitioner's responsibilities (October 2021).[13,14]

In July 2021, MH undertook a national health workforce survey to collect information on training, support and planning related to the provision of AD. This study aims to identify i) the socio-demographic factors associated with health professionals' completion of the e-learning module and attendance at the first two webinars, and ii) the extent to which these activities supported understanding of the *Act* using data from the national survey.

Method

Research design and participants

We conducted a secondary analysis of the EOLC *Act* workforce online survey. This cross-sectional survey was designed and administered by MH in July 2021. Ethics approval was granted by The University of Auckland Human Participants Ethics Committee (Reference Number UAHPEC24110).

Health professionals from a wide range of disciplines participated in the survey. MH employed "snowball" sampling to distribute the survey to various health and professional organisations during the first three weeks of July 2021. Each organisation invited members or employees to participate and disseminate the survey to other relevant networks. Among the organisations invited to respond were district health boards (DHBs), hospices, professional organisations such as medical colleges, the Pharmaceutical Society of New Zealand, the New Zealand Nurses Organisation as well as education providers (e.g., medical schools), allied organisations (e.g., Cancer Control Agency), government agencies (e.g., Department of Corrections, the Ministry of Māori Development, 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.

Workforce surveys

MH developed 16 questions to collect information about the following topics: 1) socio-demographic information: age, gender, ethnicity, health profession, work setting, and location, 2) overall understanding and understanding of eligibility criteria and health professionals' specific obligations, 3) training, support and planning needs, and 4) areas of interest going forward, including the implementation of AD. Only the questions most pertinent to the current study were included in the analysis (see Table 1). Completion of the survey took approximately 10 minutes.

Data cleaning and analysis

The Statistical Package for Social Sciences (SPSS) software, Version 28.0 (IBM), was used to perform the analyses. Before the analyses, the data were checked for missing values, and any necessary data cleaning was performed. Responses falling under the "would rather not say" category or not answered were classified as missing data and excluded from further analyses. We described the distribution of socio-demographic variables among survey respondents who i) did or did not complete the e-learning module and ii) attended or did not attend the webinar(s).

Using Spearman's rank correlation, we analysed the relationship between three variables related to the "understanding of the *Act*" section. The test indicated a strong positive correlation ($p \leq 0.01$) between health professionals' overall understanding of the *Act* and understanding of eligibility criteria and obligations and the right to object conscientiously. Based on the strength of the correlation, we focussed on "overall understanding" in subsequent analyses. We reported the distribution of the Likert scale responses to the "overall understanding of the *Act*" according to whether respondents completed the e-learning module and attended the webinar(s).

A logistic regression analysis was then performed to determine i) the socio-demographic factors associated with e-learning module completion and webinar attendance, ii) whether completing the e-learning module or attending the webinars (unadjusted and adjusted for age, gender, ethnicity and work setting) affected the overall understanding of the *Act*.

Due to the small number of responses, some categories were combined in the logistic regression, as detailed in the footnotes for Table 4. For example, the option of Māori versus non-Māori was not feasible for logistic regression due to the limited number of Māori participants. Therefore,

the ethnicities of Māori, Pasifika, Asian and Other were combined into one category called "Non-European." A 95% confidence interval was used for the odds ratios and 5% (p<0.05) for statistical significance.

Results

The calculation of the response rate was hindered by the lack of information from MH regarding the total number of health professionals/organisations approached for survey participation. However, a total of 859 responses were available for analysis. Most respondents were aged 45 years and over (63.9%), were female (70%), identified as Pākehā/European (81%) and worked as medical practitioners (51.5%). Respondents came from all 20 DHBs, with the highest proportion from Auckland Central (23.2%). Table 2 presents respondents' socio-demographic details on age, gender, ethnicity, work location, professional background and work settings.

Completion of the e-learning module

The e-learning module was completed by 200 (23.2%) survey respondents, who were most frequently aged 55–65 (37.4%), were female (75.6%), identified as Pākehā/European (91.3%), were located in the North Island (74.5%) and worked as medical practitioners (49.5%) and in hospitals (46.5%). Two Māori (1.0%) and two Pasifika (1.0%) health professionals completed the e-learning, whereas 10 Asian health professionals (5.1%) did so (Table 2). Among health professionals who completed the e-learning module, the majority (91.5%) reported having a "good" or "very good" overall understanding of the *Act*. In contrast, of health professionals who did not complete the e-learning module, only 52.5% reported having a "good" or "very good" overall understanding of the *Act* (Table 3).

Attendance at webinars

One hundred and fifty-two (17.6%) survey respondents attended one or both webinars. The largest group of these health professionals by each category were female (81.3%), aged 55–66 (34%), identified as Pākehā/European (83.7%), were located in the North Island (69.1%) and worked as medical practitioners (48%) and in hospitals (39.9%). Five Māori (3.4%), one Pasifika (0.7%) and 53 Asian (7.8) health professionals attended the webinar(s). Among health professionals who attended the webinar(s), the majority (81.6%) reported having a "good" or "very good" overall understanding of the *Act*. In comparison, for health professionals who did not attend the webinars, only 57.2% reported having a "good" or "very good" overall understanding of the *Act* (Table 3).

Table 4 presents the logistic regression results on the socio-demographic factors associated with e-learning module completion and webinar attendance. Health professionals aged 45–55 (OR=2.12, CI=1.19–3.79) and those over 55 (OR=2.42, CI=1.38–4.25) had a higher likelihood of completing the module than those under 35 years. Regarding ethnicity, individuals identifying as non-European were less than half as likely (OR=0.43, CI=0.24–0.75) to complete the e-learning module compared to Pākehā/European health professionals. Those working in a hospice setting (OR=2.44, CI=1.31–4.54) were more than twice as likely to complete the e-learning module than those working in general practice. Gender was the only significant factor associated with webinar attendance, with females being almost twice as likely to attend or watch the webinars (OR=1.96, CI=1.21–3.19).

We acknowledge the over-representation of Pākehā/Europeans in completing the e-learning module and webinars. We included the ethnicity variable in our regression model, along with other socio-demographic factors (age, gender, DHB, health profession, and work setting), and Pākehā/European ethnicity remained to be a significant factor associated with e-learning completion but not with webinar completion (Table 4).

Table 5 presents the logistic regression results with the overall understanding of the *Act* as the dependent variable. Both training methods showed increased odds of understanding the *Act*, with e-learning module completion having a stronger association. Health professionals who had completed the e-learning module were over eight times more likely to have a "good" or "very good" understanding of the *Act* compared with those who had not (OR=8.31, CI=4.90–14.09). In contrast, the overall understanding of the *Act* is two times higher in those who attended or watched at least one webinar than those who did not (OR=1.99, CI=1.24–3.19).

Areas of interest for future updates

As indicated in Table 6, respondents expressed interest in receiving updates on the implementation of the *Act*, particularly concerning their obligations as health professionals (73.1%), information about support for patients and whānau (families) (57%) and conscientious objection rights (53.6%).

Table 1: Key questions of relevance to this study in the July 2021 workforce survey.

Sections	Response options	Dicho-tomous categories*
	Likert scale	
Understanding of the Act 1. How well do you think you understand the *End of Life Choice Act* overall? 2. How well do you think you understand the eligibility criteria and circumstances where the process must end, as outlined in the *Act*? 3. How well do you think you understand specific obligations on health practitioners as outlined in the *Act*, including the right of conscientious objections?	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
Workforce training, support and planning 1. Have you completed the first online learning module focussed on the *Act* and the introduction of AD in NZ? • If yes, how well did the module support your understanding of the *Act*? 2. Have you attended or watched a recording of any of the online webinars that have been produced on the implementation of AD? • If yes, how useful did you find the webinar(s) in supporting your understanding of the topics covered?	a. Not at all b. To a limited degree c. It was helpful, but I still have some gaps d. Provided me with a very good understanding e. Not applicable	
Going forward 1. What areas are you most interested in, in relation to the implementation of AD in New Zealand? Select all that apply.	**Multiple choices** a. Education and training b. How AD services will be provided by my employer c. How statutory committees and roles will work d. My rights regarding conscientious objection e. Support for patients and whanau f. The obligations on me as a health professional g. What the funding arrangements are for AD h. Other	

* Dichotomous in statistics refers to the division of variables into two groups/values to conduct a logistic regression to determine the reason-result relationship of the independent variable(s) with the dependent variable.

Table 2: Characteristics of respondents who did or did not complete the e-learning module and who did or did not attend the webinars in June and/or July 2021.

Socio-demographic details		Total (N=859) n (%)	E-learning module completion		Webinar attendance	
			Yes N=200 n (%)	No N=659 n (%)	Yes N=152 n (%)	No N=707 n (%)
Age[a]	Under 35	146 (17.0)	20 (10.1)	126 (19.2)	23 (15.3)	123 (17.5)
	35–45	159 (18.5)	31 (15.7)	128 (19.5)	21 (14.0)	138 (19.6)
	45–55	233 (27.1)	60 (25.8)	173 (74.2)	48 (32.0)	185 (26.3)
	55–65	254 (29.6)	74 (37.4)	180 (26.4)	51 (34.0)	203 (28.8)
	Over 65	62 (7.2)	13 (6.6)	49 (7.5)	7 (4.7)	55 (7.8)
Gender[b]	Male	251 (29.2)	48 (24.4)	203 (30.9)	28 (18.7)	223 (31.7)
	Female	601 (70.0)	149 (75.6)	452 (68.9)	122 (81.3)	479 (68.1)
	Gender diverse	1 (0.1)	0 (0.0)	1 (100)	0 (0.0)	1 (0.1)
Ethnicity[c]	Pākehā/European[d]	696 (81.0)	179 (91.3)	517 (81.8)	123 (83.7)	573 (84.1)
	Asian[e]	63 (7.3)	10 (5.1)	53 (8.4)	10 (6.8)	53 (7.8)
	Māori	12 (1.4)	2 (1.0)	10 (1.6)	5 (3.4)	7 (1.0)
	Pasifika	7 (0.8)	2 (1.0)	5 (0.8)	1 (0.7)	6 (0.9)
	Other[f]	50 (5.7)	3 (1.5)	47 (7.4)	8 (5.4)	42 (6.2)
District health board[g]	North Island	632 (73.6)	149 (74.5)	483 (73.3)	105 (69.1)	527 (74.5)
	South Island	227 (26.4)	51 (25.5)	176 (26.7)	47 (30.9)	180 (25.5)
Health profession	Medical practitioner	442 (51.5)	99 (49.5)	343 (52.0)	73 (48.0)	369 (52.2)
	Medical practitioner (psychiatrist)[h]	26 (3.0)	10 (5.0)	16 (2.4)	3 (2.0)	23 (3.3)
	Nurse practitioner	40 (4.7)	15 (7.5)	25 (3.8)	10 (6.6)	30 (4.2)
	Nurse	186 (21.7)	39 (19.5)	147 (22.3)	39 (25.7)	147 (20.8)
	Pharmacist	63 (7.3)	9 (4.5)	54 (8.2)	9 (15.9)	54 (7.6)
	Other[i]	102 (11.9)	28(27.5)	74 (11.2)	18 (11.8)	84 (11.9)

Table 2 (continued): Characteristics of respondents who did or did not complete the e-learning module and who did or did not attend the webinars in June and/or July 2021.

Work setting	Aged residential care	55 (6.4)	12 (6.0)	43 (6.5)	16 (10.5)	39 (5.5)
	Community	32 (3.7)	10 (5.0)	22 (3.3)	4 (2.6)	28 (4.0)
	General practice	202 (23.5)	40 (20.0)	162 (24.6)	33 (21.7)	169 (23.9)
	Hospital	409 (47.6)	93 (46.5)	316 (48.0)	60 (39.5)	349 (49.4)
	Hospice	78 (9.1)	29 (14.5)	49 (7.4)	22 (14.5)	56 (7.9)
	Pharmacy	32 (3.7)	4 (2.0)	28 (4.2)	5 (3.3)	27 (3.8)
	Specialist practice	9 (1.0)	3 (1.5)	6 (0.9)	0 (0.0)	9 (1.3)
	Other[j]	42 (4.9)	9 (4.5)	33 (5.0)	12 (7.9)	30 (4.2)

[a] 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. Missing data in age category n=5.
[b] Missing data in gender category n=6.
[c] Missing data in ethnicity category n=31.
[d] Pākehā refers to white/European New Zealanders. European refers to other Europeans.
[e] Asian in this study refers to Chinese, Indian, Filipino, Sri Lankan, Malaysian, South East Asian, etc.
[f] MELAA (Middle Eastern/Latin American/African) ethnicities were grouped under the "Other" category due to the small number of responses.
[g] 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.
[h] MH had presented "psychiatrist" as a distinct category.
[i] Other health professionals included clinical academics, allied health, clinical managers, mental/social health workers and midwives.
[j] Other work settings included educational institutions, urgent care, prison/corrections, non-government organisations and government agencies.

Table 3: Overall understanding of the *Act* rated by i) respondents (n=855) who completed versus those who did not complete the e-learning module; and ii) respondents (n=856) who attended the webinar(s) versus those who did not attend the webinar(s).

		Not at all N=26 n (%)	**Limited N=304 n (%)**	**Good N=384 n (%)**	**Very good N=145 n (%)**
E-learning module completion	Yes	0 (0.0)	17 (8.5)	112 (56.0)	71 (35.5)
	No	26 (3.9)	287 (43.6)	272 (41.3)	74 (11.2)
Webinar attendance	Yes	0 (0.0)	28 (18.4)	79 (52.0)	45 (29.6)
	No	26 (3.7)	276 (39.0)	305 (43.1)	100 (14.1)

Table 4: Logistic regression of e-learning module completion and webinar attendance (June and/or July 2021).

Socio-demographic details		E-learning module completion		Webinar attendance	
		OR[a] (CI[b] 95%)	*P*-value	OR[a] (CI[b] 95%)	*P*-value
Age	Under 35[c]	REF	0.013*	REF	0.154
	35–45	1.58 (0.84–2.98)		0.71 (0.36–140)	
	45–55	2.12 (1.19–3.79)		1.39 (0.78–2.46)	
	Over 55[d]	2.42 (1.38–4.25)		1.19 (0.68–2.09)	
Gender[e]	Female (versus male)	1.47 (0.98–2.21)	0.061	1.96 (1.21–3.19)	0.006*
Ethnicity[f]	Non-European (versus Pākehā/European[g])	0.43 (0.24–0.75)	0.004*	1.09 (0.65–1.87)	0.732
District health board[h]	South Island (versus North Island)	0.92 (0.63–1.35)	0.697	1.24 (0.83–1.87)	0.287
Health profession[i]	Medical practitioner	REF	0.332	REF	0.442
	Nurse/nurse practitioner	0.72 (0.46–1.13)		0.88 (0.55–1.41)	
	Other	0.78 (0.48–1.27)		0.69 (0.40–1.21)	
Work setting[j]	General practice	REF	0.039*	REF	0.064
	Hospital	1.36 (0.88–2.12)		1.06 (0.64–1.74)	
	Hospice	2.44 (1.31–4.54)		2.18 (1.12–4.23)	
	Other	1.27 (0.72–2.23)		1.56 (0.86–2.85)	

*<0.05
**<0.01
[a] OR = Odds ratio
[b] CI = Confidence interval
[c] The two categories of "under 25" and "25–35" merged into one category of "under 35" for data analysis due to the small number of responses.
[d] The two categories of "55–65" and "over 65" merged into one category of "over 55" for data analysis due to the small number of responses.
[e] The "gender diverse" category was excluded from the analysis due to the small number of responses.
[f] The four categories of Asian, Māori, Pasifika and Other combined under the new category of "non-European" due to the small number of responses.
[g] Pākehā refers to white/European New Zealanders. European refers to other Europeans.
[h] North Island DHBs were combined under the new "North Island" and South Island DHBs under the "South Island" categories.
[i] "Psychiatrist" was combined under "Medical practitioners". "Nurse" and "nurse practitioners" were merged. "Pharmacist" was combined under "Other".
[j] "Aged residential care", "Community" and "Pharmacy" were combined under "Other".

Table 5: Logistic regression: binary outcome = overall understanding of the *Act* as "not at all or limited" versus "good or very good". Independent variables = e-learning module completion + webinar attendance.

Variable		Logistic regression model			
		Unadjusted OR[a] (CI[b] 95%)	*P*-value	Adjusted OR[a] (CI[b] 95%)	*P*-value
Module completion	Yes (versus no)	8.31 (4.90–14.09)	0.001**	8.17 (4.72–14.2)	0.001**
Webinar(s) attendance	Yes (versus no)	1.99 (1.24–3.19)	0.004*	2.10 (1.27–3.47)	0.003*

*<0.05
** <0.01
[a] OR = Odds ratio
[b] CI = Confidence interval

Table 6: Respondents' areas of interest for future updates concerning the implementation of the *Act*.

	Sum N (%)
The obligations on me as a health professional	628 (73.1)
Support for patients and whānau (families)	490 (57.0)
My rights regarding conscientious objection	460 (53.6)
Education and training	454 (52.9)
How assisted dying services will be provided by my employer	407 (47.4)
How the statutory committees and roles will work	301 (35.0)
What the funding arrangements are for assisted dying	294 (34.2)
Other	63 (7.3)

Discussion

In the year preceding the implementation of AD in New Zealand, health professionals were provided with specific AD training through an e-learning module and a series of webinars. This study marks the first national large-scale data gathered in New Zealand on socio-demographic factors associated with health professionals accessing training modules and the relationship of training to perceived knowledge and understanding of the *Act*. The novelty of the data in this study brings about a certain degree of uncertainty in the conclusions reached.

The results reveal a significant association between older age, Pākehā/European ethnicity and working in a hospice setting with e-learning module completion. Additionally, the female gender is associated with higher webinar attendance. The majority of survey respondents did not complete the e-learning (76.7%) or attend/watch the webinars (82.3%). The decision to adopt e-learning is influenced by several factors, including the relevance of module content to health professionals' practice, organisational considerations such as availability of dedicated time and space in workplaces, support of e-learning and personal factors[14] like conscientious objection to AD. In New Zealand, no individual or organisa-

tion is compelled to provide AD, and all hospices, except one, have chosen not to do so, practising their right to object to AD.[15] When personal factors may influence the need to learn about AD, organisation factors may impact the practical considerations to either facilitate or limit the update of e-learning. Another plausible explanation could be that the *Act* had only been recently legalised (by 6 months) at the time of the survey, with only one e-learning module and two webinars available to health professionals. Since then, MH has launched three more e-learning modules for all health professionals focussing on professionals' rights and responsibilities, the process of accessing AD (including the roles of different health practitioners) and how to respond appropriately when an AD request is raised.[16] Following the initial module, MH also launched five e-learning modules for medical practitioners providing the AD service (practitioners are required to complete these modules to claim funding for providing AD services), which address 1) application and initial opinion about eligibility, 2) independent assessment of eligibility, 3) assessment of competency, 4) deciding about eligibility, and 5) prescribing and administering medication.[16,17] The series of five webinars covered a range of topics related to AD and the implementation of the *Act*, with the first two (included in this study) including international experience and patient perspectives.

Interestingly, despite the low completion and attendance rates and the less generic content of training resources available after the survey, our results indicate a positive relationship between training and understanding the *Act*. This result indicates the importance of training in providing health professionals with a means to increase their knowledge and competence with AD, reflecting findings reported overseas. In Belgium and the Netherlands, specifically trained physicians who provide secondary consultation during eligibility assessment were found to be more skilful and critical, contributing to a higher-quality consultation.[9,11] On a different level, the impact of training has also been positive in helping Canadian medical students to become more comfortable discussing AD and to display more positive self-rated attitudes toward AD,[12] which may, ultimately, increase workforce availability and integration of quality end-of-life care for those patients requesting an assisted death.

Survey participants expressed a desire for additional education and training (52.9%), particularly regarding health professionals' obligations (73.1%), support for patients and whānau (57%) and conscientious objection rights (53.6%). Similarly, studies on the opinions of geriatricians in Australia and New Zealand and medical oncology groups in Australia have highlighted the desire of physicians for more training and clarity on AD, such as the boundaries of eligibility requirements, performing capacity assessment and counselling patients requesting AD.[18,19]

Identifying and addressing educational gaps and challenges in delivering education among health professionals is crucial as this is likely to impact the future availability of AD.[20] Inadequate education can leave doctors and health practitioners feeling unprepared and incompetent to manage AD conversations with patients, resulting in patients receiving misinformation about AD pathways, procedures and eligibility processes.[1] Canadian research on nursing and pharmacy students' experiences with AD identified concerns regarding saying the "wrong" things when speaking with patients and families, not knowing the AD process, dispensing ineffective AD medication, being unable to manage unexpected side effects and emotional impact, and resolving moral and personal conflicts.[12,21,22]

Our results show a higher rate of e-learning module completion among health professionals over 45 years of age compared to those under 35. This result suggests a necessity to target health professionals in their early career years who are less directly involved in providing AD services. As Brown et al. claim, teaching end-of-life concepts focussing on patient- and family-centred care, such as AD, can enable students to reflect on their conscience and ethical considerations. Additionally, it can help them comprehend the legal frameworks, practice guidelines and competencies related to providing quality care.[8]

Additionally, Māori and Pasifika health professionals are other groups that could benefit from additional training in New Zealand. According to the MH report, of the 814 patients who applied for AD between 7 November 2021 and 31 December 2022, 44 (5.4%) were Māori and 3 (0.3%) were Pasifika, indicating an interest in AD among Māori.[23] However, our results indicate a relatively low uptake of the e-learning module and webinar(s) attendance among Māori and Pasifika health professionals. More data need to be gathered to clarify whether this rate is proportionate to the numbers of Māori and Pasifika health professionals in the New Zealand healthcare workforce. To optimise access and quality care for Māori, developing and providing appropriate training for health profes-

sionals caring for Māori at the end of their life seems necessary. Under Te Tiriti o Waitangi, the government is legally obligated to ensure equitable health outcomes for Māori.[24] This obligation is also conveyed to health researchers to ensure that research supports Māori development, including workforce development, and incorporates traditional or contemporary Māori processes.[24] This calls for further attempts to develop training that may, for example, include improved knowledge about tikanga around the dying process and cultural support and guidance for patients requesting AD and their whānau. The inclusion of Māori and Pasifika representation in the development of these materials could be enhanced by the use of alternative research approaches. These methods could overcome the observed limited participation of non-European ethnic groups in healthcare surveys, as shown by the findings of this study.

Considering the positive impact of education and training, it would be advantageous to explore various approaches to integrate AD education into existing curricula. In addition, there is a need to identify the best ways to provide AD training programmes to the current health workforce and to evaluate their efficacy through pre- and post-measurements once such training programmes are developed. Attempts to develop learning objectives, educational tools, medical student scope of practice and delivery structure to inform assisted dying curriculum have already begun in Canada.[8,10,25] At the same time, the impact of a mandatory AD program in Australia is currently being evaluated with a view to improvement.[2]

Limitations

MH designed and distributed the survey and collected data without input from the research team, imposing some limitations on the secondary data analysis. Firstly, the survey was distributed in early July 2021, allowing a 3-week window for completion, which resulted in some responses being received prior to the mid-July webinar. Furthermore, no information was collected regarding whether respondents attended one or both webinars held in June and July 2021. Secondly, it remains unclear whether the Ministry considered the content validity of the survey and, if they did, the specific measures taken to ensure its implementation. A third limitation concerns the representativeness of the results, as MH did not provide a comprehensive list of the organisations that received the survey, and the snowball sampling approach precludes the calculation of response rates. Additionally, due to the low uptake of training among non-European health professionals, the ethnic groups, such as Māori and Pasifika, were combined for data analysis. We considered having two options: European versus non-European OR Māori versus non-Māori. Given the small number of Māori participants, the second option was not feasible for logistic regression. This limitation of low uptake prevented us from exploring specific cultural needs and how much this may contribute to ethnic inequality in health.[26] Lastly, the measures of respondent understanding may introduce a potential source of bias. Self-assessment is inherently subjective and context dependent,[27] and reported knowledge may differ from objective measures.[28]

Conclusion

This study offers preliminary insights into the socio-demographic factors linked to the interest of New Zealand health professionals in training related to the *End of Life Choice Act 2019* and AD. The results show that older age, Pākehā/European ethnicity, and working in a hospice setting are significantly associated with completing the e-learning module. In contrast, the female gender is associated with webinar attendance. These results highlight the positive relationship between training and perceived understanding of AD, despite the low completion rate of the initial e-learning module and attendance of one or two webinars. This result emphasises the need to expand training for health professionals and improve their engagement with existing training to increase their knowledge and competence with AD. Future research should prioritise identifying educational gaps and delivery challenges faced by practitioners in training, as well as incorporating traditional or contemporary Māori models of care into AD training, aiming to achieve equitable health outcomes.

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

ACKNOWLEDGEMENTS
The authors would like to sincerely thank all health professionals who participated in the survey, and the Ministry of Health for providing us with the data and for their support during this project.

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