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# A Content Analysis of Euthanasia Polls in Australia and <br> New Zealand - Words Do Matter 

First published: 19 May 2021
which has been published in final form at

## https://onlinelibrary.wiley.com/doi/10.1111/imj. 15377

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# A Content Analysis of Euthanasia Polls in Australia and New Zealand - 

## Words Do Matter

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## Acknowledgements

- No grants, funding, affiliations or other links to acknowledge

Word count:

- Abstract: 170
- Main text: 2,940 (excluding titles)

Key words

- Euthanasia, Active
- Suicide, Assisted
- Surveys and Questionnaires
- Attitude
- Language

This article has been accepted for publication and undergone full peer review but has not been through the copyediting, typesetting, pagination and proofreading process which may lead to differences between this version and the Version of Record. Please cite this article as doi: 10.1111/imj. 15377


#### Abstract

Aim:

To explore whether public support for and opposition to Euthanasia and Physician Assisted Suicide (EPAS) as measured in historic Australian and New Zealand polls has been influenced by the wording of survey questions.

\section*{Methods:}

Australian and New Zealand random-sample post-1995 EPAS poll questions asked of the general public were identified and subjected to content analysis. Individual phrases and words were considered in terms of their favourability towards or unfavourability against EPAS and each poll question was assigned a net favourability score. Variation of support for EPAS based on year, location and favourability of language was analysed by various statistical methods.

\section*{Results:}

Mean public support for EPAS in Australia and New Zealand between 1995 and the present was $70.2 \%$ with support ranging between $47 \%$ and $85 \%$. Support did not vary by location and has remained unchanged over time. However, support was positively associated with increasing levels of favourable wording, accounting for over $20 \%$ variation in mean support. Allusions to hopelessness had an especially strong effect on increasing support for EPAS.

\section*{Conclusion:}

Use of emotive phrases and language is associated with influencing attitudes to EPAS in Australia and New Zealand. Therefore, caution should be exercised when interpreting public support for EPAS based on individual polls.


## Introduction

Euthanasia and Physician Assisted Suicide (EPAS) are increasingly being discussed in the medical, legal and public spheres. Certain forms of EPAS have been decriminalized or legalized in a number of regions, including in Canada, Victoria and Western Australia. ${ }^{1-3}$ Government reviews are currently also occurring in many places, including in Australasia. A national referendum to gauge public opinion occurred in New Zealand (NZ) in $2020^{4}$ and the Australian state of Queensland is considering proposed legislation. ${ }^{5}$

One motivation for legislators to review laws pertaining to EPAS is that, in contrast to research on palliative care and other clinicians' attitudes to EPAS ${ }^{6-7}$ public polling indicates a majority of the public support legal EPAS, ${ }^{8}$ however the level of support varies between surveys. In Australia and New Zealand, some polls reveal support above $80 \%$ whereas others record support under $60 \%{ }^{9,10}$ The reasons for this disparity have not been widely analysed although there are multiple possible factors including the timing and location of the surveys and the clarity and emotive nature of the wording of the questions themselves. It is possible that understanding of definitions and current laws influence responses. ${ }^{11}$ Alternatively, perceptions of EPAS might be influenced by the language used within the polls themselves. ${ }^{12}$ Language surrounding EPAS has developed over time with terms such as "euthanasia" and "assisted suicide" being replaced by "medical assistance in dying" and "voluntary assisted dying". These terms may influence public attitudes to EPAS by aligning it with terminology used in standard end of life care. Furthermore, emotive language such as "intolerable suffering" or "hopeless" may influence responses to polls because people are fearful of pain. Conversely, terms such as "kill" and "suicide" may encourage an unfavourable opinion about EPAS by giving the procedure negative connotations.

Given the influence public opinion has on legislators and the possibility that phrasing may influence views on EPAS, we set out to investigate whether public support for EPAS as measured in Australian and NZ polls is influenced by the wording of survey question(s) used.

## Methods

We hypothesised that questions could be worded in ways that would either encourage or discourage support for legalizing EPAS. To test this hypothesis, a content analysis of language used in polls was
undertaken. All Australian and NZ random-sample post-1995 EPAS poll questions asked of the general public were identified and subjected to content analysis. ${ }^{13,14}$ The cut-off year was chosen to align with the legalization of voluntary euthanasia in the Northern Territory of Australia, which brought the issue of EPAS to public attention. ${ }^{15}$ A description of the search strategy used to identify polls reported in Australian and New Zealand news media sources is outlined in Appendix A. The following poll details were identified: the date and location of the poll; the method of polling; the exact wording of the question(s); any explanatory pre-amble; and the numbers in favour of and opposed to EPAS. Polls where the exact wording of the survey question could not be obtained were excluded, as were those that did not use a random population sample.

A standardized coding system was developed so that a direct approach to content analysis ${ }^{17}$ of the exact wording of the poll questions could be performed. The coding system was developed from published literature on factors predicting favourable and unfavourable opinions on legalising EPAS. As desire for autonomy, fear of suffering, and the lack of a meaningful future life are reported as factors involved in people's acceptance of EPAS, ${ }^{18-20}$ the following words (and their synonyms) closely connected with these were defined as favourable language: choice, help, intolerable pain/suffering and hopeless. As the use of voluntary alluded to patient autonomy and assisted alluded to helping, "voluntary euthanasia" and "voluntary assisted dying" were also coded as favourable language. As the intrinsic value or sanctity of life is reported as a factor in people's opposition to EPAS, ${ }^{21}$ the following words (or their synonyms) were coded as unfavourable language: kill, lethal and suicide. "Assisted suicide" was therefore also coded as unfavourable language. Further consultation with a panel of experts in psychology, linguistics and palliative medicine, comprising both advocates and opponents of legalized EPAS, was then undertaken prior to finalization of the coding table.

Coding, based on the exact question wording, was performed by the primary investigator and two independent clinicians blinded to the specific survey details such as demographic details and level of support for EPAS reported. Each question was coded for:

- The presence or absence of favourable and unfavourable EPAS language, i.e.

| Favourable EPAS language | "Voluntary euthanasia" |
| :--- | :--- |
|  | "Voluntary assisted dying" |
|  | Choice (or synonyms) |
|  | Help (or synonyms) |
|  | Intolerable pain or suffering (or synonyms) <br>  <br>  <br> Unfavourable EPAS language <br>  |
|  | "Assisted (or syicide" |
| Kill or lethal (or synonyms) |  |
| Suicide (or synonym) |  |

- A net favourability score was constructed and defined as the number of times favourable language was used minus the number of times unfavourable language was used, i.e.

$$
\begin{aligned}
& \text { Net favourability score = Total number of favourable language phrases }- \text { total number of } \\
& \text { unfavourable phrases }
\end{aligned}
$$

Meta-analysis techniques (using Stata 15, College Station Tx, USA) were applied to estimate proportion supporting EPAS for each poll and across all polls. Multivariable regression analysis was used to examine the impact of location, year, net favourability score, and individual words and phrases on support for EPAS.

## Results

## Search results

Factiva and Google searches identified 181 and 60 articles respectively, revealing 79 separate, publicly reported EPAS polls after duplicates were removed. The minimum data required was available for 49 poll questions, with the earliest poll identified from 1962. 42 poll questions were from 1995 or later. Of these, 33 questions were from random sample polls, 29 of which the sample size was known. Details of these polls including the question asked are available in Appendix B. Two
polls contained 2 questions asking about EPAS and the remaining polls contained a single question each.

## Overall mean support and opposition

The mean support for EPAS in post-1995 random-sample polls was $70.2 \%$, mean opposition was $19.2 \%$, and $10.2 \%$ were either uncertain or did not care about the issue. Support for EPAS ranged from $47 \%$ to $85 \%$ (Figure 1) and opposition to EPAS ranged from $10 \%$ to $43 \%$. From Figure 1 it is evident that while there is considerable variation in the estimate between polls, the $95 \%$ confidence interval for each poll estimate is quite narrow. The narrow confidence interval suggests that for each poll there is accuracy in the estimation of public support for and opposition to EPAS. Therefore, the difference in support between the polls suggests that the polls themselves are asking and measuring subtly different things. In fact, using the $\mathrm{I}^{2}$ statistic from meta-analysis to estimate the proportion of total variation that is due to inherent differences between polls, we observed that $97.6 \%$ of the variation in estimates of EPAS support is due to differences in the nature of the polls. Known differences between these polls were the year they were taken, the country within which they were conducted and the language used to ask the questions.

Impact of favourable and unfavourable language use
Two poll questions contained no favourable or unfavourable language, 9 contained some unfavourable language and 30 contained some favourable language (Table 1). 13 questions contained one favourable or unfavourable phrase, and the remainder contained two or more of these phrases, resulting in net favourability scores ranging between -2 and +4 . For example, the 2017 Australian poll question "If someone with a terminal illness who is experiencing unrelievable suffering asks to die, should a doctor be allowed to assist them to die?" received a net favourability score of 2 due to the presence of two favourable phrases and zero unfavourable phrases. The mean net favourability score of all polls was +1.8 . Support for EPAS was positively associated with the net favourability score, with the lowest mean support of $57 \%$ when the net favourability score was -2 and the highest mean support of $79 \%$ when the score was +4 (Figure 2).

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Analysis of specific terminology (Table 2) showed phrases related to hopelessness were associated with the greatest support for EPAS. Mean support for EPAS was $82 \%$ in the 5 (of 33 ) questions that referred to hopelessness as a condition for legal EPAS, compared with $68 \%$ support for EPAS in the remaining 28 poll questions.

Mention of helping, choosing, and unbearable pain occurred in 17, 19 and 9 poll questions respectively and these phrases were associated with mean levels of support for EPAS of $72 \%, 72 \%$ and $75 \%$ respectively compared with support levels of $68 \%$ in each case when these phrases were not mentioned. Use of the term "Voluntary Euthanasia" was associated with 75\% support which fell to $69 \%$ in polls that did not use the term. The term "Voluntary Assisted Dying" was not associated with increased levels of support for EPAS.

In terms of unfavourable language, only six surveys used the word "kill" (or a synonym), three used the word "suicide" and none used the specific term "Physician Assisted Suicide." Mean support for EPAS was $73 \%$ in the surveys that referenced killing or a synonym compared with $70 \%$ in those that did not. However, five of these surveys also mentioned hopelessness. In the single poll that mentioned killing without the mention of hopelessness, support for EPAS was $57 \%$. Support for EPAS was $71 \%$ in the surveys that mentioned suicide compared with $70 \%$ in the remaining polls.

Multivariable linear regression analysis using a robust standard error estimator was used to model the between question variation. The net favourability score was seen to increase support for EPAS by 3.9 percentage points $\left(95 \%\right.$ CI $\left.2.7,5.2 ; \mathrm{P}=5.2 \times 10^{-7}\right)$ for each unit increase in net favourability score. In other words, each time the net favourability score increased by 1 , there was an associated average increase in support for EPAS of $3.9 \%$. Subsequently, each individual phrase was entered into the model to test for any effect that was independent of that already included in the net favourability score. Inclusion of hopelessness in a question increased EPAS support by 7.8 percentage points $(95 \%$ CI 3.8, 11.8; $\mathrm{P}=4.1 \times 10^{-4}$ ) in a model also including net favourability score. "Kill", when included in
this model was associated with a decrease in 3.9 percentage points ( $95 \% \mathrm{CI}-0.083,0.005 ; \mathrm{P}=0.079$ ). All other single terms produced estimated changes of less than $3.8 \%$ with P values ranging between 0.19 to 0.69 .

## Public support for EPAS by location

Comparing support for EPAS by country, the raw data shows higher support for EPAS in Australia than NZ with mean support of $74 \%$ and $67 \%(\mathrm{P}=0.004)$ respectively. However, Australian polls had higher favourability scores on average with a mean net favourability score of 2.6 compared with NZ surveys' mean of 1.0 (Figure 3). When adjusted for net favourability score and mention of "hopelessness", i.e. when adjusting for language used, there was no difference in support for EPAS between Australia ( $71.1 \%$ ) and NZ ( $69.5 \%$; $\mathrm{P}=0.48$ ).

## Public support for EPAS by time

Support for EPAS in Australia and other western nations increased during the late 20th century. ${ }^{22-23}$ However post-1995 it appears that public support for EPAS has slightly decreased by 0.89 percentage points ( $95 \% \mathrm{CI}-1.4,0.35 ; \mathrm{P}=0.002$ ) percentage points per year. However, recent polls have lower net favourability scores (Figure 4). When adjusted for net favourability score and mention of
"hopelessness", i.e. when adjusting for language used, time no longer had an effect on public support for EPAS with only a yearly average change of +0.06 percentage points ( $95 \% \mathrm{CI}-0.5,0.6 ; \mathrm{P}=0.84$ ) demonstrated.

## Final Model Predicting Support for EPAS

After considering all potential language, time, and location predictors, the final model predicting factors influencing EPAS support contained only net favourability score and hopelessness. A one unit increase in net favourability score was associated with an increase in support of 2.7 percentage points ( $95 \%$ CI $1.6,3.8$ ) while the inclusion of hopelessness added an additional 7.8 percentage points ( $95 \%$ CI 3.8, 11.8). Variation in net favourability score and inclusion or non-inclusion of hopelessness accounted for $56 \%$ of the variance in support of EPAS.

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## Discussion

Our research identified 29 publicly-reported poll questions on EPAS from randomly selected population samples in Australia and New Zealand since 1995 with sufficient details for analysis. Of interest is the observation that the majority of polls used emotive language to some degree; only 2 poll questions used language devoid of the defined favourable and unfavourable words. Most of the polls also tended towards using language favourable to EPAS as can be noted in the mean favourability score of 1.8 and the median value of 2 . The reasons for this have not been explored in this study but it raises interesting questions about why this might be the case.

Our content analysis of EPAS polls shows that the language used in the poll's question influences level of public support. The mention of hopelessness is most strongly associated with higher support for EPAS, which is consistent with prior research that has demonstrated a link between a desire for EPAS and hopelessness, independent of depression and knowledge of prognosis in cancer patients. ${ }^{24}$ Hope is an emotive concept that is a fundamental aspect of human endeavour and survival ${ }^{25}$ and it has been closely linked with resilience, suffering and quality of life. ${ }^{26,27}$ Even when experiencing a terminal illness, a person may maintain hope, for example through the desire to spend time with a loved one, to leave a written legacy for their family or in spiritual beliefs in life after death. Without hope, however, purpose fades along with the human desire of continued existence. As such, questions that assume and describe hopelessness may influence a person to be more receptive to EPAS.

Other individual words are less strongly associated with changes in level of support for EPAS, however when considered cumulatively, the more times favourable language is used within a single poll question, the greater the level of support for EPAS. This suggests that public attitudes regarding EPAS may not be firmly fixed but can be swayed. Furthermore, as the study also found that the majority of poll questions about EPAS contain language that is slanted towards the favourable spectrum, especially in Australia, a question is raised as to the neutrality of organizations and individuals who have arranged public polling in recent years. Although this analysis did not examine
those who have commissioned these polls, it would be interesting to explore whether they were connected to lobby groups either in favour or against EPAS and to consider if any bias played a role in construction of the poll questions themselves.

Only a small number of polls contained the unfavourable language of "kill" (or synonyms). The use of this language does appear to have an impact on support for and opposition to EPAS when other favourable terms are absent in the poll question. It is significant to note, however, that there was still majority support for EPAS in these polls. This indicates that the language used to describe EPAS is of less importance than other factors in influencing peoples' beliefs regarding EPAS. In the few poll questions that contained unfavourable language without any concurrent favourable language there was, however, an associated reduction in support of EPAS. Given that this reduction in support for EPAS was not seen in poll questions that contained both favourable and unfavourable language together, it appears that language favourable to EPAS has greater emotive power in influencing support for EPAS than does language unfavourable to EPAS. This was especially apparent when reviewing poll questions that contained references to both hopelessness and killing; support for EPAS was very high in surveys that contained reference to hopelessness alone as well as those surveys that contained reference to both hopelessness and killing. This reaction could be a reflection of the
prevalence of death anxiety in the general public and the current societal reluctance to think about death. ${ }^{28}$

One criticism that can be levelled at this survey of words is the equal weighting of favourable and unfavourable terminology in the method and tabulation of results. The term "kill" and its synonyms, for example, would seem further away from neutral than the term "help" and its synonyms, however these were both valued at 1 ( -1 and +1 respectively in terms of favourability). However, this variable impact was examined in the multivariable linear regression analysis which indeed confirmed that not all favourable and unfavourable terminology had an equal impact. As already described, allusion to hope was far more impactful than other phrases and words.

Although this study was an observation study of surveys that varied by location, time, population, method of polling, polling company and language used, it appears that through the wording of a poll question it is possible to influence support for EPAS by approximately 20\%. As the majority of public surveys have language more favourable to EPAS, reports of $80 \%$ community support for legalizing EPAS may be over-estimations. When worded neutrally, public support for EPAS is probably approximately $65 \%$ in Australia and NZ. This is still a clear majority but it is not the overwhelming majority that is sometimes reported. Further prospective randomized controlled trials of carefully worded concurrent polls could more thoroughly examine the observation that language use influences level of support for EPAS and thereby confirm the true level of public support when neutral language is used.

A key implication of these findings is that, given the influence language has on poll responses about EPAS, it would be wise to be careful when interpreting level of support for EPAS from public polls. Law-makers particularly should be cautious in relying on polls to direct public policy regarding EPAS.

## Conclusion

Use of emotive phrases and language is associated with influencing attitudes to EPAS in Australia and NZ . The degree to which this influence occurs is in the order of over $20 \%$ variation in mean support. Caution should be exercised when interpreting public support for EPAS based on individual polls and further research could be helpful to better understand the power and influence of language in the EPAS debate.

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Figures, Tables and Appendices

Figures:



Figure 1. Forest plot showing proportion support for EPAS and 95\% confidence intervals (CI) in random-sample polls. ES=Effect size (proportion). ( 0 to 1 indicates $0 \%$ to $100 \%$ public support, e.g. 0.5 would indicate $50 \%$ of respondents supported EPAS and 0.75 would indicate $75 \%$ of respondents supported EPAS)

Support for EPAS by net favourability score

Figure 2. Mean support for, opposition to and uncertainty about legalization of EPAS depending on the net favourability score.


Figure 3. Support for EPAS in individual Australian polls (green dots) and individual New Zealand polls (black dots) showing net favourability as the influencer of support for EPAS rather than location.

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EPAS Support By Year and Favourability Score


```
Net favourability score
- 2
- 0
- 1
- 2
- 3
- 4
```

Fitted values

Figure 4. Support for EPAS over the last two decades where each dot represents an individual poll. Darker dots represent poll questions with higher net favourability scores. Although recent polls show, on average, lower support for EPAS, when net favourability is taken into account, level of support appears to be stable and unchanged over time.

## Tables:

|  | Unfavourable language <br> present | Unfavourable language <br> absent | Total |
| :---: | :---: | :---: | :---: |
| Favourable language <br> present | 8 | 22 | 30 |
| Favourable language <br> absent | 1 | 2 | 3 |
| Total | 9 <br> (mean support $71 \%$ ) |  |  |
| (mean support $69.3 \%$ ) | 24 <br> (mean support $72.8 \%$ ) | 33 <br> (mean support $70.3 \%)$ |  |

Table 1. Number of poll questions with favourable and unfavourable language.

| Term / phrase | Questions containing the term / phrase |  | Questions not containing the term / phrase |  |  |  |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
|  | Number of <br> questions | Support for <br> EPAS | $95 \%$ <br> confidence <br> interval | Number of <br> questions | Support for <br> EPAS |  |
| Hopelessness | 5 (of 33) | $82 \%$ | $79-86 \%$ | 28 | $95 \%$ <br> confidence <br> interval |  |
| Helping | 17 | $72 \%$ | $69-75 \%$ | 16 | $68 \%$ | $66-71 \%$ |
| Choosing | 19 | $72 \%$ | $68-76 \%$ | 14 | $68 \%$ | $63-73 \%$ |
| Unbearable pain | 9 | $75 \%$ | $70-80 \%$ | 24 | $68 \%$ | $64-72 \%$ |
| Voluntary <br> Euthanasia | 6 | $75 \%$ | $27-84 \%$ | $68 \%$ | $65-72 \%$ |  |
| Voluntary <br> Assisted Dying | 6 | $70 \%$ | $65-75 \%$ | 27 | $69 \%$ | $66-72 \%$ |
| Physician <br> Assisted Suicide | 0 |  | $60-87 \%$ | 27 | $70 \%$ | $67-74 \%$ |
| Kill | 6 | $73 \%$ | $59-84 \%$ | 30 | $70 \%$ | $67-73 \%$ |
| Suicide | 3 | $71 \%$ |  | $70 \%$ | $67-72 \%$ |  |

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Table 2. Number of poll questions with specific words or phrases and their mean level of support for EPAS.

## Appendices:

Appendix A - Search Methodology Utilised to Identify Publicly Reported EPAS Polls
Publicly reported polls were identified through an online search using the news media search engine Factiva and Google. A Factiva search of the headline and lead paragraph of all major news and business sources in Australia and NZ, including discontinued sources, was undertaken with the following search query: ("euthanasia" or "assisted suicide" or "assisted dying" or "assisted death" or "assistance in dying") and ("poll" or "survey").

Given the known research difficulties in obtaining comprehensive results when searching media reports and as there are no current definitive solutions or set protocols to this research problem, 6 additional Google searches were undertaken to identify polls not reported through the Factiva search. ${ }^{16}$ For each Google search, the first 10 results were reviewed. These searches were:
"Australia phone poll euthanasia"; "New Zealand phone poll euthanasia"; "Australia online poll euthanasia"; "New Zealand online poll euthanasia"; "Australia survey euthanasia" and "New Zealand survey euthanasia."

Each article was read and reviewed and eligible articles identified. Articles reporting on EPAS polls only for specific subgroups of the population (e.g. medical staff), and articles not reporting on EPAS polls were excluded, as were any duplicate articles.

Details of the poll question, poll results and polling organization were extracted from the news article. An online search for the official primary source report on the poll was then undertaken. If the primary report was unable to be located, the organization that conducted the poll was contacted with a request for the full details of the poll.

Appendix B - The list of all collected polls where exact wording was established.

| Year | Question | Support | Number |
| :---: | :---: | :---: | :---: |
| Location |  | Opposition | Poll Method |
|  |  | Uncertain |  |
| 2019 | Do you think a person who is terminally ill or incurably ill should be able to request the assistance of a doctor to end their life? | 72\% Support | Number: 1,000 |
| NZ |  | 20\% Opposition | Poll Method: Phone |
|  |  | 7\% Uncertain |  |
| 2019 | Do you think a doctor should be allowed to give deadly drugs to deliberately kill a patient? | 57\% Support |  |
| NZ |  | 29\% Opposition | Number: 1,048 |
|  |  | 14\% Uncertain | Poll Method: Phone |

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