

HOUSEHOLD FLUORIDATION SURVEY

Prepared for:

The Northern NSW Oral Health Network

By the Western Research Institute

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EXECUTIVE SUMMARY

This study, commissioned by the Northern NSW Oral Health Network, aimed to assess community attitudes towards fluoridation of the public water supply in the LGAs supplied by Rous Water. The survey was based on the Australian Institute of Health and Welfare 1996 Dental Questionnaire by the University of Adelaide.

Structured household surveys were used to collect data from 558 randomly selected households in the townships across Ballina, Byron, Lismore City and Richmond Valley Shires.

The major findings of the study were:

- The majority of respondents (62%) were in favour of having the public water supply fluoridated. Of the remaining respondents, 22% were not in favour of fluoridation and 16% were unsure.
- The majority of respondents (55%) believed the 'community' should decide whether the public water supplies are fluoridated.
- Nearly 40% of respondents didn't know whether their public water supplies had been fluoridated or not. Thirty-three percent of respondents said fluoride had not been added to the public water supply and 28% said it had.
- Over 92% of respondents were connected to the public water supply.
- The proportion of respondents in favour of fluoridation was higher than the average (62%) where :
 - * Respondents had children attending a school connected to the public water supply (63% in favour);
 - * The respondent lived with a partner or a partner and children (65%);
 - * The youngest person in the household was under 11 years old (64%);
 - * People who had previously lived in other areas or towns where the water was fluoridated (84%).
- There was a higher proportion of those against fluoridation in those who lived in a sharehouse (44% against) or with friends and relatives (32%).
- Thirty-five percent of respondents said they did not have any information on fluoridation. Of those who had seen information on fluoridation, the most common information source was newspapers followed by television, radio and dentists.

1 METHODOLOGY

The Northern NSW Oral Health Network commissioned the Western Research Institute (WRI) to conduct a telephone survey of a representative sample of households across the Ballina, Byron, Lismore City and Richmond Valley Shires in northern NSW on the subject of water fluoridation. The following gives a brief outline of the methodology used in this study.

1.1 Data Collection

Surveys ran from 4 - 7pm 28th-30th November and on the 5th December. All surveys were conducted from the WRI offices at Charles Sturt University Bathurst under the constant supervision of senior research staff. The WRI is a member of the Association of Market Research Organisations (AMRO) and abides by the stringent privacy, confidentiality and ethical standards set by the organisation (www.amro.com.au). Further, all interviewing staff are trained to AMRO standards and are experienced in conducting professional field research.

1.2 Sample Selection

In the development of a sample frame for this study and to reduce bias, it was assumed that the members of each household were homogenous in their views on water fluoridation and that neither gender nor age had an influence on attitudes towards fluoridation. Therefore it was deemed most appropriate to use a sampling design where each household would be given an equal chance of being selected. Stratification (which assumes that factors such as gender or age influence attitudes) was not employed in the sampling design as this would unnecessarily introduce bias to the sample.

A sample of 500 households was chosen to provide a high level of confidence in the data. This sample provides a maximum sampling error of +/- 4.4% at the standard 95% confidence level. The sample consists of a random selection of households across the four identified shires, generated from the Marketing Pro software program (DtMS). The sample pool was both current and comprehensive. The list was edited to exclude mobile phone numbers, repeat numbers and invalid numbers.

1.3 Questionnaire Design

The questionnaire was designed in consultation with the Northern NSW Oral Health Network and is derived from the Australian Institute of Health and Welfare *Dental Questionnaire* (University of Adelaide, 1996). The intent of the questionnaire was to gauge community

sentiment regarding water fluoridation as well as the possible future fluoridation of local water supply.

In the initial stages of the survey, the WRI was contacted by a small number of residents across the four LGAs who, after they were provided access to the proposed questions, were concerned about bias in the survey. Of particular concern were questions 3a, 'Do you agree with adding fluoride to your water supply to try and prevent teeth decaying?' and 3b, 'Would you be in favour of adding fluoride to your water supply to try and prevent teeth decaying?'

Although these questions had been used in extensive dental research to date, given the concern expressed about the validity of the survey, the WRI surveyed an additional 55 households changing questions 3a and 3b by omitting 'to try and prevent teeth decaying' from both.

Results of the additional analysis showed no significant difference in the number of people in favour of fluoridation in the main sample (63%) when compared to the hold out sample (60%). In fact, more people were opposed to fluoridation in the main sample (23%) than in the hold out sample (18%). The results in this report have combined all the responses from both samples. The overall response was 62% in favour of fluoridation, 22% against and 16% who said 'don't know'.

1.4 Response Rate

Twelve-hundred and twenty households were contacted by telephone resulting in 558 completed surveys, achieving a compliance rate of 45.7%.

The calculation for the compliance rate is:

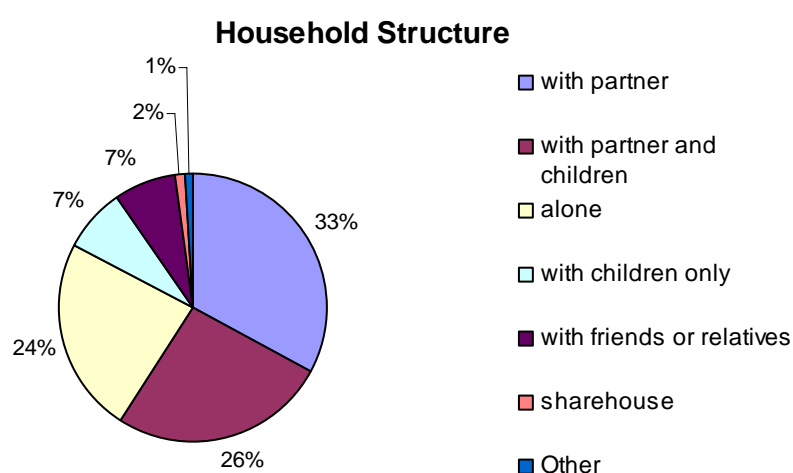
$$\frac{\text{Completed Interviews}}{\text{Completed Interviews} + \text{Refusals} + \text{Terminated Interviews}}$$

2 RESPONDENT PROFILE

As this was a household survey, not a survey of individuals, little demographic information was gathered. However, responses were analysed against household structure and occupation.

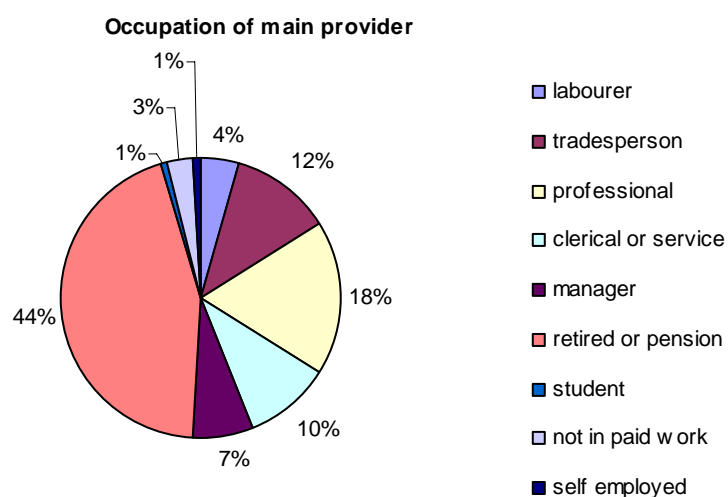
2.1 Household Structure

The largest proportion of respondents was living with a partner. One-third of households included children, 17% of whom were aged under 11 years. A further 24% of respondents lived alone.



2.2 Occupation of Main Provider

Respondents were asked to describe the occupation of the main provider. These were classified based on standard ABS categories and additional categories including retired or pensioner, not in paid work, student and self employed. The largest category was retired or pensioner (44%), followed by professional (18%) and tradesperson (12%).



The high proportion of retired people or pensioners is in part explained by the high proportion of residents in the region over 55 years, i.e 28.11% compared to 22.5% of over 55s in the NSW population. It should also be noted that limited repeat calling was used to help alleviate sample bias. Also, occupation had relatively little impact on the attitude toward fluoride, as shown in section 3.6.

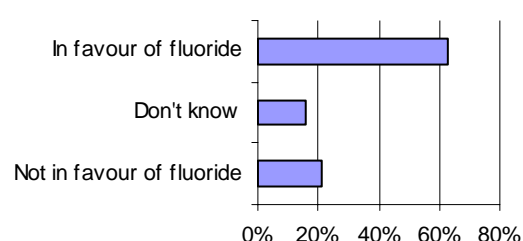
3 RESULTS

3.1 Relevance of fluoridation

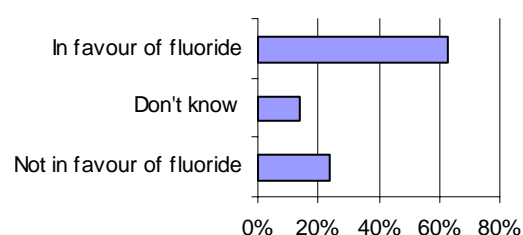
In order to determine how relevant the fluoridation issue was to each household, respondents were asked a series of questions which determined how much they use the public water supply. These questions included: if the household was connected to the public water supply; if anyone in their household worked at a location connected to the public water supply; and if they had children attending a school which was connected to the public water supply.

- ❑ Ninety-two percent of households were connected to the public water supply and of these 63% were in favour of fluoridation, 21% were against and 16% were unsure.
- ❑ Overall 34.9% indicated that someone in their household worked at premises connected to the public water supply. Of these 62% were in favour of fluoride, 24% were against and 14% were unsure.
- ❑ Twenty-eight percent of households had children attending a school connected to the public water supply. Of these 63% were in favour of fluoride, 23% against and 14% were unsure.

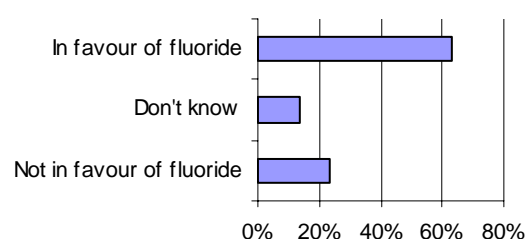
Connected to the public water supply



Works at premises connected to public water



Children attend school connected to public water

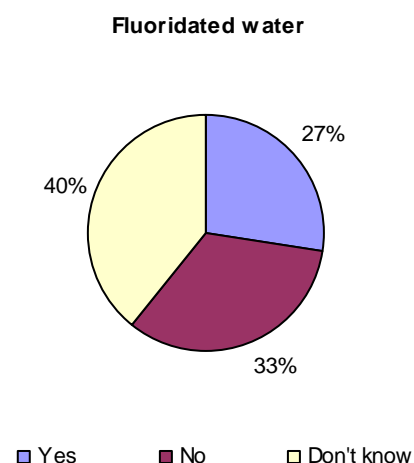


Conclusion: People's access to the public water supply at home, work or school has little effect on their attitude towards fluoridation. People's attitude towards fluoridation is little affected by their being able to access the public water supply at home or work, or by having children attending schools connected to the supply.

3.2 Fluoride in the public water supply

Respondents were asked if they knew whether fluoride had been added to their public water supply.

- The largest proportion of people did not know if their water was fluoridated (40%).
- Thirty-three percent of respondents indicated that fluoride had not been added to the public water supply.
- Twenty-seven percent of respondents believed that fluoride had been added to the water supply.

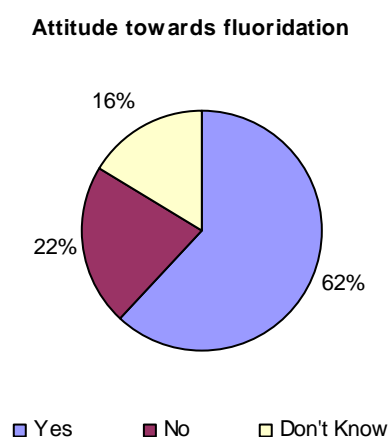


Conclusion: A significant proportion of respondents did not know whether the public water supplies were fluoridated. While one-in-three respondents was correctly aware that their water supply was not fluoridated, two-thirds were unaware of the status quo or believed incorrectly that it was fluoridated.

3.3 Attitude towards fluoridation

1. Respondents who believed either that fluoride had not been added or did not know were asked if they were in favour of adding fluoride to the water.
2. Respondents who believed fluoride was in the water were asked whether they agreed with it. Their responses were *combined* as shown below.

- The majority of respondents (62%) were in favour of, or agreed with, the fluoridation of town water supplies.

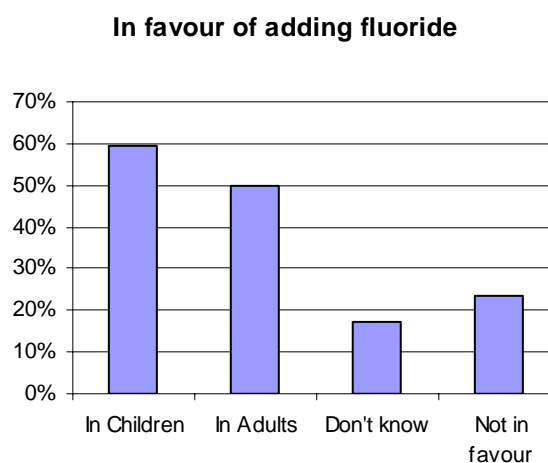


- Twenty-two percent of respondents did not agree with the fluoridation of water, while 16% were unsure.

Conclusion: The majority of respondents, regardless of their knowledge of the fluoridation status of their water supply, agreed with or were in favour of adding fluoride to their water supply to try to prevent teeth decaying.

3.4 Fluoridation for children or adults

People who either believed fluoride had not been added or did not know were asked if they were in favour of fluoridation for the sake of the oral health of children, adults or both. Of those who answered this question, 60% were in favour of water fluoridation for the sake of children and 50% were in favour of fluoride in order to prevent teeth decaying in adults.

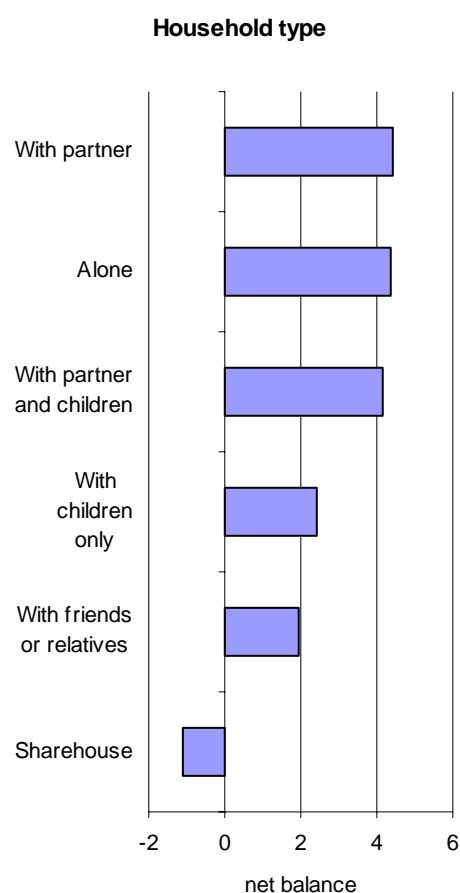


Conclusion: The major reason cited for adding fluoride to the public water supplies is for the dental health of children. One half of respondents are also in favour for the dental health of adults.

3.5 Attitude toward fluoridation by household type

This graph shows the net balance¹ of whether respondents were in favour of fluoride or not, by household type.

- ❑ Those living alone or with a partner were slightly more likely to be in favour of fluoridation than other household types. Those living with a partner and children gave the next most positive response.
- ❑ The respondents in households where the youngest person was under 11 years were slightly more in favour of fluoride (63.9%) than all respondents (61.3%).
- ❑ Of the 2% of respondents who lived in a sharehouse, more were against fluoridation than in favour.



Conclusion: All residents except those living in shared accommodation were in favour of fluoridation, with those most in favour being people living with a partner, alone or with a partner and children.

3.6 Attitude towards fluoridation by occupation

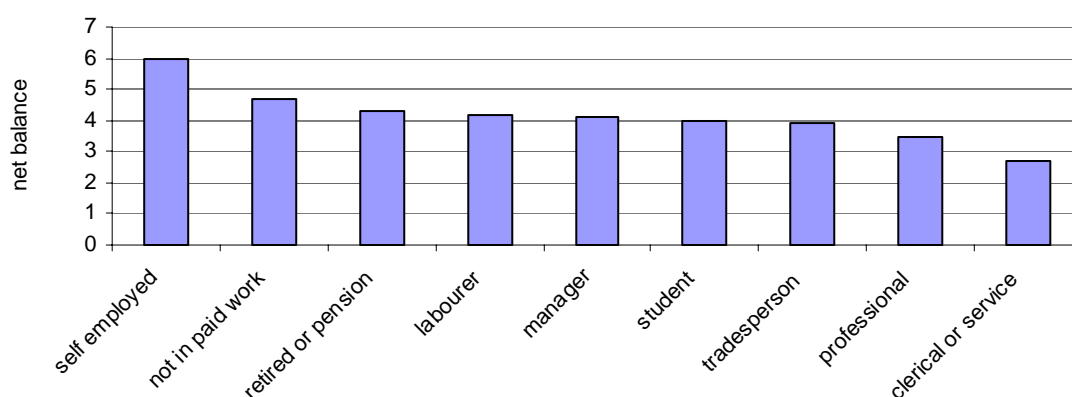
Respondents were asked to name the occupation of the main provider of the household, or their own occupation where the respondent lived in a sharehouse.

- ❑ Overall, all occupation types were in favour of fluoridation. Occupation type appeared to have no direct correlation with attitude towards fluoridation.
- ❑ On balance, households where the main provider was self employed (net balance 6)² or a manager (5.3) were most in favour of fluoridation.

¹ Net balance is equal to the number of positive responses less the negative responses, divided by total responses, with the result expressed as a score between -10 and 10.

- ❑ Those with a professional or clerical or service worker as the main provider for the household had proportionally more people against fluoridation (both were 27%), although the overall response was still positive.
- ❑ Tradesperson (21%), students (20%) and clerical or service (20%) occupation categories had proportionally more people who indicated they were unsure of fluoridation than other occupation types.

Attitude towards fluoridation by occupation



Attitudes towards fluoridation by occupational category were as follows:

	self employed	labourer	not in paid work	manager	retired or pension	professional	student	tradesperson	clerical or service
In favour	80%	67%	65%	64%	63%	61%	60%	59%	54%
Against	20%	25%	18%	23%	20%	27%	20%	20%	27%

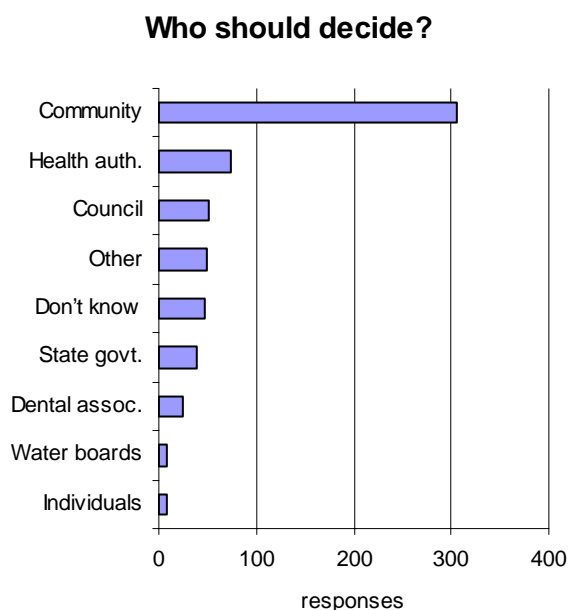
Conclusion: No occupational group showed less than 54% or more than 80% support for fluoridation, and none had more than 27% opposition to it.

² Net balance is equal to the number of positive responses less the negative responses, divided by total responses, with the result expressed as a score between -10 and 10.

3.7 The decision to fluoridate

Respondents were also asked who should decide on the fluoridation of water supplies. The respondents were allowed to give more than one response.

- ❑ 54.8% of respondents said the 'community' should decide.
- ❑ The next most common response, with 13.1% of respondents, was 'health authorities' and 'Council' received 9.1% of responses.
- ❑ 'Other' included parents, scientists, professors, a board of professionals and the Federal Government.



Conclusion: The majority of respondents said they felt the community should decide. This survey reflects the opinions of the community and has given a voice to residents. Those that have the responsibility to decide on the community's behalf can have confidence in the majority support the survey indicates.

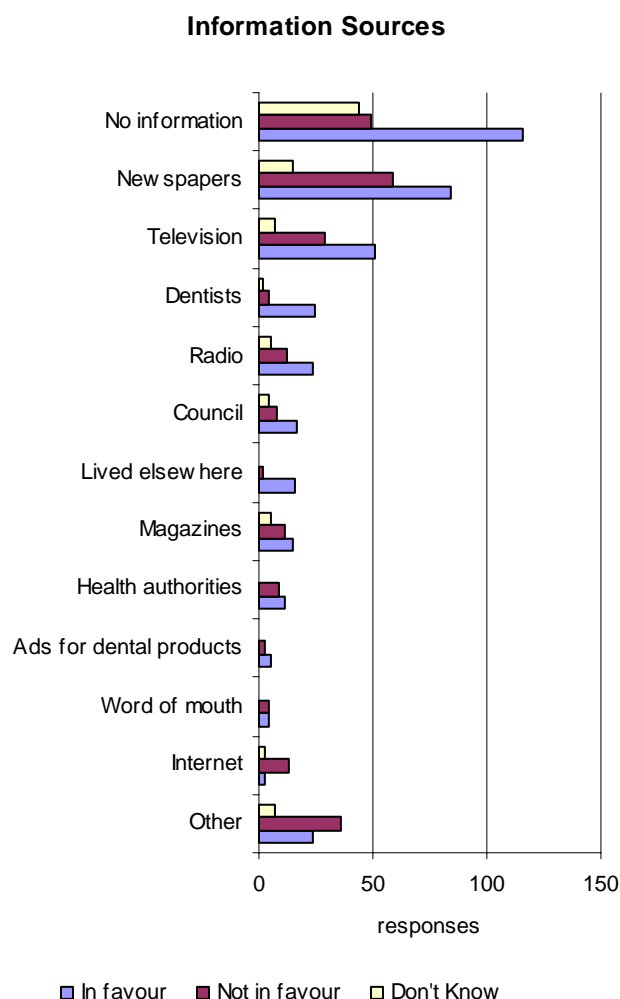
3.8 Received Information

Respondents were asked if they had received (or seen) any information about fluoridation, and if so, from what sources.

- ❑ Thirty-five percent of respondents said they had not received any information on fluoridation.
- ❑ Almost half of those who were unsure about whether the public water supply should be fluoridated said they had not received any information on the issue.
- ❑ Of those in favour of adding fluoride to the public water supply, 34% said they had never received any information on water fluoridation compared to 39% of those who were against fluoridation.

Respondents who said they had received information on fluoridation were asked where they had received this information. In this question respondents were able to list more than one information source.

- ❑ The most common information source on fluoridation was newspapers (25%) and television (14%).
- ❑ Media sources of information tend to produce a more favourable attitude towards fluoridation than non-mass media sources such as word of mouth and the Internet.
- ❑ Respondents who had previously lived in an area where the water was fluoridated were more positive about fluoridation as a result of this experience.



Conclusion: The only source of information where more people were against fluoride than in favour was the Internet and 'other' which includes public meetings and various

other written and verbal sources. Those who received information from the (mainstream) media sources were more in favour, but not as high as those who apparently received 'no information' at all.

4 CONCLUSION

Based on the results of the survey and that there is a 95% confidence level in this form of public consultation, it can be reasonably said the majority of the population supports water fluoridation to try and prevent tooth decay.

APPENDIX A – HOLD OUT SAMPLE

In the initial stages of the survey, the WRI was contacted by a small number of residents across the four LGAs who were concerned about bias in the survey. Of particular concern were questions 3a and 3b: 'Do you agree with adding fluoride to your water supply to try and prevent teeth decaying?' and 'Would you be in favour of adding fluoride to your water supply to try and prevent teeth decaying?'

These questions had been used in extensive dental research to date. However, given the level of concern expressed about the validity of the survey the WRI conducted an additional 55 interviews changing question 3a and 3b by omitting 'to try and prevent teeth decaying' from both questions. These respondents were also asked why they did or did not agree with the fluoridation of water supplies. The results are as follows:

- ❑ The number of respondents who agreed with fluoridation of water supplies (60%) was not statistically different to the overall response to fluoridation (62%) in the main survey.
- ❑ Less people (18%) objected to fluoridation in the sample than in the overall survey (22%).
- ❑ Of the 60% of respondents in favour of fluoridation, their reasons for being in favour of the fluoridation of the public water supplies included: 'good for teeth'; 'good idea for dental problems'; 'lived with fluoride and it wasn't a problem'; 'never done any harm', 'dental wellbeing of children' and 'proven to fight dental decay'.
- ❑ Reasons given by the 18% of respondents against the fluoridation of public water included: 'It is a poison - there are other means of receiving fluoride'; 'could be harmful to some people', 'not necessary' and 'don't believe anything should be added to the water'.

APPENDIX A – QUESTIONNAIRE

Good Afternoon/Evening, my name is _____ I am calling from the Western Research Institute. We are conducting a brief survey on water fluoridation for the Northern NSW Oral Health Network. Would you have a minute to complete the survey?

Q1a: Are you connected to the public water supply?

- Yes
- No
- Don't Know
- Refused

Q1b: Does anyone in your household work at a premises connected to the public water supply?

- Yes
- No
- Don't Know
- Refused

Q1c: Do you have children who attend a school that is connected to the public water supply?

- Yes
- No
- Don't Know
- Refused

Q2: Has fluoride been added to your public water supply?

- Yes (go to Q3a)
- No (go to Q3b)
- Don't Know (go to Q3b)
- Refused (go to Q3b)

<p>Q3a: Do you agree with adding fluoride to your water supply to try and prevent teeth decaying?</p> <p><input type="checkbox"/> Yes</p> <p><input type="checkbox"/> No</p> <p><input type="checkbox"/> Don't Know</p> <p><input type="checkbox"/> Refused</p>		<p>Q3b: Would you be in favour of adding fluoride to your water supply to try and prevent teeth decaying:</p> <p><input type="checkbox"/> In children (<i>read out</i>)</p> <p><input type="checkbox"/> In adults (<i>read out</i>)</p> <p><input type="checkbox"/> Don't know</p> <p><input type="checkbox"/> Refused</p>
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Q4. Where have you received information on water fluoridation? (Do not read out)

- Newspapers
- Magazines
- Television
- Radio
- Ads for dental products
- Health authorities
- Dentists
- Dental auxiliaries
- Other _____ [*specify*]
- Have not received information on water fluoridation
- Don't know
- Refused

Q5: Who should decide on the fluoridation of water supplies? (Do not read out)

- State government
- Health authorities
- Dental associations
- Water boards
- Community
- Other _____ [*specify*]
- Don't know

Now I just have a few questions to help to categorise your answers.

Q6: Do you live?

- alone
- with a partner only
- with a partner and children
- with children only
- with friends or relatives
- other_____ [specify]

Q7: How old is the youngest person living in your household?

- 0-10 years
- 11-20 years
- 21-30 years
- 31-40 years
- 41+ years

Q8: How old is the oldest person living in your household?

- 11-20 years
- 21-30 years
- 31-40 years
- 41+ years

Q9: What is the occupation of the main provider for the household?

- labourer
- tradesperson
- professional
- clerical or service worker
- manager

Thank you for your time in completing this survey. Good bye.

THE WESTERN RESEARCH INSTITUTE

The WRI is a non-profit economic, business and social research organisation located on the Bathurst campus of Charles Sturt University. The WRI holds a wealth of knowledge on employment, business development and investment issues affecting regional Australia. It has worked with Commonwealth, State and Local Governments and industry groups on numerous investment and development programs in regional areas. The WRI has strong credentials in business and commercial market consulting and applied economic modelling including input-output analysis, shift-share, agribusiness and regional socio-economic surveys and analysis.

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