# A damning critique and analysis of the NHMRC's 2017 "Sham" review of water fluoridation and appeal for Royal Commission Inquiry:

## 23 Reasons why Australia needs a Royal Commission into the NHMRC's fraudulent fluoride review

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#### **EXECUTIVE SUMMARY**

August 3, 2017, was the deadline for very limited public comment on a <u>draft Public Statement on Water Fluoridation</u> by the Australian government's National Health and Medical Research Council (NHMRC). This Public Statement was drawn largely from these documents:

2017: National Health and Medical Research Council (NHMRC). <u>Information Paper - Water Fluoridation: dental</u> and other human health outcomes. July.

2016: <u>Health Effects of Water Fluoridation: Technical Report</u>. Report to the National Health and Medical Research Council (NHMRC), Canberra. By Jack B, Ayson M, Lewis S, Irving A, Agresta B, Ko H, Stoklosa A. August 24, 2016, (released in September). 322 pages.

2016: <u>Health Effects of Water Fluoridation: Evidence Evaluation Report</u>. Report to the National Health and Medical Research Council (NHMRC), Canberra. By Jack B, Ayson M, Lewis S, Irving A, Agresta B, Ko H, Stoklosa A. August 24, 2016, (released in September). 284 pages.

On behalf of the Fluoride Action Network Australia, Merilyn Haines is calling for a Royal Commission to investigate the manner in which the Australian government's NHMRC conducted its review of the safety, effectiveness and ethics of Water Fluoridation.

Haines charges that a) the 2017 NHMRC review of water fluoridation was unprofessional, unscientific, biased, highly selective, deeply flawed and prevented meaningful scientific and public input and b) other NHMRC activities - outside this review (see items 12 and 21 below) - clearly demonstrate a bias of the NHMRC (a federal government agency) in favor of both promoting and defending the practice of water fluoridation - a long-standing government policy.

In examining the manner in which the panelists were selected, the way studies were selected and excluded, the very limited opportunities for public participation and independent scientific input, Haines argues that it is hard to come to any other conclusion than that this review was designed simply to defend a long-standing government policy and not to genuinely examine the science (or lack of science) on which it is based. This is not the first time this has happened.

The NHMRC produced a very poor review in 2007 which received extensive criticism from independent scientists. To produce an even more biased and restrictive review in 2016 is even more egregious in lieu of the new science published (or updated) since 2007.

For example, on effectiveness, the 2015 Cochrane review (a gold standard when it comes to meta-analysis of health issues) found little in the way of high quality studies to demonstrate the effectiveness of fluoridation. On safety, there have now been over 300 published animal and human studies indicating that fluoride is neurotoxic. This large body of evidence has been largely ignored in the 2017 NHMRC review, even though it is being currently scrutinized by the National Institute of Health Sciences (NIEHS) and the National Toxicology Program (NTP) in the USA.

In this analysis, 23 specific examples of NHMRC manipulations have been documented. Many of these by themselves should disqualify the NHMRC 2017 review from serious consideration, but in combination should question the very existence of the

NHMRC as a body that can be relied upon by the public and decision-makers to provide objective analysis of government policy.

#### Here are the 23 examples:

#### The NHMRC,

- 1. Stacked the fluoride review committee with fluoridation lobbyists and advocates.
- 2. Broke a promise that it would include experts opposed to fluoridation.
- **3.** Secretly commissioned a new study on dental effects (previously listed as "out of scope"), when the 2015 Cochrane Collaboration review didn't deliver a convincing pro-fluoridation position.
- **4.** First, misled about its knowledge of a new thyroid study (Peckham et al., 2015) and then dismissed its findings, reaching a biased and false position that there is no evidence that fluoride interferes with thyroid function.
- 5. Falsely claimed a low-quality IQ study (Broadbent et al, 2014) was a high-quality study.
- 6. Downplayed, dismissed or excluded most other IQ studies and evidence of fluoride's neurotoxicity.
- **7.** On flimsy grounds excluded a significant study linking fluoridation to ADHD (Malin and Till, 2015) then failed to even acknowledge its existence.
- **8.** In 2007, the NHMRC used a *promised* study in a Letter-to-the-Editor to negate an unrefuted Osteosarcoma study (Bassin, 2006) to claim there was no link to cancer. Then in its 2017 review the NHMRC failed to acknowledge that the promised study failed to refute the Bassin study but still continued to maintain no evidence of a link between fluoridation and cancer.
- **9.** Selected a publication cut—off date for studies (that would be considered) that would exclude a very significant review by the US NRC (2006) and the Bassin (2006) study that were not given due consideration in its 2007 review.
- **10.** The NHMRC 2017 review based its claims of safety largely on its 2007 review, however, its 2007 review was largely a copy of the 2000 York University review, which according to the York Review's Professor Sheldon did NOT show fluoridation to be safe!
- **11.** Obfuscated on chronic kidney disease even though it is aware that poor kidney function increases uptake of fluoride into the bones and poses risks over a lifetime. Such cumulative risks and the special plight of those with poor kidney function –have never been investigated by NHMRC.
- **12.** On another but related matter, the NHMRC endorsed doubling children's upper safety limits for fluoride ingestion (using data from the 1930s) almost certainly anticipating that the pre-existing limits would be exceeded by bottle-fed infants in which formula is made up with fluoridated tap-water.
- **13.** Abandoned the normal evaluation method for studies of fluoride's effectiveness almost certainly in an effort to disguise the fact that most of the studies reviewed were of low, or very low quality.
- **14.** NHMRC 2017 rates tooth decay and dental fluorosis as more important end-points than other health incomes, including cancer and lowered IQ.
- **15.** Commenced review with strict restrictions for acceptable evidence, then included a) unpublished work; b) a favourable narrative and c) an abstract.
- **16.** Attempted to diminish known dental fluorosis harm by manipulating fluorosis ratings and raising threshold of concern.

- **17.** Misleads the public and decision-makers by claiming fluoridation reduces tooth decay by 26-44 % but without indicating just how small such reductions are in absolute terms often less than one tooth surface out of over 100 tooth surfaces in a child's mouth!
- **18.** Dishonestly claims fluoridation is safe by excluding important studies on spurious grounds, ignoring many others, and even cherry-picking weak studies that serve their purpose (e.g. Broadbent on IQ).
- **19.** Doesn't exhibit an understanding of, or appreciate, the basic principles of toxicology concentration is not the same as dose!
- **20.** Perverted the principles of medical ethics by presenting a bogus ethical claim constructed by lobbyists rather than ethicists.
- 21. Gave an incomplete project of dubious quality a prestigious NHMRC award
- 22. NHMRC fluoridation public consultations have been shams.
- **23.** The NHMRC's extraordinary effort to maintain the dubious claims that fluoridation is safe, effective and ethical, are becoming more and more desperate by the year. NHMRC 2007 was very bad, NHMRC 2017 verges on fraud.

#### **Conclusions**

The NHMRC has ignored its Duty of Care and betrayed the Australian public with its poor and perverted fluoride review. The NHMRC's fluoride review should be shredded.

We request that citizens and scientists from inside Australia and around the world will call for a Royal Commission inquiry to investigate the NHMRC's behavior in this matter. Hopefully they will call for a new review to be commissioned by the Federal government but carried out by an independent organization, with the panel comprised of unbiased scientists and professionals.

In terms of reviewing government policies in general, it is requested that the Royal Commission investigate the wisdom of using a government department such as NHMRC to review the science of controversial programs, when those programs have been part of long-standing government policy. Under such circumstances it is urged that the Royal Commission recommend such reviews be organized by a non-governmental agency. This agency would be required to select panels completely independent of governmental influence. Ideally such panels would consist of experts drawn from both sides of the issue in question, and those who have not taken a position on the issue: a good model would be the panel selected by the U.S. National Research Council for its review of fluoride's toxicity in 2006.

The following is a detailed analysis of the 23 items:

## 23 REASONS WHY AUSTRALIA NEEDS A ROYAL COMMISSION INTO THE NHMRC's FRAUDULENT FLUORIDE REVIEW

1. NHMRC stacked the fluoride review committee with fluoridation lobbyists and advocates.

The NHMRC appointed at least 10 known fluoridation advocates and lobbyists to its Fluoride Reference Group (FRG) that conducted the recent NHMRC review on the health effects of water fluoridation. Four of the committee members (dentists Profs John Spencer and Kaye Roberts-Thomson from Adelaide University, Colgate Professor dentist Mike Morgan from Melbourne University and former NSW Chief Dental Officer Clive Wright) are well known fluoridation lobbyists who have all also received significant grant funding from the NHMRC and all have used their own publications to promote fluoridation. Two of NHMRC's FRG members Profs John Spencer and Clive Wright, have even participated in court cases to help fluoridation be forced on NSW residents.

An additional six members of the FRG committee are also known to have publicly advocated for water fluoridation – making fluoridation lobbyists and advocates to be a two–thirds majority of the 15 member NHMRC committee. The NHMRC deliberately stacked the FRG committee with members extremely biased towards fluoridation. Additionally, when the names of the FRG members were first publicly listed (well after the FRG had already started meeting) the listing of the FRG's committee member's conflicts of interests were delayed and severely downplayed. The name of one FRG appointee (Prof Corbett) a

fluoridation advocate from as early as 1993, was not even listed on the NHMRC website until after the 2014 public call for evidence had already closed.

#### 2. NHMRC broke a promise that it would include experts opposed to fluoridation.

Right from the very beginning, the NHMRC was misleading about its proposed review committee. Before the NHMRC appointed the FRG members, the NHMRC had privately communicated to members of the public that a new fluoride review committee, when set up, would include representation of people opposed to fluoridation. As an example, an extract of an email from the NHMRC on 15 Jan 2014 –

"We aim to include representation from the relevant areas of science, public health, policy area, consumer/community views and as we have discussed, from those opposed to population level fluoridation"

However, the NHMRC was misleading because they never allowed that promised representation. The 2006 National Research Council that reviewed health effects of fluoride for the US Govt's National Academy of Science had a balanced panel comprised of experts who were in favour of fluoridation and also experts who were opposed to fluoridation – in contrast, the NHMRC would not allow anyone who was opposed to fluoridation to be on its FRG committee.

# 3. NHMRC secretly commissioned a new study on dental effects (previously listed as "out of scope"), when the 2015 Cochrane Collaboration found that there were few, if any, high-quality studies that were supportive of fluoridation)

Because the Cochrane Collaboration was already examining fluoride's dental effects, the new NHMRC review was ONLY to examine health effects other than dental. In August 2014 when the public was invited to submit evidence for the NHMRC to review, dental effects were listed as strictly "out of scope" with the NHMRC review only to examine other health effects of fluoridation. The NHMRC was only to "critically appraise" the Cochrane review on tooth decay and fluorosis – the NHMRC were not to do their own review on dental effects.

When the Cochrane Collaboration review (1) was published in June 2015 it was not flattering to fluoridation with the review finding little evidence to support fluoridation being effective. Newsweek gave an overview - http://www.newsweek.com/fluoridation-may-not-prevent-cavities-huge-study-shows-348251

For tooth decay, the Cochrane review used a high standard protocol, it only used studies looking at tooth decay in both fluoridated communities and non-fluoridated communities measured at least two different points in time. That protocol would provide controls to take in account temporal decreases in tooth decay that could not be attributed to fluoridation. This is important as large decreases in tooth decay in non-fluoridated communities has been seen world-wide – see <a href="http://fluoridealert.org/studies/caries01/">http://fluoridealert.org/studies/caries01/</a> The published Cochrane review findings, did not fit NHMRC's apparent agenda of protecting fluoridation. In response to this, the NHMRC secretly commissioned their own review of tooth decay where they could include dental publications that were unsuitable for the Cochrane review. Many publications that the NHMRC then allowed to be included in their secretly commissioned review had been written by Australian fluoridation lobbyists who were members of the NHMRC FRG committee. The NHMRC's 2017 Information Paper cites 24 dental publications co-authored by FRG member John Spencer, 8 publications co-authored by FRG member Kay Roberts- Thomson, 2 publications co- authored by FRG member Mike Morgan and 2 publications co- authored by FRG member Clive (aka Frederick) Wright.

# 4. NHMRC first misled about its knowledge of a new thyroid study (Peckham et al., 2015) and then dismissed its findings, reaching a biased and false position that there is no evidence that fluoride interferes with thyroid function.

On 24<sup>th</sup> Feb 2015 (with the new NHMRC fluoride review barely underway) a Fairfax journalist was interacting with the NHMRC and sent the NHMRC information about a new study from the UK by Peckham et al (2) which was still media embargoed. This study linked water fluoridation to hypothyroidism. Very early the following day the NHMRC published a statement from the CEO re-affirming the 2007 NHMRC's recommendation and claimed that based on the work conducted in the review so far, the NHMRC was expected to maintain its support for fluoridation as effective and safe.

In later correspondence NHMRC staff claimed that the NHMRC had not known about this new thyroid study until the 25<sup>th</sup> Feb 2015 and in other correspondence also claimed that the new thyroid study was not the reason for the release of the CEO's Statement. The NHMRC claimed:

"NHMRC first became aware of the Peckham et al 2015 study on 25 Feb 2015, one day after it was first published online. A Member of the Fluoride Reference Group (FRG) informed the Fluoride Project Team (FTP) that there had been some media activity surrounding its release".

Emails in released Freedom of Information documents proves that the NHMRC knew about the Peckham thyroid study earlier than what they claimed. Apart from being misleading about when the NHMRC knew about this thyroid study, the NHMRC was also misleading about the source that informed them of the study. Even though the NHMRC denied it, it is obvious it was the new thyroid study that had triggered the release of the CEO's Statement and it was obviously written and released by the NHMRC to protect fluoridation. Knowing of this new study and its implications, the NHMRC still put out a statement asserting that fluoridation was safe. This NHMRC statement was put out some 18 months before the NHMRC published even its draft Information Paper.

When the NHMRC eventually published its 2017 information paper, instead of acknowledging concerns about possible adverse thyroid health effects it severely downplayed the Peckham thyroid study.

The downplaying by the NHMRC's FRG was largely based on two fact-poor commentaries (not scientific studies) particularly one written by a Queensland Health dentist who is a very active lobbyist for forced fluoridation. Instead of investigating further, or even acknowledging potential risk of harm to thyroid function the NHMRC claimed fluoridation was safe by misleadingly claiming this new study was "unreliable evidence".

Additionally, the NHMRC is well aware that the 2006 US National Research Council report "Fluoride in Drinking Water" NRC 2006 (3) acknowledged risk for thyroid harm, specifically stating:

"In humans, effects on thyroid function were associated with fluoride exposures of 0.05-0.13 mg/kg/day when iodine was adequate and 0.01-0.03 mg/kg/day when iodine intake was inadequate."

Despite knowing this, the NHMRC has denied fluoridation poses a risk to thyroid function.

#### 5. NHMRC falsely claimed a low-quality IQ study was a high-quality study.

The NHMRC falsely claimed that a study (4) conducted by New Zealand dentist/ fluoridation lobbyist Jonathon Broadbent was a high quality study. Broadbent claimed that the study showed no link with fluoridation and IQ deficit.

The NHMRC only had to read the opening paragraphs of Broadbent study to see that he was clearly a protagonist in the fluoridation debate, with a keen interest in how the practice was being pursued in NZ.

Community water fluoridation (CWF) is a cost- effective, <sup>1,2</sup> safe, <sup>3</sup> and environmentally friendly <sup>4</sup> means of reducing dental caries rates <sup>3</sup> and social inequalities. <sup>5</sup> However, CWF has recently been criticized as a cause of IQ deficits among children, <sup>6</sup> despite a lack of evidence to support that claim. This claim was considered pivotal in the recent rejection of CWF by voters in Portland, Oregon, <sup>7</sup> and by local government politicians in Hamilton, New Zealand. It is likely that such claims may continue to be lobbied against CWF worldwide...

Hamilton city (New Zealand's fifth-largest metropolitan area) has had CWF since 1966 and has recently become a target for CWF opponents. Despite a binding 2006 referendum that showed 70% support for CWF among voting Hamiltonians, <sup>10</sup> Hamilton's City Council chose to relitigate CWF and held a tribunal on fluoridation in early 2013. The councillors voted to cease CWF, leading to an outcry from members of the public and health officials. A new referendum was then held (accompanying a local government election), which again showed 70% support for CWF among voting Hamiltonians. <sup>11</sup> The Hamilton City Council elected to await the outcome of a High Court ruling on a challenge to the legality of CWF in another New Zealand city (New Plymouth) before reinstating CWF...(Broadbent et al., 2014)

With such a clear pro-fluoridation agenda at stake the NHMRC should have been far more cautious about labelling this as a "high-quality" study and using it to dismiss or downplay other IQ studies.

If the NHMRC had read the Broadbent study more carefully they would have found it was actually a low-quality study. For example, in the study there were approximately 1000 children who had lived in the fluoridated community but only about 100 in the non-fluoridated community – and of these about half were likely to have taken fluoride tablets. This severely compromised Broadbent's study as there would be little difference in fluoride intake between the 2 groups. This study did not have the scientific power to find a significant difference in IQ between the fluoridated and non-fluoridated area. These criticisms were

published in the same journal where Broadbent published his article (Osmunson et al, 2016: Letters and Responses, American Journal of Public Health, February 2016, Vol 106, No. 2) and should have been cited by NHMRC.

Nor did Broadbent et al consider a number of important confounders such as lead, iodine, arsenic and Maternal IQ. This is ironic considering that Broadbent had been critical of authors of other IQ studies for not considering these confounders. **The NHMRC** was advised in 2016 of these and other severe limitations for this study but still claimed in 2017 that Broadbent's study was a high quality study. This was clearly a glaring double standard.

#### 6. NHMRC Downplayed, dismissed or excluded most other IQ studies and evidence of fluoride's neurotoxicity.

The NHMRC is well aware of a 2012 Harvard University Meta-analysis and Systematic review **(5)** by Choi et al of 27 human IQ - fluoride studies that indicated IQ was lowered in children exposed to fluoride. Overall, there was a drop of nearly 7 IQ points with higher exposures to fluoride. Many of the water fluoride concentrations in studies in the Harvard review that were associated with lower IQ were only 2, 3 or 4 times that of Australian fluoridated water. Despite this, the NHMRC designed their latest fluoridation review with such severe limitations so that this review and the primary studies included in this review would not be taken into consideration. There is not even a mention of this review in the NHMRC's Information Paper.

In February 2014, the British Medical Journal Lancet Neurology published a paper (6) on developmental neurotoxicants and classified fluoride as a substance that can harm children's developing brains. The NHMRC also ignored this.

There are now 50 published human studies indicating fluoride exposure can reduce IQ and 45 animal studies have found that fluoride exposure impairs learning and /or memory capacity – however the NHMRC does not acknowledge this. All citations for the human and animal studies can be seen at <a href="http://fluoridealert.org/studies/brain01/">http://fluoridealert.org/studies/brain01/</a> and at <a href="http://fluoridealert.org/studies/brain02\_/">http://fluoridealert.org/studies/brain02\_/</a>

Because of increasing scientific evidence about fluoride neurotoxicity, the US National Toxicology Program (NTP) has commenced animal studies to investigate this issue. The NHMRC had advance and detailed knowledge that this research was to commence when the NHMRC was consulting with the US Govt's National Toxicology Program and National Institute of Environmental Health Services on how to do a systematic review of animal studies.

Despite the NHMRC's knowledge that fluoride neurotoxicity was of enough concern that the NTP had commenced expensive and protracted animal studies and was finding some results of concern, to protect fluoridation the NHMRC has done everything they can to deny that fluoride poses any risk to IQ and cognitive function.

7. NHMRC, on flimsy grounds excluded a significant study linking fluoridation to ADHD – then failed to even acknowledge its existence.

The NHMRC in 2016 became aware of a study by Malin and Till (7) published Feb 2015, that linked American water fluoridation to higher rates of medically diagnosed Attention Deficit Hyperactivity Disorder (ADHD). This study fulfilled the NHMRC criteria to be included in the NHMRC review however because the FRG did not like the implications of this peer reviewed study that had been published in Environmental Health, the public will not find any mention of this study in the NHMRC 2017 Information Paper. This could be considered that this lying by omission by the NHMRC.

8. In 2007, the NHMRC used a *promised* study in a Letter-to-the-Editor to negate an unrefuted Osteosarcoma study (Bassin, 2006) to claim there was no link to cancer. Then in its 2017 review the NHMRC failed to acknowledge that the promised study failed to refute the Bassin study but still continued to maintain that there was no evidence of a link between fluoridation and cancer.

When the NHMRC published their previous fluoride review (in 2007), the NHMRC knew of a significant 2006 study by Bassin et al (8) linking age- related water fluoridation exposure to Osteosarcoma in boys and young men. Instead of giving this study due consideration, the NHMRC wriggled around it and unscientifically deferred to a Letter-to-the-Editor by fluoridation lobbyist Chester Douglas in the same journal in which Bassin had published. Douglas had promised that his study would show that Bassins's thesis didn't hold with the larger data base. Bassin's hypothesis - based on her data - was that the critical issue was the timing of exposure of young boys to fluoridated water. Namely, that young boys exposed to fluoride in their 6th, 7th and 8th years had a 5-7 fold increased risk of succumbing to osteosarcoma (a rare but frequently fatal cancer in young men) by the age of 20. First, it was a glaring double standard on the part of NHMRC, which had been so fussy about which studies they would

accept for their review, to accept as evidence the "promise" of the results of a yet unpublished study. This is not a trivial issue - if Bassin was correct fluoridation might actually be killing a few young men each year.

However, by 2011, when Douglass's promised study appeared (five years after the promised date) it didn't even examine Bassin's hypothesis. Kim et al (2011) study **(9)** used fluoride bone levels at diagnosis or autopsy as the metric of exposure. There is no way that such bone levels could gauge exposure of fluoride at critical years of exposure (6th, 7th and 8th years) found by Bassin. Thus, as of 2017 no scientist in the world - including Kim et al. (2011) have refuted Bassin.

The NHMRC's conclusion "that there was no association between fluoridation and osteosarcoma" is highly misleading. To make matters worse NHMRC offered no analysis of the quality of the Kim et al. paper, which had other serious flaws, e.g. they used other bone cancer patients as controls without ruling out that some of these other bone cancers were not caused by fluoride exposure, which might well be the case. Kim et al also included older patients over 20.

For more information on the weaknesses and flaws of the Kim et al Osteosarcoma study and why it does not and could never refute the Bassin study see -http://fluoridealert.org/articles/kim fan/ .

Through submissions, the NHMRC are aware of this and aware that the findings of the Bassin Osteosarcoma study have never been refuted. In 2017 this was a splendid opportunity for the NHMRC to put the record straight on this issue, but the NHMRC chose not do so. The NHMRC still deceptively asserts there is no link with cancer and water fluoridation.

9. NHMRC selected a publication cut-off date for studies (that would be considered) that would exclude a very significant review by the US NRC (2006) and the Bassin (2006) study that were not given due consideration in its 2007 review.

The cut-off date the NHMRC selected looks very suspicious and self-serving for those wishing to exonerate fluoridation of any harm. In 2014 the NHMRC selected 1 Oct 2006 as the earliest publication date for studies to be included in the new NHMRC review. This date was almost certainly selected by the NHMRC so that they could exclude both the 2006 NRC review and the Bassin Osteosarcoma study which were both published earlier in 2006, but, which were never given proper consideration in the 2007 NHMRC review. To help dismiss the NRC 2006 from consideration in its 2007 review the NHMRC had claimed that the NRC 2006 report was only about adverse health effects with 2 - 4 mg/L fluoride concentrations and that Australian fluoridation was in the range 0.6 - 1.1 mg/L.

There were a number of studies included in the 2006 NRC which had lower concentrations than 2 mg/L, one example was a 1998 rat study by Varner et al (1998 Brain Res. 784 (1-2) 284- 298) that showed rats drinking water fluoridated at 1mg/L for one year had kidney damage, brain damage and a greater uptake of Aluminium into the brain and Beta amyloid deposits thought characteristic of Alzheimer's. Although the 2007 NHMRC review mentioned the 2006 NRC report, the NHMRC apparently dismissed it from any consideration because not all the studies were at 0.6 - 1.1 mg/L. This betrayed little understanding of toxicology. When considering harm it is not the concentration that is the critical comparison but DOSE. Some of the studies that have found harm in fluoride studies have found harm at doses which can be easily exceeded especially for high water consumers and those getting fluoride from other sources such as dental products, tea- drinking and pesticide residues.

10. The NHMRC 2017 review based its claims of safety largely on its 2007 review, however, its 2007 review was largely a copy of the 2000 York University review, which according to the York Review's Professor Sheldon did NOT show fluoridation to be safe!

In 2000 the York University published a review of water fluoridation (10) by McDonagh et al that had been commissioned by the UK govt. Prof Trevor Sheldon, as Chair of the review's Advisory Committee later wrote to the House of Lords advising that the review did not find water fluoridation to be safe. See Prof Sheldon's letter at - <a href="http://fluoridealert.org/content/sheldon-york-review/">http://fluoridealert.org/content/sheldon-york-review/</a>.

Some of Prof Sheldon's advice on the York University review's findings was that there was little evidence to show that water fluoridation has reduced social inequalities in dental health and that the review did not find water fluoridation to be safe, with the quality of the research being too poor to establish with confidence whether or not there are potentially important adverse effects in relation to the high levels of fluorosis.

In 2007 the NHMRC published their previous fluoride review. The NHMRC 2007 review's section on water fluoridation was largely a copycat of the 2000 York University review. The York University review was titled "A Systematic Review of Water Fluoridation". Despite the section on water fluoridation in NHMRC's 2007 review basically being a copycat of the 2000 York review, the NHMRC cleverly, and grandly, titled their review as "A Systematic Review of the Efficacy and Safety of Fluoridation." The 2007 NHMRC review was then used to claim fluoridation was safe. In the NHMRC's recent review the NHMRC has still not produced good

quality research or evidence, but despite this, claims that fluoridation is safe. It is bad enough that they did this in 2007 – but it is even worse that they repeated their misleading claims in 2017 after the public has pointed out Sheldon's commentary.

11. NHMRC obfuscated on chronic kidney disease even though it is aware that poor kidney function increases uptake of fluoride into the bones poses risks over a lifetime. Such cumulative risks – and the special plight of those with poor kidney function –have never been investigated by NHMRC.

In 2007 the NHMRC put out a public statement (NHMRC Recommendation) as part of a brochure. Freedom of Information on draft versions of the brochure show that a warning for people with kidney impairment was included - until two dentists (FRG member John Spencer was one of the 2 dentists) and two South Australian water quality advisors reviewed the brochure – after this the NHMRC removed the kidney warning and any reference to fluoridated water and kidney impairment.

Although the current and past NHMRC Australian Drinking Water Guidelines - Part 5 Fact Sheets Fluoride, acknowledges risk from fluoridated water for those with kidney impairment, "People with kidney impairment have a lower margin of safety for fluoride intake. Limited data indicate that their fluoride retention may be up to three times normal", the NHMRC's 2017 fluoridation Information Paper makes no mention of kidney impairment.

The new 2017 NHMRC Public Statement claims fluoridation is SAFE, but the NHMRC has totally ignored any potential harm to those with kidney impairment. The NHMRC has never investigated cumulative effects of fluoride on people with kidney impairment even though a NHMRC File Note in NHMRC documents obtained through FOI confirms to do this was a requirement of the NHMRC's 2007 fluoride review. (FOI documents provided by NHMRC early 2008)

Recent Australian data indicates that 10 % of Australian adults aged 18 years and older have biomedical signs of having Chronic Kidney Disease (CKD); those in the 65-74 years old age group have a CKD prevalence of 21 % and those 75 years and above 42 % prevalence of CKD (AIHW <a href="http://www.aihw.gov.au/chronic-kidney-disease/prevalence/">http://www.aihw.gov.au/chronic-kidney-disease/prevalence/</a>)

The NHMRC deliberately muddies the waters claiming in the NHMRC's Evidence Statement (a statement written by the FRG which was two – thirds comprised of fluoridation lobbyists and activists) "There is no reliable evidence of an association between water fluoridation at current Australian levels and chronic kidney disease."

The NHMRC's FRG apparently are claiming that fluoridation doesn't cause kidney disease - however the NHMRC have totally ignored the real issue of concern that if you have impaired kidney function and can't excrete as much fluoride from your body, you will accumulate more fluoride in your body – and the NHMRC have never investigated the cumulative effects. This issue, in recent years has been the subject of correspondence with the NHMRC so the NHMRC is well aware of it, but still does not acknowledge any risk.

Aboriginals are a group have much higher rates of CKD than other Australians and Diabetics also have a higher risk for CKD – but the NHMRC has not considered health effects of consuming fluoridated water on people with kidney disease, Aboriginals, Diabetics or other vulnerable population sub- groups. The NHMRC has also not considered effects on people with Diabetes insipidus even though it is known that they are higher risk of developing dental fluorosis.

By totally ignoring the issue that people with kidney impairment have potential risk from fluoridated water the NHMRC can ignore advice like this from a kidney specialist at the University of Munich:

"A fairly substantial body of research indicates that patients with chronic renal insufficiency are at an increased risk of chronic fluoride toxicity. These patients may develop skeletal fluorosis even at 1 ppm fluoride in the drinking water." - Dr. Helmut Schiffl, MD (2008)

By not allowing animal studies to be included in the review the NHMRC could ignore evidence like this:

"....the WHO's recommended concentrations in drinking water become nephrotoxic to CKD rats, thereby aggravating renal disease and making media vascular calcification significant." - A. Martín-Pardillos et al. in Effect of water fluoridation on the development of medial vascular calcification in uremic rats. Toxicology. 2014 Apr 6;318:40-50

By ignoring risks for kidney impaired and then dishonestly claiming water fluoridation is safe, the NHMRC has totally ignored its duty of care to people with kidney impairment.

12. On another but related matter, the NHMRC endorsed doubling children's upper safety limits for fluoride ingestion (using data from the 1930s) almost certainly anticipating that the pre-existing limits would be exceeded by bottle-fed infants in which formula is made up with fluoridated tap-water.

This item goes beyond the NHMRC 2017 review but it goes to the bias of NHMRC in its continued promotion and defence of water fluoridation. Despite the steadily increasing number of human studies indicating fluoride is a developmental neurotoxin, the NHMRC has recently approved the doubling of the upper safety limits of fluoride ingestion for children up to 8 years of age. The new children's fluoride intake safety limits recently endorsed by the NHMRC are now twice as high as the European and USA Upper Tolerable Intake Limits. Apparently the NHMRC thinks that Australian children are biologically different to other children and can safely ingest and tolerate twice as much fluoride as their international counterparts. These new doubled upper safety limits were constructed by a committee of 8 members, including a Queensland Health dentist who is a lobbyist for forced fluoridation, as well as 5 Adelaide University Dental School staff. At least 6 out the committee of 8 who have doubled the previous Australian fluoride intake safety limits are extremely biased towards fluoridation. The Queensland Health dentist who was on this committee has been repeatedly reported by Australian media as saying that people who are opposed to fluoridation are nutters, conspiracy theorists and flat-earthers. Why was someone like this even on the committee? And since when did dentists become experts in nutrition and toxicology?

This group based their recommendations to double children's fluoride ingestion safety limits on their chosen extreme endpoint of severe dental fluorosis and then, for their calculations, heavily used fluorosis data collected in the late 1930s from 273 American children in an area where drinking water naturally contained 1.9 mg of fluoride per litre. Seventy – five percent of the children in that group had some level of dental fluorosis but the committee who doubled Australian safety limits totalled ignored that. The NHMRC cannot possibly care about the safety of children when the NHMRC endorses such shoddy and extremely unprofessional work.

The committee who doubled the upper safety limits for children used the fluoride content of processed foods as measured by Food Standards Australia New Zealand in Brisbane – just prior to Brisbane being fluoridated - thus minimising the measured food fluoride content. This committee also ignored any current contribution to fluoride burden contributed by foods fumigated with the pesticide Sulfuryl Fluoride (AKA Profume). Sulfuryl Fluoride was approved for use in Australia in early 2008 and by now could have widespread use in Australia, as in the USA. Regardless of this, the NHMRC still endorsed the doubling of upper safety limits for fluoride ingestion by children up to 8 years of age.

Through 2 published studies, one in Australia published 2009 (11) and another one in New Zealand published 2010 (12) the NHMRC is aware that the fluoride intake of bottle- fed infants, if infant formula is reconstituted with water fluoridated at 1.0 mg/Litre breaches the NHMRC's previous upper safety limits - this is almost certainly why the NHMRC was keen to endorse doubling fluoride upper safety limits for children. The NHMRC is aware that it is the fluoride content of the water added to infant formula that is the issue of concern – but the NHMRC obfuscates saying that the fluoride content of infant formula powder is safe. Again, the NHMRC seems to want to protect fluoridation more than it wants to protect children.

13. NHMRC abandoned the normal GRADE evaluation method for studies of fluoride's effectiveness almost certainly in an effort to disguise the fact that most of the studies reviewed were of low, or very low quality.

Here's a quote that says it all (NHMRC 2016 Technical Report p 54)

"The GRADE (Grading of Recommendations Assessment Development and Evaluation) system for assessing evidence was not originally designed to consider evidence for public health interventions. Consequently, for public health interventions like water fluoridation, where evidence of efficacy comes from observational studies, much of the evidence will ultimately be rated as 'low' or 'very low' quality. Due to concerns that the potential pejorative connotations of these descriptors may result in the evidence being disregarded and/or misinterpreted, the Fluoride Reference Group decided to omit the descriptors and describe the evidence in terms of the confidence in the reported results."

Essentially the Fluoride Reference Group rejected the standard terms for evidence quality in the assessment system they were using because they would make the evidence look too poor. Those terms are "low" and "very low" quality, and they predicted that the majority of the effectiveness studies would get these ratings. A study that would have been rated as "a low quality study" could then become graded by the NHMRC as "Our confidence in the reported associations is limited". This helped disguise the fact that most of the studies used by the NHMRC were low quality, or very low quality.

The NHMRC then adopted some very flexible criteria for accepting or rejecting a study into their review. Basically, the person reviewing a particular study has no clear and sharp guidelines, they can use their flexibility and pretty much just say "I don't think

this study is good enough" and reject it. This is shown in the CEO's Administrative Report where in 2016 -17 the FRG using extremely flimsy reasons to refuse the inclusion of many applicable studies that indicated harm.

For example, the 2015 study by Malin and Till (7) linking US water fluoridation to ADHD was excluded by the FRG because (a) they didn't like the hypothesis in the published paper and (b) because the FRG hadn't included it in the 2016 draft information paper – so they wouldn't include (or even *mention* it) in the 2017 information paper. A total farce by the NHMRC!

### 14. NHMRC 2017 rates tooth decay and dental fluorosis as more important end point than other health incomes, including cancer and IQ.

As shown in the NHMRC review's Technical Report (page 53) before the NHMRC review started, the Fluoride Reference Group classified the importance of health outcomes for its decision making. The Fluoride Reference Group classed dental caries and dental fluorosis as "Critical for decision making." The Fluoride Reference Group then classed all other health outcomes, including neuro- cognitive effects, renal effects, cancer, thyroid dysfunction etc, as "Important, but not critical." The NHMRC and the FRG have got a serious problem with their priorities when they consider tooth decay is a more important health issue than cancer, or harm to IQ.

### 15. NHMRC commenced review with strict restrictions for acceptable evidence, then included a) unpublished work; b) a favourable narrative and c) an abstract.

#### Some of the ways the NHMRC excluded relevant studies

- a. **Study must be published in English.** The NHMRC thus eliminated many published Chinese and other non-English studies on fluoride and IQ.
- b. **No animal studies would be accepted**, even though such studies are required by government regulatory agencies such as the US's EPA and FDA. Animal studies are an essential component of a "weight of evidence" evaluation of the toxicity of a chemical substance or medical intervention. Standard toxicology assessments of a drug or a chemical always start with animal experiments. These can provide more reliable information than human experiments because they can tightly control all the variables except exposure to the chemical in question. You can control everything. The only downside is extrapolating the results from animals to humans, but that is considered an acceptable limitation for important regulatory decisions.
- c. **Exposure could only be from fluoride in drinking water.** The NHMRC even rejected studies which used drinking water F exposure when the study additionally considered exposure from other sources such as swallowed toothpaste. This is ridiculous, since it is clearly total exposure that is of interest for both effectiveness and safety studies.
- d. For safety studies, the NHMRC adopted criteria that if the water F concentration is more than 1.5 mg/L, the study will be downgraded or even rejected because it is claimed to be inapplicable to Australia. This ignores the obvious point that when studying adverse health effects, it is often necessary to study higher exposures than commonly occur to tease out effects in relatively small samples. Furthermore, this ignores the fact when other exposures are included the total F exposure in Australia may be within the range of total F exposure in these (ignored) studies even through the water F level is above 1.5 mg/L.

To fully protect a human population from harm from a known toxic substance a "weight of evidence analysis" is essential. This was one of the key differences between the US NRC review of 2006 and the NHMRC reviews of 2007. This severe limitation of the NHMRC 2007 review was pointed out by scientists in 2007, and it is therefore surprising that they have reproduced their un-protective analysis in 2017. So far the NHMRC has offered no reason to exclude animal studies. This is strange since we know that the NHMRC was in correspondence with the US NIEHS/NTP agencies on how a systematic review of animal studies on fluoride should be conducted! We suspect that it was because in their review these agencies reported that they found low to medium quality animal studies that indicated that fluoride is neurotoxic.

When the NHMRC review commenced, the allowable scope of what the NHMRC would accept as evidence was severely limited by the NHMRC. Evidence of harm via medical notes, case histories, animal studies, non- English text studies, narratives were not to be accepted by the NHMRC for the review. What the NHMRC would accept for evidence had to be full published studies (not abstracts) and was extremely restricted by time frame and scope. It was the heavily biased FRG committee that was the final gatekeeper and arbiter of what evidence would and would not be accepted for the review.

Half way through the NHMRC's review, probably at the request of the FRG – the rules on what evidence was acceptable for the review were changed; the NHMRC's bar was seriously lowered to allow publications other than scientific studies to be included. As can be shown in the Administrative report for the NHMRC CEO, in late 2016 the FRG included in the NHMRC's review a (favourable to fluoridation) <u>narrative</u> as evidence - (*State of the Science community water fluoridation. Colorado Water Research 2015 Cromwell DA, McTigue NE, Hayes S*). Additionally, the FRG even included an <u>unpublished</u> consulting report by Jaguar Consulting (*Impact Analysis: Expanding Water Fluoridation in Victoria: Unpublished*). Jaguar Consulting are economists with no scientific qualifications.

The NHMRC FRG even included an <u>abstract</u> into the NHMRC review - under "Additional Considerations". This dental Abstract was co- authored by FRG members Mike Morgan, Kay Roberts Thomson and (F) Clive Wright.

The NHMRC CEO's Administrative report shows however that the FRG, as the 2017 Information Paper's final gatekeeper excluded all submitted IQ studies and all dental fluorosis studies that were submitted via the Sept – Aug 2016 public consultation. Including these would probably have been potentially damaging to the NHMRC's claim that fluoridation was safe.

The NHMRC's Administrative report also shows that a study linking USA water fluoridation to increased age adjusted incidence of diabetes in 22 states (13) was excluded by the FRG. There is not even a mention of this diabetes study in the 2017 NHMRC's Information paper, even though this study had been submitted to the NHMRC through the Sept - August 2016 public consultation. Although this is a published study that had resulted from an approved Thesis, the FRG claimed they had trouble understanding it. The main reason that the FRG gave for them excluding it from the final NHMRC Information paper (published 4 July 2017) was because it hadn't been included in the 2016 draft NHMRC information paper (published 14 September 2016), so they wouldn't include in the final Information paper. In 2016, diabetes had not even been included as an outcome in the 2016 draft paper. A word search for "diabetes" in the NHMRC's 2017 Information paper returns zero finds. With the FRG just being able to exclude and censor studies at their whim it made a mockery of both the NHMRC's public consultation process and the NHMRC's research and evaluation process.

### 16. NHMRC attempted to diminish known dental fluorosis harm by manipulating fluorosis ratings and raising threshold of concern.

Data from the NSW 2007 Child Dental Health Survey shows that 25 % of 11-12 year old children in NSW fluoridated areas had some level of dental fluorosis with 3.3 % of them having moderate fluorosis (TF3) and a further 0.5 % having moderate - severe fluorosis (TF4 and above). The NHMRC is now claiming that with expansion of fluoridation dental fluorosis has decreased - down from 25 % in 2007 down to 16.8 % in 2012 – 2014, now with only 0.8% of children having a fluorosis score of TF3 (with NHMRC also now claiming TF3 is only mild fluorosis not moderate fluorosis). The way NHMRC has claimed fluorosis rates are now lower is by manipulation by the NHMRC. The NHMRC has diluted down the rate of fluorosis by now combining fluoridated with non-fluoridated areas. To claim that fluorosis is decreasing the NHMRC has switched goalposts – the previous rate of fluorosis in NSW fluoridated areas is now being compared to an overall whole of Australia rate which could include areas fluoridated as low as 0.6 mg/l and also totally non-fluoridated areas. The NHMRC is now comparing apples to oranges.

The NHMRC has also allowed the downplaying and diminishing dental fluorosis by allowing changing the way fluorosis is graded. Previously in Australia very mild fluorosis was graded as TF 1 (Thylstrup Fejerskov index of 1), mild fluorosis as TF 2, and moderate fluorosis as TF3, moderate-severe fluorosis as TF 4 and above. For this NHMRC review a fluorosis grading of TF 3 (previously acknowledged as moderate fluorosis – eg, as in the 2007 NSW child dental survey) is now downgraded by the NHMRC and claimed by the NHMRC to be only mild fluorosis. The NHMRC also simultaneously upgraded the threshold level for fluorosis of aesthetic concern from TF 3 up to a level of TF 4. Dental Fluorosis rates pose a risk for fluoridation programmes, so by downplaying fluorosis and then claiming fluorosis is not a concern, the NHMRC helps protect fluoridation.

In the 1998 Australian Institutes of Health and Welfare (AIHW) "Review of Water Fluoridation: New Evidence in The 1990s: Final Report April 1998" FRG member Prof John Spencer (as Executive of that AIHW review) had reported on page 106:

"Hoskin and Spencer (1993) found that children affected by fluorosis and their parents are able to perceive the presence of fluorosis at a very mild level. They concluded that children with mild fluorosis showed a significant adverse psychological response to their dental appearance" (this was from findings on the personal perceptions of dental fluorosis of South Australian children as reported to a Dec 1993 Consensus Conference in Perth West Australia).

The NHMRC FRG is now asserting that children with mild and even moderate dental fluorosis perceive no problems with the appearance of their teeth with fluorosis, despite this being completely contradictory to what FRG member John Spencer had previously found and reported.

The NHMRC claims that fluorosis rates have decreased – claiming that Australian child fluorosis is now 16.8 %. This 16.8 % figure is from the 2012 –14 National Child Oral Health Survey that was co- edited by FRG member John Spencer. The NHMRC provided a large part of the funding for the survey. Tooth decay and dental fluorosis was collected on every child in the survey, yet while tooth decay was compared by every state and territory in the survey report, the editors did not report fluorosis data this way. There is a dearth of Australian fluorosis data and this was a perfect opportunity to compare child fluorosis rates in the states and territories, but instead, the authors chose to withhold. This is considered as censorship. The current NHMRC CEO Prof Anne Kelso should never have signed off on this NHMRC funded survey when the editors did not even report child fluorosis data by each state and territory.

Dental fluorosis data was also collected on adults in every state and territory for the 2004- 2006 National Adult Oral Health Survey (NAOHS 2004- 6) which was also funded by an NHMRC grant. FRG member John Spencer was a lead author of the adult survey report. To the best of our knowledge the adult dental fluorosis data that FRG member Prof John Spencer had collected in that survey has been withheld for over 10 years and has never been publically reported.

Dental fluorosis is a sign of fluoride toxicity, a biomarker of over exposure to fluoride among young children. The NHMRC would be aware that even the very mildest level of dental fluorosis is proof that children have been over - exposed to fluoride when their teeth are forming in their gums. It is commonly accepted that children's permanent teeth are forming in their gums until they are around 8 years of age – thus they are risk of developing dental fluorosis until they are 8 years old, yet the NHMRC claims that this is only until they are 6 years of age!

Good examples of NHMRC's double standards can be found in Appendix B of the NHMRC CEO's Administrative report which can be found at <a href="https://www.nhmrc.gov.au/">https://www.nhmrc.gov.au/</a> files <a href="https://www.nhmrc.gov.au/">nhmrc/file/your health/fluoridation/17378 nhmrc - administrative report for ceo-web revised.pdf</a>)

This Administrative report lists an additional 5 Dental Fluorosis studies that met the advertised scope for the Sept – August 2016 public consultation on the draft Information Paper and the Fluoride References Group's assessment. All of these were excluded by the FRG.

Even though the NHMRC had included three Brazilian tooth decay studies for its review and Information paper, the Fluoride Reference Group excluded three Brazilian dental fluorosis studies claiming for each "Based in Brazil so lacks relevance /not applicable to dental fluorosis in Australia". Data on tooth decay in Brazil was included in the 2017 NHMRC review on the claim that it was relevant to Australia, but data on dental fluorosis in Brazil was excluded from the NHMRC review on the claim that it was not relevant to Australia.

The FRG also excluded a Colombian dental fluorosis study, partly because it did not take into confounders such as the straightness of teeth. The FRG then also excluded an American dental fluorosis study claiming "Lacks relevance / not applicable to perceptions of dental fluorosis in Australia. Not just about fluorosis but the shape of the teeth". The FRG thus excluded one fluorosis study party because it also took into account the shape of children's teeth, while simultaneously excluding another fluorosis study because it didn't also take into account the shape of children's teeth.

# 17. NHMRC misleads the public and decision-makers by claiming fluoridation reduces tooth decay by 26- 44 % - but without indicating just how small such reductions are in absolute terms – often less than one tooth surface out of over 100 tooth surfaces in a child's mouth!

As referred to in item 3, after the Cochrane Collaboration review on dental effects was published the NHMRC secretly commissioned their own review of dental effects and the NHMRC's FRG added in several publications that some FRG committee members had themselves authored. Based on NHMRC's secretly commissioned review and by including many publications authored by FRG members the NHMRC is now claiming "water fluoridation reduces tooth decay 26% - 44% in children, teenagers and adults" Apparently the NHMRC has not heard that correlation is NOT causation, yet they are making their overreaching claim as if it was proven. There are many factors involved in how much tooth decay an individual has and no Random Controlled Trials have been done. Almost every study the NHMRC used was a low quality, observational ecological study.

How much is 26 % or even 44 % relative percentage terms in real terms (the actual absolute difference) in tooth decay? A large claimed percentage difference can actually be a very small absolute difference. In the prelude to forced fluoridation being introduced in Queensland, fluoridation lobbyists, the Australian Dental Assn (Qld) and Queensland Health in newspaper advertisements were claiming that children in fluoridated Townsville had 65 % less tooth decay than children from non-fluoridated Brisbane. This was based on a large study (14) published in 1996 that had been co—authored by FRG member John Spencer. This study had measured tooth decay in tooth surfaces. The original study publication shows that the 65 % less tooth

decay that was claimed by fluoridation advocates was based on a single data point: an absolute difference of only 0.17 tooth surfaces out of over 100 tooth surfaces present in a child's mouth at age 7 years. This study reported children aged 6 to 12 years old, who were life time residents of fluoridated Townsville had an average difference only 0.23 tooth surfaces less decay in their permanent teeth, compared to children of the same age who were life time residents of non-fluoridated Brisbane. To keep this in perspective - with a life time of exposure to fluoridated water the average difference in tooth decay for children's permanent teeth aged 6 to 12 yrs was only 0.23 tooth surfaces – and there are over 100 tooth surfaces in a child's mouth.

Relative percentages can obviously give a misleading picture. The NHMRC's Information Paper has only published claimed differences in tooth decay as relative percentages, but not as absolute differences. When fluoridation lobbyists have in the past claimed 65 % less tooth decay for an average absolute difference of less than one quarter of a tooth surface we do not know how small the absolute differences in tooth decay may be to be able to gain a true perspective and the NHMRC certainly do not show their calculations how they came up with those figures of 26% to 44 %.

State and Territory data from the 2004 – 2006 Australian National Adult Oral Health Survey (NAOHS 2004-2006) shows that adults from then virtually non- fluoridated Queensland, when compared to all the other states and territories which are heavily fluoridated, did not have the most tooth decay in any of the 4 adult age groups examined.

In March 2013 some of the authors of the 2004- 2006 NAOHS (who are also members of the NHMRC FRG) using the data from the adult survey published a paper (15) comparing tooth decay in adults who had lived in fluoridated areas and non-fluoridated areas, for varying lengths of their lives. Looking at the generation born between 1960 and 1990 ( those born after water fluoridation ) comparing adults with more than 75 % of lifetime exposure to fluoridated water to those with less than 25 % exposure to fluoridated water, it was found that those who had prolonged exposure to fluoridated water had nearly 8 teeth with decay, while those who had very little exposure to fluoridated water had nearly nine teeth with decay. For near lifetime exposure to fluoridated water the difference was only 1.14 teeth (approx 11 % difference in tooth decay ) For both a pre 1960s born cohort and post cohort there was an approximately 11 % relative difference comparing prolonged vs negligible lifetime fluoridation exposure. An important confounder – access to dental care (e.g., ability to access dentists in more rural areas compared to city areas) was not even considered, so the real difference may have been even less.

The 11 % difference in adult tooth decay had been measured using the most common standard of measuring tooth decay DMFT – the number of Decayed, Missing and Filled Teeth. However, by using a less common way of measuring decayed tooth surfaces - Decayed Missing Filled (tooth) Surfaces DMFS (with 4 or 5 tooth surfaces per tooth depending on the type of tooth) AND, then, by totally ignoring or excluding the number of Missing teeth from the equation (changing DMFS to only DFS) the authors then claimed the difference in tooth decay from fluoridation in the pre-1960 cohort was 30 % and in the post 1960 cohort was 21 % less decay. This is how 11 % difference in tooth decay in adults can be doubled or even tripled purely by the manipulation of removing some data and can explain how the NHMRC can misleadingly claim at least 26 % less tooth decay for adults from fluoridation.

The NHMRC makes much of percentages when claiming large reductions in tooth decay – but makes little mention of what can be very small absolute differences – large relative percentages, in absolute differences are often less than a fraction of one tooth on average.

18. NHMRC dishonestly claims fluoridation is safe by excluding important studies on spurious grounds, ignoring many others, and even cherry-picking weak studies that serve their purpose (e.g. Broadbent on IQ).

The NHMRC structured their review so many studies and evidence could not be included. Even with the studies that were left, overall, for both dental benefits and for adverse health effects, the quality of evidence was low or very low.

For adverse effects, these low ratings applied equally to studies claiming no adverse effects as to studies claiming to find an adverse effect. Thus, this NHMRC review could not rule out adverse effects with any degree of confidence.

Here is a quote from the Executive Summary Conclusions:

"There is **limited evidence that there is no association** between water fluoridation at Australian levels and the IQ of children and adults. There is also **limited evidence that there is no association** between water fluoridation at Australian levels and the outcomes of delayed tooth eruption, tooth wear, osteosarcoma, Ewing sarcoma, total cancer incidence, hip fracture and Down syndrome. The review also identified evidence suggesting that water fluoridation at Australian levels are associated with a small reduction in all-cause mortality; however, our confidence in this association is limited, and this small reduction may be due to chance. For all other outcomes canvassed in this review, **the evidence was of insufficient quality** to draw any conclusions."

For most adverse outcomes there was "limited evidence that there is no association" with fluoride, and for others the quality of evidence was so low that no conclusions could be drawn.

Far from this NHMRC review being a resounding rebuttal of the evidence that fluoridation causes harm, it actually concludes there is insufficient quality evidence to rule out harm. Not a single adverse outcome has sufficient quality evidence to rule it out. Because the onus is on those promoting fluoridation of public water to prove with sufficient confidence that it is safe, this report is a resounding indictment against fluoridation promoters, because it concludes they do not have sufficient quality evidence to confidently conclude it is either safe or effective.

It is shameful that the NHMRC should continue to waste taxpayers' money on reviews like this and instead should put money into well-designed studies in Australia or better still in reviewing the successful methods being used to fight tooth decay in children (including children from low-income families) in non-fluoridated countries.

#### 19. NHMRC doesn't understand principles of toxicology – concentration is not the same as dose!

The **DOSE** of fluoride received from water each day is not the concentration of fluoride in water - is the concentration of fluoride in the water (measured as mg/Litre) multiplied by how much water (how many litres) you drink each day. Someone drinking 2 litres of water fluoridated at 1.0 mg/L ingests as much fluoride as someone drinking 1 litre of water fluoridated at 2 mg/L.

The **TOTAL DOSE** received each day is a combination of how fluoride you get from water, from tea, from food, from dental products, from air pollution and pesticide residues.

When the NHMRC commenced its review it restricted the health studies it would accept to only studies that were at Australian fluoride concentrations – NHMRC's Australian Drinking Water Guidelines allows up to 1.5 mg/L fluoride in drinking water. The NHMRC, by rejecting studies done on fluoride exposures at higher levels than those used for fluoridation ignored the effect of dose in people who drink more water (eg, athletes, outdoor workers, people on certain medications, people with Diabetes insipidus or Diabetes mellitus), people who retain more fluoride (eg, people with kidney disease) and infants fed formula made with fluoridated water and fluoride from other sources (see above). A discussion of fluoride accumulation from chronic ingestion is lacking.

Dr. Kathleen Thiessen, Risk Assessment Scientist on the 2006 National Research Council panel (NRC 2006) has stated -

"The range of individual fluoride exposures at 1 mg/L will overlap the range of individual exposures at 2 mg/L or even 4 mg/L. Thus, even without consideration of differences in individual susceptibility to various effects, the margin of safety between 1 and 4 mg/L is very low"

The NHMRC either ignores, or does not seem to understand both the issue of dose, and also the issue of individual susceptibility.

### 20. NHMRC perverted the principles of medical ethics by presenting a bogus ethical claim constructed by lobbyists rather than ethicists.

Water fluoridation is the addition of fluoride chemicals to public drinking water to try and treat people. Water fluoridation by its very nature is mass medication and many countries don't undertake this practice because of consideration that it is unethical, see - <a href="http://fluoridealert.org/content/europe-statements/">http://fluoridealert.org/content/europe-statements/</a>. Additionally, the Queensland government in its official 2003 Position Statement (copied at end) had acknowledged that without the express consent of the community fluoridation is unethical mass medication. Fluoridation is both mass medication and medical treatment through public water supplies without individual's consent. In early 2013 Cairns Council ended fluoridation acknowledging the 2012 position of the Local Govt Assn of Qld that without the express consent of the community fluoridation is unethical mass medication. The NHMRC would be aware since 2012, there have been 29 Queensland Councils that have formally rejected fluoridation. Some of the Queensland Councils that have ended fluoridation have done so after commissioning surveys finding approximately 50 % up to 70 % of those surveyed did not support fluoridation. A Referendum in Mount Isa found 89 % of voters did not want fluoridation. Knowing that there is individual and community opposition to fluoridation, the NHMRC still claims fluoridation is ethical. Apparently the NHMRC believes it is ethical to force a medication or a treatment on non-consenting individuals.

Nutrients are substances which feed, nourish and sustain growth. **Fluoride is not a nutrient.** In 2005 – 2006 the NHMRC endorsed and published Nutrient Reference Values for Australia and New Zealand. In 2006 the NHMRC had maintained fluoride was classed as essential to human health and included it in the new nutrients values.

The NHMRC FRG in 2017 now intimates that fluoridation is just the same as adding the nutrient lodine to salt, or the nutrient Folic acid to bread. This is deliberate obfuscation as Iodine and Folic acid are proven nutrients and sufficient intake is essential for life, whereas fluoride is not a nutrient (despite the NHMRC calling it this). The NHMRC would not be able to provide information on a single biological pathway within the human body that requires fluoride, because there are none, yet still claims fluoride is a nutrient.

Despite the NHMRC endorsing fluoridation since 1953, the NHMRC had never examined the ethics of fluoridation. The NHMRC now claims that fluoridation is ethical. The NHMRC claims that fluoridation is ethical based on the NHMRC's claim that fluoridation is safe. The way the NHMRC claims fluoridation is safe is by denying any fluoride risk to thyroid function, denying a significant association with Osteosarcoma bone cancer, excluding, ignoring or downplaying links to ADHD and IQ deficit, and totally ignoring risk of cumulative effects for people with kidney impairment.

As part of their reasons for claiming that fluoridation is ethical the FRG in the ethics section of the information paper claimed that is "It is not possible to buy fluoride supplements."

Apparently the NHMRC's FRG has never heard about eBay where it is easy to buy fluoride tablets (supplements)

Freedom of Information documents (NHMRC FOI 2016-17/019) indicate fluoridation lobbyists in the NHMRC's FRG committee played a large part in writing the Ethics section of the 2017 NHMRC's fluoridation Information Paper. It appears that apart from requesting some small cosmetic changes, The NHMRC's Australian Ethics Committee mostly just signed off on what the FRG had constructed.

#### 21. NHMRC gave an incomplete project of dubious quality a prestigious NHMRC award

As one example of previous NHMRC bias - in August 2008 the NHMRC awarded Profs Clive Wright and Mike Morgan a prestigious NHMRC award – "One of the Ten Best Research Projects 2008" for their research project on water fluoridation and cost effectiveness. By 2011 the NHMRC had the status of Profs Wright/ Morgan project marked as complete – yet apparently only one published article (16) has ever been resulted from this project and that was published 2 years after Profs Wright/ Morgan were given the NHMRC award. Their article was published only in the Australian Dental Journal in 2010, not in an international dental journal of higher ranking. Profs Clive Wright and Mike Morgan's project lead researcher had died in May 2008 and it was unlikely that any other publications would ever eventuate. In 2014 the NHMRC appointed both Clive Wright and Mike Morgan to the NHMRC Fluoride Reference Group to do the NHMRC's upcoming review on fluoridation.

The Wright/ Morgan project was by supported by a NHMRC grant. Examining the projects Progress Reports to the NHMRC (obtained through Freedom of Information - NHMRC FOI 2011-00643) did not inspire any confidence in the quality of the project data that had been collected – yet the NHMRC still gave its prestigious award to Profs Wright and Morgan on an unfinished project of dubious quality. Also note – any fluoridation cost - effectiveness analyses are always one –sided, they never include the cost of treatment of dental fluorosis or ever consider any other potential adverse health effects.

#### 22. NHMRC fluoridation public consultations have been shams.

The NHMRC had advised in 2016 public consultation would be available when the Information paper was released. However, the NHMRC's public consultations on fluoridation are total shams and farces. The ONLY public consultation submissions that the NHMRC will now accept is on the two sentence NHMRC Public Statement and then the NHMRC will only accept answers to the NHMRC's five very self-serving questions. Submissions and criticism of the actual Information paper, published 4 July 2017 will NOT be accepted. With the public consultation the public are not allowed to submit abstracts or narrative reviews – despite the FRG including an abstract and narrative they had selected.

In the NHMRC's 2014 public call for evidence, the NHMRC had limited all public submissions to 500 words. This ludicrous action by the NHMRC created some outrage. In 2016 the NHMRC would also not accept any submissions or criticism of the 2016 Technical Report, or the 2016 Evidence Evaluation report.

In other words, the NHMRC has given the public the opportunity to "vent off steam" but throughout the process has denied independent scientists a genuine opportunity to address the many flaws and weaknesses in this review in a substantial way. The whole thing has been a scam.

NHMRC's farcical public consultations are an insult to the many Australian citizens and scientists who have many years studying this subject in depth. This disdainful approach to seeking genuine and meaningful input is highly suggestive that the NHMRC knows that it is defending a very poor review on a very poor practice.

On the 13<sup>th</sup> September 2016, the NHMRC had a Webinar for journalists about NHMRC's draft Information Paper that was to be released the following day. The speakers were NHMRC CEO Anne Kelso and FRG member Prof Clive Wright. The NHMRC had prepared a PowerPoint presentation for the media with key messages that Australian fluoridation was safe and was not linked to any harm. Public consultation, restricted to only the NHMRC's draft Information paper, opened on the 14<sup>th</sup> Sept 2016, yet the NHMRC had already broadcast via Australian media that fluoridation was safe. The 2016 public consultation then was a total sham – there really was no point in letting the public submit contrary evidence when it was going to make no difference to the NHMRC's published claim that fluoridation was safe. In the end when the Information Paper was released on the 4<sup>th</sup> July 2017, the NHMRC would not even allow the public to submit submissions on it.

# 23. The NHMRC's extraordinary effort to maintain the dubious claims that fluoridation is safe, effective and ethical, are becoming more and more desperate by the year. NHMRC 2007 was very bad, NHMRC 2017 verges on fraud

The NHMRC administers nearly a BILLION dollars in taxpayer funds every near, yet with its fluoridation review have employed corrupt biased practices that ignore public health risks - and attempted to conceal such a unprofessional review by grossly limiting genuine input from the public - especially those who have studied the issue closely.

NHMRC's actions in its latest fluoridation review, if they had been done in a criminal trial, would be declared as a mistrial because (1) The Judge deliberately appointed a biased jury (2) The Judge declared the verdict of innocence before and also just after the trial had started (NHMRC reaffirmed its 2007 Recommendation statement in June 2013 and on 25 Feb 2015 (3) the Jury excluded or denied critical damaging evidence and then changed the trial to include evidence that had been declared as out of scope.

The NHMRC Recommendation (Public Statement) in 2007 was this -

NHMRC Recommendation: Fluoridation of drinking water remains the most effective and socially equitable means of achieving community wide exposure to the caries prevention effects of fluoride. It is recommended that water be fluoridated in the target range of 0.6 to 1.1 mg/l depending on climate to balance reduction of dental caries and occurrence of dental fluorosis. (Emphasis added)

NHMRC's new Public Statement (released 4 July 2017) is now this -

NHMRC Statement: NHMRC strongly recommends community water fluoridation as a safe, effective and ethical way to help reduce tooth decay across the population. NHMRC supports Australian states and territories fluoridating their drinking water supplies within the range of 0.6 to 1.1 milligrams per litre (mg/L) (emphasis added)

In a giant leap, the NHMRC after its biased review, is now claiming that water fluoridation is safe, yet they have ignored health issues (eg, kidney impairment) and denied others (cancer, loss of IQ etc). The NHMRC has never considered differential susceptibility and vulnerability that occurs within the population. The NHMRC, to shore up their public statement even censored any reference to climate, to balance and to fluoridation causing dental fluorosis. The NHMRC even claims fluoridation is ethical, however this claim was constructed by fluoridation lobbyists within the NHMRC and NHMRC FRG.

How can anyone trust the NHMRC after such biased self-serving irresponsible behaviour - and in the name of a public agency?

#### **CONCLUSIONS:**

The NHMRC has ignored its Duty of Care and betrayed the Australian public with its poor and perverted fluoride review. The NHMRC's fluoride review should be shredded.

We request that citizens and scientists from inside Australia and around the world will call for a Royal Commission inquiry to investigate the NHMRC's behavior in this matter. Hopefully they will call for a new review to be commissioned by the Federal government but carried out by an independent organization, with the panel comprised of unbiased scientists and professionals.

In terms of reviewing government policies in general, it is requested that the Royal Commission investigate the wisdom of using a government department such as NHMRC to review the science of controversial programs, when those programs have been part of long-standing government policy. Under such circumstances it is urged that the Royal Commission recommend such reviews be organized by a non-governmental agency. This agency would be required to select panels completely independent of governmental influence. Ideally such panels would consist of experts drawn from both sides of the issue in question, and those who have not taken a position on the issue: a good model would be the panel selected by the U.S. National Research Council for its review of fluoride's toxicity in 2006.

# Authorised by M Haines on behalf of Fluoride Action Network Australia Inc. E contact@fluoridealertaustralia.org Mob 0418 777 112

See table at end for examples on some of the known conflicts of interests on 10 members of the NHMRC Fluoride Reference Group (FRG)

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See following pages for examples on some of the known conflicts of interests on 10 members of the NHMRC Fluoride Reference Group (FRG)

A copy of the Queensland Government's 2003 Position Statement that acknowledges without the express of the community fluoridation is unethical mass medication is shown on the last page.

NHMRC Fluoride Reference Group	KNOWN CONFLICTS OF INTEREST
Committee Member ( FRG )	( known lobbyist for fluoridation / fluoridation supporter)
2014- 2017	( known lobbyist for indortdation / indortdation supporter)
1	Supporter of fluoridation – as cited in interview by Bundaberg News Mail Dec
	2009 " Dr Meenakshi Arora, University of Melbourne research fellow for chemical
Dr Meenakshi Arora	and biomolecular engineering and a supporter of fluoridation, told a press
	conference on the subject: "It definitely and significantly reduces the risk of
	dental caries. But we need to be careful not to overdose people, especially kids in
	the age range of two to seven years." <a href="http://fluoridealert.org/news/bundaberg-">http://fluoridealert.org/news/bundaberg-</a>
	region-fluoride-in-two-years/
2	Corbett's paper <u>"Fluoride: Benefits Far Outweigh Risks"</u> published in 1993
	NSW Health Public Health Bulletin can be downloaded here –
Assoc Prof Stephen Corbett	http://www.health.nsw.gov.au/phb/Documents/1993-08.pdf or just the 2 actual pages here -
	http://www.publish.csiro.au/?act=view_file&file_id=NB93040.pdf
	intep.//www.publish.csino.au/ : act-view The&the Tu-Nb33040.pul
	Claimed that dental fluorosis in NSW in 1993 was only 3 % ( he didn't specify
	that that would only be the rate of Moderate fluorosis ) NOTE – Ass Prof
	Corbett was only listed as a FRG member AFTER the NHMRC 2014 Call for
	Evidence had closed
3	Associate Professor Sharon Goldfeld, Chair of the P&CHD Paediatric Oral Health
-	Working Group. (RACP Paediatric & Child Health Division (P&CHD) – "The RACP
Ass Prof Sharon Goldfeld	and the RACDS, through their Child Oral Health Statement, have called for oral
Ass Troj Silaton Colajela	health awareness in the training of all health professionals who work with
	children. Collaborative public health approaches have also been identified,
	including healthcare professional training and public water fluoridation for all
	communities with populations greater than 1,000 people. The RACP and RACDS
	<u>intend to partner around many of these issues to effect more positive outcomes</u>
	on the oral health of children and young people. Source - Bite Magazine 20 <sup>th</sup>
	Sept 2012 -
	Member of Public Health Association of Australia (PHAA) joined in 2000. PHAA
	has for many years actively lobbied for fluoridation – particularly for Qld.
4	As part of NSW Health team presented the Yes case for fluoridation at Byron Bay public information evening - 16 <sup>th</sup> October 2013. Was also part of NSW Health
2 (4)	team earlier in 2013 giving briefing sessions promoting fluoridation to Lismore
Prof Alison Jones	and Ballina Councils
	and bannia councils
	http://www.abc.net.au/news/2013-10-17/byron-fluoro-meeting/5028058 "But a
	medical specialist has described the mythology and fears around fluoridation of
	drinking water as 'nonsense'. Wollongong University's Dean of Medicine and
	Toxicology, Professor Alison Jones told the crowd that there was no evidence to
	support such claims."
5	"Too little fluoride, less than 0.1 mg/L in drinking water, leads to poor dental
	health and high incidence of dental decay" plus other quotes in May 27 2014
Dr Frederic Leusch	Sun Coast News
	http://www.suncoasttimes.com.au/features/something-in-the-water/

NHMRC Fluoride Reference Group Committee Member ( FRG )	KNOWN CONFLICTS OF INTEREST
2014- 2017	( known lobbyist for fluoridation / fluoridation supporter)
6 Prof Mike Morgan	NHMRC Podcast 19 Feb 2009 - And the downsides? "Extremely minimal," Professor Mike Morgan, Colgate Chair of Population Oral Health at the Melbourne Dental School tells interviewer Stuart Cameron.
<u>,</u>	http://www.nhmrc.gov.au/media/podcasts/2009/we-know-fluoride-saves-teeth-it-cost-effective
	Part of Clive Wright's team which won NHMRC 10 of the Best Research Projects of 2008 NHMRC article titled "Linking water fluoridation with good dental health "
	http://www.oralhealthcrc.org.au/content/professor-mike-morgan-0 "Professor Morgan's principal teaching responsibility is in population oral health, focusing on oral disease causation in relation to common risk factors and disease prevention at a population level - with an emphasis on community water fluoridation" "He has been a consultant to the Victorian Government in areas such as the Auditor General's review into public dental services and the recent Victorian Government's expansion of community water fluoridation in Victoria."
7	President, Indigenous Dentists' Association - an association which wants all Indigenous communities of more than 500 people fluoridated
Dr Katherine O 'Donoghue	"Indigenous Dentists' Association of Australia - Indigenous Oral Health Goals" – extract
	Goal 1. Community water fluoridation Target  All indigenous communities with a population of more than 1000 will have a fluoridated water supply by 2015.
	All indigenous communities with a population of more than 500 will have a fluoridated water supply by 2020
	Qld Health dental employee - Service Line Director of Oral Health, Oral Health Services, Queensland Health ( Qld Health actively promotes fluoridation )
8	Interim Dean and Head of School of Dentistry and Director, Dental Practice Education Research Unit, Australian Research Centre for Population Oral Health,
Prof Kaye Roberts-Thomson	The University of Adelaide – has continuously promoted fluoridation for years.  Recipient of grant money from AIHW and NHMRC - has used emanating publications to promote fluoridation (child dental health surveys, national adult oral health survey)
9	Participated in two NSW Land and Environment court cases - (1) to help Rous Water, Lismore and Ballina Councils be able to fluoridate their jurisdictions
Emeritus Prof A. John Spencer	(2011) (2) to assist continued fluoridation by Eurobodalla Council (2013)
	Former director of Australian Research Centre for Population Oral Health, The University of Adelaide – has continuously promoted fluoridation for years. Recipient of grant money from AIHW and NHMRC – has used emanating publications to promote fluoridation (child dental health surveys, national adult oral health survey). His 1996 study comparing fluoridated Townsville to non-fluoridated Brisbane children was used by Bligh govt in 2007 to mandate Qld fluoridation. More recently recipient of approx \$900,000 from Qld Health to analyse data report on baseline of fluoridation in Qld

NHMRC Fluoride Reference Group	KNOWN CONFLICTS OF INTEREST
Committee Member ( FRG )	
	( known lobbyist for fluoridation / fluoridation supporter)
2014- 2017	
10	As NSW Chief Dental Officer he had participated in 2011 NSW Land and
	Environment court cases to help Rous Water, Lismore and Ballina Councils be
Prof (Frederick) Clive Wright	able to fluoridate their jurisdictions.
	Recipient of NHMRC grants which he has used to promote fluoridation. Chief
	Investigator of team, which won NHMRC 10 of the Best Research Projects of 2008
	- NHMRC article titled "Linking water fluoridation with good dental health" –
	this win despite the research not being completed due to the death of the lead
	researcher and only one article that was published in the Australian Dental
	Journal

## Queensland Government Position Statement on Water Fluoridation

Whilst recognising that the balance of the scientific argument favours the use of fluoride in the pursuit of oral health, it is a principle of ethical public health that mass, involuntary medication must never proceed without the express consent of the community. The balance of argument rests on evidence which suggests that the prevalence of dental caries in both adults and children is reduced in communities where the water supply contains certain levels of fluoride.

In Queensland, referendum guarantees the consent of the community under the Fluoridation of Public Water Supplies Act (1963) (the Act). Queensland Government recognises that there is not a unanimity of opinion on the health and environmental impacts of fluoridation, but in view of the prevailing balance of argument, encourages public debate aimed at enhancing oral health.

Water fluoridation was introduced in all Australian States in the 1960's, and about 80 per cent of the population of most states now receive fluoridated water supplies. The Nicklin Government introduced the Act in Queensland in 1963. It places the responsibility for proposing this public health measure to communities, and carrying out their decisions, on individual local governments. At present, only about 5% of the Queensland population have consented to the fluoridation of their water.

Queensland Government supports the introduction of water fluoridation wherever it receives the consent of the community affected. It acknowledges the endorsement of fluoridation by many science and health organisations, including the National Health and Medical Research Council, Federation Dentaire Internationale (FDI), the International Association for Dental Research (IADR), and the World Health Organisation (WHO).

The achievement of improvements in oral health in the population is one of the Key Performance Objectives set out in the Queensland Health Corporate Plan 1996-2001. The fluoridation of water supplies may be one avenue for the achievement of the oral health objectives set out in this document, and the Public Health Services Plan for Achievements 1996-1999



**Queensland Health 2003**