

# The interface between science and society: water fluoridation as a case study, Bundaberg 1952-57†

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Between 1945 and 1954, the concept of adjusting the fluoride content in reticulated water supplies (henceforth referred to as water fluoridation) for the partial prevention of dental caries was in its infancy. While Australia's peak scientific body, the National Health and Medical Research Council (NHMRC) had conditionally endorsed this public health measure in December 1953, two factors hampered prospects for its implementation in Queensland.<sup>1</sup> First was a political legacy arising from the widely publicised impact of naturally over-fluoridated water on sheep in the western parts of the State. This caused public confusion and concern when the biological impact of the continual ingestion of naturally over-fluoridated water on sheep was extrapolated to the fluoridation of community water



*Bundaberg ca 1951.*

(Picture Queensland Collection, State Library of Queensland)

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†This article has been peer reviewed.

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DENTISTRY,  
TURBOT STREET,

2nd March, 1954.

To

The Director-General of Health & Medical Services,  
Department of Health and Home Affairs,  
William Street,  
BRISBANE.

Dear Doctor,

Once again I am receiving enquiries as to what action is being taken on the subject of fluoridation here in Queensland. These queries are being received both locally and from the South. Perhaps fortunately, I am not in a position to reply.

Some time ago there seemed to be some urgency with respect to the fluoridation of drinking waters of various communities within Queensland. Would I be out of order if I requested information on the present situation? It seems to me that when Professor Macfarlane's research is fully completed perhaps the Health Department may want to inaugurate fluoridation with some expediency, and if we are to be implicated I would like to have due notice.

According to the National Health & Medical Research Council Resolution (4.12.53) 1.(v) and (viii)

"concurrent research should be carried out on oral conditions in representative groups in towns to be fluoridated."

It would be necessary to know the caries incidence before fluoridation and during fluoridation. To my personal knowledge to date very little has been done with respect to caries survey in Queensland, especially surveys which would be acceptable scientifically.

If fluoridation is to be inaugurated it would appear to me that it is advisable to have an indication of the incidence of dental caries for at least twelve months before fluoridation is introduced and it might be important to organize, as soon as possible, several dental surveys in representative Queensland towns. May I venture to express that I would like to stress that such surveys should be carried out under acceptable dental research conditions if they are to be accepted overseas.

I hope you do not think me impertinent for writing in this strain on this debatable subject, but the accumulation of such enquiries becomes a nuisance.

Yours sincerely,

(S. F. LUMB)  
Professor of Dentistry.

*Figure 1 Professor SF Lumb to Director General, 2 March 1954.*

(Reproduced courtesy of The University of Queensland School of Dentistry)

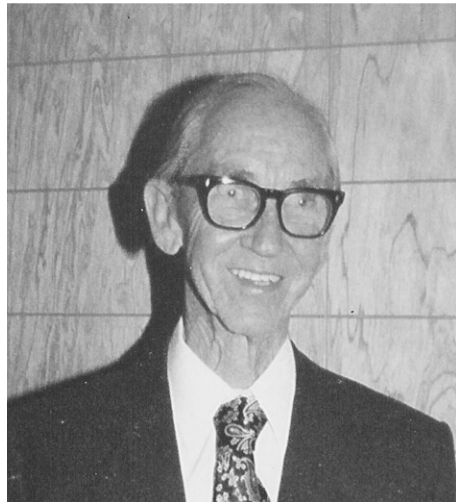
supplies.<sup>2</sup> While Queensland's agrarian bureaucracy had perceived natural artesian fluoride as a post-1945 threat to the pastoral industry, major veterinary issues had been largely resolved by 1953.<sup>3</sup> The second factor was a legitimate scientific hesitancy due to contemporaneous concerns about human fluid homeostasis (compensation mechanism). Queensland's tropical and sub-tropical climates meant fluid intakes were likely to be higher than those of the more temperate climates in the southern States. In November 1954, the NHMRC addressed this issue with implementation protocols that modified bioavailable (active) fluoride concentrations to allow for potentially higher fluid intake in parts of Queensland.<sup>4</sup>

In this era, the ravages of the caries epidemic were obvious and often traumatic for patients and dentists. The Dean of the Faculty of the Department of Dentistry at The University of Queensland, Professor SF Lumb was naturally interested in water fluoridation (Figure 1). In 1953, Lumb commissioned a young, credentialled, post-graduate research student, Dr Brian Kruger to investigate suitable locations.<sup>5</sup> Kruger was Ipswich 'born and bred', a Rotary Foundation Fellow who had returned from US study commitments. Kruger was well acquainted with the North American water fluoridation field



*Professor SF Lumb, Professor of Dentistry & Dean of the Dental Faculty, 1938-1963*

(Picture Queensland Collection, State Library of Queensland)



*Alan Simmonds, Engineer, Department of Local Government, Queensland's first strong fluoride advocate.*

(Reproduced courtesy of John Bristow)

trials and considered a range of provincial municipalities from their scientific and political perspectives. In consultation with the Department of Local Government, Bundaberg was recommended as one of Queensland's few locations that satisfied the relevant criteria for a Queensland trial.<sup>6</sup> The climate was appropriate in that it was within the extended ranges of the NHMRC's revised guidelines on climate and fluid intake. The Bundaberg City Council's engineer, C Brewer, was qualified to supervise the appropriate engineering infrastructure. Moreover, fluoridation equipment could be easily installed at the partly constructed South Bundaberg treatment plant.<sup>7</sup>

Engineering personnel and infrastructure were often understated but critical factors in water fluoridation proposals.<sup>8</sup> Furthermore, the Bundaberg dentists, led by J Wainwright, had expressed strong support and would publicly support the proposal. Other important factors were that the Burnett River divides Bundaberg into two communities with separate sub-artesian water supplies of similar mineral composition. South Bundaberg water could have adjusted fluoride concentrations to achieve the test population while North Bundaberg water remained sub-optimally and naturally fluoridated as the control.<sup>9</sup>

Another advantage in selecting Bundaberg was the potential for the dental research team to maintain cross-disciplinary scientific collaboration with the Department of Physiology at The University of Queensland



*Bundaberg Mayor Fred Buss hosts a public reception for Queen Elizabeth and Prince Philip at the Bundaberg Showgrounds on 11 March 1954. His daughter Bettina welcomes the Queen.*

(Picture Queensland Collection, State Library of Queensland)

(in an adjacent building on the St Lucia campus). In 1953, Professor WV MacFarlane, from the Department of Physiology was researching human fluid homeostasis within tropical climates and was a colleague of Kruger. MacFarlane was an appointee on the NHMRC sub-committee that investigated climate and protocols for water fluoridation. Bundaberg cane cutters had a high daily fluid intake due to their long hours of manual labour and exposure to heat from cane fires. Bundaberg's flat terrain predisposed cane cutters to riding bicycles to and from the cane fields, which further accentuated dehydration. For these reasons, cane cutters, especially Bundaberg's cane cutters, held a special place in MacFarlane's research.<sup>10</sup> Moreover, in the course of his work, MacFarlane had established a favourable rapport with the powerful Australian Workers' Union and its Bundaberg secretary, E Barnes, who was supportive of water fluoridation.<sup>11</sup>

Although the Bundaberg recommendation was primarily based on scientific criteria, political stability was also a consideration. The City Council was stable and its Mayor, Alderman FH Buss (Mayor 1936-58, excluding three years war service) held a secure tenure on the mayoralty. The research team had been informed that Buss was interested in fluoridation.

It would also be important to the success of the project to have the support of the major local industry (or at least not have opposition from it). Bundaberg was a "sugar city" and the history of the sugar industry's attitude towards water fluoridation indicated it would satisfy these requirements and support water fluoridation.<sup>12</sup> The 1949-53 era was one of escalating tension between the sugar industry and the dental profession. Dentists' attempts to restrict dietary sugars as a preventive strategy to reduce dental caries alienated sections of the sugar industry. This antipathy from sections of the sugar industry was particularly strong in Queensland, Australia's leading sugar producer.<sup>13</sup> Tension peaked in 1953 at the Australian Dental Association's Congress (an international meeting for dentists held that year in Brisbane) with a widely publicised American dental expert's claim of an association between sugar consumption and caries rates.<sup>14</sup> R Muir, General Secretary of the Queensland Sugar Growers' Council, retaliated with sharp criticism of the dental profession's management of preventive strategies and its attitude to sugar consumption.<sup>15</sup> The Colonial Sugar Refinery Company also responded that 'fluoridation and general all-round diet' were better preventive strategies than 'the elimination of carbohydrates from the diet'.<sup>16</sup> Furthermore, former Queensland premier, W Forgan Smith, was the Chairman of the Queensland Sugar Cane Prices Board, and had formally expressed positive sugar industry interest in water

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# University of Queensland

Department of Dentistry

DENTAL COLLEGE, TURBOT STREET,  
BRISBANE

DEAN,  
FACULTY OF DENTISTRY,  
PROFESSOR S. F. LUMB

12th October, 1954.

Alderman F. H. Buss, M.B.E.,  
Mayor of Bundaberg,  
Council Chamber,  
BUNDABERG. Q'LD.

Dear Sir,

The Department of Dentistry of Queensland University has watched with keen interest the dental research being done on fluoridation. Most of this work has been done in U.S.A., and indications are that, up to a 78% reduction in dental decay might be expected, where the correct level of fluorine has been ingested and during the first 8 years of life (when tooth enamel is forming). Fluoridation of a city's water supply seems to be a worthwhile public health measure. Since Australians are reputed to have the highest incidence of dental decay in the world, fluoridation would seem to be one safe method of helping to reduce this high incidence.

In fact, from December, 1953, fluoridation as a public health measure has now been approved by the Australian Dental and Medical Associations, the National Health and Medical Research Council at Canberra and consequently the Queensland Health Department. It could not always be approved because of the lack of knowledge about certain problems peculiar to Queensland - varying climatic conditions, water consumption and the consumption of foods with high content of fluorine, particularly tea. These problems have a marked influence on the level of fluoride to be added to a water supply and it was necessary that more preliminary work be done to study these factors. Professor McFarlane of the Queensland University Physiology School has done some work on this problem (actually in the Bundaberg area) and as a result of this work, a chart should soon be available to assist in determining the safe level of fluoride dosage for any particular water supply.

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Figure 2 Professor SF Lumb to Alderman FH Buss, Mayor of Bundaberg, 12 October 1954.

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fluoridation.<sup>17</sup> Though not stated, Lumb and Kruger would have been aware that the sugar industry would either support, or at worst not oppose, the Bundaberg proposal. Hence this proposal to fluoridate Bundaberg's water supply was carefully planned and historically significant. Under Kruger's cautious guidance, Bundaberg could have been not only an Australian mainland pilot for water fluoridation research but also an internationally acclaimed field trial like that of Grand Rapids (Michigan, USA).

### **Lumb's Proposal**

In October 1954 Lumb wrote to Buss with a proposal to undertake pilot research into water fluoridation and sought an expression of interest from Bundaberg in participating (Figure 2).<sup>18</sup> Lumb forwarded enclosures on American data, costing, engineering assessment and NHMRC protocols to support the proposal. Lumb also stressed the importance of such a pilot, the dental benefits, the need for strict control, Kruger's availability and the resolution of the NHMRC's concerns about fluid homeostasis in a climate like Bundaberg's. In his letter, Lumb indicated that the City Council had to desire water fluoridation. Several aspects of Lumb's proposal are important in analysing and understanding Bundaberg's reaction. Lumb disclosed that there had been a discussion with Wainwright leading Lumb to believe that Buss was 'well acquainted with the literature on fluoridation' and had 'expressed interest in it as a public health measure.' The background surrounding this advice is unclear. However, subsequent events revealed that Wainwright, and hence Lumb, misjudged both Buss's and Bundaberg's interest in water fluoridation. Secondly, although Lumb and Kruger were commissioned to select a suitable location, Dr A Fryberg, Director General of Health and Medical Services within the Department of Health and Home Affairs (hereafter referred to as the Department of Health), made the final authorisation. Fryberg stressed that financial assistance would be available 'if the Bundaberg City Council indicated in writing their desire to fluoridate.'<sup>19</sup> However, the Department of Health saw its role as advisory and did not engage either the City Council or the community in any form of public debate.

Whilst the Bundaberg proposal had administrative and scientific endorsement, this support was provisional because section (vi) part (b) of the 1953 NHMRC protocols stated that: 'A large proportion of the community should desire that fluorine be added to the water supply, or alternatively, a substantial proportion of the community does not oppose the addition of fluorine to the water.'<sup>20</sup> The terms 'desire' and 'oppose' were not defined and could have implied a range of options from autonomous Council decision to an opinion poll or to a full or partial referendum. In this epoch, the dental profession believed that the emotional, biological

and financial burden of the caries epidemic would outweigh opposition to this community health measure. However, all parties forwarding the proposal agreed that Bundaberg had to express its interest in water fluoridation before the project could continue. Lumb had provided Buss with the NHMRC protocol and, for reasons that are not clear, Buss quickly announced that a referendum was required in Bundaberg. Another confounding variable emerged when the proposal and the correspondence between Lumb and Buss became public and the subject of media reports.<sup>21</sup> Whether Lumb envisaged that the preliminary discussions would be confidential is conjectural, but if Buss had quietly rejected the proposal, it is possible that the research plan may have been quietly withdrawn and submitted to another local authority. However, between Lumb's proposal of 12 October 1954 and the full City Council meeting of 28 October, there were media releases based on statements by Buss and Wainwright. Both interpreted the approach as a firm proposal for water fluoridation.<sup>22</sup> The *Bundaberg News-Mail* published three articles on water fluoridation in this period. Lumb's approach elicited an official response in the Council minutes of 'interest ... but would like more details'.<sup>23</sup> How that message was conveyed to Lumb involves some conjecture, but anecdotal evidence suggests that media statements and hearsay preceded official communication. The net effect of the publicity was that the researchers were locked into the Bundaberg proposal without the guarantee of final Council approval.

### **The public reaction**

The Bundaberg City Council was an open body, the proposal attracted public interest and councillors' reservations were published in the *Bundaberg News-Mail* on the following day of the full Council meeting.<sup>24</sup> Buss publicly endorsed a referendum by saying there would be no water fluoridation without one. In essence, the Council neither rejected fluoridation nor endorsed it. The reasons were many: conflicting expert evidence about fluoridation; fear of an experiment; Bundaberg was a 'guinea pig'; costing; insufficient data; confusion and lack of confidence.<sup>25</sup> The *Bundaberg News-Mail* published more local anti-fluoride views and it was inevitable that community reaction to water fluoridation became an integral part of the campaign for the municipal elections scheduled for April 1955.<sup>26</sup> The Bundaberg Ratepayers' Association capitalised on the timing of the announcement of the proposal and pushed water fluoridation onto the electoral agenda. The Ratepayers' Association not only opposed water fluoridation but also a referendum, which it perceived as 'a waste of money'.<sup>27</sup> Accordingly, it endorsed two members opposed to fluoridation, J Eriksen and N Spence, as candidates for the imminent elections.



## **The “Bundaberg Tragedy” of 1928 – a communal legacy**

Although careful planning had gone into the Bundaberg proposal, one local factor had been given scant attention. Significant sections of the Bundaberg community had developed a suspicion of scientific and medical assurances following a vaccination tragedy in 1928. Twelve children died following the vaccination of twenty-one children with a staphylococcal-contaminated multi-dose bottle of diphtheria toxin-antitoxin inoculant. This tragedy and subsequent evidence from the Royal Commission deeply permeated the city’s psyche and divided the community over the need for inoculation.<sup>28</sup> In 1992, T Healy, (city council employee 1945-1993 and Health Inspector 1961-1993) reported ‘the memory of 1928 lingered’.<sup>29</sup> The Bundaberg-born B Courtice (ALP MHR Hinkler 1987-1993), in commenting on Bundaberg’s fluoridation history endorsed Healy’s view: ‘The 1928 vaccination tragedy had a massive effect on the Bundaberg psyche. It is not obvious now ... but previously it was indelible ... and it was handed down.’<sup>30</sup> This tragedy deeply eroded the perceived veracity of communal health assurances and indirectly reappeared during the Council’s consideration of water fluoridation.

These concerns were heightened in October 1954 by an outbreak of poliomyelitis in Bundaberg.<sup>31</sup> Polio was an emotive communal health problem with an unknown method of transmission. There was publicity and communal concern over alleged inadequate Council warnings involving large local social gatherings like the ‘Railway Picnic’ and ‘Back to Bundaberg Week’. This concern became political and directed at Buss. The issue was raised at the same Ratepayers’ Association meeting that discussed water fluoridation. In 1954, the parents of the children in the polio scare were the generation directly affected by the vaccination tragedy. Hence this water fluoridation proposal, which some viewed as an experiment, carried unforeseen sociological repercussions.

## **Influence of the 1955 City Council election**

Buss partly defused the water fluoridation opposition by restating the need for a referendum. He further distanced himself from fluoride related-issues with pre-election media statements and assured the electorate that the City Council ‘would move further when it wanted information ... and there was no provision in the budget for it [fluoridation]’.<sup>32</sup> By mid-December 1954, Buss had conceded ‘that the present City Council had no intention of proceeding with fluoridation’ and, if it was reconsidered, then a referendum would be warranted in spite of the ratepayers’ association policy opposing both water fluoridation and a referendum.<sup>33</sup>

Over a few weeks, the initial Council response of ‘interest’ had evolved

into procrastination and thence to an ambiguous refusal.<sup>34</sup> This deflected the fluoride focus from the councillors to a media debate between the ratepayers on the one hand and Wainwright and the Australian Dental Association Queensland Branch (hereafter referred to as the ADAQ) on the other.<sup>35</sup> Professor Lumb was alienated by the City Council's failure to personally liaise in detail to the dental faculty initiative; by the politicisation of dental health issues; and by the polarised public reaction and the apparent rejection of a prestigious research proposal in a scientifically desirable locality. Moreover, there were few alternative sites for a similar demonstration in Queensland. In what was a severe blow to the future prospects of promoting water fluoridation in Queensland, Lumb informed the ADAQ that fluoride advocacy was not a Dental Faculty responsibility, but one for the Department of Health or the ADAQ. He played no part in future Queensland proposals.<sup>36</sup> Kruger continued by participating in several public functions. However, Queensland's Social Crediters, some of whom mounted arguments like 'Fluoridation is Jewish', targeted Kruger who was not prepared to engage in a political line of debate.<sup>37</sup> After 1958 he played no further part in public fluoride politics despite achieving international acclaim for his continuing research into trace elements, including fluoride.

In the 1955 municipal elections, Buss was unopposed and all incumbent councillors were returned. Nonetheless, the 1955 return of the *status quo* did not dampen the enthusiasm of the Bundaberg ADA sub-branch, which was frustrated by the fluoride impasse. The ADAQ Vice-President, Dr FG Christensen, also 'threw himself into the Bundaberg campaign.'<sup>38</sup> Heartened by Christensen's approach, the Bundaberg ADA Sub-branch members took every opportunity to educate the public at a personal level. As a result, the Bundaberg Junior Chamber of Commerce approached the City Council to reconsider fluoridation.<sup>39</sup> The Sub-branch also organised two visits by fluoride advocates. One lecture was given at a public meeting at the Austral Hall in central Bundaberg, at which the motion: 'that Bundaberg City Council gives such proposals favourable consideration with a view to the fluoridation of the Bundaberg water supply as soon as possible' was strongly supported (90 for and 10 against).<sup>40</sup>

### **Ramifications of the Austral Hall meeting**

The public Austral Hall meeting reinstated fluoridation on the public agenda and pressured the City Council to abandon its procrastination. The City Council wrote to the Department of Health and asked questions that had been previously answered by Lumb.<sup>41</sup> The Department's responses reiterated that the City Council had autonomy in any decision regarding the implementation of water fluoridation.<sup>42</sup> When departmental advice and

details of Council minutes were published in the *Bundaberg News-Mail* it was obvious that water fluoridation did not have Council support.<sup>43</sup>

Two developments subsequent to the Austral Hall meeting put further pressure on councillors. To begin with, the Ratepayers' Association continued to reject any fluoridation proposal.<sup>44</sup> Furthermore, another civic association, the South Bundaberg Progress Association, called for a referendum on water fluoridation at the next municipal election.<sup>45</sup> In July 1956, councillors resolved, 'That this Council take no action towards fluoridation of the Bundaberg City Water Supply until such time as there is a demand from the people to do so, backed up by a petition signed by at least 3,000 persons eligible to vote at referendum.'<sup>46</sup> This resolution absolved the Council's responsibility by decentralising the decision-making process and placed the initiative on to dentists to support fluoridation.

This constraint on future Council response created problems for the ADAQ. It was difficult to promote fluoridation in Bundaberg because of the previously discussed wariness of health assurances. Secondly, anti-fluoridationists became aware immediately of any petition and had time to organise. Subsequent controversy empowered their cause, created delay and enhanced opposition. Thirdly, the public meeting at Austral Hall triggered the development of a more widespread Queensland anti-fluoride infrastructure and network, as distinct from an isolated local fluoridation opposition in Bundaberg. That evening a leading Queensland anti-fluoridationist and Social Crediter, J Harding, attended Austral Hall and established the Rockhampton Antifluoridation Group that networked with M Compton, the secretary of the Ratepayers' Association.<sup>47</sup> Queensland's Social Crediters worked through this Rockhampton group, which would evolve into a dominant force inside the Australian anti-fluoride movement. By 1956, both sides of the fluoridation debate had external advisors as well as local support and the anti-fluoridation group had become stronger and more conspicuous. Bundaberg dentists conducted a domestic campaign and generated favourable, State-wide publicity but could not mobilise sufficient local support. In February 1957, Bundaberg dentists informed the ADAQ that hope of widespread civic support for Bundaberg's fluoridation was a doubtful proposition, and ADAQ minutes recorded that Bundaberg dentists 'had reached their limit financially and physically ... and were much discouraged.'<sup>48</sup> Although the City Council held to the principle of 'deferral' not 'rejection', opponents of water fluoridation could for all intents and purposes claim success.

A number of observations and inferences can be drawn from aspects of the aforementioned experiences and the political responses to them. When viewed in Bundaberg's socio-political context, a belief that water

fluoridation was a public health issue and not a political issue was naïve. The activists from both sides of the public debate assumed an adversarial perspective and observers and commentators saw the debate as bipolar. The proposal to use Bundaberg as a pilot study assumed that fluoridation was a legal power vested in a local authority, which allowed the State Government to distance itself from the debate. This assumption was not authoritatively questioned until 1963.<sup>49</sup> Moreover, while the Bundaberg proposal was conditional on popular endorsement, no authority established a protocol to define or quantify the NHMRC's terms of popular 'desire' or 'oppose'. Because the Bundaberg City Council was the first local authority to be offered a realistic prospect of water fluoridation in Queensland, the official response was important. In this sense, the Council's response was public and political, and established a significant Queensland precedent. In simple terms the City Council won its case against The University of Queensland's Department of Dentistry, the dental profession and indirectly the State Government. Moreover, Bundaberg's City Council assumed a pseudo-authoritative status on water fluoridation because other local authorities perceived its response as important. To approach a local authority on water fluoridation immediately prior to a municipal election was poor tactics. Councillors perceived fluoridation as technical, experimental and divisive and were not competent to arbitrate on the scientific merit of this public health measure. Dental health had never been a priority within local authority elections. However, councillors knew their constituents and presumably recognised the paucity of political support from the State Government. The Queensland Treasurer and Member for Bundaberg, E Walsh (ALP) and the Secretary for Health and Home Affairs, W Moore (ALP), were conspicuously silent. Although not obvious within the body of fluoride literature the Bundaberg proposal extended into an era where an entrenched, but divided, state ALP government moved towards the internecine split of 1957. The ensuing coalition years divided political responsibility for water fluoridation between the health (Liberal) and local government (Country Party) portfolios, and this fragmentation permeated Queensland's fluoride debates for decades.<sup>50</sup> Finally, the role and opinion of any local municipal Mayor has subsequently been established as a critical factor within any fluoridation campaign.<sup>51</sup> In Bundaberg, Buss was, at best, ambivalent. Elected or bureaucratic advocates (or opponents) to fluoride played a similar role. There was no persistent, public fluoride advocate within the Bundaberg City Council. The converse was true in that some councillors emerged with views opposed to water fluoridation. This evidence suggests that the problems at Bundaberg were political, tactical and sociological. They were not related to the contemporaneous science underwriting water fluoridation.

This paper integrates a 1952-57 Bundaberg experience into its contemporaneous social context and demonstrates how this interface was projected into the city's fluoridation politics. The official response to meticulous scientific planning was rejection, framed as a delay to seek information and then to elicit public support. These developments were a significant blow to dental research and damaged prospects for future water fluoridation proposals in Queensland. The methods and outcomes alienated clinicians and researchers within the Faculty of Dentistry at The University of Queensland, demoralised local dentists and demonstrated that political tactics were integral components within community management of fluoride-related controversy.

In Bundaberg, water fluoridation passed from a scientific to a political arena. This experience set a Queensland precedent, crystallised formal resistance, generated political concern and exposed problems that still permeate Queensland's fluoridation debate. The causes were many. Fluoride advocacy was in its infancy and proponents used tactics that ignored the beliefs and attitudes of the Bundaberg community. The Dental Faculty placed too much faith in science over politics. The socio-political circumstances were misread and insufficient attention was paid to the impact of the 1928 vaccination tragedy. However, the contemporaneous NHMRC guidelines, which were reflected in the Department of Health directives, constrained the proponents' and the City Council's options. Lumb and Kruger faced additional scientific, geographic and infra-structural restrictions that limited Queensland locations as water fluoridation research sites. The Dental Faculty offered Bundaberg's municipal leaders an authoritative well-planned pilot scheme and an eminent world-class researcher. However, councillors who were not scientists had to assume responsibility for a scientific decision. They were given discreet administrative support but State parliamentarians failed to publicly endorse water fluoridation. It is not surprising that councillors, who well understood their local community, perceived water fluoridation as a political issue. In response to actions from ratepayer groups, Social Crediters and anti-fluoride groups, councillors forged an innovative referendum policy, requiring 3,000 signatures before a poll would be conducted. This milieu was the partial genesis of an anti-fluoride movement, which in Queensland became self-propagating, institutionalised and still carries consequences for oral health in this state.

### **Endnotes**

The authors acknowledge the co-operation of the Bundaberg City Council and Enid Cullen.

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