

IN CONFIDENCE

Office of the Minister of Health
Office of the Minister of Local Government

Chair
Cabinet

Government Inquiry into Havelock North Drinking Water

Proposal

1. This paper seeks Cabinet agreement to the Ministers of Health and Local Government's plan for the Government's response to the *Government Inquiry into Havelock North Drinking Water* (the Inquiry).

Executive Summary

2. The Inquiry has reported back with its Stage Two findings (the report) and has found systemic failings in the drinking water supply system. The Inquiry's key recommendations are for the treatment of all supplies and the setting up of a dedicated drinking water regulator.
3. We propose a two-phased approach to responding to the Inquiry recommendations:
 - 3.1 Phase One: progressing a number of immediate actions where it makes sense to do so now; and
 - 3.2 Phase Two: work streams to inform the Government response to all the recommendations by February 2018.
4. Both phases can begin immediately. The Government response will indicate whether to accept (in whole or in part) or refine the recommendations or whether it is too early to accept the recommendation until the financial implications, consultative requirements, or legislative processes have been worked through.
5. We propose to issue a media release following Cabinet's decisions, noting that:
 - 5.1 The Government is taking a two phased approach in response to the Inquiry;
 - 5.2 The Government is taking a number of immediate actions to address the Inquiry's recommendations; and
 - 5.3 We expect to release the Government response on how we will progress the recommendations in February 2018.
6. It will be important for the Government response to be cognisant of other work related to drinking water. That is, the Three Waters Review led by the Minister of Local Government, and work on improving drinking water access for small, rural communities. Matters relating to drinking water also have links to Government priorities around housing, climate change, and freshwater.

Background

7. The drinking water supply system in New Zealand is highly fragmented (with over 900 registered drinking water suppliers¹). Drinking water is regulated under three primary Acts, the Resource Management Act 1991 (RMA), the Local Government Act 2002 (LGA), and the Health Act 1956 (Health Act). Until 2007, compliance with Drinking Water Standards (the Standards) was voluntary, although standards have existed since 1984. Refer to **Appendix One** for further detail.

Havelock North water contamination incident and Government Inquiry

8. In August 2016, an outbreak of gastroenteritis in Havelock North undermined public confidence in the safety and security of New Zealand's drinking water. About 5,500 of the town's 14,000 residents were estimated to have become ill with campylobacteriosis. Approximately 45 were subsequently hospitalised. It is possible that the outbreak contributed to four deaths, and an unknown number of residents continue to suffer health complications.
9. In September 2016, the then Government established the *Government Inquiry into Havelock North Drinking Water* to look into the outbreak. The Inquiry has proceeded in two stages. Stage 1 focused on identifying the direct causes of the outbreak, and assessing the conduct of those responsible for providing safe drinking water to Havelock North. Stage 2 examined the wider regulatory context and steps to be implemented to reduce the likelihood of such an outbreak occurring again.

Stage 1: Findings

10. Stage 1 reported back in May 2017, and found that farm run-off containing sheep faeces was the likely source of contamination in the Havelock North water supply. After heavy rains, water from the property likely flowed to a neighbouring pond, and from there entered the Te Mata aquifer and flowed across to an active bore. From that bore, contaminated water was likely pumped into the reticulation system.
11. The Inquiry found that several of the parties with responsibility for the water supply system for Havelock North (in particular the Hastings District Council, drinking water assessors (DWA) and Hawke's Bay Regional Council) failed to adhere to the high levels of care and diligence necessary to avoid this occurring and to protect public health. Key issues were a history of transgression against the Standards (the significance of which was underestimated by regulatory agencies) and poor working relationships between these agencies. In Stage 1, the Inquiry found that the District Council "did not embrace or implement the high standard of care required of a public drinking-water supplier, particularly in light of its experience of a similar outbreak in 1998, and a significant history of transgressions".²

¹ Comprising local authorities, community supplies, schools, marae, the defence force.

² Paragraph 10(h), Report of the Havelock North Drinking Water Inquiry, Stage One, May 2017.

Comment

Stage 2: Key Findings and Recommendations

12. Stage 2 of the Inquiry was reported in December 2017. The Report concluded that the problems revealed in Havelock North are not confined to that region and there is a 'widespread systematic failure' of water suppliers to meet the high standards required to ensure the safe supply of water to the public. The report's findings have wide ranging implications for the nationwide management of water and the supply of drinking water.
13. The Inquiry has made 51 recommendations, comprised of 19 'Urgent and Early Recommendations' and 32 'Further Recommendations to Prevent Recurrences'. Many of these recommendations would entail significant changes to the drinking water regulatory regime and associated legislation including the Health Act.
14. Some of the Inquiry's main concerns with the current system, are that:
 - 14.1 "The current drinking water regime is fragmented with many different agencies and persons responsible for various aspects of it ... This multi-disciplinary system gives rise to issues concerning co-operation and collaboration between agencies";
 - 14.2 "supplying untreated drinking water was unacceptably risky in today's circumstances, that it was contrary to general international best practice, and that it demonstrated a failure to appreciate the nature and extent of risks involved";
 - 14.3 "there is no evidence that compliance [with the Drinking Water Standards (DWSNZ)] improved significantly in the period leading up to the time by which suppliers were required to comply with the DWSNZ, or subsequent to that requirement having taken effect."

Matters excluded from Inquiry consideration

15. The Inquiry regarded an economic analysis as beyond the scope of its terms of reference and its resources. This means that the Inquiry recommendations did not include cost / benefit analyses. Economic considerations will be relevant to any policy development, as the Inquiry's recommendations are likely to have significant costs for both central and local government.
16. The Inquiry focussed on large and medium suppliers (as defined in the Health Act). The Inquiry acknowledged that smaller suppliers may have different considerations, and recommended that officials give explicit consideration to this. Refer **Appendix One** for supply sizes.
17. Some of the recommendations can be progressed through the existing regulatory regime. Others will be progressed as part of the establishment of an independent regulator.
18. As part of the establishment of an independent regulator, the feasibility, the impacts on local authorities and central government agencies and the cost of establishment, ongoing operational costs and investment in infrastructure would need to be carefully considered and worked through.

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Links to other Government work programmes that can contribute to the government response

19. There are other programmes of work underway that are relevant to drinking water supply that will be considered in the Government response.

Three Waters Review

20. The Minister of Local Government is currently leading a review of the three waters system (water supply, wastewater and stormwater). The Government response must be cognisant of a number of issues related to drinking water. Issues relating to water services are not limited to the safety of drinking water, and all three waters are necessary for the safety and prosperity of communities, protection of public health, and good environmental outcomes.
21. The initial findings from the Three Waters Review have identified many of the same issues as the Havelock North Inquiry. The Three Waters Review is proceeding with the following workstreams: effective oversight, regulatory settings and institutional arrangements; funding and financing mechanisms; information for transparency, accountability and decision-making; and capacity and capability of decision-makers, suppliers and regulators. A Cabinet paper seeking confirmation of the scope, timeframes and approach to this work will be provided at the same time as the proposed Government response to the Havelock North Inquiry Stage 2 report.
22. There are links to be made between the wider three waters system and Government priorities. For example, responses to housing supply issues (provision of new housing) place pressure on existing water services. The provision of timely infrastructure has a direct effect on the supply of new housing to respond to demand.

Improving Freshwater Quality

23. There are also links to be made with the Improving Freshwater Quality work led by the Ministry for the Environment, which seeks to improve water quality for a number of purposes, including drinking water.

Improving drinking water access for small, rural communities

24. The Ministry for the Environment has been leading a cross-agency initiative to improve access to drinking water for small, rural communities, including marae and papakāinga. This issue was identified as a priority by iwi and hapū through regional hui in late 2014, agreed by the Iwi Leaders Group and Cabinet, and supported by submissions filed to the Waitangi Tribunal.

Stakeholders

25. Stakeholder reactions to the Inquiry's recommendations (especially recommendations on supplier aggregation and mandatory treatment) will be mixed. Some of these mixed views were expressed in the submissions as part of the Inquiry process, especially with regard to mandatory treatment.
26. It should also be noted that, while a number of stakeholders have been consulted as part of the Inquiry process, broader consultation should take place before any substantive changes to the drinking water system are made. We will use existing local government forums to discuss matters raised by the Inquiry's Report with interested parties.

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Proposed approach

27. We propose an approach to responding to the Inquiry recommendations in two phases:
 - 27.1 Phase One: progressing a number of immediate actions where it makes sense to do so now; and
 - 27.2 Phase Two: implementing work streams to inform the Government response to all the recommendations by February 2018.
28. Both phases can begin immediately.

Phase One: Immediate actions

29. There are some actions we can undertake immediately in response to the Inquiry's 'Urgent and Early' recommendations. These are:
 - 29.1 A statement by the Director-General of Health relating to secure bore water classifications and water suppliers' duties around source water protection and steps to provide wholesome water (recommendations 3 and 15) [22 December 2017];
 - 29.2 Update the Drinking Water Standards under urgent provisions (recommendations 4 and 5) [April 2018];
 - 29.3 The Ministry of Health will write to all large and medium suppliers who do not have effective water treatment processes to remind them of their obligations under the Health Act (recommendations 6 and 7) [January 2018];
 - 29.4 Work with drinking water assessors and the Medical Officers of Health to increase compliance with the Drinking Water Standards, including provision of advice on issuing non-compliance orders (recommendation 13) [letter by 22 December 2017, teleconference January 2018];
 - 29.5 Develop guidelines to ensure national consistency in compliance and enforcement (recommendation 14a) [underway, publication in May 2018];
 - 29.6 Redesign the drinking water annual report to improve monitoring and transparency (recommendation 14b) [underway, publication in July 2018];
 - 29.7 The Ministry of Health has also established an Expert Drinking Water Advisory Committee in response to a request from the Chair of the Inquiry Panel in August 2017. The Committee has been set up to provide the Director-General of Health with high quality, independent, scientific and technical advice on drinking water quality, and is now being refreshed in response to the Inquiry findings (recommendations 14c and 14d) [underway];
 - 29.8 The Ministry of Health will undertake discussions with Public Health Unit (PHU) managers around boosting Drinking Water Assessor (DWA) numbers and resources, and simplifying and clarifying accountability for DWAs (recommendations 14e and 14h) [January 2018];
 - 29.9 Suppliers are updating water supply plans to include critical control points (recommendation 14i) [in progress];
 - 29.10 Finalise draft guidance materials and accelerate the review of the Drinking Water National Environmental Standard (NES) (recommendation 17) [July 2018];

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- 29.11 Instruct the PHUs to establish a working group for water suppliers and enforcement officers and assessors, along the lines of Hawkes Bay joint working group³ (recommendation 18) [teleconference in January 2018]; and
- 29.12 The Ministry of Health and Department of Internal Affairs will scope the options for a risk-appropriate regulatory scheme for New Zealand drinking water and regulatory oversight. This includes work on the design and costs of establishing an independent drinking water regulator (recommendation 9) [progresses immediately]. This work will be complemented by work being undertaken by the Three Waters Review on an industry regulator (which would concern performance of water supply, wastewater and stormwater infrastructure).
30. We have also developed a set of immediate actions we can take to improve drinking water quality that are additional to those proposed by the Inquiry:
- 30.1 Direct that water safety plans and compliance reports are published to increase transparency and accountability;
- 30.2 Establish a drinking water reference laboratory;
- 30.3 Review the water safety plan framework to make it more consistent with international best practice; and
- 30.4 Establish consistent communication channels between DWAs.
31. These immediate actions address some key findings to improve compliance and enforcement, raise drinking water standards and bring about greater transparency for the public.
32. A Government response to all the recommendations (including ones that may be responded to here) is proposed for February 2018. Accordingly a concurrent programme of work is being undertaken to inform that response.
33. An early Treaty of Waitangi due diligence process should also be undertaken.

Phase Two: Government response in February 2018

34. Phase Two is focussed on work to inform and develop the Government's response to the report. We propose these work streams below commence immediately to feed into the response in February 2018. A table is provided in **Appendix Two** linking each of the Inquiry's 51 recommendations to a work stream. The work streams in summary are:
- 34.1 Water Treatment;
- 34.2 Drinking Water Regulation;
- 34.3 Leadership, Transparency and Communication;
- 34.4 Compliance and Enforcement;
- 34.5 Drinking Water Standards;
- 34.6 Aggregation of Dedicated Suppliers;

³ As a result of the Havelock North outbreak, a joint working group was set up by the Hastings District Council, Hawkes Bay Regional Council, Hawkes Bay District Health Board, and the drinking water assessors. Napier City Council subsequently joined.

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- 34.7 Enhancing 'first barrier protection' through the resource management system; and
- 34.8 Design and Engineering.

Phase Two workstreams

Water Treatment

- 35. The Report recommends mandatory disinfection with a residual chemical (e.g. chlorine). This work stream will provide advice on the suitability of implementing these recommendations.
- 36. There are a number of matters that this workstream will address. For example, there are supplies in New Zealand that are unchlorinated, as communities consider chlorinated water unpalatable. There is a risk with chlorination that the public will seek alternative, unsafe supplies that are more aesthetically pleasing (e.g. well water).
- 37. Furthermore, the World Health Organisation (WHO) recommends infrastructure to ensure safe water rather than moving to chlorination which can mask issues in the supply network. Some communities have strong opinions on chlorination and will expect to be consulted.
- 38. The Ministry of Health will convene a working group of public health engineers, and other experts to develop options so that communities who do not want chlorinated water can assess alternative supplies and the cost there-of.

Drinking Water Regulation

- 39. The Ministry of Health and Department of Internal Affairs will scope the options for a risk-appropriate regulatory scheme for New Zealand drinking water and regulatory oversight.
- 40. The Inquiry made a number of recommendations related to the Health Act. This work stream will provide advice on how they can be implemented and implications thereof. This work stream will also consider the Inquiry's recommendations related to the establishment of an independent regulator.
- 41. The Ministry of Health will apply the Inquiry's principles in its approach to drinking water regulation to develop options for licencing providers (including suppliers, laboratories and water sources).
- 42. An improved regulatory scheme for drinking water is likely to include establishing an independent drinking water regulator as recommended by the Inquiry. It will be critical to the successful regulation of drinking water in the future that the stewardship functions and options for the institutional form of the regulator are carefully assessed. Further advice to Cabinet on the form and function of an independent regulator will need to be informed by an analysis of the following matters, which were not touched on by the Inquiry:
 - 42.1 the level of regulatory, budgetary, operational, and institutional independence that will best support high quality regulation;
 - 42.2 the accountability mechanisms that best support Government and public confidence in the regulator's administration of the regulatory scheme, its efficiency, and its processes of engagement;
 - 42.3 the arrangements that ensure initial and ongoing capacity and capability within the regulator and within other agencies with related functions;

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- 42.4 the arrangements that position the regulator well in terms of its culture and foundational leadership;
 - 42.5 the costs of establishment and ongoing operations; and
 - 42.6 flexibility for arrangements to be changed over time if that becomes desirable.
43. Work by the Productivity Commission on regulatory institutions and practices from 2014, alongside input from The Treasury and State Services Commission would inform further analysis.
44. The early expectation is that this work stream will require work beyond the February 2018 response. This work stream will also have links to the Three Waters Review, which is looking into matters associated with the regulation that might be required across all three waters. Further analysis may reveal that there are significant elements of the Government response that may best be progressed through the Three Waters Review.

Leadership, Transparency, and Communications

45. The Inquiry's Report highlights a lack of understanding of the principles of drinking water safety and the roles and responsibilities of the individual parties involved in the supply of drinking water. This work stream will consider ways for the Ministry of Health to provide:
- 45.1 leadership to the drinking water sector;
 - 45.2 greater transparency; and
 - 45.3 communication for communities with regards to information about the safety of their drinking water.
46. To provide clarity on these matters, the Report recommended that the Director-General of Health provide clear advice to drinking-water suppliers on their duties as laid out under the Health Act.
47. This work stream will consider how the Ministry of Health can best:
- 47.1 promote the principles of drinking water safety to suppliers and public health units and articulate its expectations of individual parties; and
 - 47.2 review the drinking water register with the aim of enabling the public to obtain useful information about its water supply
48. The Department of Internal Affairs will review the accountability and reporting arrangements for local authorities under the LGA to see how they could enhance the transparency of decisions local authorities are making around water supply safety.
49. The Ministry of Health will convene an internal working group to develop options to address the recruitment issues faced by PHUs.

Compliance and Enforcement

50. The Inquiry's report indicated that the drinking water system could be greatly improved by strengthening compliance and enforcement of the requirements in respect of the supply system. This work stream will consider how best to do this.
51. Reasons for non-compliance are mixed, with some being short term aberrations (e.g. operators forgetting to take a sample on a designated day) or longer term (e.g. delays in installing treatment plants).

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52. Currently, the Health Act requires drinking water suppliers to take all practicable steps to ensure that drinking water supplied complies with the drinking water standards (s 69V). All practicable steps is defined at section 69H of the Act and allows for suppliers to consider affordability. The Ministry of Health intends to address this by convening a working group of public health engineers and other relevant experts to develop affordable options for small suppliers.

Drinking Water Standards

53. Many of the recommendations from the Inquiry require changes to the Standards. The Ministry of Health has already convened an advisory committee to provide advice on a revision of the Standards (which also require updating to incorporate new advice from the World Health Organization on maximum values for contaminants).
54. The Standards were last updated in 2008. As the Minister of Health is satisfied that the Standards need to be amended urgently, there is no requirement to follow the usual five year process in the Health Act to amend the Standards (sections 69P and 69R). A 2007 amendment to the Health Act 1956 made compliance with the Standards mandatory but allowed for a phase in period. Small suppliers were granted until June 2016 to become compliant (so changes to the Standards could not be progressed sooner).
55. Changes to the Standards can result in additional costs to suppliers, so should be progressed with consideration and sector engagement.

Aggregation of Dedicated Suppliers

56. The Report recommends the Government make a definitive assessment of whether to mandate, or persuade, suppliers to establish aggregated dedicated water suppliers. It also recommended licencing suppliers, which we consider is associated with aggregation (if a small supplier is prepared and able to meet the cost of licencing standards, it may not require aggregation; conversely, licencing might incentivise or force voluntary aggregation). The Aggregation of Dedicated Suppliers work stream will provide advice on how to respond to these recommendations. The following issues need to be considered:

- 56.1 Aggregation is particularly sensitive with local government and communities. LGNZ have stated publicly that “decisions [about created dedicated aggregated water suppliers] are for the communities who own the assets to make.”⁴ Some small communities (rural and Māori) may be opposed to aggregation and wish to retain control over their water supplies.

⁴ Drinking water report lacks detail on cost to communities, LGNZ, 6 December 2017, <http://www.lgnz.co.nz/news-and-media/2017-media-releases/drinking-water-report-lacks-detail-on-costs-to-communities/>

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- 56.2 The Inquiry explicitly stated that it “did not enter into the question of whether a dedicated supplier might also be responsible for waste water”.⁵ It is difficult to address responsibilities for water supply without also considering responsibilities for wastewater treatment (and possibly stormwater drainage), as the more reticulated services are provided, the greater the volumes of water to be disposed of via waste water treatment. Most overseas jurisdictions with single purpose authorities for water services have the same authorities delivering wastewater services. Both services manage significant public health risks, use similar treatment processes, and rely on staff with very similar or identical skill sets.
- 56.3 Water supply infrastructure is place-shaping. It would be necessary to ensure that dedicated water supply organisations supported and implemented spatial planning requirements for the community they served.
57. For these reasons, there will be strong links between this work stream and the Three Waters Review being led by the Minister of Local Government. Further analysis may reveal that there are significant elements of the Government response that may best be progressed through the Three Waters Review. There will also be strong links to the Drinking Water Regulation work stream, including work on the establishment of an independent regulator.

Enhancing ‘first barrier protection’ through the resource management system

58. The Stage 2 report noted the importance of protecting drinking water sources (‘first barrier protection’) as a key principle of drinking water safety. The Inquiry considered that recognition of ‘first barrier protection’ in the resource management system was currently inadequate. They made four recommendations to address this issue, including changes to sections 6 and 30 of the Resource Management Act (RMA) and ensuring the review of the National Environmental Standards for sources of human drinking water (‘Drinking Water NES’) is completed quickly with enhanced implementation support for regional councils.
59. This work stream will assess how to improve the effectiveness of the resource management system in addressing ‘first barrier protection’. For example, identifying whether priority should be given to better implementation and enforcement of existing regulations (e.g the Drinking Water NES) or progressing legislative and regulatory changes. Any proposed amendments to the RMA or related regulations are likely to be complex and would require consultation with the public and iwi authorities. Any proposed changes will also need to be aligned with actions being proposed through other work streams that have implications for ‘first barrier protection’.

Design and Engineering

60. The Inquiry recommended that a comprehensive review of the NES for Drilling of Soil and Rock (NZS 4411)⁶ should be carried out. NZS 4411 broadly covers all bores that draw water from any groundwater source. This work stream will consider how best to achieve this review.

⁵ Paragraph 461, Government Inquiry into Havelock North Drinking Water, Stage Two, December 2017.

⁶ New Zealand Standard 4411:2001 Environmental Standard for Drilling of Soil and Rock

Next Steps

61. The Ministers of Health and Local Government will oversee the series of immediate actions and will report back to Cabinet in February 2018 to outline and seek agreement to the Government response.
62. Under the Inquiry's terms of reference, the role of the Inquiry panel concluded on the presentation of its report. From here, the members of the Panel may, if appropriate, be asked to provide advice to assist with the wider policy development task. There are a range of ways that advice can be sought, including panel members being part of an expert advice panel. We note that Dr Poutasi is already on the recently announced Ministerial Advisory Group for Health.

Consultation

63. This paper has been jointly prepared by officials from the Ministry of Health and the Department of Internal Affairs. The Government agencies consulted on this paper were: Ministry for the Environment, Ministry of Business, Innovation and Employment, Treasury, Department of the Prime Minister and Cabinet (Policy Advisory Group) and Crown Law.
64. Any fundamental changes to drinking water systems would benefit from collaborative consultation with the public, local authorities, DHBs, Māori and iwi groups and other water professionals. We may use existing local government forums to discuss matters raised by the Inquiry's Report with interested parties.

Financial Implications

65. If the Government chooses to accept any of the Inquiry's recommendations, new funding may be required and will be sought from the between-Budget contingency established as part of Budget 2017. Further analysis and discussions are required to determine these costs.
66. A Budget bid has been developed by the Ministry for the Environment for \$150 million over ten years to fund a grant scheme that would support small, rural communities to establish safe and durable drinking water supplies.
67. The institutional form of an independent drinking water regulator will inform the process whereby a budget bid will be made. The Ministry of Health will discuss this with Treasury.

Legislative Implications

68. There are no legislative implications arising from the proposals in this paper. However, proposals arising from the Government response in February 2018 may have legislative implications.

Regulatory Impact Analysis

69. A regulatory impact analysis is not required at this time.

Human rights, gender and disability perspective

70. There are no human rights, gender, or disability issues or implications arising from the proposals in this paper. However, proposals arising from the Government response in February 2018 may have human rights, gender or disability implications.

Publicity

71. We propose to issue a media release following Cabinet's decisions, noting that:
 - 71.1 The Government is taking a two phased approach in response to the Inquiry;
 - 71.2 The Government is taking a number of immediate actions to address the Inquiry's recommendations; and
 - 71.3 We expect to release the Government response in February 2018.

Recommendations

The Ministers of Health and Local Government recommend that Cabinet:

1. **Note** that the Government Inquiry into Havelock North Drinking Water reported its Stage two findings on 6 December 2017 and that the report makes wide ranging recommendations to improve drinking water standards and infrastructure.
2. **Agree** to a two phase approach to respond to the recommendations:
 - 2.1 Phase One: immediate actions to progress:
 - 2.1.1 A statement by the Director-General of Health relating to secure bore water classifications and water suppliers' duties around source water protection and steps to provide wholesome water (recommendations 3 and 15) [22 December 2017];
 - 2.1.2 Update the Drinking Water Standards under urgent provisions (recommendations 4 and 5) [April 2018];
 - 2.1.3 The Ministry of Health will write to all large and medium suppliers who do not have effective water treatment processes to remind them of their obligations under the Health Act (recommendations 6 and 7) [January 2018];
 - 2.1.4 Work with drinking water assessors and the Medical Officers of Health to increase compliance with the Drinking Water Standards, including provision of advice on issuing non-compliance orders (recommendation 13) [letter by 22 December 2017, teleconference January 2018];
 - 2.1.5 Develop guidelines to ensure national consistency in compliance and enforcement (recommendation 14a) [underway, publication in May 2018];
 - 2.1.6 Redesign the drinking water annual report to improve monitoring and transparency (recommendation 14b) [underway, publication in July 2018];
 - 2.1.7 The Ministry of Health has also established an Expert Drinking Water Advisory Committee in response to a request from the Chair of the Inquiry Panel in August 2017. The Committee has been set up to provide the Director-General of Health with high quality, independent, scientific and technical advice on drinking water quality, and is now being refreshed in response to the Inquiry findings (recommendations 14c and 14d) [underway];

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- 2.1.8 The Ministry of Health will undertake discussions with Public Health Unit (PHU) managers around boosting Drinking Water Assessor (DWA) numbers and resources, and simplifying and clarifying accountability for DWAs (recommendations 14e and 14h) [January 2018];
 - 2.1.9 Suppliers are updating water supply plans to include critical control points (recommendation 14i) [in progress];
 - 2.1.10 Finalise draft guidance materials and accelerate the review of the Drinking Water National Environmental Standard (NES) (recommendation 17) [July 2018]; and
 - 2.1.11 Instruct the PHUs to establish a working group for water suppliers and enforcement officers and assessors, along the lines of Hawkes Bay joint working group (recommendation 18) [teleconference in January 2018]
 - 2.1.12 The Ministry of Health and Department of Internal Affairs will scope the options for a risk-appropriate regulatory scheme for New Zealand drinking water and regulatory oversight. This includes work on the design and costs of establishing an independent drinking water regulator (recommendation 9) [progresses immediately]. This work will be complemented by work being undertaken by the Three Waters Review on an industry regulator (which would concern performance of water supply, wastewater and stormwater infrastructure).
 - 2.1.13 Direct that water safety plans and compliance reports are published to increase transparency and accountability;
 - 2.1.14 Establish a drinking water reference laboratory;
 - 2.1.15 Review the water safety plan framework to make it more consistent with international best practice; and
 - 2.1.16 Establish consistent communication channels between DWAs.
- 2.2 Phase Two: consideration of all remaining recommendations, under the following workstreams:
- 2.2.1 Water Treatment (MoH lead);
 - 2.2.2 Drinking Water Regulation (MoH and DIA lead);
 - 2.2.3 Leadership, Transparency and Communication (MoH lead);
 - 2.2.4 Compliance and Enforcement (MoH lead);
 - 2.2.5 Drinking Water Standards (MoH lead);
 - 2.2.6 Aggregation of Dedicated Suppliers (DIA lead);
 - 2.2.7 Enhancing 'first barrier protection' through the resource management system (MfE lead); and
 - 2.2.8 Design and Engineering (MoH lead).
3. **Note** that the Ministers of Health and Local Government will report back in February 2018 with the draft Government response to the Inquiry. This will include progress on Phase One actions and the Government's position on issues considered in Phase Two.

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4. **Note** the Government response may accept, reject, or note further work is required on the recommendations.
5. **Note** that the Inquiry did not look into the financial implications of its recommendations and these will need to be considered to inform the government response and funding required.
6. **Note** that any funding required to support the implementation of a Government response and funding required may be sought from the between-Budget contingency established as part of Budget 2017.
7. **Note** that any fundamental changes to drinking water systems would benefit from collaborative consultation with the public, local authorities, DHBs, Māori and iwi groups and other water professionals.

Hon Dr David Clark
Minister of Health

Hon Nanaia Mahuta
Minister of Local Government

Appendix One

The regulatory context for drinking water in New Zealand

The regulatory framework for drinking water is established under the Resource Management Act 1991 (RMA), the Local Government Act 2002 (LGA), and the Health Act 1956 (Health Act). The RMA assigns primary responsibility for protecting sources of drinking water ('first barrier protection') to regional councils through their prescribed functions under the Act. The national environmental standard for sources of human drinking water requires regional councils to consider the impacts of specific activities on registered drinking water supplies. The LGA provides local authorities with mechanisms (such as bylaws) and responsibilities for protecting the needs of their communities in relation to the sourcing, treatment, and supply of drinking-water. The Health Act protects consumers by specifying quality standards for drinking water and imposing duties on drinking-water suppliers. Collectively, these pieces of legislation provide for a multi-barrier approach to protecting drinking water.

Drinking Water Standards have been in place in New Zealand since 1984. Up until 2007, compliance with those standards was voluntary. Amendments made to the Health Act in 2007 made it mandatory for drinking water suppliers and specific self-suppliers (providing drinking water to community) to take all practicable steps⁷ to comply with the standards. Obligations entered into force progressively between 2011 and 2016, allowing smaller suppliers a longer lead time to make the necessary investments and arrangements to achieve compliance. Some progress has been made in terms of improving drinking water quality in New Zealand, however recent events have shown there is more that needs to be done.

A cost-benefit analysis was carried out in June 2010, prior to Health Act obligations entering into force. The capital cost of upgrades to enable compliance with bacterial and protozoal criteria in the Drinking Water Standards at that time was estimated at \$336.7 million (with a likely range of \$250 million to \$423 million).

The nature of the supply of drinking water in New Zealand

Water service provision in New Zealand is highly fragmented. There are over 900 registered drinking water suppliers, 284 are network suppliers and 693 are specified self-suppliers (self-suppliers supplying community-purpose buildings).⁸

A breakdown of water service provision by supply size is provided in Table 1.

Population band	Population range	Suppliers	Supplies	Population
Large	10,001 or more	36	43	3,197,023
Medium	5,001 to 10,000	17	24	165,756
Minor	501 to 5,000	78	215	415,219
Small	101 to 500	309	432	100,767
Neighbourhood	25 to 100	653	760	43,939
Total		961*	1,474	3,922,704

* Total is less than column sum because a supplier's supplies can span multiple population bands.

⁷ The phrase "all practicable steps" allows for a consideration of affordability of the necessary measures.

⁸ Self-supply is generally regulated under the Building Act 2004. Specified self-suppliers are captured by the Health Act.

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Table 1: Water service provision in New Zealand

About 80% of the population's water supply is provided by territorial authorities. Building and maintaining quality water infrastructure are high-cost activities and this fragmentation means that most of the individual supplies around the country will not be of a scale to support the base costs of expectations, as set out in the standards. How to achieve economies of scale for water infrastructure and service provision has been considered by the Productivity Commission and discussed in its report, *Using land for Housing* (September 2015). The issue of meeting drinking water quality expectations is even more pointed for communities with a declining ratepayer base. For these communities, certain investments which would enable them to meet the standards may not be appropriate as maintenance costs may not be sustainable over time.

Over the three years starting 2013/14, local authorities spent \$234 million on water treatment plants.⁹

⁹ DIA analysis of local authority annual reports.

Appendix Two

Phase One: Immediate actions	
Phase Two: Government Response in February 2018	

#	Recommendation	Workstream
Inquiry's 'Urgent and Early Recommendations'		
1	The six fundamental principles of drinking water safety should be recorded and promulgated to the industry and used to inform all recommended reforms as well as the operation of the entire drinking water system.	Leadership, transparency and communication
2	The secure classification system in section 4.5 of the DWSNZ should be abolished forthwith. The concept of a secure classification is fundamentally flawed as it does not provide a sound or safe basis for dispensing with treatment or reducing monitoring requirements and provides an erroneous and misleading message that the bore water is safe.	Drinking Water Standards
3	The Director-General of Health should urgently encourage and persuade suppliers and DWAs not to rely on any current "secure" bore water classifications. To this end, the Director-General should give consideration, inter alia, to publishing a statement relating to the performance of the duty imposed on suppliers under the Health Act in ss 69U and/or 69W.	Leadership, transparency and communication
4	Section 4.5 of the DWSNZ should be deleted forthwith, with such other consequential changes as may be needed (for example, amendments to sections 3.1 (Compliance and Transgressions), 3.3.1 (Determinands), 4.3.8.2 (Free Available Chlorine Disinfection), 4.3.9 (Response to Transgressions), 5 (Protozoal Compliance), 10.3.2 and Table 10.1 (Microbial Treatment Requirements)).	Drinking Water Standards
5	In respect of the changes to the DWSNZ identified in recommendation (4) above, the Minister of Health should utilise the powers in s 69P(2) to dispense with consultation before amending the DWSNZ, on the basis the Minister can be satisfied from the contents of this report, and the Stage 1 Report that the amendment is needed urgently.	Drinking Water Standards
6	Because the risks to the public of untreated drinking water are simply too high to continue with such supplies until legislation mandating universal treatment has been considered and passed, the Director-General of Health can and should, in the interests of public safety and welfare, exercise effective and practical leadership to encourage water suppliers to use appropriate and effective treatment without delay.	Water treatment/Leadership, transparency and communication
7	The Director-General of Health should promptly provide firm and clear advice to drinking water suppliers that all supplies should be appropriately and effectively treated pending any change to the law and/or the DWSNZ.	Leadership, transparency and communication

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#	Recommendation	Workstream
8	The CEOs of DHBs (with PHU responsibilities) should advise drinking water suppliers that all supplies should be effectively treated pending any change to the law and/or the DWSNZ.	Water treatment/Leadership, transparency and communication
9	A dedicated drinking water regulator which can oversee all other reforms should be established early and promptly.	Drinking Water Regulation
10	The important fundamental characteristics of a dedicated drinking water regulator should include: (a) Independence and freedom from conflicts of interest; (b) A sufficient level of resourcing; and (c) Proper expertise in relation to all relevant disciplines necessary for the delivery of safe drinking water.	Drinking Water Regulation
11	Without defining or limiting the matters for which a regulator might be responsible, a regulator should have responsibility for licensing and qualification of supplies, the standards and practices of water suppliers, DWAs, laboratories and samplers, compliance and enforcement, and the approval and monitoring of WSPs.	Drinking Water Regulation
12	Pending any legislative change in relation to the creation of a drinking water regulator, a Drinking Water Regulation Establishment Unit should be set up to address the matters set out below: (a) Maintaining momentum; (b) Facilitating the establishment of a drinking water regulator; and (c) Facilitating the hand-over to a drinking water regulator. The Ministry of Health's current disaggregated drinking water resources do not possess the necessary skills and attributes and should not be used for this purpose.	Drinking Water Regulation
13	The Ministry of Health, via the DWAs and Medical Officers of Health, should take urgent steps to administer and enforce the existing regulatory regime, having regard to the findings and recommendations in this Stage 2 Report.	Compliance and Enforcement
14a	The Director-General should promptly put in place a clear and effective enforcement policy which emphasises, but is not limited to, the issuing of compliance orders by Medical Officers of Health under s 69ZZH, with a view to urgently improving compliance levels by suppliers.	Compliance and Enforcement
14b	The Director-General should reformat the annual report and make effective use of ss 69ZZZB and 69ZZZC to hold suppliers accountable in a meaningful and direct way.	Leadership, transparency and communication
14c	The Ministry of Health should establish a panel of drinking water experts (with expertise across the range of different disciplines relevant to the delivery of safe drinking water).	Leadership, transparency and communication
14d	The panel of drinking water experts should provide advice to the Ministry in relation to implementation of all required interim improvements.	Leadership, transparency and communication
14e	The Ministry of Health should take all necessary steps to boost DWA numbers and resources.	Leadership, transparency and communication
14f	The HPO qualification should be removed as a requirement for DWAs.	Leadership, transparency and communication

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#	Recommendation	Workstream
14g	The Ministry of Health should urgently apply a substantial increase in resources and skills to drinking water so as to give effect to these recommendations.	Leadership, transparency and communication
14h	Dr Snee's recommendations to simplify and clarify accountability for DWAs should be refined, as appropriate, and adopted.	Leadership, transparency and communication
14i	After 23 February 2018, the Director-General should issue a notice without delay under s 69Z(2)(vi) requiring any supplier who has not incorporated critical control points and process control summaries in its WSP to do so within two weeks.	Leadership, transparency and communication
14j	The Ministry of Health should recommend to the Minister that he invoke s 69P(2) to dispense with consultation and urgently amend the DWSNZ to require routine monitoring of total coliforms and to remove the use of presence/absence testing for E.coli and total coliforms.	Drinking Water Standards
14k	The Ministry of Health should establish an effective regime for drinking water samplers, including (at least) training, certification, and oversight.	Leadership, transparency and communication
14l	The Director-General should promptly remove Level 2 laboratory recognition.	Leadership, transparency and communication
15	Sections 6 and 30 of the RMA should be amended to expressly recognise protection and management of drinking water sources as a matter of national importance and as a function of regional councils, respectively.	Enhancing 'first barrier protection' through the resource management system
16	The above amendments should be considered for processing, if appropriate, through the statute amendments bill process on the basis that they are matters of clarification and do not alter any substantive law.	Enhancing 'first barrier protection' through the resource management system
17	The review of the NES Regulations should be accelerated and consideration should be given to rewriting them as a matter of high priority to address the specific problems identified in this Stage 2 Report.	Enhancing 'first barrier protection' through the resource management system
18	DHBs (with PHUs) should establish as soon as practicable (with the assistance of the Ministry of Health), a JWG (or groups) responsible for oversight of drinking water safety in their respective regions. Such JWGs should operate along the lines of the Hawke's Bay JWG and the CDWRG described in this Stage 2 Report.	Leadership, transparency and communication
19	Sections 69P and 69R should be the subject of urgent amendment. Sections 69P (obligation to consult) and 69R (commencement of DWSNZ) effectively mean that no change can be made to the DWSNZ in less than five years, which is a wholly unacceptable timeframe.	Drinking Water Regulation
Inquiry's 'Further Recommendations to Prevent Recurrences'		
20	Appropriate and effective treatment of drinking water should be mandated by law or through the DWSNZ for all supplies (networked and specified self-suppliers). This should include a residual disinfectant in the reticulation.	Drinking Water Standards
21	Provision should be made for exemptions to mandatory treatment only in very limited circumstances. Any supplier	Drinking Water Regulation

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#	Recommendation	Workstream
	seeking an exemption should have to discharge a heavy onus of satisfying an appropriately qualified and experienced body of the present, and ongoing, safety of the particular supply.	
22	A licensing system for all existing and future networked drinking water suppliers should be established as soon as practicable and consideration should be given to a mandatory qualification system for suppliers and their staff.	Aggregation of Suppliers
23	The detail of a licensing and mandatory qualification system should be worked out after a more detailed review and consultation with interested parties. A licensing system should include, at a minimum, organisational capability (such as governance, finance, backup, management, insurance and the like) as well as the competence and qualifications of key staff members. The standards should be high and commensurate with the risks attending the supply of drinking water to all of New Zealand's population and all visitors to our country. A mandatory qualification system should involve a programme of qualifications that addresses the different disciplines involved in water supply and provide for qualifications, experience and continued professional development.	Aggregation of Suppliers
24	All aspects of licensing and qualifications would best come under the purview of a new dedicated drinking water regulator, as recommended above.	Drinking Water Regulation
25	A separate Drinking Water Act should be enacted to better emphasise the importance of safe drinking water and to make the statutory regime more readily accessible.	Drinking Water Regulation
26	The Health Act should be amended to remove the "all practicable steps" test in, at least, ss 69H, 69S, 69V, 69Z and 69ZF, thereby making all duties on water suppliers mandatory.	Drinking Water Regulation
27	The defences in s 69ZZS, and all other references to all practicable steps, should be removed so as to make compliance mandatory and to create strict liability offences.	Drinking Water Regulation
28	The legislative changes to the Health Act set out in Part 21 should be adopted.	Drinking Water Regulation
29	The position regarding self-suppliers should be comprehensively reviewed first, to determine an appropriate definition of self-suppliers which should be regulated and overseen, and, second, to determine what regulation, oversight, and other measures are needed to achieve safe supply to members of the public being served by self-suppliers.	Drinking Water Regulation
30	In addition to the urgent DWSNZ changes at recommendation (4) above, a comprehensive review should be carried out by an expert or experts and the DWSNZ should be amended after such review to incorporate, at least, the remaining recommended changes set out in Part 22.	Drinking Water Standards

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#	Recommendation	Workstream
31	Collaboration groups (JWGs) should be mandated by law. How such JWGs are configured should depend on relevant local and regional circumstances.	Drinking Water Regulation
32	Given the existence of a compelling case for dedicated and aggregated suppliers being established as an effective and affordable means to improve compliance, competence and accountability, the Government should make a decisive and definitive assessment of whether to mandate, or persuade, suppliers to establish aggregated dedicated water suppliers.	Aggregation of Suppliers
33	Given the long history of equivocation on this issue (see Appendix 3), a review and decision by the Government should be actioned as soon as practicable.	Aggregation of Suppliers
34	The training, qualifications and selection criteria for DWAs should be reviewed in order to, in particular, increase levels of water treatment and network operation expertise.	Leadership, transparency and communication
35	The need for accreditation of DWAs should be reviewed once the questions of their structure, employment, accountability and qualifications are resolved. At that point, a more informed assessment of the accreditation system and its continued necessity under an improved system can be made.	Drinking Water Regulation
36	The Ministry for the Environment should ensure the outcome of the review of the NES Regulations is accompanied by a comprehensive and ongoing programme of implementation and guidance. This should include providing councils with the information they require to implement the NES Regulations properly. It should also include better mechanisms for information input and information-sharing between councils. When JWGs are established, the information-sharing aspect of the NES Regulations should form a core part of their activities.	Enhancing 'first barrier protection' through the resource management system
37	Water suppliers should be required by the Director-General to review their WSPs to ensure that: (a) leadership, governance and management understand the relevant drinking water risks and have appropriately addressed the management of those risks in their strategic decision making, long term planning, audit and resource allocation processes, and delegations; (b) operational staff understand the critical control points and other processes they are required to follow, the matters they are required to monitor and escalate as appropriate, and that the critical control points and other processes are in place and are being implemented; and (c) the WSP is being used as a living document and is updated as frequently as necessary.	Leadership, transparency and communication
38	All DWAs and Medical Officers of Health should adopt a rigorous approach to the requirements for approving and reporting on implementation of WSPs as set out in ss 69Z(4)–(5), 69ZL(1)(a) and 69ZP(1)(c)(iii) of the Health Act.	Compliance and enforcement

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#	Recommendation	Workstream
39	DWAs should action any failures to implement a WSP promptly and effectively with, where appropriate, compliance orders and/or other enforcement action.	Compliance and enforcement
40	An amendment should be made to the Health Act to require every water supplier to have an effective ERP, including a communications plan and pre-prepared boil water notice. The supplier should be required to consult with its local public health agencies in the development of its ERP.	Drinking Water Regulation
41	The Ministry of Health should review, update and amend the DWSNZ and Drinking-water Guidelines in respect of ERPs and boil water notices in light of international best practice.	Drinking Water Standards
42	The Ministry of Health should review and consolidate the currently approved drinking water testing methods and strengthen the methodology and process for assessing equivalence of new methods against reference testing methods.	Leadership, transparency and communication
43	The Ministry of Health should establish an effective regime for drinking water carriers to include at least training, oversight, enforcement of requirements, and reporting to the relevant drinking water suppliers and DWAs.	Drinking Water Regulation
44	The Ministry of Health and IANZ should include in the criteria for laboratory accreditation the employment of at least one senior microbiological expert.	Drinking Water Regulation
45	The Director-General should issue advice to relevant parties, including laboratories and drinking water suppliers, drawing attention to the obligation under s 69ZZ(2) of the Health Act to forward the results of any drinking water analysis or test that indicates non-compliance to both the Director-General and IANZ. IANZ should also require laboratories to supply external quality assurance data to it immediately when received.	Leadership, transparency and communication
46	IANZ, with support and follow up action where necessary by the Ministry of Health, should continue to implement and update a mechanism enabling and requiring laboratories to share information.	Leadership, transparency and communication
47	A comprehensive review of NZS 4411 should be carried out, covering the design, construction, as-built records, supervision, operation, inspection, maintenance, refurbishment/renewal and decommissioning of all bores that draw water from any groundwater source water intended for drinking or that penetrate the aquitard of any drinking water catchment.	Design and engineering
48	A subsequent review of the DWSNZ, Drinking-water Guidelines, all regional plans, RMA consent conditions, building consent conditions (where they apply), and water suppliers' policies and standards should be undertaken to bring them into line with any new national standard.	Drinking Water Standards/ Enhancing 'first barrier protection' through the resource management system
49	No new below-ground bore heads should be permitted. Below-ground bore heads are undesirable and introduce additional (and unnecessary) risk.	Drinking water regulation/design and engineering

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#	Recommendation	Workstream
50	DWAs should ensure special attention is given to the risk of existing bores with below-ground headworks in future WSPs. Appropriate mitigation measures should be implemented, including treatment and raising them where practicable.	Drinking water regulation/design and engineering
51	The Government should invite the Controller and Auditor-General to monitor, for the next five years, the implementation of all the recommendations and initiatives set out in this Stage 2 Report. The Controller and Auditor-General should report to Parliament, as appropriate, on the question of implementation during the five year period.	Leadership, transparency and communication