

# **Canterbury**

District Health Board

Te Poari Hauora o Waitaha

## **Submission on Beneficial Use of Organic Waste Products on Land 2017/2018 Consultation**

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**Submitter:** Canterbury District Health Board  
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## **SUBMISSION ON**

### **BENEFICIAL USE OF ORGANIC WASTE PRODUCTS ON LAND CONSULTATION**

#### **Details of submitter**

1. Canterbury District Health Board (CDHB).
2. The submitter is responsible for promoting the reduction of adverse environmental effects on the health of people and communities and to improve, promote and protect their health pursuant to the New Zealand Public Health and Disability Act 2000 and the Health Act 1956. These statutory obligations are the responsibility of the Ministry of Health and, in the Canterbury District, are carried out under contract by Community and Public Health under Crown funding agreements on behalf of the Canterbury District Health Board.
3. The Ministry of Health requires the submitter to reduce potential health risks by such means as submissions to ensure the public health significance of potential adverse effects are adequately considered during policy development.

#### **Details of submission**

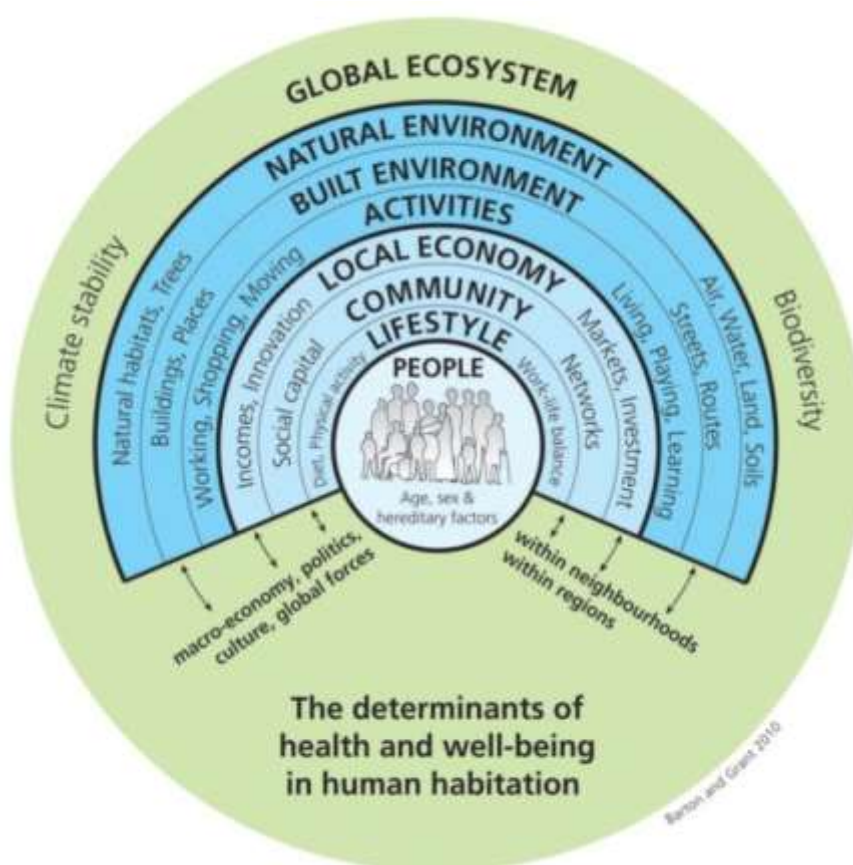
4. The CDHB welcomes the opportunity to comment on the Beneficial Use of Organic Waste Products on Land Consultation. The future health of our populations is not just reliant on hospitals, but on a responsive environment where all sectors work collaboratively.
5. While health care services are an important determinant of health, health is also influenced by a wide range of factors beyond the health sector. Health care services manage disease and trauma and are an important determinant of health outcomes. However health creation and wellbeing (overall quality of life) is influenced by a wide range of factors beyond the health sector.
6. These influences can be described as the conditions in which people are born, grow, live, work and age, and are impacted by environmental, social and behavioural factors. They are often referred to as the social determinants of health<sup>1</sup>.

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<sup>1</sup> Public Health Advisory Committee. (2004). *The Health of People and Communities. A Way Forward: Public Policy and the Economic Determinants of Health*. Public Health Advisory Committee: Wellington.

The diagram<sup>2</sup> below shows how the various influences on health are complex and interlinked.

7. The most effective way to maximise people's wellbeing is to take these factors into account as early as possible during decision making and strategy development. Initiatives to improve health outcomes and overall quality of life must involve organisations and groups beyond the health sector, such as local government if they are to have a reasonable impact<sup>3</sup>.



<sup>2</sup> Barton, H. & Grant, M. (2006). A health map for the local human habitat. *The Journal of the Royal Society for the Promotion of Health*, 126(6), 252-253. <http://www.bne.uwe.ac.uk/who/healthmap/default.asp>

<sup>3</sup> McGinnis, J.M., Williams-Russo, P., & Nickman J.R. (2002). The case for more active policy attention to health promotion. *Health Affairs*, 21(2), 78-93.

## General Comments

8. The Canterbury District Health Board has concerns with some aspects of the *Guide* and has included recommendations for inclusion
9. There are issues with this document that if not amended have significant potential to cause environmental harm and risks to human health.
10. The Canterbury District Health Board supports Environment Canterbury's concerns with this document and the associated environmental and human health risks.

## Specific comments

11. **Regional Council Rules, Management Plans and Setbacks** – The *Guide* makes limited reference to setbacks from sensitive receptors such as waterbodies, Drinking Water Protection Zones and intrusion into groundwater through porous soils – this is in contrast to many Regional Council Rules requiring setbacks. Development of setback distances should be incorporated into this *Guide*.
12. Management Plans that include criteria about the operational procedures are a useful tool to ensure all aspects of the operation are run according to procedures and within safe guidelines. Topics covered in the *Guide* around the monitoring scope and routine Management Plans should include the following so as to mitigate any adverse impact on the environment and the health of the public - bunding, blending, slope, temperature controls and setbacks from residential properties, pest management, maximum area, volume of stockpiles, setback between stockpiles, odour management, fire risk and location over unconfined aquifers. The inclusion of these aspects will be reliant on the specific type of operation and location. The *Guide* could be an important reference document to ensure that these aspects are encompassed in any activity planning and a risk assessment tool would be of benefit to users

**Recommendation 1:** Provide guidance around aspects of the operation which may impact on public health and encourage the development of Management Plans as a means of control utilising risk assessment criteria.

13. **Quality Control:** Whilst the intention of the *Guide* is to provide for the application of 'good quality products' to existing soils and specifies the type of material that are suitable there is concern that monitoring will be unable to identify contamination. It is feasible that the history of the source cannot be guaranteed and analysis will not be specific enough to identify an impurity which may potential contaminate ground water or create a public health risk.
14. There is no clear accreditation criteria outlined in the document that will ensure that organic material will be tested using best practice methodology and equipment. The CDHB also has concerns with the proposal to use composite sampling as this can hide non-complaint individual samples. Composite sampling should only be used, where records indicate that the material has been effectively blended and applied to land in a way that avoids hotspot contamination of the land.
15. The CDHB also has concerns with the proposed 2 yearly and 5-yearly review process outlined in section 2.6. This is inconsistent with best practice for discharge to land which requires a 5 yearly rolling average and requires a gradual lowering of the discharge concentration. This method is outlined in the Canterbury Land and Water Regional Plan. The proposed guide as it current stands is inadequate and should be amended to incorporate this methodology.

**Recommendation 2:** Develop guidance around criteria for accredited sources and annual review instead of 2 and 5 yearly reviews

16. **National Environmental Standards and Soil Type:** The acceptable concentrations of metals in composting material in this guide are above the residential guidelines and inconsistent with the National Environmental Standard (NES) for Contaminated Land, NES for Contaminated Soil Regulations, Toxicological Intake Values for Priority Contaminants in Soil (MfE 2011) and Methodology for Deriving Standards for Contaminants in Soil to Protect Human Health (MfE 2011).
17. It is not appropriate for the guidance document to allow levels of metals above the environmental standards. The guidance in this document provides a pathway for creating contaminated sites, this is completely unacceptable and this document must be amended to be in line with National Planning Legislation and associated regulations.
18. The *Guide* also fails to account for different types of soil within and between different properties. Soil with limited porosity will accumulate contaminants, which is of particular concern regarding metals many which are persistent. Correspondingly, soils with high porosity are likely to leach through the soil and are at risk of contaminating groundwater and nearby surface water bodies. Reference should be made to the Landcare Research Soil Map which indicates the different soil types and porosity.

**Recommendation 3:** The consultation document should be revised in order to be in-line with the NES for Contaminated Soil Regulations, the Toxicological Intake Values for Priority Contaminants in Soil (MfE 2011) and Methodology for Deriving Standards for Contaminants in Soil to Protect Human Health (MfE 2011). Reference should be made to the Landcare Research Soil Map.

19. **Aerosols and Respiratory Health:** There is no mention of bioaerosols and the risk from the creation and dispersal of respirable pathogens in the guidance document. Exposures to bioaerosols are associated with a wide range of health effects with major public health impact, including infectious diseases (legionellosis), acute toxic effects, allergies and cancer.
20. It is a significant oversight by the authors of this guide to not mention the risks from respirable pathogens. The guide mentions temperature controls to mitigate against other pathogens; however there is no mention of Legionella. Legionella requires temperatures of over 60° C to effectively kill the bacteria. The guide has no guidance for ensuring that the temperature throughout a pile of organic material has reached 60° C; this must be amended.

**Recommendation 4:** Develop guidance around temperature control, setbacks from residential properties and aerosol containment to reduce the risk of bioaerosols dispersion.

21. **Pathogens** - Whilst the value of applying organic waste products to land is acknowledged the limits proposed in the guide are inconsistent with the New Zealand Drinking Water Standards around levels of *e.coli*. Reasoning in the *Guide* around pathogens such as cryptosporidium and giardia are fundamentally flawed. These two pathogens in particular are particularly resistant to temperature differences and are persistent for long periods in the environment.
22. ESR guidance documents for PHU's indicates that Cryptosporidium requires a minimum of 67.5 degrees and Giardia requires 70 degrees for 10 minutes to inactive the oocysts. The proposed methods in this document do not achieve that.
23. There also appears to be limited guidance around setbacks from water bodies and drinking water bores; both of which can be routes of infection if organic waste is placed in a manner than can cause contamination through run-off and through leaching. Development of minimum setback distances should be developed with associated risk assessment criteria.

**Recommendation 5:** Amend the pathogen standards to ensure that infectious pathogens are eliminated from material that is being applied to land; and to amend the document to outline setback requirements from water bodies, drinking water bores and Drinking Water Protection Zones.



## Summary

24. The CDHB recommends that further refining and amending of the *Guide* is required in order to minimise adverse public health impact from depositing organic waste products onto land.

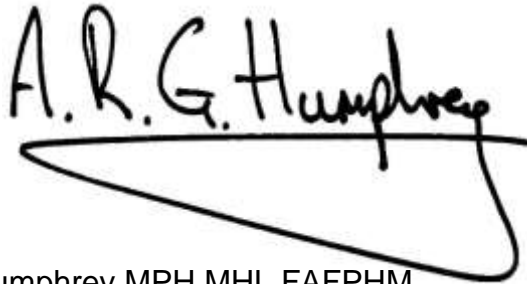
## Conclusion

25. The CDHB does not wish to be heard in support of this submission.

26. If others make a similar submission, the submitter will not consider presenting a joint case with them at the hearing.

27. Thank you for the opportunity to submit on Beneficial Use of Organic Waste Products on Land Consultation.

## Person making the submission

A handwritten signature in black ink that reads "A. R. G. Humphrey". The signature is written in a cursive style and is underlined with a long, sweeping horizontal line that extends to the right and then loops back under the name.

Dr Alistair Humphrey MPH MHL FAFPHM  
Public Health Physician CDHB

Date: 9<sup>th</sup> March 2018

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