



The Public Health Perspective – Dr Jim Miller, Medical Officer of Health

Why do we need to treat and dispose sewage in a safe manner?

- Human faeces potentially contain pathogens capable of causing illness/disease. Sewage typically contains millions ($10^6 - 10^8$) of bacteria per 100ml) and nutrients (particularly nitrogen and phosphorus) potentially harmful to aquatic life.
- Diseases are present in the community eg. Campylobacter, Salmonella, Giardia and Norovirus. Many of these are still viable and virulent, even when sewage has been in the external environment for some time.
- Fundamental purpose is to protect the health of individuals and the wider community from an environment contaminated by sewage.

How do reticulated sewerage systems safeguard public health?

- Prevent direct contact with infectious material by people, pets, farm animals, food crops/vegetable gardens.
- Protect drinking-water sources – including current and future, ground and surface waters.
- Protect recreational and wild food gathering waters from algal blooms and/or elevated bacteria levels.
- Reduce the overall level of infectious disease in the community.

Sewage treatment and disposal key messages

- The protection and, where necessary, the improvement of public health should be central to sewage treatment and disposal.
- An environment contaminated by human waste is a health hazard whether the contamination is intermittent or localised.
- A sewage contaminated environment impacts on the social, cultural, economic and environmental health of individuals and the wider community.
- Among the greatest advances made in improving public health has been to keep people away from waste by diverting sewage to sewerage systems.
- Public Health supports the best practicable sanitary service to protect health.

Sanitary sewage systems versus centralised and onsite

| Reticulated & centrally treated systems | On site treatment & disposal systems |
|---|--|
| Sewage removed off site and people are separated from their waste | Sewage remains onsite and people remain in the vicinity of their waste |
| Suitable for built up areas (2 or more dwellings/buildings) | Suitable for remote isolated dwellings/buildings |
| Serves more people, therefore protects more people | Serves a household not a community |
| Usually professionally operated and maintained | Relies on homeowner to maintain and operate |
| Usually single discharge location | Multiple discharge locations |
| Known and constant treatment quality | Unknown and variable treatment and discharge quality |

Take home messages

- Separation of people from their waste is paramount for the protection of public health.
- Onsite systems (ie septic tank type systems) are only appropriate for isolated dwellings.
- Without regular maintenance and correct operation, onsite systems have the potential to fail and cause a health nuisance.
- Professionally operated reticulated sewerage treatment and disposal systems are the most protective of public health.



Lakes District Health Board is committed to improving and protecting the health of the communities in the Lakes district.

Position Statement – Sanitary Services

Sanitary services have a significant impact on the health of individuals and communities.

Lakes District Health Board advocates for and supports the best practicable sanitary services to protect the health of the public.

This position statement refers to the wastewater components of sanitary services: water supply, sewerage works, and drainage works as detailed in [section 25\(1\)\(a\),\(b\)](#) of the Health Act 1956. Other components of sanitary services included in the legislature, such as [refuse collection](#), public toilets, and cemeteries, are not included in this statement.

Sanitary services, either through collective systems or by installations serving a single household, are essential for good health. Effective sanitary services will supply safe water, keep pathogens out of the environment and prevent contamination of food and water sources.

Dwellings supplied from professionally designed and maintained reticulated systems (a network of connected pipes) are the most protective of public health.

A sufficient supply of safe water for drinking, food preparation, personal hygiene and sanitation is a necessity for health.

No sewage treatment or disposal system is failsafe or entirely protects public health; therefore distancing people as much as possible from sewage is a prime public health measure. Disposal of human waste by onsite effluent treatment systems is an acceptable solution to protect public health, but only for isolated and remote dwellings and provided they are properly maintained and operated.

Along with the provision of clean drinking-water, the safe treatment and disposal of sewage has been one of the most important measures for improving public health. The safe treatment and disposal of sewage and sewage by-products are necessary for controlling disease and for protecting the environment.

Storm-water management is also an essential component of sanitary services. Storm-water from urban and rural land uses can contaminate receiving environments such as; fresh and marine waters used for contact recreation and food gathering. Storm-water can also contaminate drinking-water sources. Effective storm-water treatment and drainage reduces the health risks from heavy

rain, such as slips and floods, and also reduces pooling of water which can become breeding grounds for disease-causing organisms and pests.

Sanitary services are central to the protection of public health and the protecting the environment from contamination is a necessity for current and future populations. Improving the sustainability of the natural environment wherever possible will in the long-term protect public health.

Lakes District Health Board advocates and supports the following:

- Quality sanitary services where protecting the public's health is the primary consideration
- The provision and management of effective sanitary services by local authorities
- Access to safe and sufficient water suitable for drinking, food preparation, and personal hygiene
- Distancing people from contact with sewage and its products as much as is practicable
- Effective collection, treatment, and proper disposal of sewage and its by-products
- Effective storm-water management
- Initiatives which support non-council operated and maintained sanitary services to comply with the Health, Building, and Resource Management Acts

References and further information

New Zealand Building Act 2004

New Zealand Health Act 1956

New Zealand Local Government Act 2002

New Zealand Resource Management Act 1991

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