

Water Quality Surveillance in the Ministry of Health

Drinking-water surveillance

- Data on drinking-water quality are collected by water suppliers
- Drinking Water Assessors (DWAs) accredited to ISO/IEC 17020 carry out surveillance of the quality of the data produced by the water suppliers taking confirmatory samples where needed.
- The DWAs transmit the data to the ESR ChCh WINZ team who manage WINZ for the Ministry of Health.
- The water suppliers have access to WINZ and can check the data quality
- The data are re-checked annually by ESR ChCh, the DWAs and the water suppliers prior to publication of an annual report on drinking-water quality in NZ by the Ministry.

Purposes of the drinking-water information base, WINZ.

1. To enable water suppliers to verify the information held about them by the Ministry
2. To enable the Ministry and DWAs to identify events when the Drinking Water Standards of New Zealand are not complied with and take remedial action
3. To provide consumers with information on the quality of the water that they drink.
4. To enable potential linkages between drinking-water quality and endemic enteric disease to be investigated.

Investigation of the effects of drinking-water quality on public health

Conceptually linkages between drinking-water quality and public health could be investigated by comparing water quality and public health data sets.

Pre-requisites:

1. The water and health data sets use comparable space/time frameworks of reference.
2. The quality of the data in the data sets is suitably robust.

Data Quality

- The quality of the water quality data in WINZ is robust.
 1. All water quality data in WINZ is cross-checked annually
 2. A few cases where locality data are inaccurate or zones not registered
 3. Challenges to the WINZ data have not been upheld when investigated.

- The quality of the enteric disease data in EpiSurv is less robust.
 1. Data are checked each month but not all data fields within EpiSurv can be cross-checked
 2. Data on the water supply is suspect within EpiSurv
 3. Some challenges to the validity of enteric disease data in EpiSurv have not been refuted.

Quality of enteric disease data

- Areas of weakness exist in the chain of evidence for data on endemic enteric disease:
 1. Some diarrhoea patients do not present to GPs
 2. Not all relevant data are received from patients / GPs/ laboratories
 3. Errors in transcription can occur at any link of the chain
 4. DHB interpretation of data received from GPs or of the reporting guidelines is not always consistent
 5. Not all cases can be investigated (uncontactable/resources)
 6. Causation is often not able to be established (lack of resources/time frames/info from cases).

Consequences of poor data

1. Development of evidence-based health policies is compromised
2. Attempts to establish linkages between potential health determinants and health outcomes are compromised
3. Adverse political effects have arisen when disease data are challenged and their validity has been difficult to uphold.

Suggested future action 1

Aim: To identify weak links in the chain of evidence for:

- number of cases of gastroenteritis in a given location
- identification of the causal organism
- identification of the causal exposure ~e.g.
 - person to person
 - animal contact
 - contaminated food to person
 - contaminated drinking water
 - exposure to contaminated recreational water
 - overseas

and identify and evaluate ways of improving the data quality at each stage

Suggested future action 2

1. Establish a project to improve the quality of data
2. Establish a risk management framework for reporting
3. Set up group of corresponding contributors/referees
This should include contributors who can initiate action on:
 - improvement of reporting guidelines
 - improvement of quality of data from initial reporters (GPs, laboratories, pharmacies) [e.g. by use of appropriate software for recording of patient data by GPs, etc]
 - improvement of quality of data transmitted by DHBs (e.g. by improved performance measures in MoH~DHB contracts; training requirements, IANZ accreditation)
 - assess quality assurance procedures for managing EpiSurv data.

Elements of a Risk Management process

- Identification of what is intended to be achieved (the 'target')
- Identification of the factors that could prevent the target being achieved (the 'risks')
- Identification of the ways in which the risks could be overcome ('managed').
- Identification of the relative magnitude of the risks and ranking of the priorities for dealing with the risks, taking into account both their importance and their relative ease of management.
- Establish a monitoring programme for checking what improvements have been achieved
- Establish and implement a schedule for managing the risks (responsibilities and timetable).