Why is this issue important?

Regulation of drinking-water quality at the point-of-use (the tap) only is inadequate and inefficient for the effective protection of public health. Multiple elements from source to consumers, including oversight and management, are key determinants of drinking-water quality and their coordinated management plays an important role in protecting public health.

How is this issue addressed?

The following elements of drinking-water quality management should be covered by regulations in order to safeguard public health:

Protection of Public Health
- Adequacy of supply (i.e. quality, quantity, accessibility, affordability, acceptability and reliability), including drinking-water quality standards.
- Surveillance for potential water-borne illness events to identify, as a minimum, those responsible for collecting and sharing information and responding to potential illness events.

Source Water
- Source water protection, including pollution prevention (land use zoning and policies), well-head protection, application of codes of practice and watershed management.
- Water abstraction and use, such as permits allowing for the withdrawal of water from surface and groundwater sources, protection from over-withdrawal and associated tariffs.

Infrastructure
- Materials and fittings, including treatment chemicals, materials that come into contact with water from the point of collection to the point of distribution, and water treatment devices used in households.
- Commissioning and decommissioning of wells, boreholes, water treatment facilities and other infrastructure.
- Design and construction of water treatment facilities and plumbing systems, including environmental impact assessments.

Water treatment and delivery
- Minimum treatment standards, including identifying allowable concentration of substances and setting performance targets, based on assessment of source water quality and processes and practices used to treat the water.
- Operation and maintenance of drinking-water supplies to confirm that the chain of supply is operating properly and that appropriate water quality standards are met.
- Occupational health and safety programs to protect workers from occupational hazards, such as handling and using chemicals and working in confined spaces.
- Standards for delivering non-piped water, including bulk transportation and storage.
System assessment and enforcement

- Verification and operational monitoring, e.g., testing of finished water quality by authorized laboratories to confirm compliance with targets.
- Audits and inspections of, for example, drinking-water supplies and installations, to identify hazards and assess risks, as part of the WSP approach.
- Consumer satisfaction: feedback from consumers whether drinking-water is safe, acceptable, physically accessible, affordable and the service is reliable.
- Enforcement powers, including authority to act and penalize non-compliance with regulations.

Operation and management procedures

- Codes of practice, training and, where appropriate, certification of operators, inspectors, engineers, laboratories, plumbers and other relevant stakeholders.
- Emergency planning and response which, as a minimum, defines roles and responsibilities in the event of possible and confirmed water contamination and water-borne illness events.
- Health promotion and education, e.g., for water supply managers and operators, and households and other water supply users on the treatment and storage of drinking-water.
- Record keeping and information sharing.

The importance of independent surveillance

As part of a regulatory framework for drinking-water quality it is important to have a system of independent surveillance. The effective management and use of information generated by surveillance activities make it possible to promote improvements to the quality, quantity, accessibility, coverage, affordability and reliability of water supplies. An independent surveillance agency can help ensure compliance with regulations.

Key references and further reading


Food and Agriculture Organization of the United Nations (FAO) and WHO (1999) (www.waterlawandstandards.org)

Issue sheets in this series, Drinking-water: Optimizing regulation to protect health, were developed together with the International Network of Drinking-water Regulators. More information on this Network can be found at www.who.int/water_sanitation_health/dwq/RegNet/en/index.html