

Health Emergency and Disaster Risk Management

WATER, SANITATION AND HYGIENE

Key Points

- Water, sanitation and hygiene (WASH) saves lives in both routine and emergency situations.^{1,2}
- The main objective of WASH programs in disasters is to reduce faeco-oral transmission of disease and exposure to disease-bearing vectors.
- Multi-sectoral action reduces vulnerability, maintains water sources and waste systems, and ensures WASH is a priority action in the response to emergencies.^{2,3}
- Numerous diseases are spread by water, inadequate hygiene and waste including via vectors.^{1,4}
- WASH involves the promotion of good hygiene practices, the provision of safe drinking water and the reduction of environmental health risks which allow people to live with good health, dignity, comfort and security.^{1,2,4}
- People, especially women and children who must find their own water risk their health and take time away from school and other productive activities.
- Providing WASH services helps people return to their normal daily activities after a disaster.¹
- Provision of WASH in health care facilities in emergencies is essential to protect human health and prevent outbreaks.
- Medical waste often contains sharps, pharmaceuticals, chemicals and heavy metals and infectious micro-organisms.⁵



Young girl collecting water in Malawi (Marko Kerac 2011)

Why is this important?

WASH refers to the provision of safe water for drinking, washing and domestic activities, the safe removal and final disposal of waste (faecal and solid waste disposal) and health promotion activities to encourage protective healthy behavioural practices amongst the affected population.

Inadequate WASH can restrict medical treatment in health facilities; degrade environmental conditions and increase community vulnerability.^{2,3,4}

Hazards, natural or manmade, can compromise vital water and waste management infrastructure.²

Water scarcity is projected to increase as a result of climate change. WASH is essential to meet the Sustainable Development Goals related to environmental sustainability and health.⁶

What are the health risks?

Inadequate provision of WASH can lead to an increased risk of several diseases including: diarrhoea, hepatitis A, cholera, typhoid, dysentery, intestinal helminths, malaria and trachoma.¹

Infection can be transmitted:

- through consumption of water or food that has been contaminated through environment, washing or cooking.
- by hand to mouth when availability of water for personal hygiene is reduced.
- vectors (e.g. flies and mosquitoes) which breed near waste sites and stagnant water.

Inadequate management of human excreta poses a serious health risk due to potential contamination and loss of local water sources.^{1,7}

Children's excreta can be particularly high risk: it is more infectious than adults, yet often perceived by communities to be less so.⁸

Lack of adequate WASH restricts the functioning and safe practices of health facilities and health workers.¹

Pathogenic risks from exposure to medical waste include: hepatitis B & C, HIV, viral haemorrhagic fevers, skin, respiratory and gastro-enteric infections. It is estimated that 20% of health care waste is infectious.⁵

Risk management considerations

Governments and communities can manage disaster risk from WASH by:

- Designing, building and maintaining water and sanitation systems which include simple modifications to withstand the risks of disasters.^{2,3,4}
- Carrying out vulnerability assessments of community supplies of water and sanitation systems to assess ability to provide essential services in the event of a disaster.^{2,3,4}
- Engaging and consulting the community in planning WASH services to identify culturally and socially acceptable interventions which will be effective, long lasting and sustainable.^{1,4}
- Ensuring a multi-sectoral approach in all aspects of disaster risk management for WASH, including disaster response planning.^{3,4,7}
- Providing an adequate quantity of safe water and accessible sanitation services during a disaster to reduce risk of infections.
- Preventing infection spread through education, facilities and soap for handwashing to promote hygienic practices.⁸
- Referring to SPHERE (2011) on the minimum standards during disaster response for individuals, camps and health facilities.⁸
- Ensuring that people in shelters and temporary camps have access to safe water and sanitation.
- Ensuring health facilities and health care providers have adequate water supplies to support delivery of life-saving and quality health care services, infection prevention and hygiene promotion in emergency situations.
- Disinfection and treatment of water as per SPHERE or WHO recommendations.⁸
- Preventing defecation, especially by children, in areas which could contaminate water supplies.³
- Providing safe disposal of clinical waste and vaccinations to protect health care workers and waste handlers against prevalent infections such as Hepatitis B.^{4,5}



Cyclone, Luzon, Philippines (DOH/WHO)

Examples

Haiti (2010): Badly damaged or destroyed infrastructure resulting from the earthquake and hurricane season left little access to clean water and sanitation. These structural problems further impacted on the response to the cholera outbreak.⁸

West Africa (2013-2015): Weak infrastructure enabled the spread of Ebola in West Africa. WASH in communities and health facilities is an essential part of preventing person-to-person transmission during outbreaks.⁹

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Further reading

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