

Rolling revision of the *Guidelines for drinking-water quality*: Programme of work

Introduction

The *Guidelines for drinking-water quality* (GDWQ) promote the protection of public health through provision of guidance on effective preventive risk-management approaches, and assist water and health regulators and policy-makers in the development of national standards.

Since 1995, the Guidelines have been kept up to date through a process of “rolling revision” to ensure the GDWQ continues to present the latest scientific evidence.

Development of the programme of work

The programme of work to revise the 4th edition of the GDWQ, leading to the publication of the 5th edition was initiated in March 2013 at a meeting convened in Dübendorf, Switzerland, which brought together international experts and representatives from WHO Regional Offices to help inform future WHO water quality guideline development and identify key areas where additional research was required. This was primarily based on the post 4th edition work plan that was developed as part of a GDWQ meeting to finalize the 4th edition in 2010.

Since 2013, WHO has convened a number of meetings with international experts to refine priority review issues for the 5th edition of the GDWQ and to progress the development of updated evidence-based chemical and microbial background information for the 1st addendum to the 4th edition of the GDWQ, which was published in February 2017, as well as the planned second addendum to the 4th edition, which is proposed to be published by 2019.

The output of these meetings, and extensive consultation with Regional Offices, Member States and key stakeholders, has informed this roadmap which outlines the amendments required in the revised GDWQ in the short term (including the 2nd addendum) and leading up to the publication of the 5th edition of the GDWQ.

Programme of Work

In the ongoing rolling revision of the GDWQ, the following key activities are currently proposed.

(*Note* - this work plan is subject to change as new evidence emerges and priorities change.)

Microbial aspects

2nd addendum or 5th edition amendments:

- Inclusion of performance targets for additional reference pathogens and review as necessary based on updated disease burdens (Chapter 7, *Microbial Aspects*)
- Revision of the existing microbial fact sheets, taking into account the latest scientific evidence; if warranted, additional fact sheets will be developed (Chapter 11, *Microbial Fact Sheets*)
- Review of the most recent evidence underpinning the log reduction values for water treatment technologies (Chapter 7, *Microbial Aspects*)
- Antimicrobial resistance – guidance on this emerging issue (supported by a background document) (Chapter 7, *Microbial Aspects*).

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Chemical aspects

2nd addendum or 5th edition amendments:

- Updated or revised risk assessments for bromate; bromine; chromium; iodine; manganese; nickel; organotins; PFOS (perfluorooctane sulfonate) and PFOA (perfluorooctanoic acid); silver; trihalomethanes (including bromodichloromethane), trichloroethene and tetrachloroethene (with supporting background documents) (Chapter 12 *Chemical fact sheets*)
- New or revised risk assessments for cyanotoxins: anatoxin; cylindrospermopsin; microcystin-LR; saxitoxins (with supporting background documents, including an updated *Toxic Cyanobacteria in Water*) (Chapter 12 *Chemical fact sheets*)
- Nanoparticles – guidance on this emerging drinking-water issue (Chapter 8, *Chemical Aspects*).
- Chemical mixtures (supported by a background document) (Chapter 8, *Chemical Aspects*).

Radiological aspects

2nd addendum or 5th edition amendments (All relate to Chapter 9, *Radiological Aspects*):

- Clarification on actions to take when the 0.1 mSv/year individual dose criterion (IDC) is exceeded (supported by a guidance document)
- Clarification on the interpretation and use of the 0.1 mSv/year IDC and the 1 mSv/year International Basic Safety Standards (BSS) reference level (supported by a background document)
- Actions to take when ²²⁸Ra is suspected to be the predominant radionuclide in drinking-water and implications for the use of screening levels for radionuclide monitoring.

Protection and control aspects

(All relate to Chapter 6, *Application of the Guidelines in Specific Circumstances*)

- *Hygienic storage of drinking-water* – provide guidance on safe storage practices to minimize risks associated with microbial and chemical contamination, as well as vector breeding (e.g. mosquitos)
- *Water quality in buildings* – provide guidance on risks posed and recommended management solutions for *Legionella* spp. in institutional hot water systems, with a particular focus on surveillance and analytical methods for detection
- *Potable reuse* – address potable reuse of wastewater, including specific risks and associated management needs (supported by a guidance document).

Regulatory aspects

- Update the service level indicators to align with human rights criteria for water supply (availability, accessibility, quality/safety, acceptability, affordability) (Chapter 5, *Surveillance*).

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Supporting documentation to the GDWQ

The GDWQ are accompanied by a range of supporting publications, including internationally peer-reviewed risk assessments for specific chemicals and other publications explaining the scientific basis of the development of the GDWQ and providing guidance on good practice in their implementation.

Supportive products currently being produced include:

- *GDWQ Small Water Supplies (Policy Framework) and GDWQ Small Water Supplies (Field Guide)*: these documents will replace the WHO Guideline, Surveillance and Control of Community Supplies (1997). The Policy Framework will give guidance derived from the GDWQ specific for small water systems, describing the policy and regulatory aspects, and includes guidance to support Water Safety Plans, and the strategies and methods for effective surveillance. The Field Guide will assist field workers understand the purpose of and approaches to water supply surveillance, and to support them in undertaking drinking-water quality management field activities efficiently and effectively
- *Use of the GDWQ to Develop National Standards and Regulations*: This document is being developed to support understanding of the GDWQ, serving as a supporting guide for Member States as they develop or revise their own national drinking-water standards and regulations. The document will provide generic advice on how the GDWQ can be used and adapted to form part of a national or regional drinking-water standard. It will also clarify commonly misunderstood concepts included in the GDWQ.

Other documents currently being produced as indicated in the Programme of work section include: the efficacy and toxicity of the alternative disinfectants silver, iodine and bromine, chemical mixtures, potable reuse and management of radioactivity in drinking-water. The WHO document *Domestic water quantity, service level and health* is being revised and WHO with UNICEF is revising the UNICEF *Arsenic Primer: Guidance for UNICEF country offices on the investigation and mitigation of arsenic contamination*.

If you have any questions or comments, please contact gdwq@who.int.