

Guidelines for drinking-water quality

SECOND EDITION



Addendum
**Microbiological agents
in drinking water**



World Health Organization
Geneva

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2002

WHO Library Cataloguing-in-Publication Data

Guidelines for drinking-water quality—2nd ed

Addendum Microbiological agents in drinking water

1 Drinking water—standards 2 Water quality—standards 3 Water microbiology—standards
4 Guidelines 1 Title Microbiological agents in drinking water

(ISBN 92 4 154535 6)

(NLM classification WA 675)

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TYPESET IN HONG KONG
PRINTED IN MALTA
2000/13353—SNP Best-set/Interprint—3000

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Preface

Between 1993 and 1997 the World Health Organization (WHO) published the second edition of *Guidelines for drinking-water quality* in three volumes: Volume 1, *Recommendations*, in 1993, Volume 2, *Health criteria and other supporting information*, in 1996, and Volume 3, *Surveillance and control of community supplies*, in 1997. Development of the *Guidelines* in this second edition was organized and carried out jointly by WHO headquarters and the WHO Regional Office for Europe.

At the Final Task Group Meeting (Geneva, Switzerland, 21–25 September 1992), when the second edition of the *Guidelines* was approved, it was agreed to establish a continuing process of updating, with a number of chemical substances and microbiological agents subject to periodic evaluation. Addenda containing these evaluations will be issued as necessary until the third edition of the *Guidelines* is published, approximately 10 years after the second edition.

In 1995, a Coordinating Committee for the Updating of the WHO *Guidelines for drinking-water quality* agreed on the framework for the updating process and established three working groups to support the development of addenda and monographs on chemical aspects, microbiological aspects, and protection and control of water quality. The Committee selected microbiological agents for review, and identified lead individuals and institutions for the preparation of microbiological review documents and support individuals and institutions to assist in their review and finalization. Institutions and individuals from Australia, Austria, Canada, France, Germany, India, Indonesia, Italy, Japan, Netherlands, South Africa, Thailand, United Kingdom, and USA were involved in the preparation of the documents.

The draft microbiology review documents were submitted to a number of scientific institutions and selected experts for peer review. Comments were taken into consideration before the documents were submitted for final evaluation by the 1998 meeting of the Working Group on Aspects of Protection and Control and of Microbiological Quality.

The microbiological review documents contained in this addendum supersede those previously published in Volumes 1 and 2 of the second edition of the *Guidelines for drinking-water quality*. Their more extensive coverage of individual pathogens reflects the need for more substantial review information to assist

and support the further development of the *Guidelines*, particularly with respect to microbiological aspects.

The reviews do not conclude with the definition of “safe” or “tolerable” exposures as is the case with the analogous chemical reviews in the *Guidelines*. Microbiological quality may vary rapidly and widely and the health consequences of short-term exposures are typically significant. These features, combined with the incompleteness of current knowledge regarding the identity of waterborne pathogens and the poor availability and speed of analytical techniques for recognized pathogens, mean that defining safe exposures and monitoring their achievement are not generally the preferred means of control. Emphasis is therefore placed upon understanding conditions likely to ensure the safety of drinking-water supplies and monitoring their fulfilment more directly. The microbiology reviews published here therefore summarize current knowledge regarding quantitative aspects of transmission, attenuation, and removal of individual pathogens, and regarding the effectiveness of measures for the interruption of transmission.

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