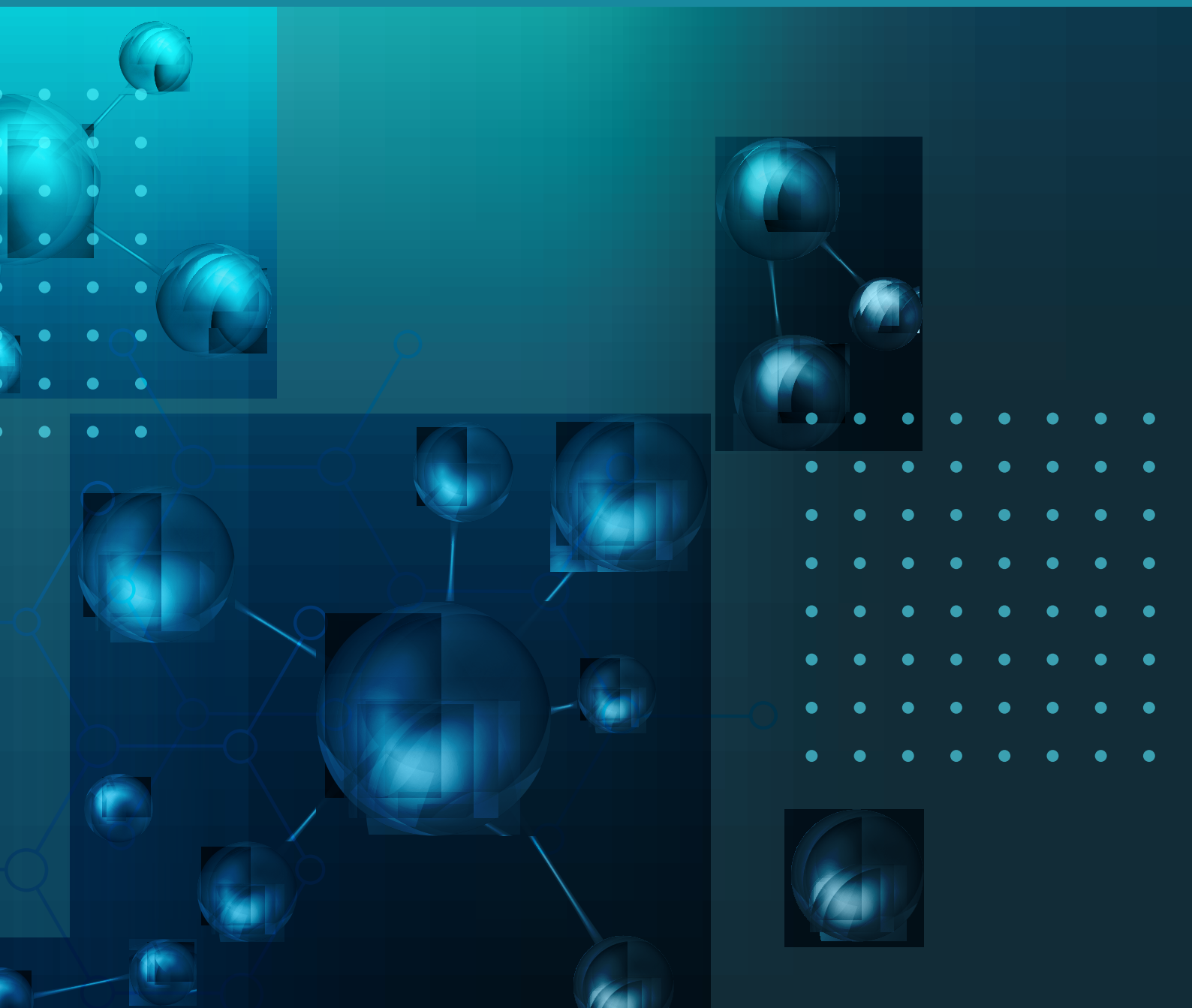
World Health Organization

Framework for the use of systematic review in chemical risk assessment



World Health Organization

Framework for the use of systematic review in chemical risk assessment

Framework for the use of systematic review in chemical risk assessment

ISBN 978-92-4-003448-8 (electronic version)
ISBN 978-92-4-003449-5 (print version)

Suggested citation. Framework for the use of systematic review in chemical risk assessment. Geneva: World Health Organization; 2021. Licence: CC BY-NC-SA 3.0 IGO.

Cataloguing-in-Publication (CIP) data. CIP data are available at http://apps.who.int/iris.

This document was produced with the financial assistance of the European Union. The views expressed herein can in no way be taken to reflect the official opinion of the European Union.

Design and layout by Inis Communication

Contents

Figures

Tables

Boxes

Preface

The use of systematic review in decision-making for environmental health issues is growing. Systematic review approaches have the potential to improve decision-making in chemical risk assessment, in particular where there is conflicting evidence and where there is significant uncertainty.

This publication uses a high-level overview to provide guidance to chemical risk assessors who are not currently familiar with systematic approaches, without being prescriptive or endorsing any existing published methods. This framework will assist chemical risk assessors to understand assessments conducted by other institutions that have used systematic approaches, and will also assist in understanding the issues, limitations and challenges involved if institutions are considering using systematic review approaches in their own assessments.

Acknowledgements

This publication was prepared by a drafting group consisting of experts associated with institutions that participate in the World Health Organization (WHO) Chemical Risk Assessment Network. The members of the drafting group were Elisa Aiassa (European Food Safety Authority, Italy); Anna Beronius (Karolinska Institute, Sweden); Brandy Beverly (National Toxicology Program, United States of America); Elaine Faustman (University of Washington, USA); Barbara Glenn (Environmental Protection Agency, USA); Annika Hanberg (Karolinska Institute, Sweden); Andrew Rooney (National Toxicology Program, USA); Nicolas Roth (Swiss Centre for Applied Human Toxicology, Switzerland); Christopher Weis (National Institute of Environmental Health Sciences, USA); Paul Whaley (University of Lancaster, United Kingdom of Great Britain and Northern Ireland); Daniele Wikoff (ToxStrategies, USA, through work undertaken in collaboration with the Office of Health Assessment and Translation of the National Toxicology Program, USA); Martin Wilks (Swiss Centre for Applied Human Toxicology, Switzerland); and Johanna Zilliacus (Karolinska Institute, Sweden). Angelika Tritscher (former WHO staff member) also contributed to this publication. Prior to the initial drafting of the manuscript, a questionnaire was sent to institutions that participate in the WHO Chemical Risk Assessment Network in order to assess the level of knowledge of and interest in systematic approaches within institutions undertaking chemical risk assessments, and the feedback from responses to that questionnaire informed the initial development of this publication (see Annex). Logistical support for developing this publication was provided by MDB Inc., through a contract funded by the PAHO/WHO Collaborating Centre for Environmental Health Sciences at the National Institute of Environmental Health Sciences, National Institutes of Health, USA.

Drafting of the manuscript was assisted by a meeting of drafting group members on 28–30 October 2019, hosted by the PAHO/WHO Collaborating Centre for Environmental Health Sciences at the National Institute of Environmental Health Sciences, National Institutes of Health, Research Triangle Park, North Carolina, USA.

The draft publication underwent international peer review from participants in the WHO Chemical Risk Assessment Network and organizations active in the development of systematic approaches. Peer review comments were received from the following: Dinara Kenessary (Kazakhstan Medical University, Kazakhstan); Mary Gulumian (National Institute for Occupational Health, South Africa); Kathryn Guyton and Iciar Indave (International Agency for Research on Cancer, France); Kyriakoula Ziegler-Skylakakis (MAK Commission, Germany); Yadvinder Bhuller, Salma Iqbal, Benny Ling, Sara Mohr, Samira Roufik, Kavita Singh and Alexander Tsertsvadze (Health Canada, Canada); Heather Schaefer (Food and Drug Administration, USA); Homa Kashani and Masud Yunesian (Tehran University of Medical Sciences, Islamic Republic of Iran); Jessica