

# A Systematic Review of Public Health Emergency Operations Centres (EOC)

December 2013



**World Health  
Organization**



# A Systematic Review of Public Health Emergency Operations Centres (EOC)

December 2013



**World Health  
Organization**

# Acknowledgements

This report was prepared by the World Health Organization (WHO) Department of Global Capacities Alert and Response, in collaboration with the Department of Communications and the Department of Emergency Risk Management and Humanitarian Response.

The WHO would like to thank the review team members from Emory University Rollins School of Public Health and WHO staff from various teams at headquarters and six regional offices, for the hard work and close collaboration that made the systematic review possible within a tight timeline and with limited financial resources. Participants in and contributors to the systematic review are listed below:

Emory University: Lauren Reeves, Paige Ryland, Natalie Johnson, Russell Gann, Barbara Abu-Zeid, Scott JN McNabb.

WHO: Jian Li, Paul Michael Cox, Tomas Allen, Susan L. Norris, Jered Markoff, Ramesha Krishnamurthy, Isabelle Nuttall, Khaled Shamseldin Abou El Azm, Richard John Brennan, David Brett-Major, Stella Chungong, Ian David Coltart, Sophia Victoria Desillas, Patrick Drury, Denis Faix, Christine Marie Feig, Senait Tekeste Fekadu, Gaya Manori Gamhewage, Leonardo Hernandez Galindo, Kande-Bure O'Bai Kamara, Sanjeev Kashyap, Erin Maura Kenney, Chin-Kei Lee, Egle Lorenzin, Mark Simpson, Rajesh Sreedharan.

Editing by Mark Nunn (Highbury Editorial, [www.highburyeditorial.com](http://www.highburyeditorial.com))

WHO/HSE/GCR/2014.1

© World Health Organization 2014

All rights reserved. Publications of the World Health Organization are available on the WHO web site ([www.who.int](http://www.who.int)).

Requests for permission to reproduce or translate WHO publications –whether for sale or for non-commercial distribution– should be addressed to WHO Press through the WHO web site ([www.who.int/about/licensing/copyright\\_form/en/index.html](http://www.who.int/about/licensing/copyright_form/en/index.html)).

The designations employed and the presentation of the material in this publication do not imply the expression of any opinion whatsoever on the part of the World Health Organization concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. Dotted lines on maps represent approximate border lines for which there may not yet be full agreement.

The mention of specific companies or of certain manufacturers' products does not imply that they are endorsed or recommended by the World Health Organization in preference to others of a similar nature that are not mentioned. Errors and omissions excepted, the names of proprietary products are distinguished by initial capital letters.

All reasonable precautions have been taken by the World Health Organization to verify the information contained in this publication. However, the published material is being distributed without warranty of any kind, either expressed or implied. The responsibility for the interpretation and use of the material lies with the reader. In no event shall the World Health Organization be liable for damages arising from its use.

Design and layout by Jean-Claude Fattier.

# Table of contents

|                                                      |           |
|------------------------------------------------------|-----------|
| <b>Executive summary</b>                             | <b>1</b>  |
| <b>1 List of abbreviations</b>                       | <b>3</b>  |
| <b>2 Introduction</b>                                | <b>5</b>  |
| 2.1 Background                                       | 5         |
| 2.2 Review objectives                                | 5         |
| <b>3 Methods</b>                                     | <b>7</b>  |
| 3.1 Summary of review questions & categories         | 7         |
| 3.2 Review protocol                                  | 7         |
| 3.3 Study identification                             | 7         |
| 3.3.1 Exclusion and inclusion criteria               | 7         |
| 3.3.2 Publication types                              | 8         |
| 3.3.3 Search strategy & data sources                 | 9         |
| 3.4 Data extraction & management                     | 9         |
| 3.5 Quality assessment                               | 10        |
| <b>4 Results</b>                                     | <b>11</b> |
| 4.1 Quality assessment analysis                      | 11        |
| 4.2 Characteristics of identified studies            | 12        |
| 4.3 Identified standards                             | 12        |
| <b>5 Discussion</b>                                  | <b>23</b> |
| 5.1 General                                          | 23        |
| 5.1.1 EOC functions                                  | 23        |
| 5.1.2 Types of risks and hazards                     | 23        |
| 5.1.3 Human resource needs                           | 23        |
| 5.1.4 Surge capacity                                 | 24        |
| 5.1.5 Structure                                      | 24        |
| 5.1.6 Decision-making, modelling, and implementation | 24        |
| 5.1.7 Best practices                                 | 25        |
| 5.1.8 Indicators and performance measures            | 26        |
| 5.2 Communication technology and infrastructure      | 27        |
| 5.2.1 EOC space                                      | 27        |
| 5.2.2 Information and communication technology (ICT) | 28        |
| 5.2.3 Equipment and technological components         | 28        |

|                                                                                          |           |
|------------------------------------------------------------------------------------------|-----------|
| 5.2.4 Information and knowledge management software.....                                 | 29        |
| 5.2.4.1 EOC applications and standards.....                                              | 29        |
| 5.2.4.2 Virtual EOCs.....                                                                | 29        |
| 5.3 Procedures and plans .....                                                           | 30        |
| 5.3.1 Key characteristics of procedures and plans.....                                   | 30        |
| 5.3.2 Key components of emergency operations plans .....                                 | 31        |
| 5.3.3 Planning process.....                                                              | 31        |
| 5.3.4 Activation criteria.....                                                           | 32        |
| 5.4 Risk communication .....                                                             | 32        |
| 5.5 Operational information minimum data sets and standards.....                         | 33        |
| 5.5.1 Information needs.....                                                             | 33        |
| 5.5.2 Types of operational information .....                                             | 34        |
| 5.5.3 Data sources, collection, and monitoring .....                                     | 34        |
| 5.5.4 Use of operational information .....                                               | 35        |
| 5.6 Training and exercises .....                                                         | 35        |
| 5.6.1 Individual training.....                                                           | 36        |
| 5.6.2 Organizational training and exercises .....                                        | 36        |
| 5.7 Themes and conclusions.....                                                          | 37        |
| 5.8 Limitations .....                                                                    | 37        |
| <b>6 Conclusion .....</b>                                                                | <b>39</b> |
| 6.1 Current status, gaps, and impediments in building, maintaining, and using EOCs ..... | 39        |
| 6.1.1 EOC functions.....                                                                 | 39        |
| 6.1.2 Standards .....                                                                    | 39        |
| 6.1.3 Human resource needs .....                                                         | 39        |
| 6.1.4 Decision-making, modelling, and implementation .....                               | 40        |
| 6.1.5 Communication technology and infrastructure .....                                  | 40        |
| 6.1.6 Procedures and plans.....                                                          | 40        |
| 6.1.7 Operational information minimum data sets and standards .....                      | 41        |
| 6.1.8 Training and exercises.....                                                        | 41        |
| 6.2 Global best practices for EOCs for effective public health emergency response.....   | 42        |
| 6.3 The connection between EOCs and risk communication.....                              | 42        |
| 6.4 Indicators to monitor EOC performance .....                                          | 42        |
| 6.5 Standardised EOC terminology.....                                                    | 42        |
| 6.6 Research needs for building, maintaining, and using EOCs.....                        | 43        |
| <b>7 References .....</b>                                                                | <b>45</b> |

|          |                                                                            |           |
|----------|----------------------------------------------------------------------------|-----------|
| <b>8</b> | <b>Appendices.....</b>                                                     | <b>59</b> |
| 8.1      | List of review questions.....                                              | 59        |
| 8.2      | Search strategy for each database searched.....                            | 61        |
| 8.3      | Additional studies, standards and other materials included in review ..... | 70        |

预览已结束，完整报告链接和

<https://www.yunbaogao.cn/report/index/report?>