
**Health informatics — Interoperability
of public health emergency
preparedness and response
information systems**

*Informatique de santé — Interopérabilité des systèmes d'information
sur la préparation et la réponse aux urgences en matière de santé
publique*



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Contents

| | Page |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| Foreword..... | v |
| Introduction..... | vi |
| 1 Scope..... | 1 |
| 2 Normative references..... | 1 |
| 3 Terms, definitions and abbreviated terms..... | 1 |
| 3.1 Terms and definitions..... | 1 |
| 3.2 Abbreviated terms..... | 6 |
| 4 Requirements for PH EPR information systems..... | 7 |
| 4.1 Defining the PH EPR information system's domain..... | 7 |
| 4.2 General principles of management and conformance..... | 8 |
| 4.2.1 Conformance with general incident management principles..... | 8 |
| 4.3 PH EPR data and information management (DIM) processes..... | 10 |
| 4.3.1 Background..... | 10 |
| 4.3.2 Establishing strategies and goals for the PH EPR DIM..... | 11 |
| 4.3.3 Defining goals for the PH EPR information system..... | 12 |
| 4.4 Supporting PH EPR mission areas..... | 13 |
| 4.5 Establishing data and information governance..... | 13 |
| 4.5.1 Data and information governance: Background and principles..... | 13 |
| 4.5.2 Ongoing training..... | 17 |
| 4.5.3 Defining Essential Elements of Information (EEl)s and Critical Information Requirements (CIRs)..... | 18 |
| 4.5.4 Establishing a process for the collection, development, and utilization of standardized case definitions..... | 19 |
| 4.6 Reporting — Data analytics and visualization..... | 21 |
| 5 Interoperability in PH EPR information systems..... | 22 |
| 5.1 Background..... | 22 |
| 5.2 Aligning the PH EPR information systems interoperability with the organizational interoperability of the activated IMS and overall emergency response..... | 22 |
| 5.3 Facilitating the improvement of organizational interoperability through organizational emergency resilience..... | 23 |
| 5.4 Assuring the expandability of PH EPR information systems without compromising interoperability..... | 24 |
| 5.5 Usability..... | 25 |
| 5.6 Adaptability..... | 26 |
| 5.7 Measure-driven capabilities for PH EPR information systems..... | 27 |
| 6 Business requirements for collecting, developing and maintaining PH EPR terminology and data vocabulary..... | 27 |
| 6.1 Background..... | 27 |
| 6.2 Alignment of standardized PH EPR terminology and vocabulary with critical PH EPR functions..... | 28 |
| 6.3 Applying standardized terminology and vocabulary to emergency response to standard operations procedures (SOPs) and disaster planning..... | 30 |
| 6.3.1 General..... | 30 |
| 6.3.2 Utilising event grading and classifications of emergencies..... | 31 |
| 6.3.3 Using the WHO International Classification of Diseases (ICD)..... | 32 |
| 6.4 Assuring relevance and coverage..... | 33 |
| 6.5 Role of stakeholders' involvement in collecting, developing, and maintaining a public health preparedness and response data vocabulary..... | 34 |
| 6.6 Assuring flexibility and scalability of PH EPR vocabulary..... | 35 |
| 6.7 Supporting tasks for PH EPR vocabulary quality and integrity..... | 36 |
| 6.8 Ongoing maintenance and updates..... | 37 |
| 6.9 Assuring compliance and fulfilment of regulatory requirements..... | 38 |

| | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| 6.10 Providing adequate training and support..... | 39 |
| Annex A (informative) Criteria to take into account on knowledge, skills and abilities for the fulfilment of essential PH EOC functions..... | 41 |
| Annex B (informative) Competencies for Public Health Emergency Preparedness and Response Informatics Professionals..... | 49 |
| Bibliography..... | 57 |

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO document should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

ISO draws attention to the possibility that the implementation of this document may involve the use of (a) patent(s). ISO takes no position concerning the evidence, validity or applicability of any claimed patent rights in respect thereof. As of the date of publication of this document, ISO had not received notice of (a) patent(s) which may be required to implement this document. However, implementers are cautioned that this may not represent the latest information, which may be obtained from the patent database available at www.iso.org/patents. ISO shall not be held responsible for identifying any or all such patent rights.

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 215, *Health informatics*.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Introduction

The public health emergency preparedness and response operations are the critical component of the Global Health Security as well as the national multi-jurisdictional and multi-sectoral emergency response. All these operations rely on a unity of command approach, which FEMA defines as principles clarifying the reporting relationships and eliminating the confusion caused by multiple, conflicting directives. Another critical component of emergency response operations is implementing disaster management interoperability that supports the unity of command through equipping all responders with a clear understanding of their own responsibilities and functional interdependencies with other responders. From an information management perspective, it is important to note that the disaster management interoperability processes include development of communication channels that allow to share information via voice, data signals and electronic data developed on standardized terminology and vocabulary.

This document has been developed in response to the worldwide demand for strengthening PH EPR information systems, ensuring better preparedness at national and international levels, emerging pathogens, including COVID-19, chemical and nuclear accidents, environmental disasters and introduction of the threat of criminal acts and bioterrorism.

The document has been developed based on concepts and methodology described in:

- 2015 WHO Framework for a Public Health Emergency Operations Centre and supporting WHO Handbooks A and C^[33];
- ISO/IEC 25012^[34];
- ISO 30401^[35];
- ISO 13054^[36];
- ISO 22300^[37];
- ISO 22320^[19];
- ISO 1087^[38].

Health informatics — Interoperability of public health emergency preparedness and response information systems

1 Scope

This document provides business rules for PH EPR information systems. It includes a description of the EPR information systems domain. It also includes an informative framework for mapping existing semantic interoperability standards for emergency preparedness and response to PH EPR information systems.

The primary target audience for this document is policy makers (governmental or organizational), regulators, project planners and management of PH EPR information systems, PH EPR data analysts and informaticians. The contents is also of interest to other stakeholders such as incident managers, PH educators, standards developers and academia.

2 Normative references

There are no normative references in this document.

3 Terms, definitions and abbreviated terms

3.1 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

- ISO Online browsing platform: available at <https://www.iso.org/obp>
- IEC Electropedia: available at <https://www.electropedia.org/>

3.1.1

all-hazards approach

integrated approach to emergency preparedness planning that focuses on capacities and capabilities that are critical to preparedness for a full spectrum of emergencies or disasters, including internal emergencies and a man-made emergency (or both) or natural disaster

Note 1 to entry: The all-hazard approach acknowledges that, while hazards vary in source (natural, technological, societal), they often challenge health systems in similar ways. Risk reduction, emergency preparedness, response actions and community recovery activities are usually implemented along the same model, regardless of the cause.

3.1.2

case definition

<public health preparedness and surveillance> set of standard criteria for classifying whether a person has a particular disease, syndrome, or other health condition

Note 1 to entry: Use of an agreed-upon standard case definition ensures that every case is equivalent, regardless of when or where it occurred, or who identified it. Furthermore, the number of cases or rate of disease identified in one time or place can be compared with the number or rate from another time or place.