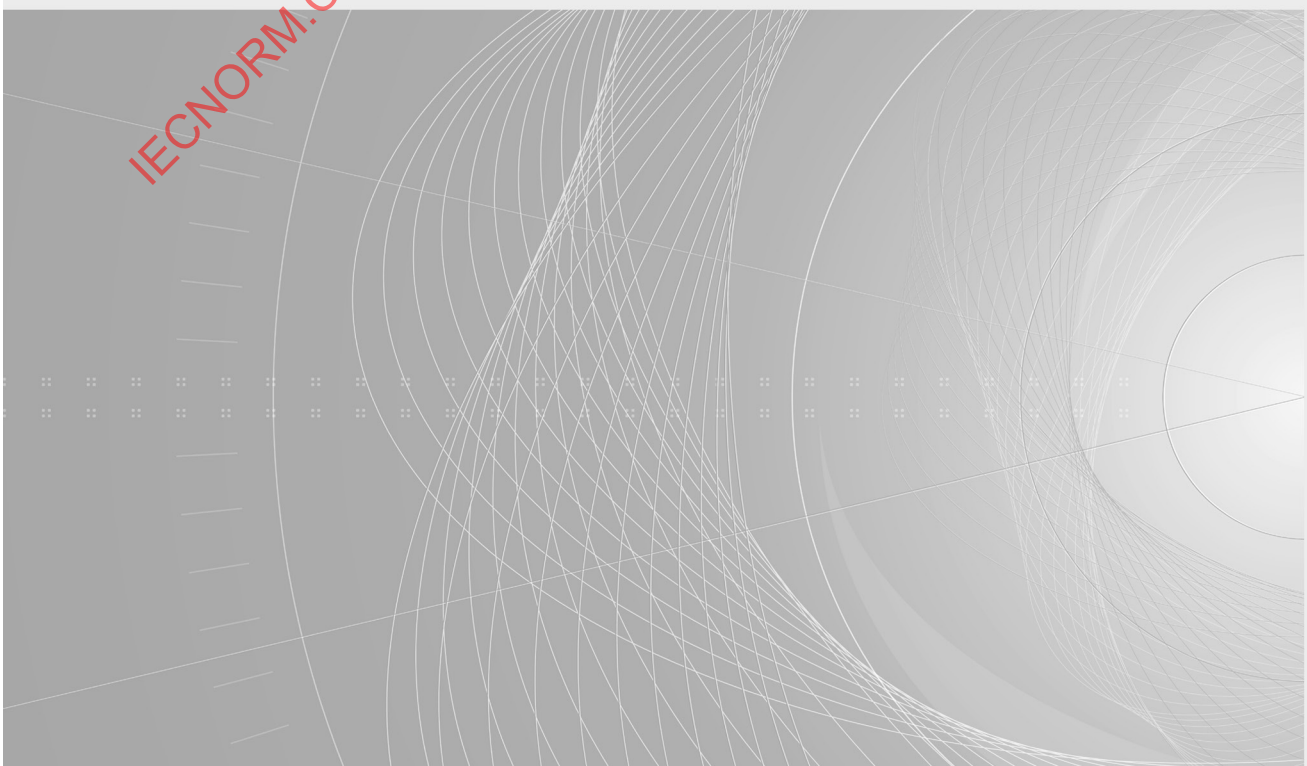
IEC SRD 63233-4

Edition 1.0 2024-04

SYSTEMS REFERENCE DELIVERABLE

colour inside

Smart city standards inventory and mapping –
Part 4: Guidance on standards for public health emergencies



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_____

SMART CITY STANDARDS INVENTORY AND MAPPING –

Part 4: Guidance on standards for public health emergencies

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This document contains an attached file that is cited in Clause 4. This file can be downloaded from https://www.iec.ch/sycsmartcities/supportingdocuments.

The text of this Systems Reference Deliverable is based on the following documents:

Draft	Report on voting
SyCSmartCities/318/DTS	SyCSmartCities/330/RVDTS

Full information on the voting for its approval can be found in the report on voting indicated in the above table.

The language used for the development of this Systems Reference Deliverable is English.

This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement, available at www.iec.ch/members_experts/refdocs. The main document types developed by IEC are described in greater detail at www.iec.ch/publications.

A list of all parts in the IEC SRD 63233 series, published under the general title *Smart city standards inventory and mapping*, can be found on the IEC website.

The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under webstore.iec.ch in the data related to the specific document. At this date, the document will be

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- withdrawn, or
- revised.

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INTRODUCTION

Public health emergencies (PHE) refer to major infectious disease outbreaks, mass diseases of unknown causes, major food and occupational poisonings, and other events that seriously affect public health that occur suddenly and cause or can cause serious damage to public health. The International Health Regulations came into force in 2007 to manage global health emergency measures. The purpose and scope of the "Regulations" is to prevent, resist and control the international spread of diseases, and to provide public health response measures in an appropriate way to address public health risks while avoiding unnecessary interference with international traffic and trade. At 20:30 local time on 30 January 2020, World Health Organization (WHO) Director-General Tan Desai announced in Geneva that a new coronavirus pneumonia epidemic constituted a "PHEIC" (Public Health Emergency of International Concern). This PHEIC impacted each aspect of cities and each person's life all over the world. Cities including managers and citizens took necessary actions to protect life and health and tried to carry on normal life and work. In this process, standards played an important role.

This document gives guidance on identifying and mapping standards for public health emergencies following the methodology of IEC SRD 63233-1:2022.

A database with structured PHE relevant standards (see 4.2) is given for easy view by users for epidemic prevention and control of public health emergencies, deployment of medical facilities and equipment and maintaining city service continuity. The PHE standard catalogue structure is aligned with that in IEC SRD 63233-2:2023.

SMART CITY STANDARDS INVENTORY AND MAPPING –

Part 4: Guidance on standards for public health emergencies

1 Scope

This part of IEC SRD 63233 provides guidance on public health emergencies (PHE) standards inventory and mapping following the methodology in IEC SRD 63233-1. It guides the identification and categorization of relevant standards for epidemic prevention and control, and a database with catalogued standards is also given for easy use by cities.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

IEC SRD 63233-1:2022, *Smart city standards inventory and mapping – Part 1: Methodology*

3 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:

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

3.1
event
occurrence or change of a particular set of circumstances

Note 1 to entry: An event can be one or more occurrences, and can have several causes and several consequences.

Note 2 to entry: An event can also be something that is expected which does not happen, or something that is not expected which does happen.

Note 3 to entry: An event can be a risk source.

[SOURCE: ISO 31000:2018, 3.5]

3.2
emergency
sudden, urgent, usually unexpected occurrence or event requiring immediate action

Note 1 to entry: An emergency is usually a disruption or condition that can often be anticipated or prepared for, but seldom exactly foreseen.

[SOURCE: ISO 22300:2021, 3.1.87]

3.3
emergency management
overall approach for preventing emergencies and managing those that occur

Note 1 to entry: In general, emergency management utilizes a risk management approach to prevention, preparedness, response, and recovery before, during and after potentially destabilizing events and/or disruptions.

[SOURCE: ISO 22300:2021, 3.1.88]

3.4
facility
plant, machinery, property, building, transportation units at sea/land/airport, and other items of infrastructure or plant and related systems that have a distinct and quantifiable business function of service

Note 1 to entry: A facility can have formal boundaries as defined by, for example, legislation.

[SOURCE: ISO 22300:2021, 3.1.105]

4 PHE standards inventory

4.1 Standards identification

4.1.1 Guiding principles

Public health emergencies are not the norm in cities and have significant specificity, but they impact nearly all systems in a city. For identifying standards relevant to PHE, the following two principles are considered: one is derived from consideration of the time-dimension as city evolution and another is concerned with PHE stakeholders.

– Principle 1: Covering life cycle of PHE and individual infection

  As a class of emergencies, public health emergencies follow the life cycle of events from occurrence to development to recovery. Responding to and handling events can also be divided into prevention, preparation, response, and recovery stages accordingly. Individual infection also has an evolutionary life cycle, usually mainly for prevention; if exposed to the virus, it will go through various stages from infection to recovery. Therefore, when developing PHE standards, it is important to consider the time principle of the life cycle. Not only the occurrence, development and recovery cycle of public health emergencies, but also the cycle from individual infection to recovery shall be considered.

– Principle 2: PHE management involving stakeholders and their activities

  Public health emergencies involve public safety and need response and disposition from the city government, hospitals, other organizations, and individuals. Furthermore, good management of public health emergencies involves smart elements such as data and supporting technologies and their interoperability.

A basic structure for PHE standards inventory (Figure 1) can be derived from these two principles, which will be used in 4.1.3.

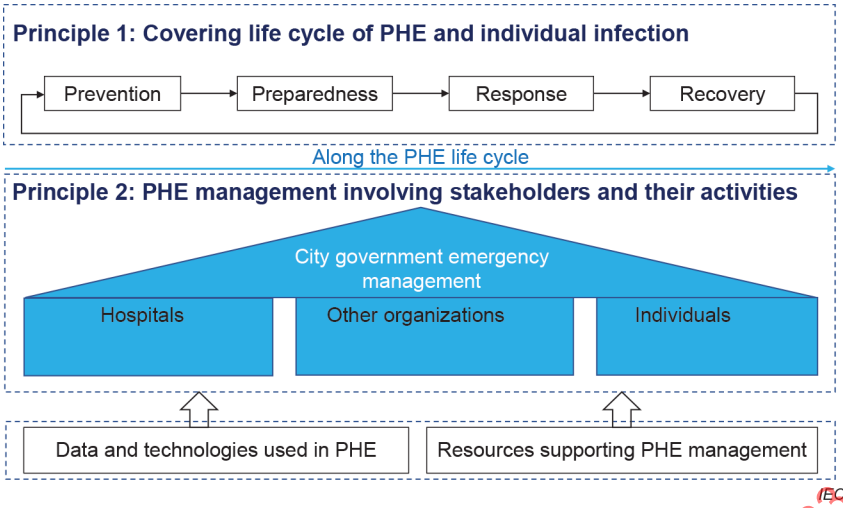

Figure 1 – A basic structure for PHE standards inventory

4.1.2 Criteria for PHE standards

PHE is categorized in the public safety system in a city. According to the criteria for smart city standards in 5.1.2 of IEC SRD 63233-1:2022, those standards supporting PHE response and disposition should be included in PHE standards, and the standards included in 5.1.2 c) "Smart city cross boundary service exchange standards" and relevant to PHE will be specifically identified as PHE standards.

4.1.3 Using given methods to identify PHE standards

Both methods in 5.1.3 and 5.1.4 of IEC SRD 63233-1:2022 are used for identifying PHE standards.

Based on Figure 1, Table A.1 and Table A.2 in Annex A are organized for identifying standards related to PHE using correlation analysis method.

PHEs impact nearly all systems in a city which facilitate the use case based method in 5.1.4 of IEC SRD 63233-1:2022 used for standards identification. In the IEC SRD 63347 series, ISO/TR 37112, IEC SRD 63273-1 and projects from IEC SyC AAL and ISO/IEC JTC 1 that are under development for or relevant to PHE, use cases for management of PHE are collected and analysed. These use cases include

– "foreseeing and preventing contagion network",
– "public health emergency management supported by a health code system",
– "using RPA (robotic process automation) technology to assist reporting in public health emergency management",
– "New York: assessment of the situation, including forecasts",
– "emergency support system and seamless service using sensor",
– "applying CIM (city information modelling) in emergency management and rescue",
– "public health emergency scenario", and
– use cases for PHEs data model.

From these use cases, the stakeholders who will retrieve standards related to PHE and their activities are identified in scenarios of PHE in Table 1. With the stakeholders' concerns, standardization aspects can be derived.

Table 1 – Stakeholders and their activities, concerns, and standardization areas

Stakeholder	Activities	Concerns	Standardization areas
Citizen	Reside in a city. Live in a community. Own health code. Take public transport. Drive private transport. Take infectious disease testing. Inquire about testing result. Work in an organization. Study at or graduate from a school, university or college. Eat at a restaurant, café or canteen.	Safe and secure living space	Effective health and safety guarantee policies and individual protection guidance
Visitor	Travel from a city to another city.	Whether a public health event occurred in the passing area or there are confirmed cases	Local mutual recognition of individual health information and individual privacy protection.
Isolated individual	Isolate in a hotel or community.	Basic living security and the time required for isolation	Privacy protection, external communication, and other issues
Patient	Has disease. Has disease symptom. See doctor at a clinic or hospital. Be hospitalized. Take medicine. Take medical examination. Take medical operation. Schedule a medical appointment. Use medical insurance. Pay medical bills.	Treatment effect and cost	The treatment process from illness to recovery
Government	Manage subordinate organizations. Provide government services. Publish law, policy or measure.	Comprehensive ability to respond to emergencies	The government's emergency management capacity and the coordinated management between different regions

Stakeholder	Activities	Concerns	Standardization areas
Public health department	Manage medical organizations. Publish infectious case reports. Take measures to control epidemic. Collect and analyse epidemic-related data. Predict epidemic development. Coordinate and allocate medical resources. Redeploy medical personnel. Publish itinerary of confirmed cases. Track close-contact person. Identify vulnerable people. Identify at-risk areas. Notify eligible people to get a vaccine. Promote vaccines to people. Track adverse events following immunization. Focus on people's mental health. Investigate cause of food poisoning incidents. Monitor hospital beds usage. Decide to build mobile, temporary hospitals. Recruit and train epidemic prevention volunteers. Impose quarantine on public places.	Comprehensive capacity to respond to PHE	The occurrence and treatment of PHE. Application of intelligent technology in medical field.
Transportation department	Manage city transport. Manage travel. Manage emergency supplies transportation. Lock down areas with high-level epidemic risk. Set up special vehicles for medical personnel. Set up site to check people and vehicles from other cities.	Pedestrian management and trajectory tracking	Timely access to relevant travel information. Individual privacy protection for pedestrians
Financial department	Distribute financial subsidies to affected person or organization.	Financial capacity to deal with emergencies	Treatment process, treatment cost and other economic losses caused by PHE
Public safety department	Investigate wilful public health emergencies.	Comprehensive capacity to investigate PHE	Causes of occurrence and transmission of PHE
Environmental protection department	Deal with urban environmental pollution. Assist in investigating environmental pollution factors of public health emergencies.	A green and healthy ecological environment	To study the environmental pollution factors that cause PHE

Stakeholder	Activities	Concerns	Standardization areas
Hospital	Pre-test patient about infectious disease. Provide medical service. Provide infectious disease testing. Provide vaccination. Report infectious case to public health department. Order and receive medical resources and equipment. Sell medical resources. Pick up patients.	Effective treatment of infected patients	The development process of patients from infection to recovery, effective treatment for patients and protection of patients' privacy
Clinic	Sell medical resources. Order and receive medical resources and equipment. Provide basic medical service.	Basic medical capabilities	Basic treatment measures needed by patients
Pharmacy	Sell medical resources. Order and receive medical resources and equipment.	Provide medical resources to help patients treat diseases	Allocation of medical resources to provide drugs or other medical facilities to patients and hospitals in a timely manner
Medical personnel	Treat patients. Perform medical activities. Diagnose the patient's condition Develop vaccine and medicine against infectious disease.	Medicines, vaccines, and other medical equipment to respond to PHE	Related to the development cycle of PHE, drug efficacy and so on
Epidemic prevention personnel	Disinfect public places. Maintain the order of people in line for vaccination or testing. Assist in distributing epidemic prevention materials. Promote epidemic prevention measures.	The ability to eliminate bacteria and viruses for epidemic prevention	Individual protection and effective killing of bacteria
Medical resource manufacturer	Produce medical resources and equipment. Sell medical resources and equipment.	Producing medical equipment to help stakeholders respond to PHE	Functions and services of medical facilities in response to PHE
Laboratory	Test the sample and specimen. Test swab.	Ability to test samples quickly and accurately	Problems related to pathogen source and pathogen tracing of PHE
Cafe/ Restaurant/ Canteen	Provide catering services. Order food. Accept health quarantine.	Customer's health information	Issues related to the mutual recognition of individual health information, privacy protection and other aspects
Logistics provider	Ship medical resources and equipment.	Traffic control policies in different areas	Safe transport of medical equipment, timely access to traffic control information and other related issues

PHE standards identified using these above methods are listed and stored in an Excel®[1] document which is a light database in catalogue structure in 4.3.

4.2 Structured catalogue of PHE standards

4.2.1 Structuring the standards catalogue

The catalogue structure of PHE standards first follows the basic principles of structuring the smart city standards catalogue in 5.2.1 b) and c) of IEC SRD 63233-1:2022, and is aligned with the catalogue in IEC SRD 63233-2:2023, which determines the standardization area of PHE in Table 2. PHE is within the public safety system in a city, and emergency management is needed to be considered in the area of PHE standardization. The requirements of standards for managing PHE are considered. Use of data and integrated technologies enable PHE management to transform services and improve the efficiency and effectiveness, so the standards for these smart elements should be included. In Figure 2, the sub-areas of PHE standardization, including "Enabling technologies" and "Interoperability in PHE", for "Data and technologies used in a city" are the same as in the smart city standards catalogue. However, for PHE standardization, a few topics are different from those in the smart city standards catalogue because of the specificity of PHE.

The basic principle in 5.2.1 of IEC SRD 63233-1:2022 "a) Stakeholders targeted" is also followed when the sub-areas of Emergency management are derived. The city government, hospitals, other organizations, and individuals, who are impacted by PHE and who are responsible for taking measures to protect the city operation and individual safety, are divided as sub-areas of standardization under Emergency management in Table 2. In each sub-area, the principle of covering life cycle of PHE and individual infection is used to the specific topics of standards.

Security, safety, and especially individual privacy in PHE, receive considerable concern, and some standards have been developed according to the needs of government, organizations, and individuals. Then, there is one standardization area derived which is in accordance with assessment in the smart city standards catalogue in IEC SRD 63233-2:2023.

[1] Excel is the trademark of a product supplied by Microsoft Corporation. This information is given for the convenience of users of this document and does not constitute an endorsement by IEC of the product named.

Table 2 – PHE standards catalogue structure

Standardization area	Sub-area of standardization	Specific topic of standards [a]
Emergency management	Government emergency management	Monitoring and prevention
		Risk management
		Preparedness
		Response
		Recovery
		Disease surveillance
		Warning
		Emergency medical infrastructure
		Emergency resource management
		Supporting vulnerable persons
		Vaccination management
		Response capability and performance assessment
	Hospital emergency management	Risk management
		Emergency response quarantine
		Facility in case of health emergency
		Healthcare
		Test
		Vaccination
	Other organization emergency management	Personnel detection
		Prevention
		Disposition
	Individual emergency management	Prevention
		Exposure and infection
		Treatment
		Rehabilitation
Enabling technologies	Data acquisition or capture	Identification
		Code
	Big data	Metadata
		Record
	Computing, system and platform	—
	Internet of Things	—
	Artificial intelligence	—
	Digital twin	—
	Metaverse	—

Standardization area	Sub-area of standardization	Specific topic of standards [a]
Interoperability in PHE	Communication	Network communication
		Data exchange
		Information exchange and release
	Information	Vocabulary
		Concept system
		Data model and information model
		Closed data
		Open data
		Shared data
	Function	—
	Business	Local mutual recognition
		International collaboration
Security, safety, and privacy	Security	Network security
		Information security
		Societal security
	Safety	Product and system safety
		Business continuity
	Privacy	Individual privacy protection
		Sensitive data protection

[a] A dash signifies that there is no further detail on the topic or sub-topic in this document.

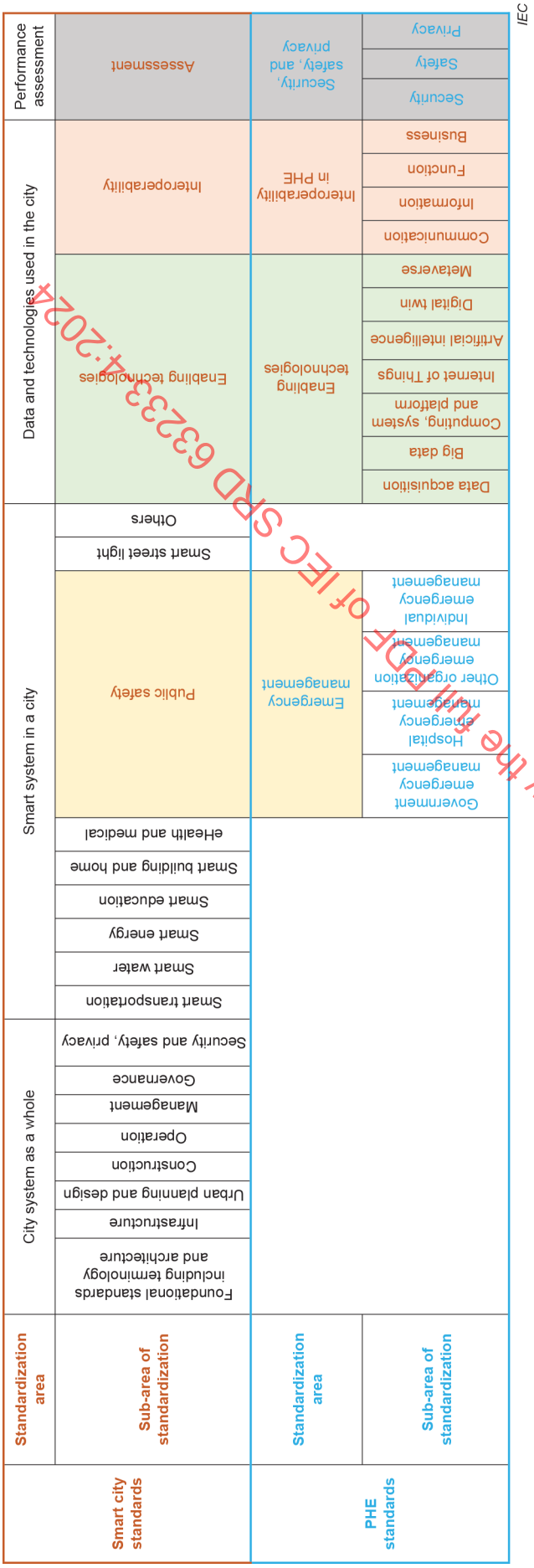

Figure 2 – Extension of PHE standard catalogue structure from that of smart cities

4.2.2 Vocabulary for classification of PHE standards

Tags of standards are chosen following the principles and method provided in 5.2.2 "Vocabulary for classification of standards" of IEC SRD 63233-1:2022. The standardized object, different numbers of technical characters of each standard are given for classifying these standards into the catalogue structure of PHE standards. The tag of each standard is given in the standard inventory (a light database in Excel file format in 4.3). The keywords in these tags are from these identified standards. If there are some synonyms used in the tags of two or more standards for the same term, the newest definition is used for that term in the tags.

4.3 PHE standards inventory

The table of PHE related standards catalogue, a light database in Excel file format, is accessible by the following URL to the IEC SyC Smart Cities Supporting Documents:

https://www.iec.ch/sycsmc/supportingdocuments

There are four sheets in this Excel file.

– The "How to search standards" sheet gives the strategies for searching standards of user's interest and standards identification information including Standard Number, Title, Reference, Owner, and Text Link.
– The "PHE related standards" sheet shows the identification information of each standard in this inventory.
– The "Organization" sheet gives the whole name of standards development organizations.
– The "List of synonyms for search" provides users with synonyms used in the collected existing standards and projects as much as possible to search appropriate standards.

The maintenance of the PHE standards inventory follows 5.3 in IEC SRD 63233-1:2022 and the updating cycle of the Excel file is 12 weeks.

5 Mapping PHE standards on PHE reference models

5.1 PHE standards map user and needs analysis

PHEs standards map users include the city government, departments with duty to management systems in a city impacted by PHE, hospitals, other organizations, and individuals with separate perspectives and needs.

– The city government publishes laws, policies and measures, and needs to have comprehensive ability to respond to public health emergencies and provide government services continually. The city government also needs to carry out coordinated management between different regions. The standards map for the city government will mainly cover standardization aspects of PHEs related to city level emergency management.
– The departments governed by the city government are responsible for managing the duty in a system in the city impacted by PHE. For example, the transportation department will provide individuals' travelling information for contact investigation with individual privacy protection considered.
– Smart PHE management and service solution providers mainly focus on the standards related to data and technologies used in PHE which cover technical standardization areas.
– Medical resources and emergency supplies stakeholders will provide resources that satisfy the requirements of PHE response and management activities by the government, departments, hospitals and individuals. The standards map for them will cover some aspects of PHE standards related to their activities.
– Individuals, including citizens and visitors, can be divided into infected cases, individual protection and daily life including working protection, living, public transportation, leisure activities in the city. So, individuals need a more comprehensive PHE standards map.

5.2 PHE reference model selection and mapping implementation

A reference model of PHE is a diagram or process figure to describe the framework, architecture, or process of PHE or a view of PHE from some specific perspective. For different standard users from different perspectives, one or some reference models can be selected for standards mapping.

Some PHE reference models used in this document are collected from some countries and organizations. Table 3 describes the relationships between standards map users and the alternative PHE reference models for standards mapping which can be chosen by different users.

If there is no reference model collected for user, a mapping structure can be generated by the tags of relevant standards such as that for Covid-19 in Annex B.

Table 3 – Alternative reference models for PHE standards mapping

PHE standards map user	Need of standards	Alternative reference model for standards mapping
All users	All standards relevant to PHE	Smart Public Health Emergency Framework A UML use-case unified framework for public health management in smart sustainable cities provided by U4SSC (United for Smart Sustainable Cities).
		Logic model for public health preparedness in EU member states
		Cooperative framework of emergency management agencies for acute infectious diseases and public health emergencies in the United States
		Overall framework of epidemic management based on Chinese cases
City government	City level emergency management standards, trans-border requirements relevant standards	[a]
Departments governed by the city government	Standards for PHE management relevant to a system in the city impacted by PHE	[a]
Smart PHE management and service solution providers	Standards related to data and technologies used in PHE	[a]
Medical resources and emergency supplies stakeholders	Standards related to medical resources and delivery	[a]
Individuals	Individual information protection, Individual privacy protection, symptom self-testing, medical data record, etc.	[a]
[a] If no reference model is found, a mapping structure generated by tags of standards can be used.		

PHE standards are marked with the tags of standards established in 4.2.2 and 4.3. A tag of a standard can be composed of several keywords, and it reflects the technical field to which a standard belongs or is relevant, the standardized object and the technical features of the object. Tags are used to mark standards using keywords with semantic meaning, which makes it easy to establish relations among standards and map them into different models of PHE.

5.3 Visualized PHE standards map

The visualized standards map is downloadable from the IEC Mapping Platform https://mapping.iec.ch/#/maps, which provides a visualization tool to draw standard maps.

The link for the PHE standards map on the catalogue structure of 4.2.1 is provided on https://mapping.iec.ch/#/maps/112.

The link for several PHE standards maps in Table 3 is https://mapping.iec.ch/#/maps/146.

NOTE More maps will be added as more reference systems are discovered and collected.

Annex A
(informative)

Searching keywords and query combinations for PHE standards inventory

Table A.1 shows the searching keywords and Table A.2 shows the rationale for query combinations.

Table A.1 – Keywords for inventory

First-layer set	Second-layer set	Category	Keyword	Description
set A life cycle		emergency event life cycle	prevention	Describe the phase or condition where the object under study is.
			preparation	
			response	
			recovery	
		personal infection life cycle	prevention	
			exposure	
			infection	
			rehabilitation	
set B	set B.1 city government	emergency management	disease surveillance	Describe the guidance on emergency management.
			warning	
			emergency facility	
			resource management	
			vulnerable persons	
	set B.2 hospital	emergency management	emergency response	
			vaccination management	
			response performance assessment	
			emergency management	
			emergency response quarantine	
			emergency medical services environment	
			test	
		healthcare	healthcare	
	set B.3 other organizations	emergency management	prevention	
			disposition	
		business continuity	business continuity	
	set B.4 individuals	personal protection	personnel detection	
			infection prevention	
			tracking	
			quarantine	
			privacy	

First-layer set	Second-layer set	Category	Keyword	Description
set C	set C.1 digital	data and technologies	data	Describe principles and specifications for data and technologies used in PHE.
			code	
			storage	
			communication	
			access	
			simulation	
			service	
			application	
			system	
			platform	
			software	
			interface	
			interoperability	
			cyber or internet	
			modelling	
			computing	
			IoT	
			media	
			geographic information	
			artificial intelligence	
	set C.2 physical	resources	facility	Describe resources supporting PHE's prevention, response, and disposition
			infrastructure	
			meter	
			sensor	
			device	
			vaccine	
			emergency supplies	

Table A.2 – Query combinations

Query combination	Rationale	Example
set B.1	This query examines standards related to PHE management under city government (set B.1).	City government (set B.1) ISO 22395:2018, Security and resilience – Community resilience – Guidelines for supporting vulnerable persons in an emergency
set B.3	This query explores guidance on response and management of PHE in other organizations (set B.3).	Other organizations (set B.3) ISO/PAS 45005:2020, Occupational health and safety management – General guidelines for safe working during the COVID-19 pandemic
set B.4	This query is performed to find standards which describe the privacy management of personal information (set B.4).	Privacy (set B.4) ISO/AWI 27799, Health informatics – Information security management in health using ISO/IEC 27002
set C.1	This query explores standards related to service for PHE (set C.1).	Service (set C.1) ITU-T SG20 Y.RA-PHE Requirements and reference architecture of smart service for public health emergency
set A + Set C.2	This query aims to find standards which describe facility supporting PHE (set B.2) in some stage of the life cycle (set A).	Facility (set C.2) ISO 5741:2023, Healthcare organization management – Pandemic response — Temporary medical facility
set A + set B.4	This query extracts the standards relevant to personal protection (set B.4) in some stage of the life cycle (set A).	Preparation (set A) + city (set B.4) ISO 6028:2023, Healthcare organization management – Pandemic response – Functional requirements for self-symptom checker app
set B.2 + set C.1	This query aims to find standards which describe technologies used in PHE (set C.1) among hospitals for PHE management (set B.2).	Healthcare (set B.2) + Interoperability (set C.1) ITU-T Y.4484 Semantic Framework to support semantic mediation of eHealth services ISO/IEC 5153-1:– (current stage: ISO/IEC FDIS 5153-1:2023) Information Technology — City service platform for public health emergencies — Part 1: Overview and general requirements
Set A + set B.1 + set B.4 + set C.1	This query explores standards involving PHE management under city government (set B.1) and personal protection (set B.4) which describe technologies used in PHE (set C.1) in some stage of the life cycle (set A).	Life cycle (set A) + city government (set B.1) + individuals (set B.4) + communication (set C.1) ETSI TS 102 181 (2020-06) Emergency Communications (EMTEL); Requirements for communication between authorities/organizations during emergencies

Annex B
(informative)

An example: Existing standards and projects relevant to Covid-19

Table B.1 lists the IEC, ISO, ITU-T and ETSI documents related to Covid-19 that are published or under development. Figure B.1 gives a draft structure of these aspects of standardization.

The link for the standards map of PHE is https://mapping.iec.ch/#/maps/96.

Table B.1 – Published and ongoing IEC, ISO, ITU-T and ETSI documents relevant to Covid-19

Document number	Title	Organization	TC/SC/SG
ISO/TR 37112:– (current stage: ISO/DTR 37112:2023)	Sustainable cities and communities – Good practice case studies in how smart city operating models support effective public-health emergency response	ISO	TC 268 Sustainable cities and communities
IEC SRD 63347 series (new project approved)	Use Case Collection and Analysis – Management of Public Health Emergencies in Smart Cities	IEC	IEC SyC Smart Cities
ITU-T Y.RA-PHE	Requirements and reference architecture of smart service for public health emergency	ITU-T	SG 20 Internet of Things, smart cities and communities
ITU-T Y.4484	Framework to support semantic mediation of eHealth services	ITU-T	SG 20 Internet of Things, smart cities and communities
ISO/TS 5384:– (current stage: ISO/CD TS 5384:2023)	Health informatics – Categorial structure and data elements for the identification and exchange of immunization data	ISO	TC 215 Health informatics
ISO 5477:– (current stage: ISO/FDIS 5477:2023)	Health informatics – Interoperability of public health emergency preparedness and response information systems	ISO	TC 215 Health informatics
ISO/TS 17975:2022	Health informatics – Principles and data requirements for consent in the collection, use or disclosure of personal health information	ISO	TC 215 Health informatics
ISO 22301:2019	Security and resilience – Business continuity management systems — Requirements	ISO	TC 292 Security and resilience
ISO 22316:2017	Security and resilience – Organizational resilience – Principles and attributes	ISO	TC 292 Security and resilience
ISO 22320:2018	Security and resilience – Emergency management – Guidelines for incident management	ISO	TC 292 Security and resilience
ISO 22395:2018	Security and resilience – Community resilience – Guidelines for supporting vulnerable persons in an emergency	ISO	TC 292 Security and resilience
ISO 31000:2018	Risk management – Guidelines	ISO	TC 262 Risk management
ISO 5258:2022	Healthcare organization management – Pandemic response (respiratory) – Drive-through screening station	ISO	TC 304 Healthcare organization management

Document number	Title	Organization	TC/SC/SG
ISO 5472:2022	Healthcare organization management – Pandemic response (respiratory) – Walk-through screening station	ISO	TC 304 Healthcare organization management
ISO 5741:2023	Healthcare organization management – Pandemic response – Temporary Medical Facilities	ISO	TC 304 Healthcare organization management
ISO 6028:2023	Healthcare organization management – Pandemic response – Functional requirements for self-symptom checker app	ISO	TC 304 Healthcare organization management
ISO 6763:– (current stage: ISO/DIS 6763:2023)	Pandemic response – Social distancing and source control	ISO	TC 304 Healthcare organization management
ISO 8184:– (new project approved)	Healthcare organization management – Vaccination administering	ISO	TC 304 Healthcare organization management
ISO 45003:2021	Occupational health and safety management – Psychological health and safety at work – Guidelines for managing psychosocial risks	ISO	TC 283 Occupational health and safety management
ISO/PAS 45005:2020	Occupational health and safety management – General guidelines for safe working during the COVID-19 pandemic	ISO	TC 283 Occupational health and safety management
ISO/IEC 5153-1:– (current stage: ISO/IEC FDIS 5153-1:2023)	Information Technology – City service platform for public health emergencies – Part 1: Overview and general requirements	ISO/IEC	JTC 1 Information technology
ISO 13940:2015	Health informatics – System of concepts to support continuity of care	ISO	TC 215 Health informatics
ISO 22609:2004	Clothing for protection against infectious agents – Medical face masks – Test method for resistance against penetration by synthetic blood (fixed volume, horizontally projected)	ISO	TC 94/SC 13 Protective clothing
CWA 17553:2020	Community face coverings – Guide to minimum requirements, methods of testing and use	CEN	CEN
IEC SRD 63233-4:2024	Smart city standards inventory and mapping – Part 4: Guidance on standards for public health emergencies	IEC	SyC Smart Cities
ETSI TS 102 181:2020	Emergency Communications (EMTEL); Requirements for communication between authorities/organizations during emergencies	ETSI	ETSI EMTEL Emergency Communications
ETSI TS 102 182:2020	Emergency Communications (EMTEL); Requirements for communications from authorities/organizations to individuals, groups or the general public during emergencies	ETSI	ETSI EMTEL Emergency Communications
ETSI GR E4P 002:2021	Europe for Privacy – Preserving Pandemic Protection (E4P); Comparison of existing pandemic contact tracing systems	ETSI	Industry Specification Group (ISG) Europe for Privacy-Preserving Pandemic Protection (E4P)