

# Recommendation

## **ITU-T H.862.8 (03/2025)**

SERIES H: Audiovisual and multimedia systems

E-health multimedia systems, services and applications –  
Multimedia e-health data exchange services

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## **Requirements and framework of the occupational health service platform**

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### Audiovisual and multimedia systems

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*For further details, please refer to the list of ITU-T Recommendations.*

## Recommendation ITU-T H.862.8

### Requirements and framework of the occupational health service platform

#### Summary

According to the WHO, occupational health is a field of public health focused on promoting and maintaining the highest levels of physical, mental, and social well-being for workers across all occupations. Achieving this occupational health goal requires tracking and monitoring workers' health, identifying symptoms related to occupational factors, and providing appropriate diagnoses and treatments. Another critical aspect of occupational health is preventing exposure to occupational hazards that could harm workers' health. These hazards depend on factors such as the type of work, the level of physical and mental exertion involved, the materials and products used, and the working environment.

To monitor workers' health and occupational hazards effectively, various Internet of things (IoT) devices can be used to monitor health status and workplace environments. The collected data can be stored in the occupational health service platform, to provide occupational health services such as health surveillance, mass immunization, injury management, and mental treatments. A key challenge for the occupational health service platform is providing standardized approaches to manage occupational health data from diverse sources and formats, such as personal health records, health devices, sensors, and other platforms. Moreover, it is essential to ensure the collected data is delivered appropriately to various users including healthcare professionals, health service providers, researchers, labour and safety policymakers, and workers. To address these challenges, the platform should enable the construction and exchange of occupational health data in an interoperable way.

Recommendation ITU-T H.862.8 outlines the framework and requirements for the occupational health service platform. This framework aims to enhance data collection, processing, privacy protection, and interoperability among data sources and users. The platform supports various occupational health use cases, including monitoring workers' health, informing policy development, and implementing of tailored health programs for workers.

#### History<sup>\*</sup>

| Edition | Recommendation | Approval   | Study Group | Unique ID          |
|---------|----------------|------------|-------------|--------------------|
| 1.0     | ITU-T H.862.8  | 2025-03-16 | 21          | 11.1002/1000/16249 |

#### Keywords

Healthcare platform, occupational data for health, occupational health.

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<sup>\*</sup> To access the Recommendation, type the URL <https://handle.itu.int/> in the address field of your web browser, followed by the Recommendation's unique ID.

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# Recommendation ITU-T H.862.8

## Requirements and framework of the occupational health service platform

### 1 Scope

This Recommendation describes the requirements and framework of occupational health service platforms. The scope of this Recommendation includes:

- Requirements for the occupational health service platform.
- Framework for the occupational health service platform.
- Use-cases of occupational health service platforms (Appendix II).

### 2 References

The following ITU-T Recommendations and other references contain provisions which, through reference in this text, constitute provisions of this Recommendation. At the time of publication, the editions indicated were valid. All Recommendations and other references are subject to revision; users of this Recommendation are therefore encouraged to investigate the possibility of applying the most recent edition of the Recommendations and other references listed below. A list of the currently valid ITU-T Recommendations is regularly published. The reference to a document within this Recommendation does not give it, as a stand-alone document, the status of a Recommendation.

- [ITU-T H.81x] Recommendations ITU-T H.81x-series (2019), *Interoperability design guidelines for personal connected health systems*.
- [HL7 FHIR] HL7 (2023), *HL7 FHIR Release #5 Health Level 7 Fast Health Interoperability Resources*.  
<https://hl7.org/fhir/>
- [IEEE 802.11] IEEE Std 802.11 (2020), *Telecommunications and Information Exchange between Systems – Local and Metropolitan Area Networks – Specific Requirements – Part 11: Wireless LAN medium Access Control (MAC) and Physical Layer (PHY) Specifications*.
- [IETF RFC 8446] IETF RFC 8446 (2018), *The Transport Layer Security (TLS) Protocol Version 1.3*.

### 3 Definitions

#### 3.1 Terms defined elsewhere

This Recommendation uses the following terms defined elsewhere:

**3.1.1 electronic health record (EHR)** [b-ITU-T H.810]: The electronic health record (EHR) is a longitudinal electronic record of patient health information generated by one or more encounters in any care delivery setting. Included in this information are patient demographics, progress notes, problems, medications, vital signs, past medical history, immunizations, laboratory data and radiology reports. The EHR automates and streamlines the clinician's workflow. The EHR has the ability to generate a complete record of a clinical patient encounter as well as supporting other care-related activities directly or indirectly via an interface including evidence-based decision support, quality management and outcomes reporting.

**3.1.2 electronic medical record (EMR)** [b-ITU-T H.810]: EMRs are computerized legal clinical records created in care delivery organizations (CDOs) such as hospitals and physician offices. An

electronic medical record is owned by the organization, practice or corporation that provided the health care be it a clinic, a hospital or a doctor.

**3.1.3 enterprise system** [b-ISO 41014]: A combination of computer hardware and software applications that an organization uses to support its business processes and operations.

**3.1.4 healthcare organization** [b-ISO 22886]: Healthcare organization involved in the direct or indirect provision of healthcare.

**3.1.5 occupational health** [b-WHO]: Area of work in public health to promote and maintain the highest degree of physical, mental and social well-being of workers in all occupations.

## 3.2 Terms defined in this Recommendation

This Recommendation defines the following term:

**3.2.1 occupational data for health (ODH)**: A set of information about work environments, workers health status and histories, aimed at improving occupational safety and well-being.

## 4 Abbreviations and acronyms

This Recommendation uses the following abbreviations and acronyms:

|       |                                                |
|-------|------------------------------------------------|
| AES   | Advanced Encryption Standards                  |
| BMI   | Body Mass Index                                |
| CDG   | Continua Design Guidelines                     |
| CDO   | Care Delivery Organization                     |
| CoAP  | Constrained Application Protocol               |
| CSV   | Comma-Separated Values                         |
| DICOM | Digital Imaging and Communications in Medicine |
| EHR   | Electronic Health Record                       |
| EMR   | Electronic Medical Record                      |
| FHIR  | Fast Health Interoperability Resources         |
| GDPR  | General Data Protection Regulation             |
| HL7   | Health Level 7                                 |
| HTTPS | Hypertext Transfer Protocol Secure             |
| ICD   | International Classification of Diseases       |
| IG    | Implementation Guide                           |
| IHE   | Integrating the Healthcare Enterprise          |
| IPA   | International Patient Access                   |
| IPS   | International Patient Summary                  |
| JSON  | JavaScript Object Notation                     |
| LAN   | Local Area Network                             |
| MFA   | Multi-Factor Authentication                    |
| MQTT  | Message Queuing Telemetry Transport            |
| ODH   | Occupational Data for Health                   |