



# Emergency Data Exchange Language (EDXL) Hospital Availability Exchange (HAVE) Version 2.0

## Committee Specification Draft 01

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### Technical Committee:

OASIS Emergency Management TC

#### Chair:

Elysa Jones ([elysajones@yahoo.com](mailto:elysajones@yahoo.com)), Individual

#### Editors:

Darrell O'Donnell ([darrell.odonnell@continuumloop.com](mailto:darrell.odonnell@continuumloop.com)), Individual  
Brian Wilkins ([bwilkins@mitre.org](mailto:bwilkins@mitre.org)), MITRE Corporation

### Additional artifacts:

This prose specification is one component of a Work Product that also includes:

- XML schemas: <http://docs.oasis-open.org/emergency/edxl-have/v2.0/csd01/schemas/>

### Related work:

This specification replaces or supersedes:

- *Emergency Data Exchange Language (EDXL) Hospital Availability Exchange (HAVE) Version 1.0*. Edited by Sukumar Dwarkanath. 22 December 2009. OASIS Standard Incorporating Approved Errata. <http://docs.oasis-open.org/emergency/edxl-have/v1.0/errata/edxl-have-v1.0-os-errata-os.html>.

This specification is related to:

- *Emergency Data Exchange Language (EDXL) Distribution Element v1.0*. Edited by Michelle Raymond, Sylvia Webb, and Patti Iles Aymond. 01 May 2006. OASIS Standard. [http://docs.oasis-open.org/emergency/edxl-de/v1.0/EDXL-DE\\_Spec\\_v1.0.pdf](http://docs.oasis-open.org/emergency/edxl-de/v1.0/EDXL-DE_Spec_v1.0.pdf).
- *Emergency Data Exchange Language Resource Messaging (EDXL-RM) 1.0*. Edited by Dr. Patti Aymond, Rex Brooks, Tim Grapes, Gary Ham, Dr. Renato Iannella, Dr. Karen Robinson, Werner Joerg, and Alessandro Triglia. 22 December 2009. OASIS Standard incorporating

Approved Errata. <http://docs.oasis-open.org/emergency/edxl-rm/v1.0/errata/EDXL-RM-v1.0-OS-errata-os.html>.

- *Emergency Data Exchange Language Common Types v1.0*. Edited by Werner Joerg, Rex Brooks, Jeff Waters, and Don McGarry. 13 January 2015. OASIS Committee Specification Draft. <http://docs.oasis-open.org/emergency/edxl-ct/v1.0/edxl-ct-v1.0.html>.
- *Emergency Data Exchange Language Customer Information Quality v1.0*. Edited by Werner Joerg and Jeff Waters. 13 January 2015. OASIS Committee Specification Draft. <http://docs.oasis-open.org/emergency/edxl-ciq/v1.0/edxl-ciq-v1.0.html>.

**Declared XML namespaces:**

- urn:oasis:names:tc:emergency:edxl:have:2.0

**Abstract:**

EDXL-HAVE (HAVE) is an XML messaging standard primarily for exchange of information related to health facilities in the context of emergency management. HAVE supports sharing information about facility services, bed counts, operations, capacities, and resource needs so first responders, emergency managers, coordinating organizations, hospitals, care facilities, and the health community can provide each other with a coherent view of the health system.

**Status:**

This document was last revised or approved by the OASIS Emergency Management TC on the above date. The level of approval is also listed above. Check the "Latest version" location noted above for possible later revisions of this document. Any other numbered Versions and other technical work produced by the Technical Committee (TC) are listed at [https://www.oasis-open.org/committees/tc\\_home.php?wg\\_abbrev=emergency#technical](https://www.oasis-open.org/committees/tc_home.php?wg_abbrev=emergency#technical).

TC members should send comments on this specification to the TC's email list. Others should send comments to the TC's public comment list, after subscribing to it by following the instructions at the "[Send A Comment](#)" button on the TC's web page at <https://www.oasis-open.org/committees/emergency/>.

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**Citation format:**

When referencing this specification the following citation format should be used:

**[EDXL-HAVE]**

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# 1 Introduction

[All text is normative unless otherwise labeled]

## 1.1 Terminology

The key words “MUST”, “MUST NOT”, “REQUIRED”, “SHALL”, “SHALL NOT”, “SHOULD”, “SHOULD NOT”, “RECOMMENDED”, “MAY”, and “OPTIONAL” in this document are to be interpreted as described in **Error! Reference source not found.**

## 1.2 Normative References

- |                       |  |
|-----------------------|--|
| <b>[CAP-1.2]</b>      | <i>Common Alerting Protocol Version 1.2.</i> 01 July 2010. OASIS Standard. <a href="http://docs.oasis-open.org/emergency/cap/v1.2/CAP-v1.2-os.html">http://docs.oasis-open.org/emergency/cap/v1.2/CAP-v1.2-os.html</a> .   |
| <b>[DATETIME]</b>     | P. Biron and A. Malhotra, <i>XML Schema Part 2: Datatypes Second Edition</i> . 28 October 2004. W3C REC-xmlschema-2,, Sec 3.2.7, dateTime. <a href="http://www.w3.org/TR/xmlschema-2">http://www.w3.org/TR/xmlschema-2</a>   |
| <b>[EDXL-CT]</b>      | <b>Joerg, W. Committee Specification Draft Emergency Data Exchange Language Common Types. November 2011. OASIS.</b> <a href="http://docs.oasis-open.org/emergency/edxl-ct/v1.0/csd01/">http://docs.oasis-open.org/emergency/edxl-ct/v1.0/csd01/</a>                          |
| <b>[EDXL-DE]</b>      | EDXL Distribution Element (DE) Standard v1.0. March 2006. OASIS. <a href="http://www.oasis-open.org/specs/index.php#edxlde-v1.0">http://www.oasis-open.org/specs/index.php#edxlde-v1.0</a>   |
| <b>[EDXL-GSF]</b>     | Joerg, W. <i>Committee Specification Draft Emergency Data Exchange Language GML Simple Features</i> . September 2011. OASIS. <a href="http://docs.oasis-open.org/emergency/edxl-gsf/v1.0/csd01/">http://docs.oasis-open.org/emergency/edxl-gsf/v1.0/csd01/</a>               |
| <b>[NAMESPACES]</b>   | <b>T. Bray et al, <i>Namespaces in XML 1.0 (Second Edition)</i>. January 1999. W3C REC-xml-names-19990114.</b> <a href="http://www.w3.org/TR/xml-names/">http://www.w3.org/TR/xml-names/</a>   |
| <b>[OASIS CIQ]</b>    | <i>Customer Information Quality (CIQ) Specifications Version 3.0, Name (xNL), Address (xAL), and Party (xPIL)</i> . June 15, 2007. OASIS. <a href="http://docs.oasis-open.org/ciq/v3.0/specs/">http://docs.oasis-open.org/ciq/v3.0/specs/</a>                                |
| <b>[OGC 07-36r1]</b>  | <b><i>Geography Markup Language (GML) Implementation Specification Version 3.2.1.</i> 2007.</b> Open Geospatial Consortium. <a href="http://portal.opengeospatial.org/files/?artifact_id=20509">http://portal.opengeospatial.org/files/?artifact_id=20509</a>                |
| <b>[OGC Schemas]</b>  | <b><i>GML 3.2.1 schemas.</i> 2007.</b> Open Geospatial Consortium. <a href="http://schemas.opengis.net/gml/3.2.1/">http://schemas.opengis.net/gml/3.2.1/</a>   |
| <b>[OGC 10-100r3]</b> | <b><i>Geography Markup Language (GML) simple features profile (with Corrigendum) (2.0).</i> 2010.</b> <a href="http://portal.opengeospatial.org/files/?artifact_id=42729">http://portal.opengeospatial.org/files/?artifact_id=42729</a>                                      |
| <b>[OGC CRS]</b>      | <i>Topic 2 - Spatial Referencing by Coordinates (Topic 2) (CRS Abstract Specification)</i> , Version 3. 2004. Open Geospatial Consortium,. <a href="https://portal.opengeospatial.org/files/?artifact_id=6716">https://portal.opengeospatial.org/files/?artifact_id=6716</a> |
| <b>[RFC2119]</b>      | S. Bradner, <i>Key words for use in RFCs to Indicate Requirement Levels</i> . March 1997. IETF RFC 2119. <a href="http://www.ietf.org/rfc/rfc2119.txt">http://www.ietf.org/rfc/rfc2119.txt</a>   |
| <b>[RFC3066]</b>      | H. Alvestrand, <i>Tags for the Identification of Languages</i> . January 2001. IETF RFC 3066. <a href="http://www.ietf.org/rfc/rfc3066.txt">http://www.ietf.org/rfc/rfc3066.txt</a>  |
| <b>[WGS 84]</b>       | <i>Department of Defense World Geodetic System</i> . 1984. National Geospatial Intelligence Agency. <a href="http://earth-info.nga.mil/GandG/wgs84/index.html">http://earth-info.nga.mil/GandG/wgs84/index.html</a>  |

[XML 1.0] T. Bray, *Extensible Markup Language (XML) 1.0 (Fourth Edition)*. February 2004. W3C REC-XML-20040204. <http://www.w3.org/TR/REC-xml/>

### 1.3 Non-Normative References

[AHIC-BIODATA] *BioSurveillance Data Elements*. American Health Information Community (AHIC), BioSurveillance Data Working Group. [http://www.hhs.gov/healthit/ahic/bio\\_main.html](http://www.hhs.gov/healthit/ahic/bio_main.html)

[EDXL-EXT] EDXL Extension, OASIS. <https://tools.oasis-open.org/version-control/browse/wsvn/emergency/HAVE/rim/edxl-ext-v1.0.xsd>

[GJXDM] *Global Justice XML Data Model (GJXDM) Data Dictionary*. Global, Office of Justice Programs. [http://it.ojp.gov/topic.jsp?topic\\_id=43](http://it.ojp.gov/topic.jsp?topic_id=43)

[GML-BESTPRAC] *Best Practices: A GML Profile for use in OASIS EM Standards - EDXL-RM, EDXL-DE, HAVE, and CAP DRAFT*. Open Geospatial Consortium. <http://www.oasis-open.org/apps/org/workgroup/emergency/download.php/20785/Best%20Practices%20-%20a%20GML%20Profile.doc>

[HAVBED-DATA] *Hospital Bed Availability (HAVBED) Project – Definitions and Data Elements: AHRQ Releases Standardized Hospital Bed Definitions*. Agency for Healthcare Research and Quality (AHRQ): <http://www.ahrq.gov/research/havbed/definitions.htm>

[HAVBED2-REP] *HAvBED2 Hospital Available Beds for Emergencies and Disasters. A Sustainable Bed Availability Reporting System*. Final report. AHRQ Publication No. 09-0058-EF. April 2009. AHRQ. <http://archive.ahrq.gov/prep/havbed2/havbed2.pdf>

[HAVE-REQSUP] *EDXL HAVE Requirements Supplement. January 2006. OASIS*. <http://www.oasis-open.org/committees/download.php/16400/>

[HAVE-SRS] *EDXL HAVE Standard Requirements Specification. January 2006. OASIS*. <http://www.oasis-open.org/committees/download.php/16399/>

[HL7] Health Level Seven International. - <http://www.hl7.org/>.

[RM-DATAREQ] *EDXL Resource Messaging (RM) Draft Requirements Specification*. OASIS. <http://www.oasis-open.org/committees/download.php/14310/>

[VHHA-TERM] *Statewide Hospital Status Information System Terminology and Data Collection Elements*. Virginia Hospital & Healthcare Association (VHHA). <http://www.oasis-open.org/committees/download.php/18019>

### 1.4 Purpose

The ongoing goal of the Emergency Data eXchange Language (EDXL) project is to facilitate emergency information sharing and data exchange across the local, state, tribal, national and non-governmental organizations of different professions that provide emergency response and management services. EDXL accomplishes this goal by focusing on the standardization of specific messages (messaging interfaces) to facilitate emergency communication and coordination particularly when more than one profession or governmental jurisdiction is involved.

The current roster of published EDXL Standards includes:

- The Common Alerting Protocol v1.2 specification (EDXL-CAP), with various dedicated profiles
- The Distribution Element specification v2.0 (EDXL-DE)
- The Hospital AVailability Exchange specification v1.0 (EDXL-HAVE)
- The Resource Messaging specification v1.0 (EDXL-RM)



- The Situation Reporting specification v1.0 (EDXL-SitRep)

The primary purpose of EDXL-HAVE is to provide an XML-based reporting format that allows information to be shared about a set of health facilities including the communication of the status of a health facility, its services, and its resources. These include bed capacity and availability, emergency department status, staffing levels, available service coverage, and the status of a health facilities operations and resources.

The primary audience for EDXL-HAVE is the broad community that interacts with health facilities and it is intended to be used as a tool to automate information flow in and out of the health network. It is not intended to be a tool used for internal administration of health facilities as other standards organizations (e.g. Health System Level Seven International – [www.hl7.org](http://www.hl7.org)) already handle this domain.

## 1.5 History

In a disaster or emergency situation, there is a need for hospitals to be able to communicate with each other, and with other members of the emergency response community. The ability to exchange data in regard to hospitals' bed availability, status, services, and capacity enables both hospitals and other emergency agencies to respond to emergencies and disaster situations with greater efficiency and speed. In particular, it will allow emergency dispatchers and managers to make sound logistics decisions - where to route victims, which hospitals have the ability to provide the needed service. Many hospitals have expressed the need for, and indeed are currently using, commercial or self-developed information technology that allows them to publish this information to other hospitals in a region, as well as EOCs, 9-1-1 centers, and EMS responders via a Web-based tool.

The Hospital Availability Exchange standard was created to make sharing information about the state of hospitals for day-to-day and crisis use. Initially it was focused purely on hospitals but it has been extended to handle sharing information about the broader health network, including long-term care facilities, urgent care clinics, and temporary aid centres.

HAVE 1.0 was released on 22DEC2009. Since the release of HAVE 1.0 there have been multiple operational uses of HAVE, including after the 2010 Haiti Earthquake. In many of the operational uses there were modified schema used to add services that were not in HAVE 1.0 and to convey other aspects of the data and to handle the sharing of information about non-hospital facilities (e.g. clinics, temporary locations). The use of the HAVE 1.0 standard was encouraging but the shortfalls needed to be addressed. To that end, in 2010 the OASIS EM-TC voted to re-open the HAVE standard with the goal of creating a HAVE 2.0 standard.

## 1.6 Structure of the EDXL Hospital Availability Exchange Specification

The EDXL-HAVE 2.0 standard document structure is defined using successively more detailed or constrained artifacts in the form of textual descriptions, diagrams, figures, tables and Appendices. The EDXL-HAVE XML Schema is provided separately. The overall structure of the EDXL-HAVE report is first represented in an Element Reference Model (ERM). The ERM is the foundation from which individual constraint schemas (individual situation report types) are defined.

The structure of the EDXL-HAVE standard is defined in the following sections:

- Section 2 summarizes the design principles of the standard and shows several usage scenarios;
- Section 3 provides an informal overview of EDXL-HAVE. In particular:
  - Section 3.1 presents an extensive definition of a HAVE report;
  - Section 3.2 describes essential supporting elements in the EDXL Common Types collection, including the use of EDXL Extensions;
  - Section 3.3 presents the Element Reference Model (ERM) which shows the abstract structural relationships of the main components of EDXL-HAVE;
  - Section 3.4 discusses how the distribution requirements for EDXL-HAVE messages may be met through several mechanisms, including EDXL-Distribution Element (DE) and as general data payloads;
  - Section 3.5 presents a summary of the elements that make up a HAVE message.

- Section 4 The Data Dictionary formally defines each element contained in the EDXL-HAVE standard message.
- Section 5 provides conformance information.

These sections together define the message structure, message element definitions, optionality and cardinality.



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## 2 Design Principles & Concepts (non-normative)

Below are some of the guiding principles behind the development of EDXL-HAVE:

- Support day-to-day and crisis use of the standard.
- Facilitate sharing of information amongst the general public, all levels of government, first nation/tribal, international, and non-governmental organizations.
- Provide a simple information report that allows first responders, emergency managers, community leaders, politicians, and other stakeholders to get a quick glimpse of the state of the health network in a community.
- Provide a non-invasive way for a health facility to keep the communities that they serve abreast of developments that impact their ability to provide care.
- Be respectful of the boundaries of internal health facility information and the information that is relevant externally.
- Separation of EDXL-HAVE reports from being tied to a particular method of delivery.
- Use and reuse of data, content, and models developed by other initiatives that align with EDXL-HAVE.
- Provide a baseline set of services, operations, and resources to allow health facilities to start using HAVE quickly, while allowing for controlled extension where warranted.

### 2.1 Requirements for Design

The OASIS EM-TC tasked the EDXL-HAVE Sub-committee to review HAVE 1.0 and propose Errata, Minor, and Major versions. The initial tasking provided the following guidance:

#### **EM EDXL-HAVE Sub-committee (EMHAVE)**

##### **Scope of Work**

After initial implementation of EDXL-HAVE by various parties, comments have been generated that identify potential improvement and revisions to the EDXL-HAVE standard. The EDXL-HAVE Sub-committee (EMHAVE) will request and examine existing comments regarding the EDXL-HAVE 1.0 standard with the aim of producing updates to the EDXL-HAVE standard including Errata, Minor or Major versions.

##### **Purpose**

The subcommittee will research, analyze, recommend, and organize currently available information on implementation challenges or comments regarding the EDXL-HAVE standard version 1.0.

##### **Deliverables**

1. The EMHAVE subcommittee will produce recommendations for additional errata, minor revisions, or major revisions to the EDXL-HAVE standard.
2. Production of applicable committee draft documents based on the findings of #1
3. Schemas, examples, and additional documentation to support #2

##### **Schedule**

Q2 - '10 – Request for comments for EDXL-HAVE. Analysis of comments to produce Deliverable #1

Q4 - '10 – Production of deliverables #2 & #3

*Figure 1 - EM EDXL-HAVE SC Scope*

## 2.2 Example Usage Scenarios

The following scenarios illustrate how EDXL-HAVE 2.0 can be used in the field.

### 2.2.1 Day-to-Day – Dialysis Patient:

On a routine pickup a social worker picks up an elderly patient that needs routine maintenance. Normally the dialysis is performed at the closest facility, but the social worker knows that the small facility's dialysis unit is not operating due to an equipment failure. A quick query to view the local health facilities presents several within a 20-minute drive, so the social worker places a call and coordinates with one of the alternate facilities.

### 2.2.2 First Responder – Responding with Critical Care

As the result of a multi-unit residential fire, ambulances are dispatched and the Incident Commander indicates that there are 2 critical and 3 serious burn victims. The nearest hospital can only take in 2 burn victims normally, but the current state of the burn unit is not known. By examining the state of the local facilities, officials can coordinate which victims are to be taken to the surrounding health facilities.

### 2.2.3 Mass-Scale Vaccination Clinics

Under pandemic conditions a community is implementing a vaccination program with the hospitals, urgent care clinics, private clinics, and temporary clinics providing vaccinations. The public, key officials, and the media can have immediate visibility into the wait times and service availability at each of the vaccination sites. EDXL-HAVE provides the ability to display service availability for each facility, referenced on a map, by colour code and to provide an indication of wait times if they are available.

### 2.2.4 Disaster Response:

Following a major earthquake in the developing world, NGOs, various government responders, and local officials (and non-officials) establish temporary health-care facilities to meet the urgent and non-urgent health needs of those injured or killed by the earthquake and ensuing issues. Coordination of multiple dimensions are critical: what services are available, what is the capacity of the facilities, what resources they are missing or can share, where are the facilities located, who are the official points of contacts, what agency is running the facility, what are the hours operation, etc.

As the event unfolds there is a Cholera outbreak due to damaged sanitation. There is a clear need identified to track 2 particular services (e.g. Cholera Vaccination and Cholera Treatment) that were too specific to be part of the default HAVE 2.0 services taxonomy. After a meeting of the coordinating agencies, the data being shared is extended to include Cholera Vaccination and Cholera Treatment services, including the standard metrics (capacity, colour code for status, etc.)

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## 3 EDXL HAVE

Section 3 of this Standard is **normative unless otherwise stated**. If any differences are found between any XML schema and its associated model, diagram, table or other artifact or text, then the XML schema shall always take precedence and the other artifact(s) must be changed to match the XML schema.

Note: Please report any such errors to OASIS.

### 3.1 HAVE Report Definition (non-normative)

The HAVE Report is a single EDXL message that is intended to provide sharing of the services, operations, and capacities of health facilities. Health facilities in HAVE include hospitals, urgent care clinics, temporary facilities, and other facilities that may provide health services for a community.

Typical actors:

- Senders – hospital administrators, hospital networks, health providers, NGOs, clinic administrators, and emergency medical services, etc.
- Recipients – first responders, dispatch operators, emergency managers, automated systems, etc.

### 3.2 Supporting Elements (non-normative)

#### 3.2.1 Common Types

Supporting Element Types borrow re-usable elements from the EDXL Common Types (ct:) that apply to and support multiple areas of the HAVE 2.0 reports, such as Location. For instance incidentLocation relies on ct:EDXLLocationType, which consists of either EDXLGeoLocation for geographical information or EDXLGeoPoliticalLocation for geopolitical information. EDXLGeoLocation is of type edxl-gsf:EDXLGeoLocationType and EDXLGeoPoliticalLocation is of type ct:EDXLGeoPoliticalLocationType. This latter type consists of either a GeoCode (of type ct:ValueListType) or an Address (of type edxl-ciq:xAL:AddressType).

The following elements are used in this specification and can be found at the locations cited in the normative references in Section 1.2 of this document.

Supporting Element/Type	Defined In
ct:EDXLDateTimeType	EDXL-CT (Simple Types)
ct:EDXLStringType	EDXL-CT (Simple Types)
ct:ValueListURIType	EDXL-CT (Simple Types)
ct:ValueType	EDXL-CT (Simple Types)
ct:ValueListType	EDXL-CT (Complex Types)
ct:ValueKeyType	EDXL-CT (Complex Types)
ct:EDXLGeoPoliticalLocationType	EDXL-CT (Complex Types)
ct:EDXLLocationType	EDXL-CT (Complex Types)
gsf:EDXLGeoLocationType	EDXL-GSF
ct:ValueListURI	EDXL-CT (Top Level Elements)

Supporting Element/Type	Defined In
xal:addressType	EDXL-CIQ

Some elements of the common type “ct:EDXLStringType” are denoted as [token] in the accompanying XML per the following reference:

[token] N. Freed, XML Schema Part 2: Datatypes Second Edition, <http://www.w3.org/TR/xmlschema-2/#token>, W3C REC-xmlschema-2, October 2004.

The definition for token as found in the OASIS common types is: “The value space of **token** is the set of strings that do not contain the carriage return (#xD), line feed (#xA) nor tab (#x9) characters, that have no leading or trailing spaces (#x20) and that have no internal sequences of two or more spaces.”

The implication is that the XML parser will change string entries to remove carriage returns, line feeds, tab characters, leading or trailing spaces, and internal sequences of two or more spaces.

### 3.2.2 Selecting Values from Lists

The ValueList and ValueKey types are part of the EDXL Common Types collection. They allow standards adopters to use topic specific lists of values for elements such as externalCode alternateCodeValue, etc.. Both types have identical structure, but ValueList allows for selection of multiple values [1..\*] in the list, whereas ValueKey allows for selection of only one [1..1] value in the list.

When using a ValueList / ValueKey structure the user can specify a user-defined list by URI (either using the “urn:...” format or the more familiar “http://...” format) and then include user-defined values from that list. This structure has several advantages: (a) it provides flexibility for local communities to use community-defined terms and vocabulary; (b) it allows for the external maintenance of local or standardized lists; and (c) it avoids the problems inherent in attempting to constantly update hard-coded enumerations in a specification.

An existing vetted list should be referenced for defaults, but users could also reference their own value list

### 3.2.3 ValueKeyType

The schema for ValueKeyType is defined as

```
<xs:complexType name="ValueKeyType">
  <xs:sequence>
    <xs:element ref="ct:ValueListURI" minOccurs="1" maxOccurs="1"/>
    <xs:element ref="ct:Value" minOccurs="1" maxOccurs="1"/>
  </xs:sequence>
</xs:complexType>
```

and its application to the XML description of an element *elementName* of type ct:ValueKeyType would be:

```
<elementName>
  <ct:ValueListURI>valueListURI</ct:ValueListURI>
  <ct:Value>value</ct:Value>
</elementName>
```

This example uses a published list of values and definitions and selects one specific entry to describe a resource need of a facility:

- *valueListURI* = <https://www.medwish.org/give/medical-supplies/>
- *value* = Bandages

which stands for

```
<resourceKind>
  <ct:ValueListURI>https://www.medwish.org/give/medical-supplies/</ct:ValueListURI>
  <ct:Value>Bandages</ct:Value>
</resourceKind>
```

Following the approach in ValueList, we'd point ValueListURI to some other list to make a different selection of eye colors available.

### 3.2.4 EDXL Extensions

HAVE 2.0 supports supplemental inclusion of community-defined sets of name/value pairs, referred to here as "Community Extensions" or simply "Extensions" for short. For example, the HAVE Status element contains a stability field, which indicates if the status is stable, improving, or deteriorating. The "Extension" concept would allow a sender to augment this information with a qualifier, such as "rapidly" or "slowing", providing finer grain detail on the situation. The "Community Extensions" concept solves several major problems for improving information sharing and developing standards for the emergency management community. First, the nature of emergencies is that the unexpected will happen and emergency managers need flexibility to send whatever information is needed. Second, an emergency begins and often stays local, so local authorities and users need control to send the information they decide is important to address the current emergency. Third, communities need the opportunity to explore potential new standards. The parameter name/value extension mechanism, along with the registration and best practice guidance, provides an on-ramp for communities to determine what works well for them. The Community Extensions that are most successful can be incorporated formally into future standards.

Typical needs are:

1. Standard augmentation: community adds new information that is associated with the EDXL standard. Examples: adding HL7 translation information to the HAVE payload.
2. List augmentation: community adds new values (enumerations) to the default set of values in the standard. Example: adding community-specific information to the ServiceType element.

In HAVE 2.0, "Extensions" are used under the following elements:

- ServiceType
- ResourceInformationType
- OperationType
- OffloadInfoType
- TraumaCenterLevelType

The schema for Extension is defined as

```
<xs:element name="extension">
  <xs:complexType>
    <xs:sequence>
      <xs:element name="community" type="xs:anyURI" />
      <xs:element name="id" type="xs:anyURI" />
      <xs:element name="parameter" type="ext:ParameterType"
maxOccurs="unbounded"/>
```

```

        </xs:sequence>
    </xs:complexType>
</xs:element>

```

and its application to the XML description of an extension would be:

```

<extension>
  <community>communityURI</community>
  <id>idURI</id>
  <parameter>
    <nameURI>nameURI</nameURI>
    <value>some value</value>
  </parameter>
</extension>

```

This example uses a qualify for status stability for a service:

- *community* = facility:service:status:refined
- *id* = extension:1
- *parameter-nameURI* = have:service:status
- *parameter-value* = Rapidly

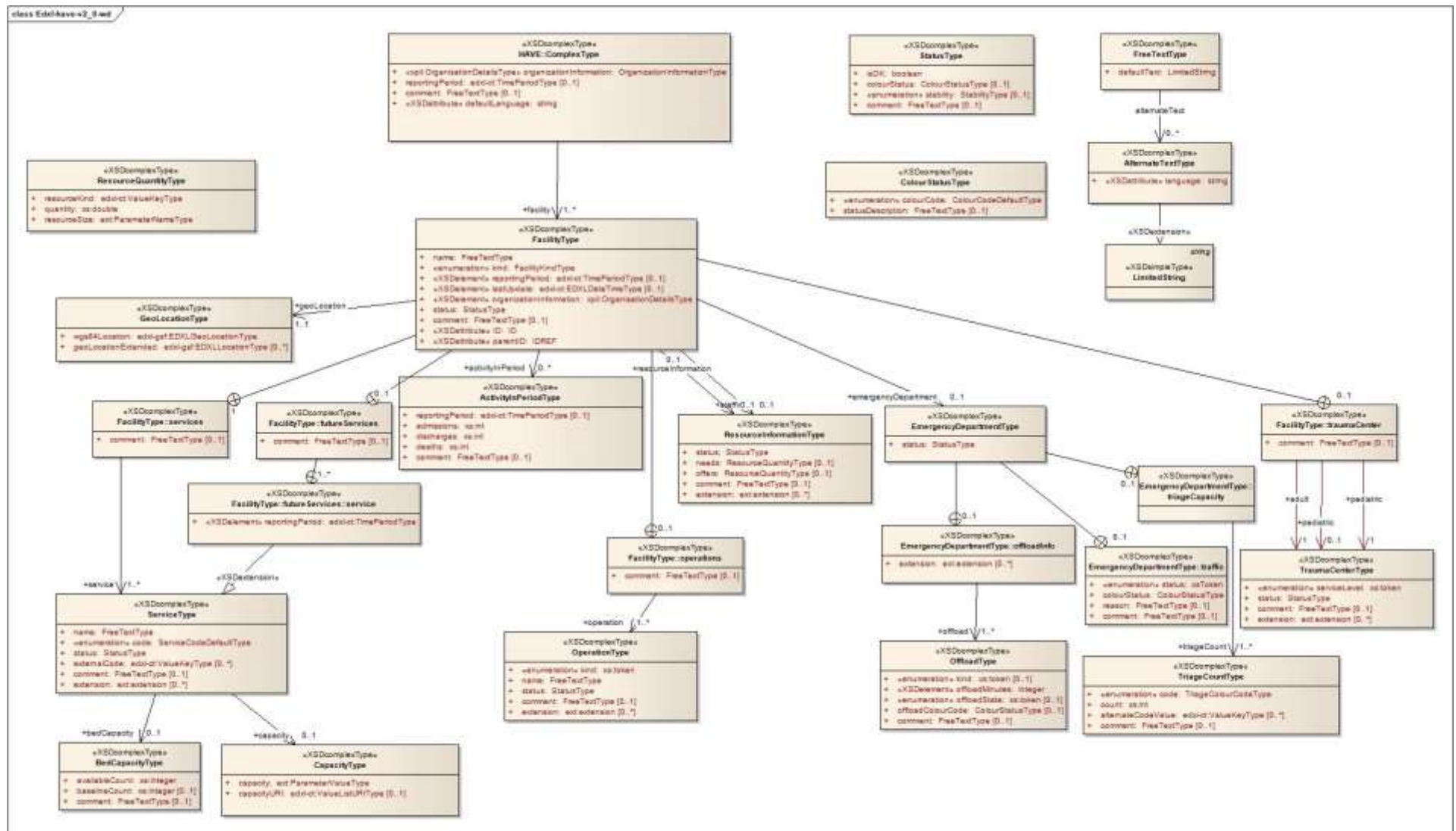
which stands for

```

<extension>
  <community>facility:service:status:refined</community>
  <id>extension:1</id>
  <parameter>
    <nameURI>have:service:status</nameURI>
    <value>Rapidly</value>
  </parameter>
</extension>

```

### 3.3 Element Reference Model (non-normative)





### 3.4 Distribution of EDXL-HAVE (non-normative)

HAVE messages are intended to be payloads of various messaging and/or delivery systems. Messaging systems such as EDXL-DE can treat a HAVE message as a payload. Similarly, non-message-based systems (e.g. RESTful web service) can deliver a HAVE message just as easily. An individual facility may provide an up-to-date report via a web service. An aggregator could poll the facilities that are of interest for a particular reason, or in a Publish-Subscribe scenario, subscribe to the facilities of interest.

### 3.5 HAVE Elements

A HAVE message consists of an organization that uniquely identifies the organization that is responsible for the reporting facilities, a reporting period (**reportingPeriod** – *optional*) that identifies reporting period applicable for this HAVE report, and a group of elements (**facility** – *required*) that uniquely identifies and describes the facility's status including

- facility name and location,
- overall facility status, ..
- services, ..
- operations, ..
- resources, ..
- staffing, ..
- and emergency department.

These elements are detailed further in the Element Reference Model (Section 3.3) and in the Data Dictionary (Section 4).

---

## 4 Data Dictionary

Appendix A contains a computer-generated PDF that is generated directly from the XML Schema document.

---

## 5 Conformance

An XML 1.0 element is a conforming EDXL-HAVE-v2.0 Message if and only if:

- a) it meets the general requirements specified in Section 4;
- b) if its namespace name is "urn:oasis:names:tc:emergency:edxl:have:2.0", and the element is valid according to the schema located at <http://docs.oasis-open.org/emergency/edxl-have-v2.0/edxl-have-v2.0.xsd>
- c) if its namespace name is "urn:oasis:names:tc:emergency:edxl:have:2.0", then its content (which includes the content of each of its descendants) meets all the additional mandatory requirements provided in the specific subsection of Section 4 corresponding to the element's name.

**Note:** only messages that fully comply with the EDXL-HAVE 2.0 specification and that are complete and schematically valid may be referred to as a "EDXL-HAVE 2.0 Message".

---

## Appendix A. Data Dictionary

The following PDF is generated from the formal EDXL-HAVE 2.0 Schema.

The PDF file is available in the “schemas” directory listed in the “Additional artifacts” section on the title page.

# Schema documentation for edxl-have-v2.0-csd01.xsd

13 January 2015

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## Resource hierarchy:

Legend:  Import,  Include,  Redefine,  Override,  Cycle detected

```

edxl-have-v2.0-csd01.xsd
  edxl-gaf.v1.0.xsd
    edxl-gsf-base.xsd
      xlink.xsd
      xml.xsd
    edxl-ext.v1.0.xsd
      edxl-et.v1.0-wd06.xsd
        edxl_xPIL.xsd
          CommonTypes.xsd
        edxl_xNL.xsd
          xNL-types.xsd
          CommonTypes.xsd
        edxl_xAL.xsd
          xAL-types.xsd
          CommonTypes.xsd
        xPIL-types.xsd
      edxl_xAL.xsd
        xAL-types.xsd
        CommonTypes.xsd
    edxl-gaf.v1.0.xsd
      edxl-gsf-base.xsd
        xlink.xsd
        xml.xsd
      edxl_xPIL.xsd
        CommonTypes.xsd
      edxl_xNL.xsd
        xNL-types.xsd
        CommonTypes.xsd
      edxl_xAL.xsd
        xAL-types.xsd
        CommonTypes.xsd

```



xPIL-types.xsd  
 edxl\_xAL.xsd  
 xAL-types.xsd  
 CommonTypes.xsd  
 edxl-ct-v1.0-wd06.xsd  
 edxl\_xPIL.xsd  
 CommonTypes.xsd  
 edxl\_xNL.xsd  
 xNL-types.xsd  
 CommonTypes.xsd  
 edxl\_xAL.xsd  
 xAL-types.xsd  
 CommonTypes.xsd  
 xPIL-types.xsd  
 edxl\_xAL.xsd  
 xAL-types.xsd  
 CommonTypes.xsd  
 edxl-gsf.v1.0.xsd  
 edxl-gsf-base.xsd  
 xlink.xsd  
 xml.xsd

**Namespace: "urn:oasis:names:tc:emergency:edxl:have:2.0"**

## Schema(s)

**Main schema edxl-have-v2.0-csd01.xsd**

Namespace	urn:oasis:names:tc:emergency:edxl:have:2.0				
Annotations	<p>Specification Name: EDXL Hospital Availability Exchange (HAVE) 2.0            Description: Defines the XML schema for the EDXL HAVE message exchange Produced by: Emergency Management HAVE Subcommittee URL: <a href="http://docs.oasis-open.org">http://docs.oasis-open.org</a> Version: 2.0 WD Status: SC DRAFT Copyright: 2012-2015, OASIS, <a href="http://www.oasis-open.org">http://www.oasis-open.org</a> Last Modified: 05JAN2015 Last Modified by: Darrell O'Donnell, P.Eng.</p> <p>Guiding Concepts/Principles: Schema Validation: should provide deep validation capabilities as opposed to being a basic schema where different groups make up extensions to the point where nothing is valid in between systems.            Extensible: Key areas of the schema should support extensibility in a controlled manner. The use of managed taxonomies can allow a group to define a new set of services that are used in a network for example. Simple: Though the standard could support aggregation the provision of individual facility elements REVIEW: new elements ID and IDREF: References (IDREF) to unique elements (ID) should be used, especially where establishing of a hierarchy.</p>				
Properties	<table> <tr> <td>attribute form default:</td><td>qualified</td></tr> <tr> <td>element form default:</td><td>qualified</td></tr> </table>	attribute form default:	qualified	element form default:	qualified
attribute form default:	qualified				
element form default:	qualified				

## Element(s)

**Element HAVE**

Namespace	urn:oasis:names:tc:emergency:edxl:have:2.0
-----------	--

Annotations	Top Level item for Hospital Availability Exchange (HAVE) message. THIS IS NOT A FINAL VERSION - THIS IS A BETA DOCUMENT AND THIS BETA NATURE NEEDS TO BE CONSIDERED.		
Diagram			
Properties	content	complex	
Model	organizationInformation, reportingPeriod {0,1}, facility+, comment {0,1}		
Children	comment, facility, organizationInformation, reportingPeriod		
Instance	<pre> &lt;HAVE defaultLanguage="urn:oasis:names:tc:emergency:edxl:have:2.0"&gt;   &lt;organizationInformation&gt;{1,1}&lt;/organizationInformation&gt;   &lt;reportingPeriod&gt;{0,1}&lt;/reportingPeriod&gt;   &lt;facility ID="parent ID"&gt;{1,unbounded}&lt;/facility&gt;   &lt;comment&gt;{0,1}&lt;/comment&gt; &lt;/HAVE&gt; </pre>		
Attributes	QName	Type	Use
	defaultLanguage	xs:string	required
	Language code that is used throughout the document. Code MUST comply with RFC3066. Free text within the document will be assumed to be in this defaultLanguage.		

#### Element HAVE / organizationInformation

Namespace	urn:oasis:names:tc:emergency:edxl:have:2.0
Annotations	Information of the Organization that is responsible for the reporting of these facilities.

Diagram	<p><b>OrganizationInformationType</b> Base Type: xpi:OrganizationDetailsType</p> <p><b>xpi:OrganizationDetailsType (extension base)</b></p> <ul style="list-style-type: none"> <li><b>OrganizationName</b> (1..*) Organization name</li> <li><b>Addresses</b> (0..1) A container for all party addresses</li> <li><b>ContactNumbers</b> (0..1) A container for all kinds of telecommunication lines of party used for contact purposes, e.g. phone, fax, mobile, ...</li> <li><b>ElectronicAddressIdentifiers</b> (0..1) A container of different types of electronic addresses of party (e.g. email, chat, skype, etc)</li> <li><b>OrganizationInfo</b> (0..1) Container for other person specific details that are not covered in the schema elements that are common to a party.</li> </ul> <p>A container for defining the unique characteristics of an organization only.</p> <p>The container element for organization information elements.</p>
Type	OrganizationInformationType
Type hierarchy	<ul style="list-style-type: none"> <li>OrganizationDetailsType</li> <li>OrganizationInformationType</li> </ul>
Properties	content: complex
Model	OrganizationName+, Addresses{0,1}, ContactNumbers{0,1}, ElectronicAddressIdentifiers{0,1}, OrganizationInfo{0,1}
Children	Addresses, ContactNumbers, ElectronicAddressIdentifiers, OrganizationInfo, OrganizationName
Instance	<pre>&lt;organizationInformation xmlns="urn:oasis:names:tc:emergency:eddl:have:2.0" xmlns:xpi="urn:oasis:names:tc:emergency:eddl:have:2.0" xpi:OrganizationName="OrganizationName" xpi:Addresses="Addresses" xpi:ContactNumbers="ContactNumbers" xpi:ElectronicAddressIdentifiers="ElectronicAddressIdentifiers" xpi:OrganizationInfo="OrganizationInfo" /&gt;</pre>

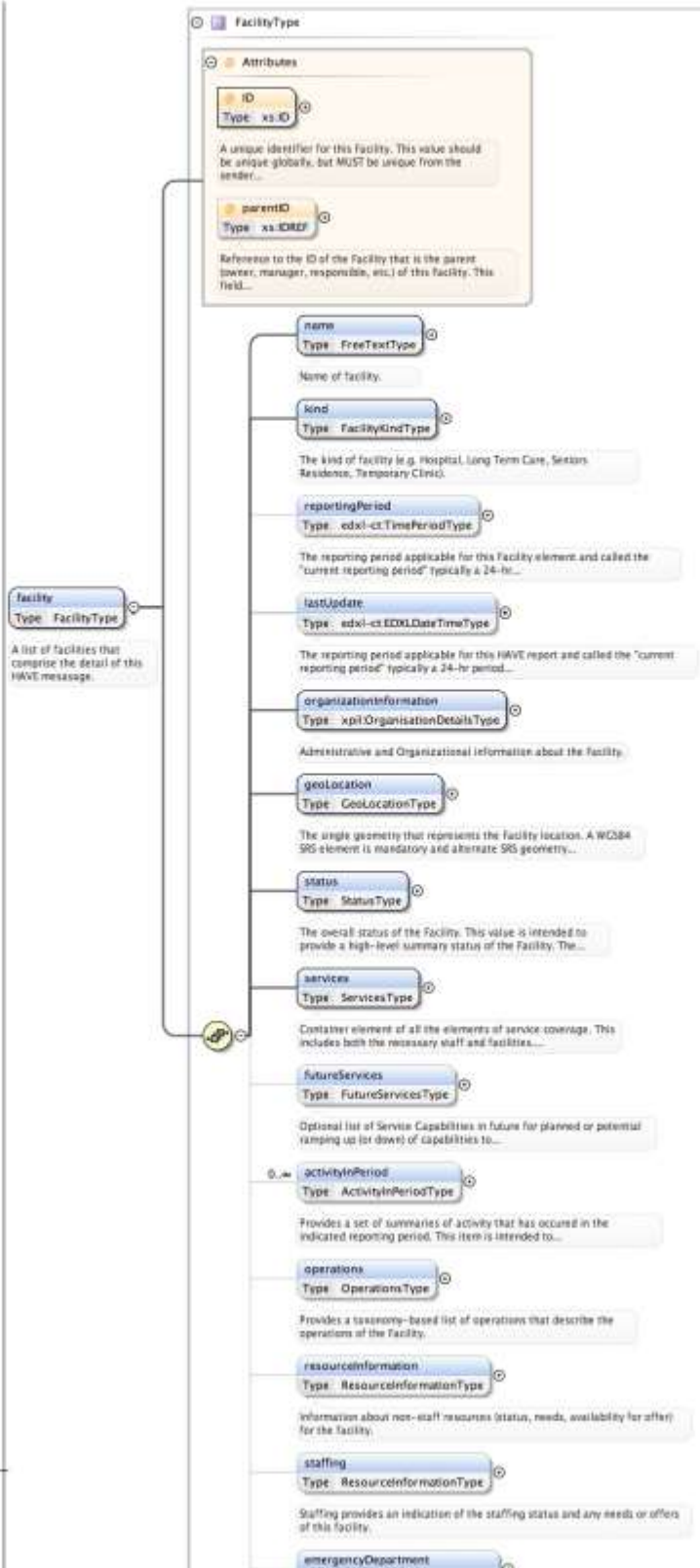
## Element HAVE / reportingPeriod

Namespace	urn:oasis:names:tc:emergency:eddl:have:2.0
Annotations	The reporting period applicable for the HAVE root element and called the 'current reporting period' typically a 24-hr period but the duration may change for operational reasons. If blank the assumption is that the file is for 'today' - local to the issuer.
Diagram	<p><b>eddl-ct:TimePeriodType</b></p> <p><b>reportingPeriod</b> Type: eddl-ct:TimePeriodType</p> <p>The reporting period applicable for the HAVE root element and called the "current reporting period" typically a 24-hr...</p>
Type	ct:TimePeriodType
Properties	content: complex minOccurs: 0
Model	ct:fromDateTime, ct:toDateTime
Children	ct:fromDateTime, ct:toDateTime
Instance	<pre>&lt;reportingPeriod xmlns="urn:oasis:names:tc:emergency:eddl:have:2.0" xmlns:eddl-ct="urn:oasis:names:tc:emergency:eddl:ct:1.0"&gt;   &lt;eddl-ct:fromDateTime&gt;{1,1}&lt;/eddl-ct:fromDateTime&gt;   &lt;eddl-ct:toDateTime&gt;{1,1}&lt;/eddl-ct:toDateTime&gt; &lt;/reportingPeriod&gt;</pre>

### Element HAVE / facility

Namespace	urn:oasis:names:tc:emergency:edxl:have:2.0
Annotations	A list of facilities that comprise the detail of this HAVE mesasage.

Diagram



Type	FacilityType		
Properties	content	complex	
	maxOccurs	unbounded	
Model	name, kind, reportingPeriod{0,1}, lastUpdate{0,1}, organizationInformation, geoLocation, status, services, futureServices{0,1}, activityInPeriod*, operations{0,1}, resourceInformation{0,1}, staffing{0,1}, emergencyDepartment{0,1}, traumaCenter{0,1}, comment{0,1}		
Children	activityInPeriod, comment, emergencyDepartment, futureServices, geoLocation, kind, lastUpdate, name, operations, organizationInformation, reportingPeriod, resourceInformation, services, staffing, status, traumaCenter		
Instance	<pre>&lt;facility ID="*" parentID="*" xmlns="urn:oasis:names:tc:emergency:edxl:have:2.0"&gt;   &lt;name&gt;(1,1)&lt;/name&gt;   &lt;kind&gt;(1,1)&lt;/kind&gt;   &lt;reportingPeriod&gt;(0,1)&lt;/reportingPeriod&gt;   &lt;lastUpdate&gt;(0,1)&lt;/lastUpdate&gt;   &lt;organizationInformation&gt;(1,1)&lt;/organizationInformation&gt;   &lt;geoLocation&gt;(1,1)&lt;/geoLocation&gt;   &lt;status&gt;(1,1)&lt;/status&gt;   &lt;services&gt;(1,1)&lt;/services&gt;   &lt;futureServices&gt;(0,1)&lt;/futureServices&gt;   &lt;activityInPeriod&gt;(0,unbounded)&lt;/activityInPeriod&gt;   &lt;operations&gt;(0,1)&lt;/operations&gt;   &lt;resourceInformation&gt;(0,1)&lt;/resourceInformation&gt;   &lt;staffing&gt;(0,1)&lt;/staffing&gt;   &lt;emergencyDepartment&gt;(0,1)&lt;/emergencyDepartment&gt;   &lt;traumaCenter&gt;(0,1)&lt;/traumaCenter&gt;   &lt;comment&gt;(0,1)&lt;/comment&gt; &lt;/facility&gt;</pre>		
Attributes	QName	Type	Use
	ID	xs:ID	required
		A unique identifier for this Facility. This value should be unique globally, but MUST be unique from the sender perspective.	
	parentID	xs:IDREF	optional
		Reference to the ID of the Facility that is the parent (owner, manager, responsible, etc.) of this Facility. This field is optional and used to provide a hierarchy for formal facility organizations.	

#### Element FacilityType / name

Namespace	urn:oasis:names:tc:emergency:edxl:have:2.0		
Annotations	Name of facility.		
Diagram			
Type	FreeTextType		
Properties	<table> <tr> <td>content</td><td>complex</td></tr> </table>	content	complex
content	complex		
Model	defaultText, alternateText*		
Children	alternateText, defaultText		
Instance	<pre> &lt;name xmlns="urn:oasis:names:tc:emergency:edxl:have:2.0"&gt;   &lt;defaultText&gt;(1,1)&lt;/defaultText&gt;   &lt;alternateText language="*"&gt;(0,unbounded)&lt;/alternateText&gt; &lt;/name&gt; </pre>		

#### Element FreeTextType / defaultText

Namespace	urn:oasis:names:tc:emergency:edxl:have:2.0
Annotations	The text value that uses the message default language (defined at in the HAVE message defaultLanguage attribute).

Diagram		
Type	LimitedString	
Properties	content	simple
Facets	whiteSpace	preserve
	maxLength	1024

### Element FreeTextType / alternateText

Namespace	urn:oasis:names:tc:emergency:edxl:have:2.0		
Annotations	Alternate language representation.		
Diagram			
Type	AlternateTextType		
Type hierarchy	<ul style="list-style-type: none"> <li>xs:string</li> <li>LimitedString</li> <li>AlternateTextType</li> </ul>		
Properties	content	complex	
	minOccurs	0	
	maxOccurs	unbounded	
Attributes	QName	Type	Use
	language	xs:string	required
	Language code for the text in this element. Code MUST comply with RFC3066.		

### Element FacilityType / kind

Namespace	urn:oasis:names:tc:emergency:edxl:have:2.0		
Annotations	The kind of facility (e.g. Hospital, Long Term Care, Seniors Residence, Temporary Clinic).		
Diagram			
Type	FacilityKindType		
Type hierarchy	<ul style="list-style-type: none"> <li>xs:token</li> <li>ct:EDXLSStringType</li> <li>FacilityKindType</li> </ul>		
Properties	content	simple	



Facets	minLength	1
	maxLength	1023
	enumeration	hospital
	enumeration	longTermCare
	enumeration	urgentCareClinic
	enumeration	temporaryFacility
	enumeration	other

### Element FacilityType / reportingPeriod

Namespace	urn:oasis:names:tc:emergency:edxl:have:2.0
Annotations	The reporting period applicable for this Facility element and called the "current reporting period" typically a 24-hr period but the duration may change for operational reasons. If this value is not provided the HAVE message reporting period will be assumed.
Diagram	<p>The reporting period applicable for this Facility element and called the "current reporting period" typically a 24-hr...</p>
Type	ct:TimePeriodType
Properties	content: complex minOccurs: 0
Model	ct:fromDateTime, ct:toDateTime
Children	ct:fromDateTime, ct:toDateTime
Instance	<pre>&lt;reportingPeriod xmlns="urn:oasis:names:tc:emergency:edxl:have:2.0" xmlns:edxl="urn:oasis:names:tc:emergency:edxl:1.0"&gt;   &lt;edxl-ct:fromDateTime&gt;{1,1}&lt;/edxl-ct:fromDateTime&gt;   &lt;edxl-ct:toDateTime&gt;{1,1}&lt;/edxl-ct:toDateTime&gt; &lt;/reportingPeriod&gt;</pre>

### Element FacilityType / lastUpdate

Namespace	urn:oasis:names:tc:emergency:edxl:have:2.0
Annotations	The reporting period applicable for this HAVE report and called the "current reporting period" typically a 24-hr period but the duration may change for operational reasons. If blank the assumption is that the file is for "today" - local to the issuer.
Diagram	<p>The reporting period applicable for this HAVE report and called the "current reporting period" typically a 24-hr period...</p>
Type	ct:EDXLDatetimeType
Properties	content: simple minOccurs: 0
Facets	pattern: \d\d\d\d\d\d-\d\d\d-\d\d\dT\d\d\d: \d\d\d:\d\d\d[-+]\d\d\d:\d\d\d

### Element FacilityType / organizationInformation

Namespace	urn:oasis:names:tc:emergency:edxl:have:2.0
Annotations	Administrative and Organizational information about the Facility.

Diagram	<p>The diagram shows the <b>OrganizationDetailsType</b> structure. It is a container for defining the unique characteristics of an organization only. It includes the following elements:</p> <ul style="list-style-type: none"> <li><b>OrganizationName</b>: Organization Name</li> <li><b>Addresses</b>: A container for all parts addresses</li> <li><b>ContactNumbers</b>: A container for all kinds of telecommunication lines of party used for contact purposes, e.g. phone, fax, mobile,...</li> <li><b>ElectronicAddressIdentifiers</b>: A container of different types of electronic addresses of party (e.g. email, chat, skype, etc)</li> <li><b>OrganisationInfo</b>: Container for other person specific details that are not covered in this schema elements that are common to a party</li> </ul> <p>The diagram also shows the <b>OrganizationInformationType</b> which is a container for Administrative and Organizational information about the facility, containing the <b>OrganizationDetailsType</b>.</p>
Type	OrganizationDetailsType
Properties	content: complex
Model	OrganizationName+, Addresses{0,1}, ContactNumbers{0,1}, ElectronicAddressIdentifiers{0,1}, OrganisationInfo{0,1}
Children	Addresses, ContactNumbers, ElectronicAddressIdentifiers, OrganisationInfo, OrganisationName
Instance	<pre>&lt;organizationInformation xmlns="urn:oasis:names:tc:emergency:edxl:have:2.0" xmlns:ed="urn:oasis:names:tc:emergency:edxl:have:2.0" OrganizationName="OrganizationName" Addresses="{0,1}" ContactNumbers="{0,1}" ElectronicAddressIdentifiers="{0,1}" OrganisationInfo="{0,1}" /&gt;</pre>

## Element FacilityType / geoLocation

Namespace	urn:oasis:names:tc:emergency:edxl:have:2.0
Annotations	The single geometry that represents the Facility location. A WGS84 SRS element is mandatory and alternate SRS geometry elements can be provided. All geometry elements should be reflecting the same physical location.
Diagram	<p>The diagram shows the <b>GeoLocationType</b> structure. It is a container for the single geometry that represents the facility location. It includes the following elements:</p> <ul style="list-style-type: none"> <li><b>wgs84Location</b>: The location of the facility in WGS84 coordinates. The values in this element must use the WGS84 (EPSG:4326) values...</li> <li><b>geoLocationExtended</b>: The location of the facility in non-WGS84 (EPSG:4326) coordinates. These alternate (and optional) coordinates are...</li> </ul>
Type	GeoLocationType
Properties	content: complex
Model	wgs84Location, geoLocationExtended*
Children	geoLocationExtended, wgs84Location
Instance	<pre>&lt;geoLocation xmlns="urn:oasis:names:tc:emergency:edxl:have:2.0"&gt;   &lt;wgs84Location srsName="http://www.opengis.net/def/crs/EPSG/0/4326"&gt;(1,1)&lt;/wgs84Location&gt;   &lt;geoLocationExtended srsName=""&gt;(0,unbounded)&lt;/geoLocationExtended&gt; &lt;/geoLocation&gt;</pre>

## Element GeoLocationType / wgs84Location

Namespace	urn:oasis:names:tc:emergency:edxl:have:2.0
Annotations	The location of the facility in WGS84 coordinates. The values in this element must use the WGS84 (EPSG:4326) values. This element is mandatory to ensure compatibility globally. If alternate SRS are needed, use the geoLocationExtended elements to support 1 or more SRS that are needed in your community. FUTURE versions of HAVE may support additional or alternate globally supported SRS.

Diagram

**wgs84Location**  
Type: Extension of 'edxl-gsf:EDXLGeoLocationType'  
The location of the facility in WGS84 coordinates. The values in this element must use the WGS84 EPSG:4326 values...

**edxl-gsf:EDXLGeoLocationType (extension base)**

- gml:point**  
A point is defined by a single coordinate tuple. The exact position of a point is specified by the pos element which...
- gml:circleByCenterPoint**  
A gml:CircleByCenterPoint is an gml:ArcByCenterPoint with identical start and end angle to form a full circle. Again...
- gml:polygon**  
A polygon is a special surface that is defined by a single surface patch (see 3.3.6). The boundary of this patch is...
- gml:envelope**  
Envelope defines an extent using a pair of positions defining opposite corners in arbitrary dimensions. The Axis...
- gml:lineString**  
A lineString is a special cover that consists of a single segment with linear interpolation. It is defined by two or...

**Attributes**

- srsName**  
Fixed: <http://www.opengis.net/def/crs/EPSC/> ...

Type	extension of edxl-gsf:EDXLGeoLocationType								
Type hierarchy	• edxl-gsf:EDXLGeoLocationType								
Properties	content	complex							
Model	gml:point   gml:circleByCenterPoint   gml:polygon   gml:envelope   gml:lineString								
Children	gml:circleByCenterPoint, gml:envelope, gml:lineString, gml:point, gml:polygon								
Instance	<pre>&lt;wgs84Location xmlns="http://www.opengis.net/def/crs/EPSC/0/4326" xmlns:ed="urn:oasis:names:tc:emergency:edxl:hawe:2.0" xmlns:gml="http://www.opengis.net/gml/3.2"&gt;   &lt;gml:point AxisLabels="gml:ID" SrsDimension="2" SrsName="http://www.opengis.net/def/crs/EPSC/0/4326" Interpolation="CircularArcCenterPointWithRadius" MaxArc="1" MaxDerivativeInterior="0" &gt;     &lt;gml:circleByCenterPoint       &lt;gml:polygon AxisLabels="gml:ID" SrsDimension="2" SrsName="http://www.opengis.net/def/crs/EPSC/0/4326"       &lt;gml:envelope AxisLabels="gml:ID" SrsDimension="2" SrsName="http://www.opengis.net/def/crs/EPSC/0/4326"       &lt;gml:lineString AxisLabels="gml:ID" SrsDimension="2" SrsName="http://www.opengis.net/def/crs/EPSC/0/4326"     &lt;/wgs84Location&gt;</pre>								
Attributes	QName	Type	Fixed	Use					
	srsName		<a href="http://www.opengis.net/def/crs/EPSC/0/4326">http://www.opengis.net/def/crs/EPSC/0/4326</a>	required					

#### Element GeoLocationType / geoLocationExtended

<p><b>Namespace</b></p>	<p>urn:oasis:names:tc:emergency:edxl:hawe:2.0</p>
<p><b>Annotations</b></p>	<p>The location of the facility in non-WGS84 (EPSG:4326) coordinates. These alternate (and optional) coordinates are intended for the purposes of systems that require the sending system to provide specialise SRS coordinates.</p>

Diagram				
Type	extension of edxl-gsf:EDXLGeoLocationType			
Type hierarchy	<ul style="list-style-type: none"> <li>edxl-gsf:EDXLGeoLocationType</li> </ul>			
Properties	content	complex		
	minOccurs:	0		
	maxOccurs:	unbounded		
Model	gml:point   gml:circleByCenterPoint   gml:polygon   gml:envelope   gml:lineString			
Children	gml:circleByCenterPoint, gml:envelope, gml:lineString, gml:point, gml:polygon			
Instance	<pre> &lt;geoLocationExtended xmlns="urn:oasis:names:tc:emergency:edxl:have:2.0" xmlns:gml="http://www.opengis.net/gml/3.2"&gt;   &lt;gml:point AxisLabel="gml:10" SrsDimension="2" SrsName="urn:ogc:base:urn:ogc:base:1.0" UseLabel="1" /&gt;   &lt;gml:circleByCenterPoint Interpolation="CircularArcCenterPointWithRadius" MaxArc="1" MaxDerivativeTolerance="0" /&gt;   &lt;gml:polygon AxisLabel="gml:10" SrsDimension="2" SrsName="urn:ogc:base:urn:ogc:base:1.0" UseLabel="1" /&gt;   &lt;gml:envelope AxisLabel="gml:10" SrsDimension="2" SrsName="urn:ogc:base:urn:ogc:base:1.0" UseLabel="1" /&gt;   &lt;gml:lineString AxisLabel="gml:10" SrsDimension="2" SrsName="urn:ogc:base:urn:ogc:base:1.0" UseLabel="1" /&gt; &lt;/geoLocationExtended&gt; </pre>			
Attributes	QName	Type	Use	
	xs:anyName		required	

#### Element FacilityType / status

Namespace	urn:oasis:names:tc:emergency:edxl:have:2.0
Annotations	The overall status of the Facility. This value is intended to provide a high-level summary status of the Facility. The particulars driving that Facility status should be provided where appropriate (Services, Operations, etc.). Comments (comment element) should be used to provide only the high-level summary.

Diagram	
Type	StatusType
Properties	content complex
Model	isOK {0,1}, colourStatus {0,1}, stability {0,1}, comment {0,1}
Children	colourStatus, comment, isOK, stability
Instance	<pre>&lt;status xmlns="urn:oasis:names:tc:emergency:edxl:have:2.0"&gt;   &lt;isOK&gt;{1,1}&lt;/isOK&gt;   &lt;colourStatus&gt;{0,1}&lt;/colourStatus&gt;   &lt;stability&gt;{0,1}&lt;/stability&gt;   &lt;comment&gt;{0,1}&lt;/comment&gt; &lt;/status&gt;</pre>

#### Element StatusType / isOK

Namespace	urn:oasis:names:tc:emergency:edxl:have:2.0
Annotations	Is the service/capability available/functioning/adequate? True = yes, false = no.
Diagram	
Type	xs:boolean
Properties	content simple

#### Element StatusType / colourStatus

Namespace	urn:oasis:names:tc:emergency:edxl:have:2.0
Diagram	
Type	ColourStatusType
Properties	content complex
minOccurs	0
Model	colourCode, statusDescription {0,1}



Children	colourCode, statusDescription
Instance	<pre>&lt;colourStatus xmlns="urn:oasis:names:tc:emergency:edxl:have:2.0"&gt;   &lt;colourCode&gt;(1,1)&lt;/colourCode&gt;   &lt;statusDescription&gt;(0,1)&lt;/statusDescription&gt; &lt;/colourStatus&gt;</pre>

### Element ColourStatusType / colourCode

Namespace	urn:oasis:names:tc:emergency:edxl:have:2.0		
Annotations	Colour (text-based) of the status. By default triage colours of green, yellow, orange, red, black are supported. TODO: CREATE a new ColourCodeType to capture the full ISO 22324 data (colour, meaning, ...)		
Diagram			
Type	ColourCodeDefaultType		
Type hierarchy	<ul style="list-style-type: none"> <li>xs:token</li> <li>ct:EDXLSStringType</li> <li>ColourCodeDefaultType</li> </ul>		
Properties	content	simple	
	minOccurs	1	
Facets	minLength	1	
	maxLength	1023	
	enumeration	red	RED - severe/extreme deviation from normal condition. Marks a noted exception from normal conditions.
	enumeration	yellow	YELLOW - moderate deviation from normal condition but not at SEVERE/EXTREME level.
	enumeration	green	GREEN - normal conditions.

### Element ColourStatusType / statusDescription

Namespace	urn:oasis:names:tc:emergency:edxl:have:2.0		
Annotations	Human-readable text describing the reason for selection of the particular colour-code.		
Diagram			
Type	FreeTextType		
Properties	content	complex	
	minOccurs	0	
Model	defaultText, alternateText*		
Children	alternateText, defaultText		
Instance	<pre>&lt;statusDescription xmlns="urn:oasis:names:tc:emergency:edxl:have:2.0"&gt;   &lt;defaultText&gt;(1,1)&lt;/defaultText&gt;   &lt;alternateText language="*"&gt;(0,unbounded)&lt;/alternateText&gt; &lt;/statusDescription&gt;</pre>		

### Element StatusType / stability

Namespace	urn:oasis:names:tc:emergency:edxl:have:2.0
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Annotations	Indication that the Status is stable, improving, or deteriorating		
Diagram			
Type	StabilityType		
Properties	content	simple	
	minOccurs	0	
Facets	enumeration	stable	Stable/unchanging - conditions remain within norms and are not varying out of normal patterns.
	enumeration	improving	Conditions are improving towards normal.
	enumeration	deteriorating	Conditions are deviating negatively from normal.

### ElementStatusType / comment

Namespace	urn:oasis:names:tc:emergency:edxl:have:2.0
Diagram	
Type	FreeTextType
Properties	content: complex
	minOccurs: 0
Model	defaultText, alternateText*
Children	alternateText, defaultText
Instance	<pre>&lt;comment xmlns="urn:oasis:names:tc:emergency:edxl:have:2.0"&gt;   &lt;defaultText&gt;{1,1}&lt;/defaultText&gt;   &lt;alternateText language="..."&gt;{0,unbounded}&lt;/alternateText&gt; &lt;/comment&gt;</pre>

### ElementFacilityType / services

Namespace	urn:oasis:names:tc:emergency:edxl:have:2.0
Annotations	Container element of all the elements of service coverage. This includes both the necessary staff and facilities. Indicator of the availability of specialty service coverage.
Diagram	
Type	ServicesType
Properties	content: complex
Model	service+, comment{0,1}
Children	comment, service



Instance	<pre>&lt;services xmlns="urn:oasis:names:tc:emergency:edxl:have:2.0"&gt;   &lt;service&gt;(1,unbounded)&lt;/service&gt;   &lt;comment&gt;(0,1)&lt;/comment&gt; &lt;/services&gt;</pre>
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## Element ServiceType / service

Namespace	urn:oasis:names:tc:emergency:edxl:have:2.0						
Annotations	ServiceListItem provides a description of a particular service - availability, capacity, and status.						
Diagram							
Type	ServiceType						
Properties	<table border="1"> <tr> <td>content</td><td>complex</td></tr> <tr> <td>minOccurs</td><td>1</td></tr> <tr> <td>maxOccurs</td><td>unbounded</td></tr> </table>	content	complex	minOccurs	1	maxOccurs	unbounded
content	complex						
minOccurs	1						
maxOccurs	unbounded						
Model	name, code, status, externalCode*, bedCapacity(0,1), capacity(0,1), comment(0,1), ext:extension*						
Children	bedCapacity, capacity, code, comment, ext:extension, externalCode, name, status						
Instance	<pre>&lt;service xmlns="urn:oasis:names:tc:emergency:edxl:have:2.0" xmlns:ext="urn:oasis:names:tc:emergency:edxl:extension"&gt;   &lt;name&gt;(1,1)&lt;/name&gt;   &lt;code&gt;(1,1)&lt;/code&gt;   &lt;status&gt;(1,1)&lt;/status&gt;   &lt;externalCode&gt;(0,unbounded)&lt;/externalCode&gt;   &lt;bedCapacity&gt;(0,1)&lt;/bedCapacity&gt;   &lt;capacity&gt;(0,1)&lt;/capacity&gt;   &lt;comment&gt;(0,1)&lt;/comment&gt;   &lt;ext:extension&gt;(0,unbounded)&lt;/ext:extension&gt; &lt;/service&gt;</pre>						

## Element ServiceType / name

Namespace	urn:oasis:names:tc:emergency:edxl:have:2.0
Annotations	The human-readable name of the service that is being described.

Diagram	
Type	FreeTextType
Properties	content complex
Model	defaultText, alternateText*
Children	alternateText, defaultText
Instance	<pre>&lt;name xmlns="urn:oasis:names:to:emergency:edxl:have:2.0"&gt;   &lt;defaultText&gt;(1,1)&lt;/defaultText&gt;   &lt;alternateText language="..."&gt;(0,unbounded)&lt;/alternateText&gt; &lt;/name&gt;</pre>

### Element ServiceType / code

Namespace	urn:oasis:names:to:emergency:edxl:have:2.0																																																																			
Diagram																																																																				
Type	ServiceCodeDefaultType																																																																			
Type hierarchy	<ul style="list-style-type: none"> <li>xs:string</li> <li>ct:ValueType</li> <li>ServiceCodeDefaultType</li> </ul>																																																																			
Properties	content	simple																																																																		
Facets	enumeration	<table border="1"> <thead> <tr> <th>enumeration</th> <th>value</th> <th>description</th> </tr> </thead> <tbody> <tr> <td>airborneInfectionIsolation</td> <td></td> <td></td> </tr> <tr> <td>burnUnit</td> <td></td> <td>Burn Center services.</td> </tr> <tr> <td>cardiology</td> <td></td> <td>Cardiology services.</td> </tr> <tr> <td>cardiology.invasive</td> <td></td> <td>Cardiology with invasive capabilities.</td> </tr> <tr> <td>cardiology.noninvasive</td> <td></td> <td>Cardiology with NO invasive capabilities.</td> </tr> <tr> <td>cardiologymi.STEMI</td> <td></td> <td>STEMI support</td> </tr> <tr> <td>cardiologymi.nonSTEMI</td> <td></td> <td>NO STEMI support</td> </tr> <tr> <td>cardiology.telenet</td> <td></td> <td>For remote monitoring of cardiology telemetry data for patient.</td> </tr> <tr> <td>dialysis</td> <td></td> <td>Dialysis services</td> </tr> <tr> <td>emergencyDepartment</td> <td></td> <td></td> </tr> <tr> <td>hyperBaricChamber</td> <td></td> <td>Hyperbaric Chamber</td> </tr> <tr> <td>infectiousDisease</td> <td></td> <td>Infectious Disease Services</td> </tr> <tr> <td>intensiveCare.adult</td> <td></td> <td>Adult ICU services.</td> </tr> <tr> <td>intensiveCare.neonatal</td> <td></td> <td>Neonatal Intensive Care Unit (ICU) services.</td> </tr> <tr> <td>intensiveCare.pediatric</td> <td></td> <td>Pediatric Intensive Care Unit (ICU) services.</td> </tr> <tr> <td>intermediateCare</td> <td></td> <td>For low-risk, chronically or critically ill patients</td> </tr> <tr> <td>neonatology</td> <td></td> <td>Neonatology</td> </tr> <tr> <td>neurology</td> <td></td> <td>Neurology Services</td> </tr> <tr> <td>neurology.invasive</td> <td></td> <td>Neurology-Invasive services, including invasive catheterization.</td> </tr> <tr> <td>neurology.noninvasive</td> <td></td> <td>Neurology-Non-Invasive services with no invasive catheterization capability.</td> </tr> <tr> <td>obgyn</td> <td></td> <td>OB/GYN services</td> </tr> </tbody> </table>	enumeration	value	description	airborneInfectionIsolation			burnUnit		Burn Center services.	cardiology		Cardiology services.	cardiology.invasive		Cardiology with invasive capabilities.	cardiology.noninvasive		Cardiology with NO invasive capabilities.	cardiologymi.STEMI		STEMI support	cardiologymi.nonSTEMI		NO STEMI support	cardiology.telenet		For remote monitoring of cardiology telemetry data for patient.	dialysis		Dialysis services	emergencyDepartment			hyperBaricChamber		Hyperbaric Chamber	infectiousDisease		Infectious Disease Services	intensiveCare.adult		Adult ICU services.	intensiveCare.neonatal		Neonatal Intensive Care Unit (ICU) services.	intensiveCare.pediatric		Pediatric Intensive Care Unit (ICU) services.	intermediateCare		For low-risk, chronically or critically ill patients	neonatology		Neonatology	neurology		Neurology Services	neurology.invasive		Neurology-Invasive services, including invasive catheterization.	neurology.noninvasive		Neurology-Non-Invasive services with no invasive catheterization capability.	obgyn		OB/GYN services
enumeration	value	description																																																																		
airborneInfectionIsolation																																																																				
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neurology.noninvasive		Neurology-Non-Invasive services with no invasive catheterization capability.																																																																		
obgyn		OB/GYN services																																																																		

enumeration	obgyn.withLaborDelivery	OBGYN with labor delivery.
enumeration	obgyn.withoutLaborDelivery	OBGYN without labor delivery capabilities.
enumeration	operatingRoom	
enumeration	ophthalmology	Ophthalmology services
enumeration	orthopedic	Orthopedic services
enumeration	pediatrics	Pediatric services
enumeration	psychiatric	Psychiatric services
enumeration	surgery	Surgery capabilities
enumeration	surgery.adultGeneral	General Adult surgery capabilities
enumeration	surgery.pediatrics	General Pediatric surgery capabilities
enumeration	surgery.orthopedics	Orthopedic surgery capabilities
enumeration	surgery.neurosurgery	Neurosurgery capabilities
enumeration	surgery.facial	Facial surgery capabilities
enumeration	surgery.cardiothoracic	Cardiothoracic surgery capabilities
enumeration	surgery.hand	Hand surgery capabilities
enumeration	surgery.replantation	Replantation surgery capabilities.
enumeration	surgery.spinal	Spinal surgery capabilities
enumeration	surgery.vascular	Vascular surgery capabilities
enumeration	surgery.anesthesia	Anesthesia services
enumeration	traumaCenter	Trauma Center

#### Element **ServiceType / status**

Namespace	urn:oasis:names:tc:emergency:edxl:have:2.0				
Annotations	Describes the status of the service.				
Diagram	<pre> classDiagram     class StatusType {         isOK boolean         colourStatus ColourStatusType         stability StabilityType         comment FreeTextType     }     </pre> <p>Complex Type to provide status information: OK (yes/no), colour code, Stability, and commentary.</p>				
Type	StatusType				
Properties	<table border="1"> <tr> <td>content</td> <td>complex</td> </tr> <tr> <td>minOccurs</td> <td>1</td> </tr> </table>	content	complex	minOccurs	1
content	complex				
minOccurs	1				
Model	isOK, colourStatus {0,1}, stability {0,1}, comment {0,1}				
Children	colourStatus, comment, isOK, stability				
Instance	<pre> &lt;status xmlns="urn:oasis:names:tc:emergency:edxl:have:2.0"&gt;   &lt;isOK&gt;{1,1}&lt;/isOK&gt;   &lt;colourStatus&gt;{0,1}&lt;/colourStatus&gt;   &lt;stability&gt;{0,1}&lt;/stability&gt;   &lt;comment&gt;{0,1}&lt;/comment&gt; &lt;/status&gt;           </pre>				

#### Element **ServiceType / externalCode**

Namespace	urn:oasis:names:tc:emergency:edxl:have:2.0
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Annotations	Allows an external system to place its own equivalent code for the service.code value. This allows external systems to correlate their data directly in the HAVE report.						
Diagram							
Type	ct:ValueKeyType						
Properties	<table> <tr> <td>content</td><td>complex</td></tr> <tr> <td>minOccurs</td><td>0</td></tr> <tr> <td>maxOccurs</td><td>unbounded</td></tr> </table>	content	complex	minOccurs	0	maxOccurs	unbounded
content	complex						
minOccurs	0						
maxOccurs	unbounded						
Model	ct:valueListURI, ct:value						
Children	ct:value, ct:valueListURI						
Instance	<pre>&lt;externalCode xmlns="urn:oasis:names:tc:emergency:edxl:have:2.0" xmlns:edxl-ct="urn:oasis:names:tc:emergency:edxl:ct:1.0"&gt;   &lt;edxl-ct:valueListURI {1,1}&lt;/edxl-ct:valueListURI&gt;   &lt;edxl-ct:value {1,1}&lt;/edxl-ct:value&gt; &lt;/externalCode&gt;</pre>						

#### Element ServiceType / bedCapacity

Namespace	urn:oasis:names:tc:emergency:edxl:have:2.0				
Annotations	An indication of the bed capacity that the facility makes available for the community to know. It reflects fully staffed and equipped beds. The intention here is to provide an external view of where beds may be available in a health network. The intent is not for HAVE to become a hospital administration tool.				
Diagram					
Type	BedCapacityType				
Properties	<table> <tr> <td>content</td><td>complex</td></tr> <tr> <td>minOccurs</td><td>0</td></tr> </table>	content	complex	minOccurs	0
content	complex				
minOccurs	0				
Model	availableCount, baselineCount{0,1}, comment{0,1}				
Children	availableCount, baselineCount, comment				
Instance	<pre>&lt;bedCapacity xmlns="urn:oasis:names:tc:emergency:edxl:have:2.0"&gt;   &lt;availableCount&gt;{1,1}&lt;/availableCount&gt;   &lt;baselineCount&gt;{0,1}&lt;/baselineCount&gt;   &lt;comment&gt;{0,1}&lt;/comment&gt; &lt;/bedCapacity&gt;</pre>				

#### Element BedCapacityType / availableCount

Namespace	urn:oasis:names:tc:emergency:edxl:have:2.0
Annotations	The number of vacant/available beds to which patients can be immediately supported. These must include supporting space, equipment, medical material, ancillary and support services and staff to

	operate under normal circumstances. These beds are licensed, physically available and have staff on hand to attend to the patient who occupies the bed. NEGATIVE values means the service is operating beyond normal capacity.				
Diagram	<p>The number of vacant/available beds to which patients can be immediately supported. These must include supporting...</p>				
Type	xs:integer				
Properties	<table border="1"> <tr> <td>content</td><td>simple</td></tr> <tr> <td>minOccurs</td><td>1</td></tr> </table>	content	simple	minOccurs	1
content	simple				
minOccurs	1				

### Element BedCapacityType / baselineCount

Namespace	urn:oasis:names:tc:emergency:edxl:have:2.0				
Annotations	The maximum (baseline) number of beds in this category.				
Diagram	<p>The maximum (baseline) number of beds in this category.</p>				
Type	restriction of xs:integer				
Properties	<table border="1"> <tr> <td>content</td><td>simple</td></tr> <tr> <td>minOccurs</td><td>0</td></tr> </table>	content	simple	minOccurs	0
content	simple				
minOccurs	0				
Facets	<table border="1"> <tr> <td>minInclusive</td><td>0</td></tr> </table>	minInclusive	0		
minInclusive	0				

### Element BedCapacityType / comment

Namespace	urn:oasis:names:tc:emergency:edxl:have:2.0				
Annotations	Human-readable description of the service capacity for this service. This value can be used to explain any specific information for the reader about the Bed Capacity.				
Diagram	<p>Human-readable description of the service capacity for this service. This value can be used to explain any specific...</p>				
Type	FreeTextType				
Properties	<table border="1"> <tr> <td>content</td><td>complex</td></tr> <tr> <td>minOccurs</td><td>0</td></tr> </table>	content	complex	minOccurs	0
content	complex				
minOccurs	0				
Model	defaultText, alternateText*				
Children	alternateText, defaultText				
Instance	<pre>&lt;comment xmlns="urn:oasis:names:tc:emergency:edxl:have:2.0"&gt;   &lt;defaultText&gt;(1,1)&lt;/defaultText&gt;   &lt;alternateText language=""&gt;(0,unbounded)&lt;/alternateText&gt; &lt;/comment&gt;</pre>				

### Element ServiceType / capacity

Namespace	urn:oasis:names:tc:emergency:edxl:have:2.0
Annotations	Indicates the capacity status of this particular service.

Diagram	
Type	CapacityType
Properties	content complex
minOccurs	0
Model	capacity, capacityURI(0,1)
Children	capacity, capacityURI
Instance	<pre>&lt;capacity xmlns="urn:oasis:names:tc:emergency:edxl:have:2.0"&gt;   &lt;capacity uom="1,1"/&gt;&lt;/capacity&gt;   &lt;capacityURI&gt;(0,1)&lt;/capacityURI&gt; &lt;/capacity&gt;</pre>

#### Element CapacityType / capacity

Namespace	urn:oasis:names:tc:emergency:edxl:have:2.0			
Diagram				
Type	extParameterValueType			
Type hierarchy	<ul style="list-style-type: none"> <li>xs:token</li> <li>ct:EDXLSStringType</li> <li>extParameterValueType</li> </ul>			
Properties	content complex			
Attributes	QName	Type	Use	
	uom	xs:string	optional	

#### Element CapacityType / capacityURI

Namespace	urn:oasis:names:tc:emergency:edxl:have:2.0			
Diagram				
Type	ct:ValueListURIType			
Properties	content simple			
minOccurs	0			
maxOccurs	1			

#### Element ServiceType / comment

Namespace	urn:oasis:names:tc:emergency:edxl:have:2.0			
Annotations	Textual description of Service situation.			



Diagram					
Type	FreeTextType				
Properties	<table border="1"> <tr> <td>content</td> <td>complex</td> </tr> <tr> <td>minOccurs</td> <td>0</td> </tr> </table>	content	complex	minOccurs	0
content	complex				
minOccurs	0				
Model	defaultText, alternateText*				
Children	alternateText, defaultText				
Instance	<pre>&lt;comment xmlns="urn:oasis:names:tc:emergency:edxl:have:2.0"&gt;   &lt;defaultText&gt;{1,1}&lt;/defaultText&gt;   &lt;alternateText language=""&gt;(0,unbounded)&lt;/alternateText&gt; &lt;/comment&gt;</pre>				

#### ElementServiceType / comment

Namespace	urn:oasis:names:tc:emergency:edxl:have:2.0						
Annotations	general comment/summary on all of the services						
Diagram							
Type	FreeTextType						
Properties	<table border="1"> <tr> <td>content</td> <td>complex</td> </tr> <tr> <td>minOccurs</td> <td>0</td> </tr> <tr> <td>maxOccurs</td> <td>1</td> </tr> </table>	content	complex	minOccurs	0	maxOccurs	1
content	complex						
minOccurs	0						
maxOccurs	1						
Model	defaultText, alternateText*						
Children	alternateText, defaultText						
Instance	<pre>&lt;comment xmlns="urn:oasis:names:tc:emergency:edxl:have:2.0"&gt;   &lt;defaultText&gt;{1,1}&lt;/defaultText&gt;   &lt;alternateText language=""&gt;(0,unbounded)&lt;/alternateText&gt; &lt;/comment&gt;</pre>						

#### ElementFacilityType / futureServices

Namespace	urn:oasis:names:tc:emergency:edxl:have:2.0
Annotations	optional list of service capabilities in future for planned or potential ramping up (or down) of capabilities to accomodate surge needs or degraded capabilities. 0..n
Diagram	

Type	FutureServicesType				
Properties	<table> <tr> <td>content</td><td>complex</td></tr> <tr> <td>minOccurs</td><td>0</td></tr> </table>	content	complex	minOccurs	0
content	complex				
minOccurs	0				
Model	service*, comment{0,1}				
Children	comment, service				
Instance	<pre>&lt;futureServices xmlns="urn:oasis:names:tc:emergency:eddl:have:2.0"&gt;   &lt;service&gt;(1,unbounded)&lt;/service&gt;   &lt;comment&gt;(0,1)&lt;/comment&gt; &lt;/futureServices&gt;</pre>				

### Element FutureServicesType / service

Namespace	urn:oasis:names:tc:emergency:eddl:have:2.0						
Annotations	ServiceListItem provides a description of a particular service - availability, capacity, and status.						
Diagram							
Type	extension of ServiceType						
Type hierarchy	• ServiceType						
Properties	<table> <tr> <td>content</td><td>complex</td></tr> <tr> <td>minOccurs</td><td>1</td></tr> <tr> <td>maxOccurs</td><td>unbounded</td></tr> </table>	content	complex	minOccurs	1	maxOccurs	unbounded
content	complex						
minOccurs	1						
maxOccurs	unbounded						
Model	name, code, status, externalCode*, bedCapacity{0,1}, capacity{0,1}, comment{0,1}, ext:extension*, reportingPeriod						
Children	bedCapacity, capacity, code, comment, ext:extension, externalCode, name, reportingPeriod, status						
Instance	<pre>&lt;service xmlns="urn:oasis:names:tc:emergency:eddl:have:2.0" xmlns:ext="urn:oasis:names:tc:emergency:eddl:extension"&gt;   &lt;name&gt;(1,1)&lt;/name&gt;   &lt;code&gt;(1,1)&lt;/code&gt;   &lt;status&gt;(1,1)&lt;/status&gt;   &lt;externalCode&gt;(0,unbounded)&lt;/externalCode&gt;</pre>						



```
<bedCapacity>{0,1}</bedCapacity>
<capacity>{0,1}</capacity>
<comment>{0,1}</comment>
<ext:extension>{0,unbounded}</ext:extension>
<reportingPeriod>{1,1}</reportingPeriod>
</service>
```

#### Element FutureServicesType / service / reportingPeriod

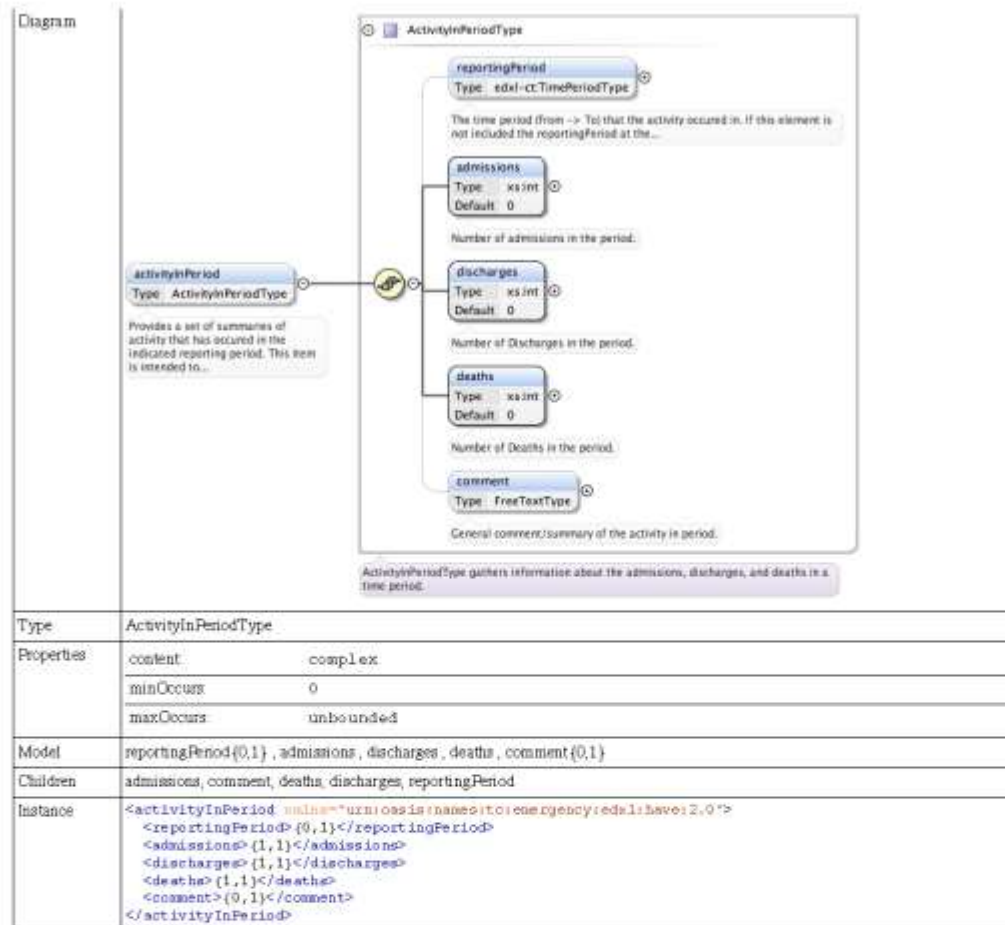
Namespace	urn:oasis:names:tc:emergency:edxl:have:2.0
Diagram	
Type	ct:TimePeriodType
Properties	content complex
Model	ct:fromDateTime, ct:toDateTime
Children	ct:fromDateTime, ct:toDateTime
Instance	<pre>&lt;reportingPeriod xmlns="urn:oasis:names:tc:emergency:edxl:have:2.0" xmlns:edxl- ct="urn:oasis:names:tc:emergency:edxl:ct:1.0"&gt;   &lt;edxl-ct:fromDateTime&gt;{1,1}&lt;/edxl-ct:fromDateTime&gt;   &lt;edxl-ct:toDateTime&gt;{1,1}&lt;/edxl-ct:toDateTime&gt; &lt;/reportingPeriod&gt;</pre>

#### Element FutureServicesType / comment

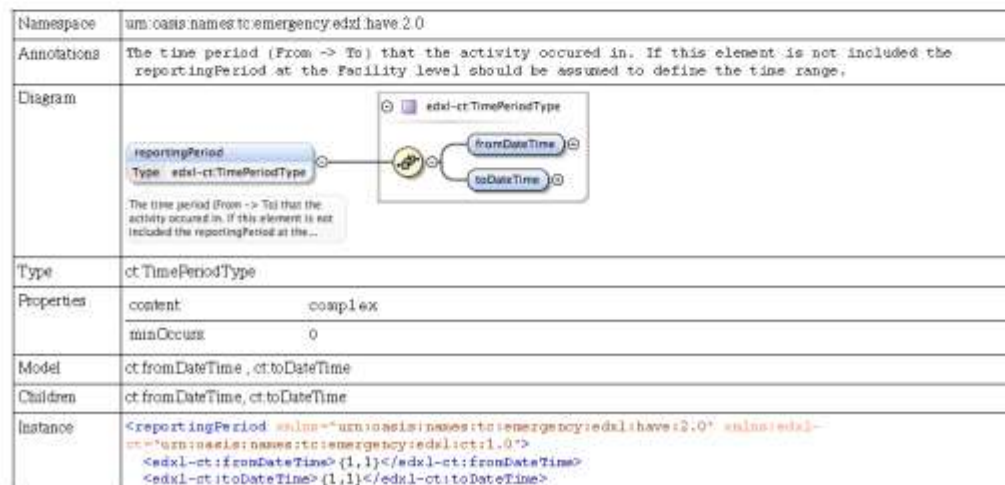
Namespace	urn:oasis:names:tc:emergency:edxl:have:2.0
Annotations	General comment/summary on the all of the future services
Diagram	
Type	FreeTextType
Properties	content complex minOccurs 0 maxOccurs 1
Model	defaultText, alternateText*
Children	alternateText, defaultText
Instance	<pre>&lt;comment xmlns="urn:oasis:names:tc:emergency:edxl:have:2.0"&gt;   &lt;defaultText&gt;{1,1}&lt;/defaultText&gt;   &lt;alternateText language="*"&gt;{0,unbounded}&lt;/alternateText&gt; &lt;/comment&gt;</pre>

#### Element FacilityType / activityInPeriod

Namespace	urn:oasis:names:tc:emergency:edxl:have:2.0
Annotations	Provides a set of summaries of activity that has occurred in the indicated reporting period. This item is intended to provide a very high-level summary of facility activity.



#### Element ActivityInPeriodType / reportingPeriod



</reportingPeriod>

#### Element ActivityInPeriodType / admissions

Namespace	urn:oasis:names:tc:emergency:edxl:have:2.0		
Annotations	Number of admissions in the period.		
Diagram			
Type	xs:int		
Properties	content	simple	
	minOccurs	1	
	default	0	

#### Element ActivityInPeriodType / discharges

Namespace	urn:oasis:names:tc:emergency:edxl:have:2.0		
Annotations	Number of Discharges in the period.		
Diagram			
Type	xs:int		
Properties	content	simple	
	minOccurs	1	
	default	0	

#### Element ActivityInPeriodType / deaths

Namespace	urn:oasis:names:tc:emergency:edxl:have:2.0		
Annotations	Number of Deaths in the period.		
Diagram			
Type	xs:int		
Properties	content	simple	
	minOccurs	1	
	default	0	

#### Element ActivityInPeriodType / comment

Namespace	urn:oasis:names:tc:emergency:edxl:have:2.0		
Annotations	General comment/summary of the activity in period.		
Diagram			

Type	FreeTextType				
Properties	<table> <tr> <td>content</td><td>complex</td></tr> <tr> <td>minOccurs</td><td>0</td></tr> </table>	content	complex	minOccurs	0
content	complex				
minOccurs	0				
Model	defaultText, alternateText*				
Children	alternateText, defaultText				
Instance	<pre>&lt;comment xmlns="urn:oasis:names:tc:emergency:edxl:have:2.0"&gt;   &lt;defaultText&gt;(1,1)&lt;/defaultText&gt;   &lt;alternateText language="*"&gt;{0,unbounded}&lt;/alternateText&gt; &lt;/comment&gt;</pre>				

## Element FacilityType / operations

Namespace	urn:oasis:names:tc:emergency:edxl:have:2.0				
Annotations	Provides a taxonomy-based list of operations that describe the operations of the Facility.				
Diagram	<pre> classDiagram     class operations {         Type OperationsType     }     class comment {         Type FreeTextType     }     class operation {         Type OperationType     }     operations "0..1" -- "1..n" operation     operations "0..1" -- "0..1" comment   </pre> <p>Provides a taxonomy-based list of operations that describe the operations of the Facility.</p> <p>Operation that facility provides in the context of key areas such as Clinical Operations, Security Operations, facility...</p> <p>General comment/summary on all of the operations.</p>				
Type	OperationsType				
Properties	<table> <tr> <td>content</td><td>complex</td></tr> <tr> <td>minOccurs</td><td>0</td></tr> </table>	content	complex	minOccurs	0
content	complex				
minOccurs	0				
Model	operation+, comment{0,1}				
Children	comment, operation				
Instance	<pre>&lt;operations xmlns="urn:oasis:names:tc:emergency:edxl:have:2.0"&gt;   &lt;operation&gt;{1,unbounded}&lt;/operation&gt;   &lt;comment&gt;{0,1}&lt;/comment&gt; &lt;/operations&gt;</pre>				

## Element OperationsType / operation

Namespace	urn:oasis:names:tc:emergency:edxl:have:2.0
Annotations	Operation that facility provides in the context of key areas such as Clinical Operations, Security Operations, Facility Operations.

Diagram	<p><b>operation</b> Type: OperationType</p> <p>Operation that facility provides in the context of key areas such as Clinical Operations, Security Operations, Facility...</p> <p><b>kind</b> Type: FacilityOperationKind</p> <p>The high-level kind of operation that is being reported on (plant, security, staffing, or emergency).</p> <p><b>name</b> Type: FreeTextType</p> <p>The name of the operation that is being reported on (e.g. "Food Service").</p> <p><b>status</b> Type: StatusType</p> <p>The status of the Operation.</p> <p><b>comment</b> Type: FreeTextType</p> <p>General comment/summary on the Operation.</p> <p><b>extension</b> Type: extension</p> <p>Base element to allow communities to extend/augment an EDXL data standard.</p> <p>Gathers information about a particular operation type including the kind (taxonomy driven), name (human readable)...</p>						
Type	OperationType						
Properties	<table> <tr> <td>content</td><td>complex</td></tr> <tr> <td>minOccurs</td><td>1</td></tr> <tr> <td>maxOccurs</td><td>unbounded</td></tr> </table>	content	complex	minOccurs	1	maxOccurs	unbounded
content	complex						
minOccurs	1						
maxOccurs	unbounded						
Model	kind, name, status, comment(0,1), extension*						
Children	comment, extension, kind, name, status						
Instance	<pre>&lt;operation xmlns="urn:oasis:names:tc:emergency:edxl:have:2.0" xmlns:ext="urn:oasis:names:tc:emergency:edxl:extension"   &lt;kind&gt;(1,1)&lt;/kind&gt;   &lt;name&gt;(1,1)&lt;/name&gt;   &lt;status&gt;(1,1)&lt;/status&gt;   &lt;comment&gt;(0,1)&lt;/comment&gt;   &lt;extension&gt;(0,unbounded)&lt;/extension&gt; &lt;/operation&gt;</pre>						

#### Element OperationType / kind

Namespace	urn:oasis:names:tc:emergency:eddl:have:2.0		
Annotations	The high-level kind of operation that is being reported on (plant, security, staffing, or emergency).		
Diagram	<p>The high-level kind of operation that is being reported on (plant, security, staffing, or emergency).</p>		
Type	FacilityOperationKind		
Properties	content	simple	
Facets	enumeration	plant	Plant - the key equipment and capabilities needed to operate the facility (e.g. HVAC, cafeteria).
	enumeration	security	Security operations for facility (e.g. patrol, surveillance).
	enumeration	staffing	Staff-related operations (e.g. medical personnel, support staffing, administrative).
	enumeration	emergency	Emergency Department operations.

#### Element OperationType / name

Namespace	urn:oasis:names:tc:emergency:edxl:have:2.0
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Annotations	The name of the operation that is being reported on (e.g. "Food Services").
Diagram	
Type	FreeTextType
Properties	content complex
Model	defaultText, alternateText*
Children	alternateText, defaultText
Instance	<pre>&lt;name xmlns="urn:oasis:names:tc:emergency:edxl:have:2.0"&gt;   &lt;defaultText&gt;(1,1)&lt;/defaultText&gt;   &lt;alternateText language="*"&gt;(0,unbounded)&lt;/alternateText&gt; &lt;/name&gt;</pre>

#### Element OperationType / status

Namespace	urn:oasis:names:tc:emergency:edxl:have:2.0
Annotations	The status of the Operation.
Diagram	
Type	StatusType
Properties	content complex
Model	isOK, colourStatus {0,1}, stability {0,1}, comment {0,1}
Children	colourStatus, comment, isOK, stability
Instance	<pre>&lt;status xmlns="urn:oasis:names:tc:emergency:edxl:have:2.0"&gt;   &lt;isOK&gt;(1,1)&lt;/isOK&gt;   &lt;colourStatus&gt;(0,1)&lt;/colourStatus&gt;   &lt;stability&gt;(0,1)&lt;/stability&gt;   &lt;comment&gt;(0,1)&lt;/comment&gt; &lt;/status&gt;</pre>

#### Element OperationType / comment

Namespace	urn:oasis:names:tc:emergency:edxl:have:2.0
Annotations	General comment/summary on the Operation.



Diagram					
Type	FreeTextType				
Properties	<table border="1"> <tr> <td>content</td><td>complex</td></tr> <tr> <td>minOccurs</td><td>0</td></tr> </table>	content	complex	minOccurs	0
content	complex				
minOccurs	0				
Model	defaultText, alternateText*				
Children	alternateText, defaultText				
Instance	<pre>&lt;comment xmlns="urn:oasis:names:tc:emergency:edxl:have:2.0"&gt;   &lt;defaultText&gt;(1,1)&lt;/defaultText&gt;   &lt;alternateText language="*"&gt;(0,unbounded)&lt;/alternateText&gt; &lt;/comment&gt;</pre>				

#### Element OperationsType / comment

Namespace	urn:oasis:names:tc:emergency:edxl:have:2.0						
Annotations	General comment/summary on all of the operations.						
Diagram							
Type	FreeTextType						
Properties	<table border="1"> <tr> <td>content</td><td>complex</td></tr> <tr> <td>minOccurs</td><td>0</td></tr> <tr> <td>maxOccurs</td><td>1</td></tr> </table>	content	complex	minOccurs	0	maxOccurs	1
content	complex						
minOccurs	0						
maxOccurs	1						
Model	defaultText, alternateText*						
Children	alternateText, defaultText						
Instance	<pre>&lt;comment xmlns="urn:oasis:names:tc:emergency:edxl:have:2.0"&gt;   &lt;defaultText&gt;(1,1)&lt;/defaultText&gt;   &lt;alternateText language="*"&gt;(0,unbounded)&lt;/alternateText&gt; &lt;/comment&gt;</pre>						

#### Element FacilityType / resourceInformation

Namespace	urn:oasis:names:tc:emergency:edxl:have:2.0
Annotations	Information about non-staff resources (status, needs, availability for offer) for the facility.

Diagram		
Type	ResourceInformationType	
Properties	content	complex
	minOccurs	0
Model	status, needs{0,1}, offers{0,1}, comment{0,1}, ext:extension*	
Children	comment, ext:extension, needs, offers, status	
Instance	<pre>&lt;resourceInformation xmlns="urn:oasis:names:tc:emergency:edxl:have:2.0" xmlns:ext="urn:oasis:names:tc:emergency:edxl:have:2.0:extension"   &lt;status&gt;{1,1}&lt;/status&gt;   &lt;needs&gt;{0,1}&lt;/needs&gt;   &lt;offers&gt;{0,1}&lt;/offers&gt;   &lt;comment&gt;{0,1}&lt;/comment&gt;   &lt;ext:extension&gt;{0,unbounded}&lt;/ext:extension&gt; &lt;/resourceInformation&gt;</pre>	

#### Element ResourceInformationType / status

Namespace	urn:oasis:names:tc:emergency:edxl:have:2.0	
Annotations	Overall resource status of the facility.	
Diagram		
Type	StatusType	
Properties	content	complex
	minOccurs	1
Model	isOK, colourStatus{0,1}, stability{0,1}, comment{0,1}	
Children	colourStatus, comment, isOK, stability	



Instance	<pre>&lt;status xmlns="urn:oasis:names:tc:emergency:edxl:have:2.0"&gt;   &lt;isOK&gt;(1,1)&lt;/isOK&gt;   &lt;colourStatus&gt;(0,1)&lt;/colourStatus&gt;   &lt;stability&gt;(0,1)&lt;/stability&gt;   &lt;comment&gt;(0,1)&lt;/comment&gt; &lt;/status&gt;</pre>
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### Element ResourceInformationType / needs

Namespace	urn:oasis:names:tc:emergency:edxl:have:2.0				
Annotations	Resource Needs.				
Diagram					
Properties	<table border="1"> <tr> <td>content</td><td>complex</td></tr> <tr> <td>minOccurs</td><td>0</td></tr> </table>	content	complex	minOccurs	0
content	complex				
minOccurs	0				
Model	resourceNeed+				
Children	resourceNeed				
Instance	<pre>&lt;needs xmlns="urn:oasis:names:tc:emergency:edxl:have:2.0"&gt;   &lt;resourceNeed&gt;(1,unbounded)&lt;/resourceNeed&gt; &lt;/needs&gt;</pre>				

### Element ResourceInformationType / needs / resourceNeed

Namespace	urn:oasis:names:tc:emergency:edxl:have:2.0				
Diagram					
Type	ResourceQuantityType				
Properties	<table border="1"> <tr> <td>content</td><td>complex</td></tr> <tr> <td>maxOccurs</td><td>unbounded</td></tr> </table>	content	complex	maxOccurs	unbounded
content	complex				
maxOccurs	unbounded				
Model	resourceKind, quantity, resourceSize, comments{0,1}				
Children	comments, quantity, resourceKind, resourceSize				
Instance	<pre>&lt;resourceNeed xmlns="urn:oasis:names:tc:emergency:edxl:have:2.0"&gt;   &lt;resourceKind&gt;(1,1)&lt;/resourceKind&gt;   &lt;quantity&gt;(1,1)&lt;/quantity&gt;   &lt;resourceSize &lt;Path=""&gt;(1,1)&lt;/resourceSize&gt;   &lt;comment&gt;(0,1)&lt;/comment&gt; &lt;/resourceNeed&gt;</pre>				

### Element ResourceQuantityType / resourceKind

Namespace	urn:oasis:names:tc:emergency:edxl:have:2.0
Annotations	The kind (type) of resource that the quantity refers to. TODO: Provide the URI and key-value.

Diagram	
Type	ct:ValueKeyType
Properties	content: complex
Model	ct:ValueListURI, ct:value
Children	ct:value, ct:ValueListURI
Instance	<pre>&lt;resourceKind xmlns="urn:oasis:names:tc:emergency:edxl:have:2.0" xmlns:edxl-ct="urn:oasis:names:tc:emergency:edxl:ct:1.0"&gt;   &lt;edxl-ct:ValueListURI {1,1}&lt;/edxl-ct:ValueListURI&gt;   &lt;edxl-ct:value&gt;{1,1}&lt;/edxl-ct:value&gt; &lt;/resourceKind&gt;</pre>

#### Element ResourceQuantityType / quantity

Namespace	urn:oasis:names:tc:emergency:edxl:have:2.0
Annotations	The quantity of the particular Resource.
Diagram	
Type	restriction of xs:double
Properties	content: simple
Facets	minInclusive: 0

#### Element ResourceQuantityType / resourceSize

Namespace	urn:oasis:names:tc:emergency:eddx:have:2.0								
Annotations	Unit of measure and size (e.g. 1500 mL).								
Diagram	<p>The diagram illustrates the structure of the <code>resourceSize</code> element. It is a complex type derived from <code>ext:ParameterNameType</code>. The <code>resourceSize</code> box includes a note: "Unit of measure and size (e.g. 1500 mL)". It contains an attribute <code>anyURI</code> (Built-in primitive type. The <code>anyURI</code> datatype represents a Uniform Resource Identifier Reference (URI)). It also has a section for Attributes with an entry for <code>xPath</code>.</p>								
Type	ext:ParameterNameType								
Properties	content: complex								
Attributes	<table><thead><tr><th>QName</th><th>Type</th><th>Use</th></tr></thead><tbody><tr><td>xPath</td><td>xstring</td><td>optional</td></tr></tbody></table>	QName	Type	Use	xPath	xstring	optional		
QName	Type	Use							
xPath	xstring	optional							

#### Element ResourceQuantityType / comments

Namespace	urn:oasis:names:tc:emergency:edxl:have:2.0
Annotations	Textual description of Resource quantity.

Diagram		
Type	FreeTextType	
Properties	content	complex
	minOccurs	0
Model	defaultText, alternateText*	
Children	alternateText, defaultText	
Instance	<pre>&lt;comments xmlns="urn:oasis:names:tc:emergency:edxl:have:2.0"&gt;   &lt;defaultText&gt;(1,1)&lt;/defaultText&gt;   &lt;alternateText language="*"&gt;(0,unbounded)&lt;/alternateText&gt; &lt;/comments&gt;</pre>	

#### Element ResourceInformationType / offers

Namespace	urn:oasis:names:tc:emergency:edxl:have:2.0	
Annotations	Resource Offers (resources that can be made available to other Facilities).	
Diagram		
Properties	content	complex
	minOccurs	0
Model	resourceOffer+	
Children	resourceOffer	
Instance	<pre>&lt;offers xmlns="urn:oasis:names:tc:emergency:edxl:have:2.0"&gt;   &lt;resourceOffer&gt;(1,unbounded)&lt;/resourceOffer&gt; &lt;/offers&gt;</pre>	

#### Element ResourceInformationType / offers / resourceOffer

Namespace	urn:oasis:names:tc:emergency:edxl:have:2.0
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Diagram					
Type	ResourceQuantityType				
Properties	<table> <tr> <td>content</td><td>complex</td></tr> <tr> <td>maxOccurs</td><td>unbounded</td></tr> </table>	content	complex	maxOccurs	unbounded
content	complex				
maxOccurs	unbounded				
Model	resourceKind, quantity, resourceSize, comments(0,1)				
Children	comments, quantity, resourceKind, resourceSize				
Instance	<pre> &lt;resourceOffer xmlns="urn:oasis:names:tc:emergency:edxl:have:2.0"&gt;   &lt;resourceKind&gt;(1,1)&lt;/resourceKind&gt;   &lt;quantity&gt;(1,1)&lt;/quantity&gt;   &lt;resourceSize xPath="(1,1)&lt;/resourceSize&gt;   &lt;comments&gt;(0,1)&lt;/comments&gt; &lt;/resourceOffer&gt; </pre>				

#### Element ResourceInformationType / comment

Namespace	urn:oasis:names:tc:emergency:edxl:have:2.0						
Annotations	Textual description of Resource situation.						
Diagram							
Type	FreeTextType						
Properties	<table> <tr> <td>content</td><td>complex</td></tr> <tr> <td>minOccurs</td><td>0</td></tr> <tr> <td>maxOccurs</td><td>1</td></tr> </table>	content	complex	minOccurs	0	maxOccurs	1
content	complex						
minOccurs	0						
maxOccurs	1						
Model	defaultText, alternateText*						
Children	alternateText, defaultText						
Instance	<pre> &lt;comment xmlns="urn:oasis:names:tc:emergency:edxl:have:2.0"&gt;   &lt;defaultText&gt;(1,1)&lt;/defaultText&gt;   &lt;alternateText language="(0,unbounded)&lt;/alternateText&gt; &lt;/comment&gt; </pre>						

#### Element FacilityType / staffing

Namespace	urn:oasis:names:tc:emergency:edxl:have:2.0
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Annotations	Staffing provides an indication of the staffing status and any needs or offers of this facility.				
Diagram	<p><b>ResourceInformationType</b></p> <ul style="list-style-type: none"> <li><b>status</b> (Type: StatusType): Overall resource status of the facility.</li> <li><b>needs</b> (Type: Resource Needs): Resource Needs.</li> <li><b>offers</b> (Type: Resource Offers): Resource Offers (resources that can be made available to other facilities).</li> <li><b>comment</b> (Type: FreeTextType): Textual description of Resource situation.</li> <li><b>extension</b> (Type: Base element to allow communities to extend/augment an EDL data standard): Base element to allow communities to extend/augment an EDL data standard.</li> </ul> <p>Complex Type to be used for tracking Resource state (status, needs, offers). Allows extension to handle specific...</p>				
Type	ResourceInformationType				
Properties	<table border="1"> <tr> <td>content</td> <td>complex</td> </tr> <tr> <td>minOccurs</td> <td>0</td> </tr> </table>	content	complex	minOccurs	0
content	complex				
minOccurs	0				
Model	status, needs{0,1}, offers{0,1}, comment{0,1}, ext:extension*				
Children	comment, ext:extension, needs, offers, status				
Instance	<pre>&lt;staffing xmlns="urn:oasis:names:tc:emergency:edl:have:2.0" xmlns:ext="urn:oasis:names:tc:emergency:edl:extension"   &lt;status&gt;{1,1}&lt;/status&gt;   &lt;needs&gt;{0,1}&lt;/needs&gt;   &lt;offers&gt;{0,1}&lt;/offers&gt;   &lt;comment&gt;{0,1}&lt;/comment&gt;   &lt;ext:extension&gt;{0,unbounded}&lt;/ext:extension&gt; &lt;/staffing&gt;</pre>				

## Element FacilityType / emergencyDepartment

Namespace	urn:oasis:names:tc:emergency:edl:have:2.0
Annotations	Report on the emergency department status for the organization.
Diagram	<p><b>EmergencyDepartmentType</b></p> <ul style="list-style-type: none"> <li><b>status</b> (Type: StatusType): Status of the Emergency Department.</li> <li><b>offloadInfo</b> (Type: OffloadInfoType): Information about the Offload state for various modes of transport (Ambulance, Air Ambulance).</li> <li><b>traffic</b> (Type: TrafficType): Ability of this emergency department to receive patients via emergency medical services.</li> <li><b>triageCapacity</b> (Type: TriageCapacityType): The number of each triage patient type the hospital can accept.</li> </ul> <p>The container of all of the elements related to the emergency department status. It describes the ability of this...</p>
Type	EmergencyDepartmentType

Properties	content	complex
	minOccurs	0
Model	status, offloadInfo {0,1}, traffic {0,1}, triageCapacity {0,1}	
Children	offloadInfo, status, traffic, triageCapacity	
Instance	<pre>&lt;emergencyDepartment xmlns="urn:oasis:names:tc:emergency:edxl:have:2.0"&gt;   &lt;status&gt; {1,1}&lt;/status&gt;   &lt;offloadInfo&gt; {0,1}&lt;/offloadInfo&gt;   &lt;traffic&gt; {0,1}&lt;/traffic&gt;   &lt;triageCapacity&gt; {0,1}&lt;/triageCapacity&gt; &lt;/emergencyDepartment&gt;</pre>	

### Element EmergencyDepartmentType / status

Namespace	urn:oasis:names:tc:emergency:edxl:have:2.0	
Annotations	Status of the Emergency Department.	
Diagram		
Type	StatusType	
Properties	content	complex
	minOccurs	1
Model	isOK, colourStatus {0,1}, stability {0,1}, comment {0,1}	
Children	colourStatus, comment, isOK, stability	
Instance	<pre>&lt;status xmlns="urn:oasis:names:tc:emergency:edxl:have:2.0"&gt;   &lt;isOK&gt; {1,1}&lt;/isOK&gt;   &lt;colourStatus&gt; {0,1}&lt;/colourStatus&gt;   &lt;stability&gt; {0,1}&lt;/stability&gt;   &lt;comment&gt; {0,1}&lt;/comment&gt; &lt;/status&gt;</pre>	

### Element EmergencyDepartmentType / offloadInfo

Namespace	urn:oasis:names:tc:emergency:edxl:have:2.0	
Annotations	Information about the Offload state for various modes of transport (Ambulance, Air Ambulance).	
Diagram		
Type	OffloadInfoType	
Properties	content	complex



	minOccurs	0
Model	offload+, ext:extension*	
Children	ext:extension, offload	
Instance	<pre>&lt;offloadInfo xmlns="urn:oasis:names:tc:emergency:edxl:have:2.0" xmlns:ext="urn:oasis:names:tc:emergency:edxl:extension"   &lt;offload&gt;(1,unbounded)&lt;/offload&gt;   &lt;ext:extension&gt;(0,unbounded)&lt;/ext:extension&gt; &lt;/offloadInfo&gt;</pre>	

## Element OffloadInfoType / offload

Namespace	urn:oasis:names:tc:emergency:edxl:have:2.0						
Annotations	The particular offload mode, status, and other information for the facility.						
Diagram							
Type	OffloadType						
Properties	<table> <tr> <td>content</td><td>complex</td></tr> <tr> <td>minOccurs</td><td>1</td></tr> <tr> <td>maxOccurs</td><td>unbounded</td></tr> </table>	content	complex	minOccurs	1	maxOccurs	unbounded
content	complex						
minOccurs	1						
maxOccurs	unbounded						
Model	kind, offloadMinutes, offloadState{0,1}, offloadColourCode{0,1}, comment{0,1}						
Children	comment, kind, offloadColourCode, offloadMinutes, offloadState						
Instance	<pre>&lt;offload xmlns="urn:oasis:names:tc:emergency:edxl:have:2.0"&gt;   &lt;kind&gt;(1,1)&lt;/kind&gt;   &lt;offloadMinutes&gt;(1,1)&lt;/offloadMinutes&gt;   &lt;offloadState&gt;(0,1)&lt;/offloadState&gt;   &lt;offloadColourCode&gt;(0,1)&lt;/offloadColourCode&gt;   &lt;comment&gt;(0,1)&lt;/comment&gt; &lt;/offload&gt;</pre>						

## Element OffloadType / kind

Namespace	urn:oasis:names:tc:emergency:edxl:have:2.0				
Annotations	The mode of transport for offload (land, air, other).				
Diagram					
Type	OffloadKind				
Properties	<table> <tr> <td>content</td><td>simple</td></tr> <tr> <td>default</td><td>Land</td></tr> </table>	content	simple	default	Land
content	simple				
default	Land				

Facets	enumeration	land
	enumeration	air
	enumeration	other

### Element **offloadType** / **offloadMinutes**

Namespace	urn:oasis:names:tc:emergency:edxl:have:2.0	
Annotations	Average offload time in minutes.	
Diagram		
Type	xs:integer	
Properties	content	simple
	minOccurs	1
	maxOccurs	1

### Element **offloadType** / **offloadState**

Namespace	urn:oasis:names:tc:emergency:edxl:have:2.0	
Diagram		
Type	OffloadStateKind	
Properties	content	simple
	minOccurs	0
	default	normal
Facets	enumeration	normal
	enumeration	delayed

### Element **offloadType** / **offloadColourCode**

Namespace	urn:oasis:names:tc:emergency:edxl:have:2.0	
Diagram		
Type	ColourStatusType	
Properties	content	complex
	minOccurs	0
Model	colourCode, statusDescription{0,1}	
Children	colourCode, statusDescription	
Instance	<pre>&lt;offloadColourCode xmlns="urn:oasis:names:tc:emergency:edxl:have:2.0"&gt;   &lt;colourCode&gt;(1,1)&lt;/colourCode&gt;   &lt;statusDescription&gt;(0,1)&lt;/statusDescription&gt; &lt;/offloadColourCode&gt;</pre>	



## Element OffloadType / comment

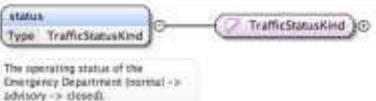
Namespace	urn:oasis:names:tc:emergency:edxl:have:2.0				
Diagram					
Type	FreeTextType				
Properties	<table border="1"> <tr> <td>content</td><td>complex</td></tr> <tr> <td>minOccurs</td><td>0</td></tr> </table>	content	complex	minOccurs	0
content	complex				
minOccurs	0				
Model	defaultText, alternateText*				
Children	alternateText, defaultText				
Instance	<pre>&lt;comment xmlns="urn:oasis:names:tc:emergency:edxl:have:2.0"&gt;   &lt;defaultText&gt;(1,1)&lt;/defaultText&gt;   &lt;alternateText language="*"&gt;{0,unbounded}&lt;/alternateText&gt; &lt;/comment&gt;</pre>				

## Element EmergencyDepartmentType / traffic

Namespace	urn:oasis:names:tc:emergency:edxl:have:2.0				
Annotations	Ability of this emergency department to receive patients via emergency medical services.				
Diagram					
Type	TrafficType				
Properties	<table border="1"> <tr> <td>content</td><td>complex</td></tr> <tr> <td>minOccurs</td><td>0</td></tr> </table>	content	complex	minOccurs	0
content	complex				
minOccurs	0				
Model	status, colourStatus, reason{0,1}, comment{0,1}				
Children	colourStatus, comment, reason, status				
Instance	<pre>&lt;traffic xmlns="urn:oasis:names:tc:emergency:edxl:have:2.0"&gt;   &lt;status&gt;(1,1)&lt;/status&gt;   &lt;colourStatus&gt;(1,1)&lt;/colourStatus&gt;   &lt;reason&gt;{0,1}&lt;/reason&gt;   &lt;comment&gt;{0,1}&lt;/comment&gt; &lt;/traffic&gt;</pre>				

## Element TrafficType / status

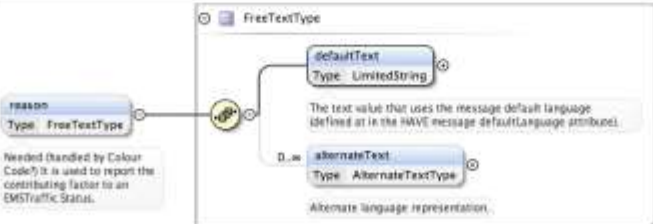
Namespace	urn:oasis:names:tc:emergency:edxl:have:2.0
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Annotations	The operating status of the Emergency Department (normal -> advisory -> closed).		
Diagram			
Type	TrafficStatusKind		
Properties	content	simple	
Facets	enumeration	normal	Traffic is at levels that are within norms.
	enumeration	advisory	Traffic levels are high enough to warrant notifying the community that the facility is experiencing higher than expected traffic.
	enumeration	closed	Facility is not accepting patient traffic.

### Element TrafficType / colourStatus

Namespace	urn:oasis:names:tc:emergency:edxl:have:2.0		
Annotations	Colour-code status for the Emergency Department.		
Diagram			
Type	ColourStatusType		
Properties	content	complex	
Model	colourCode , statusDescription {0,1}		
Children	colourCode, statusDescription		
Instance	<pre>&lt;colourStatus xmlns="urn:oasis:names:tc:emergency:edxl:have:2.0"&gt;   &lt;colourCode&gt;{1,1}&lt;/colourCode&gt;   &lt;statusDescription&gt;{0,1}&lt;/statusDescription&gt; &lt;/colourStatus&gt;</pre>		

### Element TrafficType / reason

Namespace	urn:oasis:names:tc:emergency:edxl:have:2.0		
Annotations	Needed (handled by Colour Code?) It is used to report the contributing factor to an EMSTraffic Status.		
Diagram			
Type	FreeTextType		
Properties	content	complex	
	minOccurs	0	

Model	defaultText, alternateText*
Children	alternateText, defaultText
Instance	<pre>&lt;reason xmlns="urn:oasis:names:tc:emergency:edxl:have:2.0"&gt;   &lt;defaultText&gt;(1,1)&lt;/defaultText&gt;   &lt;alternateText language="*"&gt;{0,unbounded}&lt;/alternateText&gt; &lt;/reason&gt;</pre>

#### Element TrafficType / comment

Namespace	urn:oasis:names:tc:emergency:edxl:have:2.0
Annotations	General comment/summary on the traffic status.
Diagram	
Type	FreeTextType
Properties	content: complex minOccurs: 0
Model	defaultText, alternateText*
Children	alternateText, defaultText
Instance	<pre>&lt;comment xmlns="urn:oasis:names:tc:emergency:edxl:have:2.0"&gt;   &lt;defaultText&gt;(1,1)&lt;/defaultText&gt;   &lt;alternateText language="*"&gt;{0,unbounded}&lt;/alternateText&gt; &lt;/comment&gt;</pre>

#### Element EmergencyDepartmentType / triageCapacity

Namespace	urn:oasis:names:tc:emergency:edxl:have:2.0
Annotations	The number of each triage patient type the hospital can accept.
Diagram	
Type	TriageCapacityType
Properties	content: complex minOccurs: 0
Model	triageCount*
Children	triageCount
Instance	<pre>&lt;triageCapacity xmlns="urn:oasis:names:tc:emergency:edxl:have:2.0"&gt;   &lt;triageCount&gt;(1,unbounded)&lt;/triageCount&gt; &lt;/triageCapacity&gt;</pre>

#### Element TriageCapacityType / triageCount


Namespace	urn:oasis:names:tc:emergency:edxl:have:2.0
Annotations	The Count for a particular triage level.

Diagram							
Type	TriageCountType						
Properties	<table border="1"> <tr><td>content</td><td>complex</td></tr> <tr><td>minOccurs</td><td>1</td></tr> <tr><td>maxOccurs</td><td>unbounded</td></tr> </table>	content	complex	minOccurs	1	maxOccurs	unbounded
content	complex						
minOccurs	1						
maxOccurs	unbounded						
Model	code, count, alternateCodeValue*, comment{0,1}						
Children	alternateCodeValue, code, comment, count						
Instance	<pre>&lt;triageCount xmlns="urn:oasis:names:tc:emergency:eddx:have:2.0"&gt;   &lt;code&gt;{1,1}&lt;/code&gt;   &lt;count&gt;{1,1}&lt;/count&gt;   &lt;alternateCodeValue&gt;{0,unbounded}&lt;/alternateCodeValue&gt;   &lt;comment&gt;{0,1}&lt;/comment&gt; &lt;/triageCount&gt;</pre>						

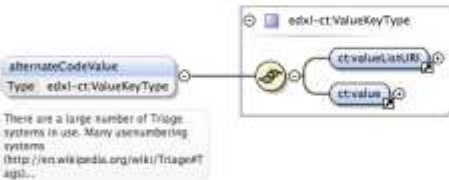
#### Element TriageCountType / code

Namespace	urn:oasis:names:tc:emergency:eddx:have:2.0		
Annotations	Triage Colour Codes (RED, YELLOW, GREEN, BLACK, none) for capacity purposes. The List of values must be from the list identified in TriageCodeListURN. Default Values - red: Number of victims with immediate needs - yellow: Number of victims with delayed needs - green: Number of victims with minor needs - black: Number of deceased victims. If a TriageCountType/code value is specified, a TriageCountType/count element must be specified.		
Diagram	<pre>graph LR     TriageColourCodeType --&gt; code     style code fill:#d9e1f2,stroke:#333,stroke-width:1px     style TriageColourCodeType fill:#f2d9d9,stroke:#333,stroke-width:1px</pre> <p>Triage Colour Codes (RED, YELLOW, GREEN, BLACK, none) for capacity purposes. The List of values must be from the list...</p>		
Type	TriageColourCodeType		
Type hierarchy	<ul style="list-style-type: none"><li>• xs:token<ul style="list-style-type: none"><li>• ct:EDX:StringType<ul style="list-style-type: none"><li>• TriageColourCodeType</li></ul></li></ul></li></ul>		
Properties	content	simple	
Facets	minLength	1	
	maxLength	1023	
	enumeration	red	RED Triage - Immediate attention for Triage.
	enumeration	yellow	YELLOW Triage - Needs medical attention after RED/Immediate.
	enumeration	green	GREEN Triage - Walking wounded or self-treatable
	enumeration	black	BLACK Triage - Lost/Dead

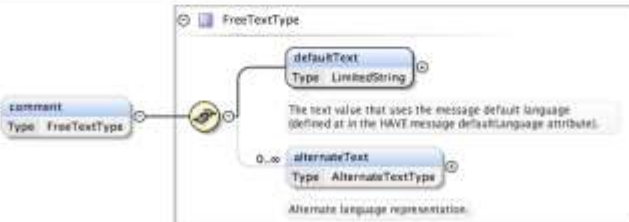
### Element TriageCountType / count

Namespace	urn:oasis:names:tc:emergency:edxl:have:2.0
Annotations	The number of patients of this code type.
Diagram	
Type	restriction of xs:int
Properties	content simple
Facets	minInclusive 0

### Element TriageCountType / alternateCodeValue

Namespace	urn:oasis:names:tc:emergency:edxl:have:2.0
Annotations	There are a large number of Triage systems in use. Many use numbering systems ( <a href="http://en.wikipedia.org/wiki/Triage#Tags">http://en.wikipedia.org/wiki/Triage#Tags</a> ) and colours. The premise of HAVE is that we will share the general state with the broad emergency management community who may not know the intimate details of a triage system, but understand the general concepts that RED=urgent, Green=walking wounded, Black=Dead/Lost (already dead or unrescuable). The alternateCodeValues element is intended to be used by these systems. Providing the ValueListURI and Value will allow mapping of external systems to the base HAVE Triage colour codes.
Diagram	
Type	ct:ValueKeyType
Properties	content complex minOccurs 0 maxOccurs unbounded
Model	ct:ValueListURI, ct:value
Children	ct:value, ct:ValueListURI
Instance	<pre>&lt;alternateCodeValue xmlns="urn:oasis:names:tc:emergency:edxl:have:2.0" xmlns:edxl=" ct="urn:oasis:names:tc:emergency:edxl:ct:1.0"&gt;   &lt;edxl-ct:valueListURI&gt;(1,1)&lt;/edxl-ct:valueListURI&gt;   &lt;edxl-ct:value&gt;(1,1)&lt;/edxl-ct:value&gt; &lt;/alternateCodeValue&gt;</pre>

### Element TriageCountType / comment

Namespace	urn:oasis:names:tc:emergency:edxl:have:2.0
Diagram	
Type	FreeTextType
Properties	content complex minOccurs 0 maxOccurs 1

Model	defaultText, alternateText*
Children	alternateText, defaultText
Instance	<pre>&lt;comment url="urn:oasis:names:tc:emergency:eddl:have:2.0"&gt;   &lt;defaultText&gt;(1,1)&lt;/defaultText&gt;   &lt;alternateText language="en"&gt;(0,unbounded)&lt;/alternateText&gt; &lt;/comment&gt;</pre>

### Element FacilityType / traumaCenter

Namespace	urn:oasis:names:tc:emergency:eddl:have:2.0
Annotations	Type of the trauma center for the organization.
Diagram	
Type	TraumaCenterType
Properties	content: complex minOccurs: 0
Model	(adult, pediatric {0,1})   pediatric
Children	adult, pediatric
Instance	<pre>&lt;traumaCenter url="urn:oasis:names:tc:emergency:eddl:have:2.0"&gt;   &lt;adult&gt;(1,1)&lt;/adult&gt;   &lt;pediatric&gt;(0,1)&lt;/pediatric&gt;   &lt;pediatric&gt;(1,1)&lt;/pediatric&gt; &lt;/traumaCenter&gt;</pre>

### Element TraumaCenterType / adult

Namespace	urn:oasis:names:tc:emergency:eddl:have:2.0
Annotations	Adult Trauma Services detail.
Diagram	
Type	TraumaCenterLevelType
Properties	content: complex



Model	serviceLevel, status, comment {0,1}, ext:extension*
Children	comment, ext:extension, serviceLevel, status
Instance	<pre> &lt;adult xmlns="urn:oasis:names:tc:emergency:edl:have:2.0" xmlns:ext="urn:oasis:names:tc:emergency:edl:extension:1"&gt;   &lt;serviceLevel&gt;(1,1)&lt;/serviceLevel&gt;   &lt;status&gt;(1,1)&lt;/status&gt;   &lt;comment&gt;(0,1)&lt;/comment&gt;   &lt;ext:extension&gt;(0,unbounded)&lt;/ext:extension&gt; &lt;/adult&gt; </pre>

### Element TraumaCenterLevelType / serviceLevel

Namespace	urn:oasis:names:tc:emergency:edl:have:2.0		
Annotations	Trauma Center Level - 1 through 3 (I through III) per American College of Surgeons. Beyond Level 3 there is no global standard but this is a good first approximation.		
Diagram	<div><div>serviceLevel</div><div>Type: TraumaCenterLevelKind</div><div>Trauma Center Level - 1 through 3 (I through III) per American College of Surgeons. Beyond Level 3 there is no global...</div></div> <div>TraumaCenterLevelKind</div>		
Type	TraumaCenterLevelKind		
Properties	content	simple	
Facets	enumeration	level1	Level 1 Trauma Services
	enumeration	level2	Level 2 Trauma Services
	enumeration	level3	Level 3 Trauma Services
	enumeration	no-trauma	Level 4 Trauma Services

### Element TraumaCenterLevelType / status

Namespace	urn:oasis:names:tc:emergency:edl:have:2.0
Annotations	The status of the Facility Trauma Center.
Diagram	
Type	StatusType
Properties	content complex
Model	isOK, colourStatus {0,1}, stability {0,1}, comment {0,1}
Children	colourStatus, comment, isOK, stability
Instance	<pre> &lt;status xmlns="urn:oasis:names:tc:emergency:edl:have:2.0"&gt;   &lt;isOK&gt;(1,1)&lt;/isOK&gt;   &lt;colourStatus&gt;(0,1)&lt;/colourStatus&gt;   &lt;stability&gt;(0,1)&lt;/stability&gt;   &lt;comment&gt;(0,1)&lt;/comment&gt; &lt;/status&gt; </pre>

### Element TraumaCenterLevelType / comment

Namespace	urn:oasis:names:tc:emergency:edl:have:2.0
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Annotations	General comment/summary on the trauma center status						
Diagram							
Type	FreeTextType						
Properties	<table> <tr> <td>content</td><td>complex</td></tr> <tr> <td>minOccurs</td><td>0</td></tr> <tr> <td>maxOccurs</td><td>1</td></tr> </table>	content	complex	minOccurs	0	maxOccurs	1
content	complex						
minOccurs	0						
maxOccurs	1						
Model	defaultText, alternateText*						
Children	alternateText, defaultText						
Instance	<pre>&lt;comment xmlns="urn:oasis:names:tc:emergency:edcl:have:2.0"&gt;   &lt;defaultText&gt;[1,1]&lt;/defaultText&gt;   &lt;alternateText language="*"&gt;{0,unbounded}&lt;/alternateText&gt; &lt;/comment&gt;</pre>						

#### Element TraumaCenterType / pediatric

Namespace	urn:oasis:names:tc:emergency:edcl:have:2.0				
Annotations	Pediatric Trauma Center details.				
Diagram					
Type	TraumaCenterLevelType				
Properties	<table> <tr> <td>content</td><td>complex</td></tr> <tr> <td>minOccurs</td><td>0</td></tr> </table>	content	complex	minOccurs	0
content	complex				
minOccurs	0				
Model	serviceLevel, status, comment{0,1}, extension*				
Children	comment, extension, serviceLevel, status				
Instance	<pre>&lt;pediatric xmlns="urn:oasis:names:tc:emergency:edcl:have:2.0" xmlns:ext="urn:oasis:names:tc:emergency:edcl:extension"&gt;   &lt;serviceLevel&gt;[1,1]&lt;/serviceLevel&gt;   &lt;status&gt;[1,1]&lt;/status&gt;   &lt;comment&gt;{0,1}&lt;/comment&gt;   &lt;ext:extension&gt;{0,unbounded}&lt;/ext:extension&gt; &lt;/pediatric&gt;</pre>				

#### Element FacilityType / comment

Namespace	urn:oasis:names:tc:emergency:edcl:have:2.0
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Diagram					
Type	FreeTextType				
Properties	<table border="1"> <tr> <td>content</td> <td>complex</td> </tr> <tr> <td>minOccurs</td> <td>0</td> </tr> </table>	content	complex	minOccurs	0
content	complex				
minOccurs	0				
Model	defaultText, alternateText*				
Children	alternateText, defaultText				
Instance	<pre>&lt;comment xmlns="urn:oasis:names:tc:emergency:edxl:have:2.0"&gt;   &lt;defaultText&gt;(1,1)&lt;/defaultText&gt;   &lt;alternateText language=""&gt;(0,unbounded)&lt;/alternateText&gt; &lt;/comment&gt;</pre>				

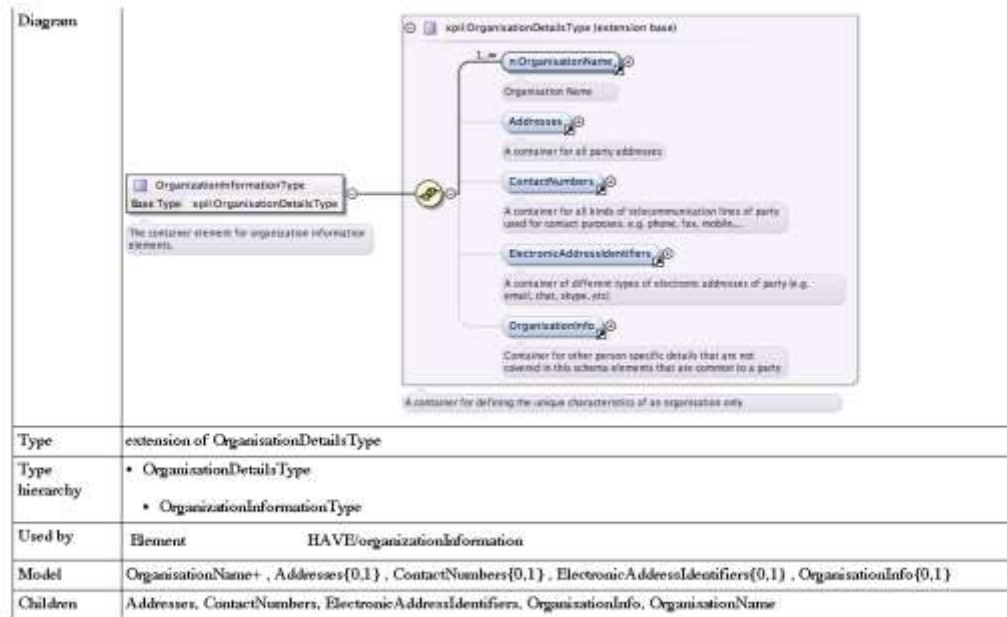
#### Element HAVE / comment

Namespace	urn:oasis:names:tc:emergency:edxl:have:2.0				
Annotations	Provides context to the HAVE report.				
Diagram					
Type	FreeTextType				
Properties	<table border="1"> <tr> <td>content</td> <td>complex</td> </tr> <tr> <td>minOccurs</td> <td>0</td> </tr> </table>	content	complex	minOccurs	0
content	complex				
minOccurs	0				
Model	defaultText, alternateText*				
Children	alternateText, defaultText				
Instance	<pre>&lt;comment xmlns="urn:oasis:names:tc:emergency:edxl:have:2.0"&gt;   &lt;defaultText&gt;(1,1)&lt;/defaultText&gt;   &lt;alternateText language=""&gt;(0,unbounded)&lt;/alternateText&gt; &lt;/comment&gt;</pre>				

### Complex Type(s)

#### Complex Type Organization InformationType

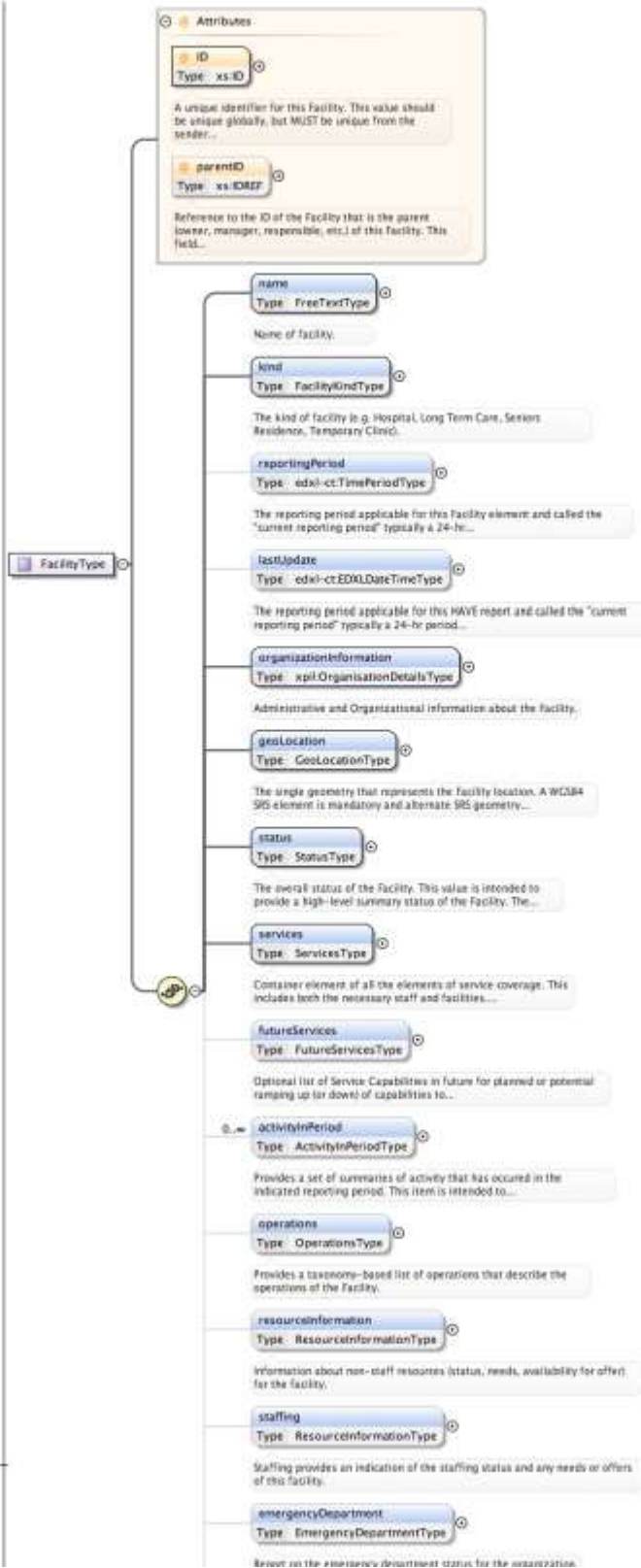
Namespace	urn:oasis:names:tc:emergency:edxl:have:2.0
Annotations	The container element for organization information elements.



### Complex Type `FacilityType`

Namespace	urn:oasis:names:tc:emergency:eddl:have:2.0
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Diagram



Used by	Element HAVE/facility			
Model	name, kind, reportingPeriod {0,1}, lastUpdate {0,1}, organizationInformation, geoLocation, status, services, futureServices {0,1}, activityInPeriod*, operations {0,1}, resourceInformation {0,1}, staffing {0,1}, emergencyDepartment {0,1}, traumaCenter {0,1}, comment {0,1}			
Children	activityInPeriod, comment, emergencyDepartment, futureServices, geoLocation, kind, lastUpdate, name, operations, organizationInformation, reportingPeriod, resourceInformation, services, staffing, status, traumaCenter			
Attributes	QName	Type	Use	
	ID	xs:ID	required	
		A unique identifier for this Facility. This value should be unique globally, but MUST be unique from the sender perspective.		
	parentID	xs:IDREF	optional	
	Reference to the ID of the Facility that is the parent (owner, manager, responsible, etc.) of this Facility. This field is optional and used to provide a hierarchy for formal facility organizations.			

### Complex Type FreeTextType

Namespace	urn:oasis:names:tc:emergency:edxl:have:2.0		
Diagram	<p>The diagram illustrates the structure of the <code>FreeTextType</code> complex type. It is a base type for <code>LimitedString</code>. The <code>FreeTextType</code> box has a base type icon (a circle with a dot) and is connected to the <code>LimitedString</code> box. A note indicates that the text value uses the message default language (defined as in the HAVE message defaultLanguage attribute). The <code>FreeTextType</code> box also has an attribute <code>alternateText</code> of type <code>AlternateTextType</code>, which is shown as a box with a note 'Alternate language representation'.</p>		
Used by	Elements	ActivityInPeriodType/comment, BedCapacityType/comment, ColourStatusType/statusDescription, FacilityType/comment, FacilityType/name, FutureServicesType/comment, HAVE/comment, OffloadType/comment, OperationType/comment, OperationType/name, OperationsType/comment, ResourceInformationType/comment, ResourceQuantityType/comments, ServiceType/comment, ServiceType/name, ServicesType/comment, StatusType/comment, TrafficType/comment, TrafficType/reason, TraumaCenterLevelType/comment, TriageCountType/comment	
Model	defaultText, alternateText*		
Children	alternateText, defaultText		

### Complex Type AlternateTextType

Namespace	urn:oasis:names:tc:emergency:edxl:have:2.0			
Diagram				
Type	extension of LimitedString			
Type hierarchy	<ul style="list-style-type: none"> <li>xs:string</li> <li>LimitedString</li> <li>AlternateTextType</li> </ul>			
Used by	Element	FreeTextType/alternateText		
Attributes	QName	Type	Use	
	language	xs:string	required	
	Language code for the text in this element. Code MUST comply with RFC3066.			

## Complex Type GeoLocationType

Namespace	urn:oasis:names:tc:emergency:eddl:have:2.0
Diagram	
Used by	Element FacilityType/geoLocation
Model	wgs84Location, geoLocationExtended*
Children	geoLocationExtended, wgs84Location

## Complex Type StatusType

Namespace	urn:oasis:names:tc:emergency:eddl:have:2.0
Annotations	Complex Type to provide status information: OK (yes/no), colour code, stability, and commentary.
Diagram	
Used by	Elements EmergencyDepartmentType/status, FacilityType/status, OperationType/status, ResourceInformationType/status, ServiceType/status, TraumaCenterLevelType/status
Model	isOK, colourStatus{0,1}, stability{0,1}, comment{0,1}
Children	colourStatus, comment, isOK, stability

## Complex Type ColourStatusType

Namespace	urn:oasis:names:tc:emergency:eddl:have:2.0
Annotations	Type that allows the structured use of colour-codes to portray state.
Diagram	
Used by	Elements OffloadType/offloadColourCode, StatusType/colourStatus, TrafficType/colourStatus
Model	colourCode, statusDescription{0,1}
Children	colourCode, statusDescription

## Complex Type ServicesType

Namespace	urn:oasis:names:tc:emergency:eddl:have:2.0
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Diagram		
Used by	Element	FacilityType/services
Model	service+, comment{0,1}	
Children	comment, service	

### Complex Type ServiceType

Namespace	urn:oasis:names:tc:emergency:eddl:have:2.0	
Annotations	Extensible Service Type for providing detail on a health Service that the Facility provides.	
Diagram		
Used by	Elements	FutureServicesType/service, ServicesType/service
Model	name, code, status, externalCode*, bedCapacity{0,1}, capacity{0,1}, comment{0,1}, ext:extension*	
Children	bedCapacity, capacity, code, comment, ext:extension, externalCode, name, status	

### Complex Type BedCapacityType

Namespace	urn:oasis:names:tc:emergency:eddl:have:2.0
Annotations	Top level complex schema type defining bed capacity counts (available/baseline) given a specific type of bed.



Diagram	<p><b>BedCapacityType</b> Type: <i>Extensible List</i> This level complex schema type defining bed capacity counts (available/baseline) given a specific type of bed.</p> <p><b>availableCount</b> Type: <i>Restriction of 'xs:integer'</i> The number of vacant/available beds to which patients can be immediately supported. These must include supporting...</p> <p><b>baselineCount</b> Type: <i>Restriction of 'xs:integer'</i> The maximum (baseline) number of beds in this category.</p> <p><b>comment</b> Type: <i>FreeTextType</i> Human-readable description of the service capacity for this service. This value can be used to explain any specific...</p>	
Used by	Element	ServiceType/bedCapacity
Model	availableCount, baselineCount{0,1}, comment{0,1}	
Children	availableCount, baselineCount, comment	

### Complex Type CapacityType

Namespace	urn:oasis:names:tc:emergency:edxl:hawe:2.0	
Annotations	Extensible List (name/value pair) for Service capacity. See the HWE 2.0 standard document for a suggested list of capacities.	
Diagram	<p><b>CapacityType</b> Type: <i>Extensible List</i> Extensible list (name/value pair) for Service capacity. See the HWE 2.0 standard document for a suggested list of...</p> <p><b>capacity</b> Type: <i>ext:ParameterValue</i></p> <p><b>capacityURI</b> Type: <i>edxl-ct:ValueURIType</i></p>	
Used by	Element	ServiceType/capacity
Model	capacity, capacityURI{0,1}	
Children	capacity, capacityURI	

### Complex Type FutureServicesType

Namespace	urn:oasis:names:tc:emergency:edxl:hawe:2.0	
Diagram	<p><b>FutureServicesType</b> Type: <i>Extensible List</i></p> <p><b>service</b> Type: <i>Extension of 'ServiceType'</i> Service/ListItem provides a description of a particular service - availability, capacity, and status.</p> <p><b>comment</b> Type: <i>FreeTextType</i> General comment/summary on all of the future services.</p>	
Used by	Element	FacilityType/futureServices
Model	service+, comment{0,1}	
Children	comment, service	

### Complex Type ActivityInPeriodType

Namespace	urn:oasis:names:tc:emergency:edxl:hawe:2.0	
Annotations	ActivityInPeriodType gathers information about the admissions, discharges, and deaths in a time period.	

Diagram		
Used by	Element	FacilityType/activityInPeriod
Model	reportingPeriod {0,1}, admissions, discharges, deaths, comment {0,1}	
Children	admissions, comment, deaths, discharges, reportingPeriod	

### Complex Type OperationsType

Namespace	urn:oasis:names:emergency:eddl:have:2.0	
Diagram		
Used by	Element	FacilityType/operations
Model	operation+, comment {0,1}	
Children	comment, operation	

### Complex Type OperationType

Namespace	urn:oasis:names:emergency:eddl:have:2.0	
Annotations	Gathers information about a particular operation type including the kind (taxonomy driven), name (human readable representations), status, and commentary.	

Diagram	<p><b>OperationType</b> Gathers information about a particular operation type (including the kind taxonomy driven, name human readable...)</p> <ul style="list-style-type: none"> <li><b>kind</b> (Type: FacilityOperationKind) The high-level kind of operation that is being reported on (plant, security, staffing, or emergency).</li> <li><b>name</b> (Type: FreeTextType) The name of the operation that is being reported on (e.g. "Food Services").</li> <li><b>status</b> (Type: StatusType) The status of the Operation.</li> <li><b>comment</b> (Type: FreeTextType) General comment/summary on the Operation.</li> <li><b>ext:extension</b> (0..1) Base element to allow communities to extend/augment an EDX data standard.</li> </ul>	
Used by	Element	OperationsType/operation
Model	kind, name, status, comment{0,1}, ext:extension*	
Children	comment, ext:extension, kind, name, status	

### Complex Type ResourceInformationType

Namespace	urn:oasis:names:emergency:edxl:have:2.0	
Annotations	Complex Type to be used for tracking Resource state (status, needs, offers). Allows extension to handle specific information that is non-HAVE (e.g. NISM payloads, lookups for interoperability with other systems).	
Diagram	<p><b>ResourceInformationType</b> Complex Type to be used for tracking Resource state (status, needs, offers). Allows extension to handle specific...</p> <ul style="list-style-type: none"> <li><b>status</b> (Type: StatusType) Overall resource status of the facility.</li> <li><b>needs</b> Resource Needs.</li> <li><b>offers</b> Resource Offers Resources that can be made available to other Facilities.</li> <li><b>comment</b> (Type: FreeTextType) Textual description of Resource situation.</li> <li><b>ext:extension</b> (0..1) Base element to allow communities to extend/augment an EDX data standard.</li> </ul>	
Used by	Elements	FacilityType/resourceInformation, FacilityType/staffing
Model	status, needs{0,1}, offers{0,1}, comment{0,1}, ext:extension*	
Children	comment, ext:extension, needs, offers, status	

### Complex Type ResourceQuantityType

Namespace	urn:oasis:names:emergency:edxl:have:2.0
Annotations	Type for stating a quantity of a particular kind of resource.

Diagram	<p><b>ResourceQuantityType</b> Type: <code>ResourceQuantityType</code> Type for stating a quantity of a particular kind of resource.</p> <p><b>resourceKind</b> Type: <code>eddx-ct:ValueKeyType</code> The kind (type) of resource that the quantity refers to. TODO: Provide the URI and key-value.</p> <p><b>quantity</b> Type: <code>Restriction of 'xs:double'</code> The quantity of the particular Resource.</p> <p><b>resourceSize</b> Type: <code>ext:ParameterNameType</code> Unit of measure and size (e.g. 1500 mL).</p> <p><b>comments</b> Type: <code>FreeTextType</code> Textual description of Resource quantity.</p>	
Used by	Elements	<code>ResourceInformationType/needs/resourceNeed</code> , <code>ResourceInformationType/offers/resourceOffer</code>
Model	<code>resourceKind</code> , <code>quantity</code> , <code>resourceSize</code> , <code>comments</code> {0,1}	
Children	<code>comments</code> , <code>quantity</code> , <code>resourceKind</code> , <code>resourceSize</code>	

### Complex Type **EmergencyDepartmentType**

Namespace	<code>urn:oasis:names:tc:emergency:eddx:have:2.0</code>	
Annotations	The container of all of the elements related to the emergency department status. It describes the ability of this emergency department to treat patients.	
Diagram	<p><b>EmergencyDepartmentType</b> The container of all of the elements related to the emergency department status. It describes the ability of this...</p> <p><b>status</b> Type: <code>StatusType</code> Status of the Emergency Department.</p> <p><b>offloadInfo</b> Type: <code>OffloadInfoType</code> Information about the Offload state for various modes of transport (Ambulance, Air Ambulance).</p> <p><b>traffic</b> Type: <code>TrafficType</code> Ability of this emergency department to receive patients via emergency medical services.</p> <p><b>triageCapacity</b> Type: <code>TriageCapacityType</code> The number of each triage patient type the hospital can accept.</p>	
Used by	Element	<code>FacilityType/emergencyDepartment</code>
Model	<code>status</code> , <code>offloadInfo</code> {0,1}, <code>traffic</code> {0,1}, <code>triageCapacity</code> {0,1}	
Children	<code>offloadInfo</code> , <code>status</code> , <code>traffic</code> , <code>triageCapacity</code>	

### Complex Type **OffloadInfoType**

Namespace	<code>urn:oasis:names:tc:emergency:eddx:have:2.0</code>	
Diagram	<p><b>OffloadInfoType</b></p> <p><b>offload</b> Type: <code>OffloadType</code> The particular offload mode, status, and other information for the facility.</p> <p><b>extension</b> Type: <code>extension</code> Base element to allow communities to extend/augment an EDML data standard.</p>	
Used by	Element	<code>EmergencyDepartmentType/offloadInfo</code>
Model	<code>offload</code> +, <code>ext:extension</code> *	
Children	<code>ext:extension</code> , <code>offload</code>	

### Complex Type OffloadType

Namespace	urn:oasis:names:tc:emergency:edxl:have:2.0
Annotations	Indicator of offload times of ambulance capabilities. The time it takes to transfer care of a patient to hospital staff, thereby freeing the transport for assignment.
Diagram	
Used by	Element OffloadInfoType/offload
Model	kind, offloadMinutes, offloadState{0,1}, offloadColourCode{0,1}, comment{0,1}
Children	comment, kind, offloadColourCode, offloadMinutes, offloadState

### Complex Type TrafficType

Namespace	urn:oasis:names:tc:emergency:edxl:have:2.0
Diagram	
Used by	Element EmergencyDepartmentType/traffic
Model	status, colourStatus, reason{0,1}, comment{0,1}
Children	colourStatus, comment, reason, status

### Complex Type TriageCapacityType

Namespace	urn:oasis:names:tc:emergency:edxl:have:2.0
Diagram	
Used by	Element EmergencyDepartmentType/triageCapacity
Model	triageCount+
Children	triageCount

## Complex Type TriageCountType

Namespace	urn:oasis:names:tc:emergency:edxl:have:2.0
Annotations	The number of each triage patient type the overall hospital currently has by colour code.
Diagram	
Used by	Element TriageCapacityType/triageCount
Model	code, count, alternateCodeValue*, comment{0,1}
Children	alternateCodeValue, code, comment, count

## Complex Type TraumaCenterType

Namespace	urn:oasis:names:tc:emergency:edxl:have:2.0
Annotations	Trauma Center Level of this facility. The Choice/Sequence approach used here allows for at least one of Adult or Pediatric Trauma Center Levels to be provided.
Diagram	
Used by	Element FacilityType/traumaCenter
Model	(adult, pediatric{0,1})!pediatric
Children	adult, pediatric

## Complex Type TraumaCenterLevelType

Namespace	urn:oasis:names:tc:emergency:edxl:have:2.0
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Diagram		
Used by	Elements	TraumaCenterType/adult, TraumaCenterType/pediatric
Model	serviceLevel, status, comment{0,1}, ext:extension*	
Children	comment, ext:extension, serviceLevel, status	

## Simple Type(s)

### Simple Type **LimitedString**

Namespace	urn:oasis:names:tc:emergency:edxl:have:2.0				
Annotations	Text block for preserving whitespace but limiting length to 1024 characters.				
Diagram	<p>Text block for preserving whitespace but limiting length to 1024 characters.</p> <p>Built-in primitive type. The string datatype represents character strings in XML.</p>				
Type	restriction of xs:string				
Facets	<table border="1"> <tr> <td>whiteSpace</td> <td>preserve</td> </tr> <tr> <td>maxLength</td> <td>1024</td> </tr> </table>	whiteSpace	preserve	maxLength	1024
whiteSpace	preserve				
maxLength	1024				
Used by	<table border="1"> <tr> <td>Element</td> <td>FreeTextType/defaultText</td> </tr> <tr> <td>Complex Type</td> <td>AlternateTextType</td> </tr> </table>	Element	FreeTextType/defaultText	Complex Type	AlternateTextType
Element	FreeTextType/defaultText				
Complex Type	AlternateTextType				

### Simple Type **FacilityKindType**

Namespace	urn:oasis:names:tc:emergency:edxl:have:2.0														
Diagram															
Type	restriction of ct:EDXLStringType														
Type hierarchy	<ul style="list-style-type: none"> <li>xs:token <ul style="list-style-type: none"> <li>ct:EDXLStringType <ul style="list-style-type: none"> <li>FacilityKindType</li> </ul> </li> </ul> </li> </ul>														
Facets	<table border="1"> <tr> <td>minLength</td> <td>1</td> </tr> <tr> <td>maxLength</td> <td>1023</td> </tr> <tr> <td>enumeration</td> <td>hospital</td> </tr> <tr> <td>enumeration</td> <td>longTermCare</td> </tr> <tr> <td>enumeration</td> <td>urgentCareClinic</td> </tr> <tr> <td>enumeration</td> <td>temporaryFacility</td> </tr> <tr> <td>enumeration</td> <td>other</td> </tr> </table>	minLength	1	maxLength	1023	enumeration	hospital	enumeration	longTermCare	enumeration	urgentCareClinic	enumeration	temporaryFacility	enumeration	other
minLength	1														
maxLength	1023														
enumeration	hospital														
enumeration	longTermCare														
enumeration	urgentCareClinic														
enumeration	temporaryFacility														
enumeration	other														
Used by	<table border="1"> <tr> <td>Element</td> <td>FacilityType/kind</td> </tr> </table>	Element	FacilityType/kind												
Element	FacilityType/kind														



### Simple Type ColourCodeDefaultType

Namespace	urn:oasis:names:tc:emergency:edxl:have:2.0		
Annotations	The use of colour codes allows for emergency personnel to understand if conditions are normal (green), deteriorating (yellow), or in an exceptional mode (red). Colour codes can be rendered graphically or through text to support visual impairments.		
Diagram	<p>The use of colour codes allows for emergency personnel to understand if conditions are normal (green), deteriorating...</p>		
Type	restriction of ct:EDXLStringType		
Type hierarchy	<ul style="list-style-type: none"> <li>xs:string <ul style="list-style-type: none"> <li>ct:EDXLStringType <ul style="list-style-type: none"> <li>ColourCodeDefaultType</li> </ul> </li> </ul> </li> </ul>		
Facets	minLength	1	
	maxLength	1023	
	enumeration	red	RED - severe/extreme deviation from normal condition. Marks a noted exception from normal conditions.
	enumeration	yellow	YELLOW - moderate deviation from normal condition but not at SEVERE/EXTREME level.
	enumeration	green	GREEN - normal conditions.
Used by	Element	ColourStatusType/colourCode	

### Simple Type StabilityType

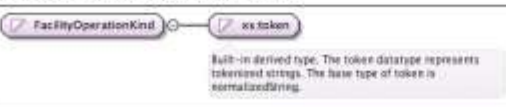
Namespace	urn:oasis:names:tc:emergency:edxl:have:2.0		
Annotations	Indication of stability - positive/improving, negative/deteriorating, or neutral/stable		
Diagram	<p>Indication of stability - positive/improving, negative/deteriorating, or neutral/stable</p> <p>Built-in primitive type. The string datatype represents character strings in XML.</p>		
Type	restriction of xs:string		
Facets	enumeration	stable	Stable/unchanging - conditions remain within norms and are not varying out of normal patterns.
	enumeration	improving	Conditions are improving towards normal.
	enumeration	deteriorating	Conditions are deviating negatively from normal.
Used by	Element	StatusType/stability	

### Simple Type ServiceCodeDefaultType

Namespace	urn:oasis:names:tc:emergency:edxl:have:2.0		
Diagram			
Type	restriction of ct:ValueType		
Type hierarchy	<ul style="list-style-type: none"> <li>xs:string <ul style="list-style-type: none"> <li>ct:ValueType <ul style="list-style-type: none"> <li>ServiceCodeDefaultType</li> </ul> </li> </ul> </li> </ul>		
Facets	enumeration	airborneInfectionIsolation	
	enumeration	burnUnit	Burn Center services.
	enumeration	cardiology	Cardiology services.
	enumeration	cardiology.invasive	Cardiology with invasive capabilities.


enumeration	cardiology.noninvasive	Cardiology with NO invasive capabilities.
enumeration	cardiology.mi.STEMI	STEMI support
enumeration	cardiology.mi.nonSTEMI	NO STEMI support
enumeration	cardiology.telemetry	For remote monitoring of cardiology telemetry data for patient.
enumeration	dialysis	Dialysis services
enumeration	emergencyDepartment	
enumeration	hyperBaricChamber	Hyperbaric Chamber
enumeration	infectiousDisease	Infectious Disease Services
enumeration	intensiveCare.adult	Adult ICU services.
enumeration	intensiveCare.neonatal	Neonatal Intensive Care Unit (ICU) services.
enumeration	intensiveCare.pediatric	Pediatric Intensive Care Unit (ICU) services.
enumeration	intermediateCare	For low-risk, chronically or critically ill patients
enumeration	neonatology	Neonatology
enumeration	neurology	Neurology Services
enumeration	neurology.invasive	Neurology-Invasive services, including invasive catheterization.
enumeration	neurology.noninvasive	Neurology-Non-Invasive services with no invasive catheterization capability.
enumeration	obgyn	OBGYN services
enumeration	obgyn.withLaborDelivery	OBGYN with labor delivery.
enumeration	obgyn.withoutLaborDelivery	OBGYN without labor delivery capabilities.
enumeration	operatingRooms	
enumeration	ophthalmology	Ophthalmology services
enumeration	orthopedic	Orthopedic services
enumeration	pediatrics	Pediatric services
enumeration	psychiatric	Psychiatric services
enumeration	surgery	Surgery capabilities
enumeration	surgery.adultGeneral	General Adult surgery capabilities
enumeration	surgery.pediatrics	General Pediatric surgery capabilities
enumeration	surgery.orthopedics	Orthopedic surgery capabilities
enumeration	surgery.neurosurgery	Neurosurgery capabilities
enumeration	surgery.facial	Facial surgery capabilities
enumeration	surgery.cardiothoracic	Cardiothoracic surgery capabilities
enumeration	surgery.hand	Hand surgery capabilities
enumeration	surgery.replantation	Replantation surgery capabilities.
enumeration	surgery.spinal	Spinal surgery capabilities
enumeration	surgery.vascular	Vascular surgery capabilities
enumeration	surgery.anesthesia	Anesthesia services
enumeration	traumaCenter	Trauma Center
Used by	Element	ServiceType/code

### Simple Type FacilityOperationKind


Namespace	urn:cast:names:to:emergency:edxl:have:2.0	
Diagram		
Type	restriction of xs:token	
Facets	enumeration	<p>plant</p> <p>Plant - the key equipment and capabilities needed to operate the facility (e.g. HVAC, cafeteria).</p>

	enumeration	security	Security operations for facility (e.g. patrol, surveillance).
	enumeration	staffing	Staff-related operations (e.g. medical personnel, support staffing, administrative).
	enumeration	emergency	Emergency Department operations.
Used by:	Element	OperationType/kind	


### Simple Type OffloadKind

Namespace	urn:oasis:names:tc:emergency:edxl:have:2.0		
Diagram			
Type	restriction of xs:token		
Facets	enumeration	land	
	enumeration	air	
	enumeration	other	
Used by:	Element	OffloadType/kind	

### Simple Type OffloadStateKind

Namespace	urn:oasis:names:tc:emergency:edxl:have:2.0		
Diagram			
Type	restriction of xs:token		
Facets	enumeration	normal	
	enumeration	delayed	
Used by:	Element	OffloadType/offloadState	

### Simple Type TrafficStatusKind

Namespace	urn:oasis:names:tc:emergency:edxl:have:2.0		
Diagram			
Type	restriction of xs:token		
Facets	enumeration	normal	Traffic is at levels that are within norms.
	enumeration	advisory	Traffic levels are high enough to warrant notifying the community that the facility is experiencing higher than expected traffic.
	enumeration	closed	Facility is not accepting patient traffic.
Used by:	Element	TrafficType/status	

### Simple Type TriageColourCodeType

Namespace	urn:oasis:names:tc:emergency:edxl:have:2.0		
Diagram			
Type	restriction of ed:EDXLSStringType		
Type hierarchy	<ul style="list-style-type: none"> <li>xs:token</li> </ul>		

	<ul style="list-style-type: none"><li>• ct EDXLSStringType</li><li>• TriageColourCodeType</li></ul>		
Facets	minLength	1	
	maxLength	1023	
	enumeration	red	RED Triage - Immediate attention for Triage.
	enumeration	yellow	YELLOW Triage - Needs medical attention after RED/Immediate.
	enumeration	green	GREEN Triage - Walking wounded or self-treatable
	enumeration	black	BLACK Triage - Lost/Dead
Used by	Element	TriageCountType/code	

### Simple Type TraumaCenterLevelKind

Namespace	urn:oasis:names:tc:emergency:edxl:have:2.0		
Diagram			
Type	restriction of xs:token		
Facets	enumeration	level1	Level 1 Trauma Services
	enumeration	level2	Level 2 Trauma Services
	enumeration	level3	Level 3 Trauma Services
	enumeration	no-trauma	Level 4 Trauma Services
Used by	Element	TraumaCenterLevelType/serviceLevel	

### Attribute(s)

#### Attribute AlternateTextType / @language

Namespace	urn:oasis:names:tc:emergency:edxl:have:2.0
Annotations	Language code for the text in this element. Code MUST comply with RFC3066.
Type	xs:string
Properties	use: required
Used by	Complex Type AlternateTextType

#### Attribute GeoLocationType / wgs84Location / @srsName

Namespace	urn:oasis:names:tc:emergency:edxl:have:2.0				
Properties	<table> <tr> <td>use:</td><td>required</td></tr> <tr> <td>fixed:</td><td>http://www.opengis.net/def/crs/EPSG/0/4326</td></tr> </table>	use:	required	fixed:	http://www.opengis.net/def/crs/EPSG/0/4326
use:	required				
fixed:	http://www.opengis.net/def/crs/EPSG/0/4326				
Used by	Element GeoLocationType/wgs84Location				

#### Attribute GeoLocationType / geoLocationExtended / @srsName

Namespace	urn:oasis:names:tc:emergency:edxl:have:2.0
Properties	use: required
Used by	Element GeoLocationType/geoLocationExtended

#### Attribute FacilityType / @ID

Namespace	urn:oasis:names:tc:emergency:edxl:have:2.0
Annotations	A unique identifier for this Facility. This value should be unique globally, but MUST be unique from the sender perspective.

Type	xs:ID	
Properties	use:	<b>required</b>
Used by	Complex Type	FacilityType

#### Attribute **FacilityType** / **@parentID**

Namespace	urn:oasis:names:tc:emergency:edxl:have:2.0	
Annotations	Reference to the ID of the Facility that is the parent (owner, manager, responsible, etc.) of this Facility. This field is optional and used to provide a hierarchy for formal facility organizations.	
Type	xs:IDREF	
Properties	content:	<b>simple</b>
Used by	Complex Type	FacilityType

#### Attribute **HAVE** / **@defaultLanguage**

Namespace	urn:oasis:names:tc:emergency:edxl:have:2.0	
Annotations	Language code that is used throughout the document. Code <b>MUST</b> comply with RFC3066. Free text within the document will be assumed to be in this defaultLanguage.	
Type	xs:string	
Properties	use:	<b>required</b>
Used by	Element	HAVE

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## Appendix B. Acknowledgments

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Mike Gerber, NOAA's National Weather Service  
Timothy Grapes, Individual  
Robert Gustafson, MITRE Corporation  
Steve Hakusa, Google Inc.  
Gary Ham, Individual  
Werner Joerg, Individual  
Elysa Jones, Individual  
Michael Kristan, MITRE Corporation  
Ram Kumar, Individual  
Dominic König, Sahana Software Foundation  
Emily Laughren, MITRE Corporation  
Mark Lucero, US Department of Homeland Security

Donald McGarry, MITRE Corporation  
Thomas Merkle, US Department of Homeland Security  
Darrell O'Donnell, Individual  
Camille Osterloh, Individual  
Norm Paulsen, Environment Canada  
Glenn Pearson, Sahana Software Foundation  
Efraim Petel, AtHoc, Inc.  
Tomer Petel, AtHoc, Inc.  
Mark Prutsalis, Sahana Software Foundation  
Carl Reed, Open Geospatial Consortium, Inc. (OGC)  
Aviv Siegel, AtHoc, Inc.  
Steve Streetman, US Department of Homeland Security  
Robert Torchon, Individual  
Richard Vandame, US Department of Homeland Security  
Nuwan Waidyanatha, Sahana Software Foundation  
Jeff Waters, US Department of Defense (DoD)  
Jacob Westfall, Individual  
Herbert White, NOAA's National Weather Service  
Brian Wilkins, MITRE Corporation  
Ka-Ping Yee, Google Inc.



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## Appendix C. Revision History

Revision	Date	Editor	Changes Made
WD02	23DEC2014	Darrell O'Donnell	Preparation for submission to OASIS EM-TC
WD02	13JAN2015	Darrell O'Donnell	Updates to reflect RIM (CT, CIQ, and GSF) working drafts.
CSD01	13JAN2014	Darrell O'Donnell	Updates to reflect EM TC Committee Specification Draft