Emergency Data Exchange Language (EDXL) Hospital AVailability Exchange (HAVE) Version 2.0

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- *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.
- *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.

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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:

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1 Introduction

EDXL-HAVE specifies an XML document format that allows the communication of the status of a hospital, its services, and its resources. These include bed capacity and availability, emergency department status, available service coverage, and the status of its facility and operations.

[All text is normative unless otherwise labeled]

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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 [RFC2119].

1.2 Normative References

NOTE: Many of these references are used as or in relation to imported schema for the Normative XML Schema for EDXL-HAVE-v2.0 available separately: http://docs.oasis-open.org/emergency/edxl-have/v2.0/csprd02/schemas/edxl-have-v2.0.xsd. (See "Additional artifacts**[CAP-1.**" on front page.)

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NOTE: Many references contain element names, definitions and resource materials that were used in the development of this specification whether or not such material is cited as such in the text.

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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, international 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 Tracking of Emergency Patients specification v1.1 (EDXL-TEP)
- The Resource Messaging specification v1.0 (EDXL-RM)
- The Situation Reporting specification v1.0 (EDXL-SitRep)
- The Tracking of Emergency Client v1.0 (EDXL-TEC)

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) 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 ~~-~~such

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as where to route victims, and automatically determining 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 Emergency Operations Centers (EOCs), 9-1-1 centers, and Emergency Medical Systems (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 centers.

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.

The HAVE data exchange standard goes hand in hand with the EDXL Tracking of Emergency Patients (TEP). A TEP-based data exchange collects data on patients from incident EMS first encounter and field hospital triage to EMS transport and patient registration at a definitive care facility such as a hospital emergency room. It can also be used for the routine transport of patients and for the evacuation of hospitals involving EMS transport and care. In all scenarios, it relieves the heavy administrative burden levied on staff to re-key patient information, often after the fact, enabling automatic and pro-active hospital preparedness. In September of 2016, a bidirectional transformation specification between TEP and HL7 messaging was completed. This enables the transformation of the TEP data taken by emergency response to automatically populate in hospital data systems.

HAVE supports the TEP standard by providing the data needed about available hospital resources to enable the informed routing decisions needed by EMS. In this way, the patients can be routed to the hospital with the facilities needed to support their needs. Given the TEP, the emergency room will be able to see the data about the incoming patient in order to best prepare for their optimal care. Both of these initiatives began with the Department of Homeland Security Science and Technology (DHS S&T) effort to identify the next most important data standards needed for emergency response. Practitioners in both the medical and emergency management domains were included in developing draft specifications after many facilitated sessions to include scenario working groups.

The National Association of Emergency Medical Services Officials (NASEMSO) is one organization that participated in the DHS S&T effort. In October 2015, NASEMSO issued a resolution to encourage the completion and implementation of the TEP and HAVE standards.

The DHS S&T effort concluded with two live exercises utilizing both TEP and HAVE (see next section).

The HAVE 2.0 will be coordinated with HL7 through the work of the Patient Administration Work Group. OASIS and HL7 intend to release a joint specification for the HAVE Standard under the Statement of Understanding between the organizations. The effective exchange and common data interoperability will enable both hospitals and other emergency agencies to respond to emergencies and disaster situations with greater efficiently and speed.

The TEP and HAVE Standards Have Been Proven Successful in Live Exercises

The draft TEP standard was successfully implemented by four independent systems: Tennessee's state EMS system and a local EMS system in Memphis, the state of Maryland EMS system, and the federal JPATS system. The Integrated Public Alerts and Warnings System (IPAWS) was plugged in as the message broker (the "post office" that routes data traffic where users need). State, local and federal agencies proved that these standards-based data exchanged work by plugging into existing major live-actor patient movement exercises at disaster sites, aircraft bases and hospitals.

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- During a 2010 National Disaster Medical System (NDMS) patient movement exercise in Tennessee, data following patient movement from Maryland to Tennessee was exchanged in real time between the Maryland EMS system to JPATS then to the Tennessee State and Memphis EMS systems. All systems displayed the current data as if updates were completed directly in their system. EM Systems was used to compile and aggregate HAVE data from 3 different hospitals, which was used by emergency managers to route patients to the most appropriate destinations with the availability, capabilities and staff to provide care.
- Simultaneously with the FEMA National Level Exercise (NLE) in 2011, five states cooperated to track patient movement across them employing five different patient tracking systems. All systems, some commercially available and some home-grown, were able to track the data updates in their own systems.

At the 2012 Integrated Medical, Public Health, Preparedness and Response Training Summit, presenters from the DHS S&T Practitioner Steering Group moved volunteer patients through the room to different "states" and were able to display data updates across four independent systems including JPATS.

In these exercises and the 2012 demonstration, as each existing system automatically scanned, entered or updated patient data, that data was automatically shared in near real-time behind the scenes with no manual intervention, allowing users to view and report data in their own systems as if all data updates were made there. Using an aggregation of multiple hospital HAVE reports, emergency managers were able to route patients to appropriate destinations.

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 and 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:

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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

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.

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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.

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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)

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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

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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>
```

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```
        </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>
```

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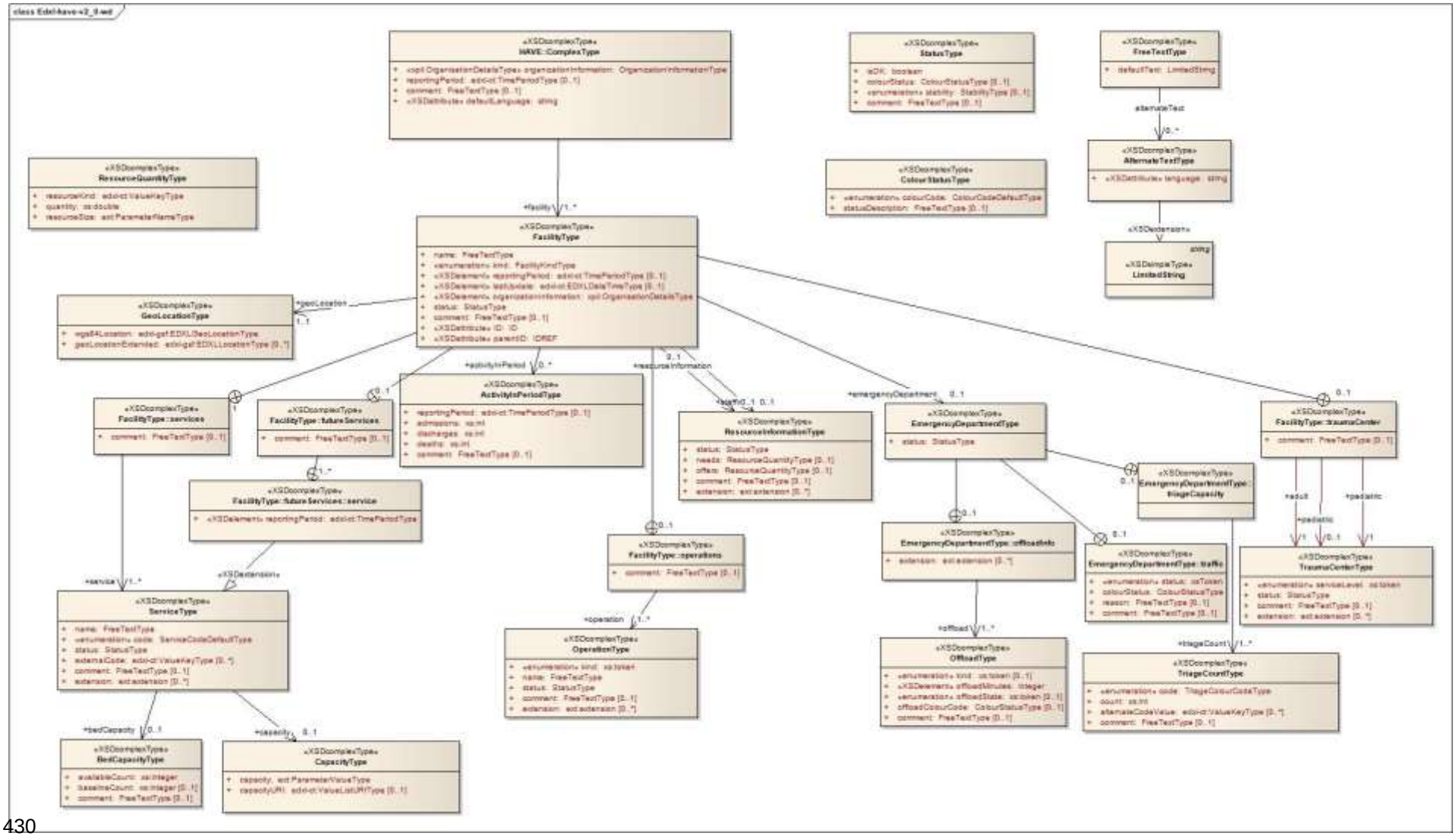
3.3 Element Reference Model (non-normative)



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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).

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4 Data Dictionary

This Data Dictionary specifically references the document EDXL_HAVE_Requirements_12232005 publicly available at https://www.oasis-open.org/committees/document.php?document_id=16400&wg_abbrev=emergency~~Appendix A contains a computer-generated PDF that is generated directly from the XML Schema document.~~

This is the source to which the 'Requirements Supported' row in each element entry refers. Since the Requirements are numbered, we cite the Requirement number that the entry supports.

4.1.1 HAVE

Element	HAVE
Type	xs:complexType
Usage	**REQUIRED**, MUST be used once and only once
Definition	Top Level item for Hospital AVailability Exchange (HAVE) message.
Comments	• Provides context to the HAVE report
Sub-elements	• organizationInformation • reportingPeriod • facility • remarks
Requirements Supported	Requirement Number 1.

Element	organizationInformation
Type	OrganizationInformationType [xpil:OrganisationDetailsType]
Usage	**REQUIRED,** MUST be used once and only once
Definition	Information of the Organization that is responsible for the reporting of these facilities.
Comments	• Based on [xpil:OrganisationDetailsType]
Constraints	Specific information includes: • OrganisationName • Addresses

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	• ContactNumbers • ElectronicAddressIdentifiers • OrganisationInfo
Requirements Supported	Requirement Numbers 1, 2.

463

Element	reportingPeriod
Type	edxl-ct:TimePeriodType
Usage	**OPTIONAL,** MAY be used once and only once
Definition	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.
Comments	•
Constraints	Must use • fromDateTime • toDateTime
Requirements Supported	Requirement Numbers 1, 8.

464

Element	facility
Type	FacilityType
Usage	**REQUIRED,** MAY be used more than once
Definition	A list of facilities that comprise the detail of this HAVE message.
Comments	•
Constraints	•
Requirements Supported	Requirement Numbers 1, 3.

465

Element	remarks

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Type	edxl-ct:RemarksType
Usage	**OPTIONAL,** MAY be used more than once
Definition	Provides context to the HAVE report.
Comments	•
Constraints	•
Requirements Supported	Requirement Numbers 1, 2, 3, 5, 6, 11, 17, 19.

466

Attribute	defaultLanguage
Type	xs:string
Usage	**REQUIRED,** MUST be used once and only once
Definition	Tag specifying the language that is used throughout the document. Tag MUST comply RFC3066. Free text within the document will be assumed to be in this defaultLanguage. Example: “en_US”
Comments	•
Constraints	•
Requirements Supported	Requirement Number 1.

467

468 ### 4.1.2 FacilityType

Element	FacilityType
Type	xs:complexType
Usage	**REQUIRED**, MUST be used once and only once.
Definition	The set of information details that define a facility..
Comment	•
Sub-elements	• name • kind

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	• reportingPeriod • lastUpdate • organizationInformation • geoLocation • status • services • futureServices • activityInPeriod • operations • resourceInformation • staffing • emergencyDepartment • traumaCenter • remarks
Requirements Supported	Requirement Numbers 1, 3.

469

Element	name
Type	FreeTextType [LimitedString (restriction base: xs:string)]
Usage	**REQUIRED,** MUST be used once and only once
Definition	Name of facility.
Comments	•
Constraints	•
Requirements Supported	Requirement Numbers 1, 3.

470

Element	kind
Type	FacilityKindType
Usage	**REQUIRED,** MUST be used once and only once
Definition	The kind of facility (e.g. Hospital, Long Term Care, Seniors Residence, Temporary Clinic).
Comments	•

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Constraints	•
Requirements Supported	Requirement Numbers 1, 3.

471

Element	reportingPeriod
Type	edxl-ct:TimePeriodType
Usage	**OPTIONAL,** MAY be used once and only once
Definition	The reporting period applicable for this Facility element and 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.
Comments	•
Constraints	Must use • fromDateTime • toDateTime
Requirements Supported	Requirement Numbers 1, 8.

472

Element	lastUpdate
Type	edxl-ct:EDXLDateTimeType
Usage	**OPTIONAL,** MAY be used once and only once
Definition	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
Comments	•
Constraints	•
Requirements Supported	Requirement Numbers 1, 8.

473

Element	organizationInformation

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Type	xpil:OrganisationDetailsType
Usage	**REQUIRED,** MUST be used once and only once
Definition	Administrative and Organizational information about the Facility.
Comments	•
Constraints	•
Requirements Supported	Requirement Numbers 1, 2.

474

Element	geoLocation
Type	GeoLocationType (restriction base: edxl-gsf:EDXLGeoLocationType)
Usage	**REQUIRED,** MUST be used once and only once
Definition	The single geometry that represents the Facility location. A WGS84 SRS element is mandatory. Alternate SRS geometry elements can be provided. If alternate geometry elements are provided they should reflect the same physical location.
Comments	• MUST include a <wgs84Location> element • SRS attribute MUST be “http://www.opengis.net/def/crs/EPSG/0/4326”. • MAY include one or more <geoLocationExtended> elements.
Constraints	•
Requirements Supported	Requirement Numbers 1, 10.

475

476

Element	status
Type	StatusType
Usage	**REQUIRED,** MUST be used once and only once
Definition	The overall status of the Facility. This value is intended to provide a high-level summary status of the Facility from the perspective of the person responsible for 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.

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Comments	• Please see the StatusType definition, including sub-element details, for full explanation and guidance on this data type
Constraints	•
Requirements Supported	Requirement Numbers 1, 3, 11, 15, 16, 17, 18.

477

Element	services
Type	ServicesType
Usage	**REQUIRED,** MUST be used once and only once
Definition	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.
Comments	•
Constraints	•
Requirements Supported	Requirement Numbers 1, 3, 5, 11, 15, 16, 17, 18.

478

Element	futureServices
Type	FutureServicesType
Usage	**OPTIONAL,** MAY be used more than once
Definition	Optional list of Service Capabilities in future for planned or ramping up (or down) of capabilities to accomodate surge needs or degraded capabilities. 0...n
Comments	•
Constraints	•
Requirements Supported	Requirement Numbers 1, 3, 5, 11, 15, 16, 17, 18.

479

Element	activityInPeriod
Type	ActivityInPeriodType

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Usage	**OPTIONAL,** MAY be used more than once
Definition	Provides a set of summaries of activity that has occured in the indicated reporting period. This item is intended to provide a very high-level of facility activity.
Comments	•
Constraints	•
Requirements Supported	Requirement Numbers 1, 3, 5, 8, 11, 15, 16, 17, 18.

480

Element	operations
Type	OperationsType
Usage	**OPTIONAL,** MAY be used more than once
Definition	Provides a taxonomy-based list of operations that describe the operations of the Facility. Operations are the inward-facing capabilities that a Facility requires to run (e.g. HVAC, power, quarantine, Emergency Operations Centre).
Comments	•
Constraints	•
Requirements Supported	Requirement Numbers 1, 3.

481

Element	resourceInformation
Type	ResourceInformationType
Usage	**OPTIONAL,** MAY be used more than once
Definition	Staffing provides an indication of the staffing status and any needs or offers of this facility.
Comments	•
Constraints	•
Requirements Supported	Requirement Numbers 1, 3, 4, 5, 11, 12, 15, 16, 17, 18.

482

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Element	staffing
Type	ResourceInformationType
Usage	**OPTIONAL,** MAY be used more than once
Definition	Staffing provides an indication of the staffing status and any needs or offers of this facility.
Comments	•
Constraints	•
Requirements Supported	Requirement Numbers 1, 3, 4, 5, 11, 12, 15, 17, 18.

483

Element	emergencyDepartment
Type	EmergencyDepartmentType
Usage	**OPTIONAL,** MAY be used once and only once
Definition	Report on the emergency department status for the organization.
Comments	•
Constraints	•
Requirements Supported	Requirement Numbers 1, 3, 4, 5, 11.

484

Element	traumaCenter
Type	TraumaCenterType
Usage	**OPTIONAL,** MAY be used once and only once
Definition	Type of the trauma center for the organization.
Comments	•
Constraints	•
Requirements	Requirement Numbers 1, 3, 11, 17.

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Supported	

485

Element	remarks
Type	edxl-ct:RemarksType
Usage	**OPTIONAL,** MAY be used once and only once
Definition	Provides context to the FacilityType..
Comments	•
Constraints	•
Requirements Supported	Requirement Numbers 1, 2, 3, 5, 6, 11, 17, 19.

486

Attribute	ID
Type	xs:ID
Usage	**REQUIRED,** MUST be used once and only once
Definition	A unique identifier for this Facility. This value should be unique globally, but MUST be unique from the sender perspective.
Comments	•
Constraints	•
Requirements Supported	Requirement Number 1, 3.

487

Attribute	parentID
Type	xs:IDREF
Usage	**OPTIONAL,** MAY be used once and only once.
Definition	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 hierarchy for formal facility organizations.
Comments	•

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Constraints	•
Requirements Supported	Requirement Number 1, 3.

488

489 ## 4.1.3 BedCapacityType

Element	BedCapacityType
Type	xs:complexType
Usage	**REQUIRED,** MUST be used once and only once
Definition	Top level complex schema type defining bed capacity counts (available/baseline) given a specific type of bed.
Comments	•
Constraints	•
Sub-elements	• availableCount • baselineCount • comment
Requirements Supported	Requirement Number 1, 13, 14.

490

Element	availableCount
Type	xs:integer
Usage	**REQUIRED,** MUST be used once and only once
Definition	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.
Comments	•
Constraints	•
Requirements	Requirement Number 1, 13, 14.

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Supported	

491

Element	baselineCount
Type	xs:integer
Usage	**OPTIONAL,** MAY be used once and only once
Definition	The maximum (baseline) number of beds in this category.
Comments	•
Constraints	•
Requirements Supported	Requirement Numbers 1, 13, 14.

492

Element	remarks
Type	edxl-ct:RemarksType
Usage	**OPTIONAL,** MAY be used once and only once
Definition	Provides context for the BedCapacityType.
Comments	•
Constraints	•
Requirements Supported	Requirement Numbers 1, 2, 3, 5, 6, 11, 17, 19.

493

494 ### 4.1.4 StabilityType

Element	StabilityType
Type	xs:simpleType (restriction base: xs:string)
Usage	**REQUIRED,** MUST be used once and only once
Definition	Indication of stability - positive/improving, negative/deteriorating, neutral/stable.

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Comments	•
Constraints	MUST use one of the following values: • stable -- Stable/unchanging - conditions remain within norms and are not out of normal patterns • improving -- Conditions are improving towards normal • deteriorating -- Conditions are deviating negatively from normal
Requirements Supported	Requirement Numbers 1, 2, 3, 4, 6, 11, 15, 16, 17, 18.

495

496 ### 4.1.5 OffLoadKind Element

Element	OffLoadKind
Type	xs:simpleType (restriction base: xs:token)
Usage	**REQUIRED,** MUST be used once and only once
Definition	MUST use one of the following values: • land • air • other
Comments	•
Constraints	•
Requirements Supported	Requirement Numbers 1, 3, 4, 6, 11, 17, 18.

497

498 ### 4.1.6 OffloadStateKind Element

Element	OffloadStateKind
Type	xs:simpleType (restriction base: xs:token)
Usage	**REQUIRED,** MUST be used once and only once
Definition	MUST use one of the following values: • normal • delayed

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Comments	•
Constraints	•
Requirements Supported	Requirement Numbers 1, 3, 4, 6, 11, 17, 18.

499

500 ### 4.1.7 OffloadType

Element	OffloadType
Type	xs:complexType
Usage	**REQUIRED,** MUST be used once and only once
Definition	Indicator of offload times of ambulance capabilities. The time it takes transfer care of a patient to hospital staff, thereby freeing the transport for assignment.
Comments	•
Constraints	•
Sub-elements	• kind • offloadMinutes • offloadState • offloadColourCode • remarks
Requirements Supported	Requirement Numbers 1, 3, 4, 6, 11, 17, 18.

501

Element	kind
Type	OffloadKind [xs:simpleType (restriction base: xs:token)]
Usage	**REQUIRED,** MUST be used once and only once
Definition	The mode of transport for offload (land, air, other).
Comments	• Default: land
Constraints	MUST use one of the following values: • land

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	• air • other
Requirements Supported	Requirement Numbers 1, 3, 4, 6, 11, 17, 18.

502

Element	offloadMinutes
Type	xs:integer
Usage	**REQUIRED,** MUST be used once and only once
Definition	Average offload time in minutes.
Comments	•
Constraints	•
Requirements Supported	Requirement Numbers 1, 3, 4, 6, 11, 17, 18.

503

504

Element	offloadColourCode
Type	ColourStatusType
Usage	**OPTIONAL,** MAY be used once and only once
Definition	Colour (text-based) of the Offload capabilities status. By default triage colours of green, yellow, orange, red, black are supported.
Comments	•
Constraints	•
Requirements Supported	Requirement Numbers 1, 3, 4, 6, 11, 17, 18.

505

Element	remarks
Type	edxl-ct:RemarksType

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Usage	**OPTIONAL,** MAY be used once and only once
Definition	Provides context to the OffloadType
Comments	•
Constraints	•
Requirements Supported	Requirement Numbers 1, 2, 3, 5, 6, 11, 17, 19.

506

507 ### 4.1.8 OrganizationInformationType

Element	OrganizationInformationType
Type	xs:complexType [xpil:OrganisationDetailsType]
Usage	**REQUIRED,** MUST be used more than once
Definition	The container element for organization information elements.
Comments	•
Constraints	•
Requirements Supported	Requirement Numbers 1, 2, 3, 4, 9, 10.

508

509 ### 4.1.9 StatusType

Element	StatusType
Type	xs:complexType
Usage	**REQUIRED,** MUST be used once and only once
Definition	Complex Type to provide status information: OK (yes/no), colour code, Stability, and commentary.
Comments	•
Constraints	•
Sub-elements	• isOK

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	• colourStatus • stability • comments
Requirements Supported	Requirement Numbers 1, 3, 4, 11, 12. 15, 16, 17.

510

Element	isOK
Type	xs:boolean
Usage	**REQUIRED,** MUST be used once and only once
Definition	Is the service/capability available/functioning/adequate? True = yes, false = no.
Comments	•
Constraints	•
Requirements Supported	Requirement Numbers 1, 3, 4, 11, 12. 15, 16, 17.

511

Element	colourStatus
Type	ColourStatusType
Usage	**OPTIONAL,** MAY be used once and only once
Definition	Colour (text-based) of the status. By default triage colours of green, yellow, orange, red, black are supported. Element colourStatus can apply to Facility, Services, and Operations.
Comments	•
Constraints	•
Requirements Supported	Requirement Numbers 1, 3, 4, 11, 12. 15, 16, 17.

512

Element	stability
Type	StabilityType

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Usage	**OPTIONAL,** MAY be used once and only once
Definition	Indication that the Status is stable, improving, or deteriorating
Comments	•
Constraints	MUST use one of the following values: • stable -- Stable/unchanging - conditions remain within norms and are not out of normal patterns • improving -- Conditions are improving towards normal • deteriorating -- Conditions are deviating negatively from normal
Requirements Supported	Requirement Numbers 1, 3, 4, 11, 12. 15, 16, 17.

513

Element	remarks
Type	edxl-ct:RemarksType
Usage	**OPTIONAL,** MAY be used once and only once
Definition	Provides context to the OffloadType
Comments	•
Constraints	•
Requirements Supported	Requirement Numbers 1, 2, 3, 5, 6, 11, 17, 19.

514

515

Element	comments
Type	FreeTextType
Usage	**OPTIONAL,** MAY be used once and only once
Definition	Provides context to StatusType.
Comments	•
Constraints	•

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Requirements Supported	Requirement Numbers 1, 2, 3, 5, 6, 11, 17, 19.

516
517

518 ### 4.1.10 ServiceType

Element	ServiceType
Type	xs:complexType
Usage	**REQUIRED,** MUST be used once and only once
Definition	Extensible Service Type for providing detail on a health Service that the Facility provides
Comments	•
Constraints	•
Sub-elements	• name • code • status • externalCode • bedCapacity • capacity • remarks • ref="ext:extension
Requirements Supported	Requirement Numbers 1, 2, 3, 4, 5, 6, 11, 12, 15, 16, 17, 18, 19.

519
520

Element	name
Type	FreeTextType [LimitedString (restriction base: xs:string)]
Usage	**REQUIRED,** MUST be used once and only once
Definition	The human-readable name of the service that is being described.
Comments	•

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Constraints	•
Requirements Supported	Requirement Numbers 1, 3, 4, 5, 11, 12, 15, 16, 17.

521
522

Element	code
Type	xs:simpleType (restriction base: ServiceCodeDefaultType)
Usage	**REQUIRED,** must be used once and only once
Definition	See ServiceCodeDefaultType
Comments	•
Constraints	•
Requirements Supported	Requirement Numbers 1, 3, 4, 5, 11, 12, 15, 16, 17.

523
524

Element	status
Type	StatusType
Usage	**REQUIRED,** MUST be used once and only once
Definition	Describes the status of the service.
Comments	• Please see the StatusType definition, including sub-element details, for full explanation and guidance on this data type.
Constraints	•
Requirements Supported	Requirement Numbers 1, 2, 3, 4, 5, 6, 11, 12, 15, 16, 17, 18, 19.

525
526

Element	externalCode
Type	edxl-ct:ValueKeyType

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Usage	**OPTIONAL,** MAY be more than once
Definition	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.
Comments	•
Constraints	•
Requirements Supported	Requirement Numbers 1, 3, 4, 5, 11, 12, 15, 16, 17.

527
528

Element	bedCapacity
Type	BedCapacityType
Usage	**OPTIONAL,** MUST be used once and only once
Definition	An indication of the bed capacity that the facility makes available for the community to know. It reflects fully staffed and equipped beds. intention here is to provide an external view of where beds may be available in health network. The intent is not for HAVE to become a hospital administration tool.
Comments	•
Constraints	•
Requirements Supported	Requirement Numbers 1, 13, 14.

529
530

Element	capacity
Type	CapacityType
Usage	**OPTIONAL,** MAY be used once and only once
Definition	Indicates the capacity status of this particular service..
Comments	•
Constraints	•
Requirements	Requirement Numbers 1, 13, 14.

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Supported	

531

Element	remarks
Type	edxl-ct:RemarksType
Usage	**OPTIONAL,** MAY be used once and only once
Definition	Textual description of Service situation.
Comments	•
Constraints	•
Requirements Supported	Requirement Numbers 1, 2, 3, 5, 6, 11, 13, 14, 17, 19.

532

533

Element	ext:extension See Section 3.2.4 EDXL Extensions
Type	
Usage	**OPTIONAL,** MAY be used more than once
Definition	Provides extensibility for adding elements to the ServiceType
Comments	•
Constraints	•
Requirements Supported	Requirement Numbers 1, 3, 4, 5, 6, 14, 16.

534

535

536 ### 4.1.11 ResourceInformationType

Element	ResourceInformationType
Type	xs:complexType
Usage	**REQUIRED,** MUST be used once and only once

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Definition	Complex Type to be used for tracking Resource state (status, needs, offers). Allows extension to handle specific information that is non-HAVE (e.g. NIEM payloads, lookups for interoperability with other systems).
Comments	•
Constraints	•
Sub-elements	• status • needs • offers • remarks • ext:extension
Requirements Supported	Requirement Numbers 1, 3, 4, 5, 11, 12, 15, 16, 17, 18.

537
538

Element	status
Type	StatusType
Usage	**REQUIRED,** MUST be used once and only once.
Definition	Overall resource status of the facility.
Comments	• Please see the StatusType definition, including sub-element details, for full explanation and guidance on this data type.
Constraints	•
Requirements Supported	Requirement Numbers 1, 2, 3, 4, 5, 6, 11, 12, 15, 16, 17, 18, 19.

539

Element	needs
Type	ResourceQuantityType
Usage	**OPTIONAL,** MUST be used once and only once
Definition	Resource Needs.
Comments	• Uses <resourceNeeds>element

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Constraints	•
Requirements Supported	Requirement Numbers 1, 2, 3, 4, 5, 6, 11, 12, 15, 16, 17, 18, 19.

540

Element	resourceNeed
Type	ResourceQuantityType
Usage	**OPTIONAL,** MAY be used once and only once
Definition	Identifies a need for a particular resource.
Comments	• Used by <needs> element
Constraints	•
Requirements Supported	Requirement Numbers 1, 2, 3, 4, 5, 6, 11, 12, 15, 16, 17, 18, 19.

541

Element	offers
Type	ResourceQuantityType
Usage	**OPTIONAL,** MAY be used once and only once
Definition	Resource Offers (resources that can be made available to other Facilities).
Comments	• Uses <resourceOffers> element
Constraints	•
Requirements Supported	Requirement Numbers 1, 2, 3, 4, 5, 6, 11, 12, 15, 16, 17, 18, 19.

542

Element	resourceOffer
Type	ResourceQuantityType
Usage	**REQUIRED,** MAY be used more than once
Definition	Indicates the amount of this particular resource on offer.

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Comments	• Used by <offers> element
Constraints	•
Requirements Supported	Requirement Numbers 1, 2, 3, 4, 5, 6, 11, 12, 15, 16, 17, 18, 19.

543

Element	remarks
Type	edxl-ct:RemarksType
Usage	**OPTIONAL,** MUST be used once and only once
Definition	Provides context for the ResourceInformationType
Comments	•
Constraints	•
Requirements Supported	Requirement Numbers 1, 2, 3, 5, 6, 11, 13, 14, 17, 19.

544

Element	ext:extension See Section 3.2.4 EDXL Extensions
Type	
Usage	**OPTIONAL,** MAY be used more than once
Definition	Used to add elements to the ResourceInformationType
Comments	•
Constraints	•
Requirements Supported	Requirement Numbers 1, 3, 4, 5, 6, 14, 16.

545

546 ### 4.1.12 ResourceQuantityType

Element	ResourceQuantityType
Type	xs:complexType

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Usage	**REQUIRED,** MUST be used once and only once
Definition	Type for stating a quantity of a particular kind of resource.
Comments	• The examples below for resourceKind, quantity, and resourceSize reflect the availability (or request) for 4 Boxes of Small Gloves (200 gloves in each box).
Constraints	•
Sub-elements	• resourceKind • quantity • resourceSize • remarks
Requirements Supported	Requirement Numbers 1, 2, 3, 4, 5, 6, 11, 12, 15, 16, 17, 18, 19.

547

Element	resourceKind
Type	edxl-ct:ValueKeyType
Usage	**REQUIRED,** MUST be used once and only once
Definition	The kind (type) of resource that the quantity refers to. (e.g. “Latex Gloves”)
Comments	•
Constraints	•
Requirements Supported	Requirement Numbers 1, 2, 3, 4, 5, 6, 11, 12, 15, 16, 17, 18, 19.

548

Element	quantity
Type	xs:double
Usage	**OPTIONAL,** MUST be used once and only once
Definition	The quantity of the particular Resource. (e.g. “4 boxes”)
Comments	•
Constraints	•

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Requirements Supported	Requirement Numbers 1, 2, 3, 4, 5, 6, 11, 12, 15, 16, 17, 18, 19.

549

Element	resourceSize
Type	ext:ParameterNameType
Usage	**REQUIRED,** MAY be used once and only once
Definition	Quantity and Unit of measure (e.g. “Box of 200 Size Small”)
Comments	•
Constraints	•
Requirements Supported	Requirement Numbers 1, 2, 3, 4, 5, 6, 11, 12, 15, 16, 17, 18, 19.

550

Element	remarks
Type	edxl-ct:RemarksType
Usage	**OPTIONAL,** MUST be used once and only once
Definition	Textual description of Resource quantity.
Comments	•
Constraints	•
Requirements Supported	Requirement Numbers 1, 2, 3, 4, 5, 6, 11, 12, 15, 16, 17, 18, 19.

551

552 ### 4.1.13 ColourStatusType

Element	ColourStatusType
Type	xs:complexType
Usage	**OPTIONAL,** MAY be used once and only once

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Definition	Type that allows the structured use of colour-codes to portray state.
Comments	•
Constraints	•
Sub-elements	• colourCode • statusDescription
Requirements Supported	Requirement Numbers 1, 3, 4, 5, 6, 11.

553

Element	colourCode
Type	ColourCodeDefaultType
Usage	**REQUIRED,** MUST be used once and only once
Definition	Colour (text-based) of the status. By default triage colours of green, yellow, orange, red, black are supported.
Comments	•
Constraints	•
Requirements Supported	Requirement Numbers 1, 3, 4, 5, 6, 11.

554

Element	statusDescription
Type	FreeTextType [LimitedString (restriction base: xs:string)]
Usage	**OPTIONAL,** MAY be used once and only once
Definition	Human-readable text describing the reason for selection of the particular colour-code.
Comments	•
Constraints	•
Requirements Supported	Requirement Numbers 1, 3, 4, 5, 11, 12, 15, 16, 17.

555

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556

4.1.14 ServiceCodeDefaultType

Element	ServiceCodeDefaultType
Type	xs:simpleType (restriction base: edxl-ct:ValueType)
Usage	**REQUIRED,** MUST be used once and only once
Definition	Enumerated list of default service codes
Comments	•
Constraints	•
Sub-elements	• 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.telemetry (For remote monitoring of cardiology telemetry data for patient.) • dialysis (Dialysis services.) • emergencyDepartment • hyperBaricChamber (Hyperbaric Chamber) • infectiousDisease (Infectious Disease Service.) • 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 (OBGYN services.) • obgyn.withLaborDelivery (OBGYN with labor delivery.) • obgyn.withoutLaborDelivery (OBGYN without labor delivery capabilities.) • operatingRooms • ophthalmology (Opthalmology services.) • orthopedic (Orthopedic services.)

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	• pediatrics (Pediatrics services.) • psychiatric (Psychiatric services.) • surgery (Surgery capabilities.) • surgery.adultGeneral (General Adult surgery capabilities.) • surgery.pediatrics (General Pediatric surgery capabilities.) • surgery.orthopedics (Orthopedic surgery capabilities.) • surgery.neurosurgery (Neurosurgery capabilities.) • surgery.facial (Facial surgery capabilities.) • surgery.cardiothoracic (Cardiothoracic surgey capabilities.) • surgery.hand (Hand surgery capabilities.) • surgery.reimplantation (Reimplantation surgery capabilities.) • surgery.spinal (Spinal surgery capabilities.) • surgery.vascular (Vascular surgery capabilities.) • surgery.anesthesia (Anesthesia services.) • traumaCenter (TraumaCenter.)
Requirements Supported	Requirement Numbers 1, 3, 4, 5, 6, 12, 14, 15, 16, 17.

557

558 ## 4.1.15 CapacityType

Element	CapacityType
Type	xs:complexType
Usage	**REQUIRED,** MAY be used once and only once
Definition	Extensible list (name/value pair) for Service capacity. See the HAVE 2.0 standard document for a suggested list of capacities.
Comments	•
Constraints	•
Sub-elements	• capacity • capacityURI
Requirements Supported	Requirement Numbers 1, 13, 14.

559

Element	capacity

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Type	ext:ParameterValueType
Usage	**OPTIONAL,** MUST be used once and only once
Definition	An indication of the maximum availability of a measureable resource.
Comments	•
Constraints	•
Requirements Supported	Requirement Numbers 1, 13, 14.

560

Element	capacityURI
Type	edxl-ct:ValueListURIType
Usage	**OPTIONAL,** MAY be used once and only once
Definition	A reference to more detailed information about the capacity of the service.
Comments	•
Constraints	•
Requirements Supported	Requirement Numbers 1, 3, 4, 5, 13, 14.

561

562 ## 4.1.16 TriageCountType

Element	TriageCountType
Type	xs:complexType
Usage	**OPTIONAL,** MAY be used once and only once
Definition	The number of each triage patient type the overall hospital currently has by colour code
Comments	•
Constraints	•
Sub-elements	• code

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	• count • alternateCodeValue • comment
Requirements Supported	Requirement Numbers 1, 3, 4, 5, 6, 11.

563

Element	code
Type	TriageColourCodeType
Usage	**OPTIONAL,** MAY be used once and only once
Definition	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.
Comments	•
Constraints	• If a TriageCountType/code value is specified, a TriageCountType/count element must be specified.
Requirements Supported	Requirement Numbers 1, 6.

564

Element	count
Type	xs:int
Usage	**OPTIONAL,** MAY be used once and only once
Definition	The number of patients of this code type.
Comments	•
Constraints	•
Requirements	Requirement Numbers 1, 3, 4, 5, 6, 11.

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Supported	

565

Element	alternateCodeValue
Type	edxl-ct:ValueKeyType
Usage	**OPTIONAL,** MAY be used once more than once
Definition	There are a large number of Triage systems in use. Many use numbering systems (http://en.wikipedia.org/wiki/Triage#Tags) and colours. The premise of HAVE is that we will share the general state with the broad emergency 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 untreatable). The alternateCodeValues element is intended to be used by these systems. Providing the ValueListURI and Value will mapping of external systems to the base HAVE Triage colour codes.
Comments	•
Constraints	•
Requirements Supported	Requirement Numbers 1, 6.

566

Element	remarks
Type	edxl-ct:RemarksType
Usage	**OPTIONAL,** MUST be used once and only once
Definition	Provides context for the TriageCountType
Comments	•
Constraints	•
Requirements Supported	Requirement Numbers 1, 2, 3, 4, 5, 6, 11, 12, 15, 16, 17, 18, 19.

567

568 ## 4.1.17 ActivityInPeriodType

Element	ActivityInPeriodType

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Type	xs:complexType
Usage	**OPTIONAL,** MAY be used once and only once
Definition	ActivityInPeriodType gathers information about the admissions, discharges, and deaths in a time period
Comments	•
Constraints	•
Sub-elements	• reportingPeriod • admissions • discharges • deaths • remarks
Requirements Supported	Requirement Numbers 1, 8.

569

Element	reportingPeriod
Type	edxl-ct:TimePeriodType
Usage	**OPTIONAL,** MAY be used once and only once
Definition	The time period (From -- To) that the activity occured in. If this element is not included the reportingPeriod at the Facility level should be assumed to define the time range.
Comments	•
Constraints	Must use • fromDateTime • toDateTime
Requirements Supported	Requirement Numbers 1, 8.

570

Element	admissions
Type	xs:int
Usage	**REQUIRED,** MUST be used once and only once

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Definition	Number of admissions in the period.
Comments	•
Constraints	•
Requirements Supported	Requirement Numbers 1, 3, 4, 5, 6, 11.

571

Element	discharges
Type	xs:int
Usage	**REQUIRED,** MUST be used once and only once
Definition	Number of Discharges in the period.
Comments	•
Constraints	•
Requirements Supported	Requirement Numbers 1, 3, 4, 5, 6, 11.

572

Element	deaths
Type	xs:int
Usage	**REQUIRED,** MUST be used once and only once
Definition	Number of Deaths in the period.
Comments	•
Constraints	•
Requirements Supported	Requirement Numbers 1, 3, 4, 5, 6, 11.

573

Element	remarks
Type	edxl-ct:RemarksType

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Usage	**OPTIONAL,** MAY be used once and only once
Definition	General comment/summary of the activity in period.
Comments	•
Constraints	•
Requirements Supported	Requirement Numbers 1, 2, 3, 4, 5, 6, 11, 12, 15, 16, 17, 18, 19.

574

575 ### 4.1.18 TriageColourCodeType

Element	TriageColourCodeType
Type	xs:simpleType
Usage	**REQUIRED,** MUST be used once and only once
Definition	MUST use one of the following values • red (RED Triage - Immediate attention for Triage.) • yellow (YELLOW Triage - Needs medical attention after RED/Immediate.) • green (GREEN Triage - Walking wounded or self-treatable.) • black (BLACK Triage - Lost/Dead.)
Comments	•
Constraints	•
Requirements Supported	Requirement Numbers 1, 3, 4, 5, 6, 11.

576

577 ### 4.1.19 FreeTextType

Element	FreeTextType
Type	LimitedString
Usage	**REQUIRED,** MUST be used once and only once
Definition	A restricted text block for preserving whitespace but limiting length to 1024 characters based on the “LimitedString” type. Intended to discourage lengthy descriptions.
Comments	•

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Constraints	•
Sub-elements	• defaultText • alternateText
Requirements Supported	Requirement Numbers 1, 3, 4, 5, 6, 11.

578

Element	defaultText
Type	LimitedString
Usage	**REQUIRED,** MUST be used once and only once
Definition	Text in the language specified by the HAVE message's defaultLanguage attribute.
Comments	•
Constraints	•
Requirements Supported	Requirement Numbers 1, 3, 4, 5, 6, 11.

579

Element	alternateText
Type	AlternateTextType
Usage	**OPTIONAL,** MAY be used more than once
Definition	Text in alternate language, for use when the language is other than that specified by the defaultLanguage tag of the root HAVE element.
Comments	• Supports multiple languages in addition to the default language of the HAVE message. • The meaning of the alternateText should be a translation of the defaultText element.
Constraints	•
Requirements Supported	Requirement Numbers 1, 3, 4, 5, 6, 11.

580

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4.1.20 AlternateTextType

Element	AlternateTextType
Type	xs:complexType
Usage	See Usage for elements of type AlternateTextType.
Definition	Allows for non default language to be used and is a LimitedString language attribute for this element. Attribute value for language MUST comply with RFC3066.
Comments	•
Constraints	•
Requirements Supported	Requirement Numbers 1, 3, 4, 5, 6, 11.

4.1.21 FacilityOperationKind Element

Element	FacilityOperationKind
Type	xs:simpleType (restriction base: xs:token)
Usage	**REQUIRED,** MUST be used once and only once
Definition	Must use one of the following: • plant (Plant - the key equipment and capabilities needed to operate the facility (e.g. HVAC, cafeteria).) • security (Security operations for facility (e.g. patrol, surveillance).) • staffing (Staff-related operations (e.g. medical personnel, support staffing, administrative).) • emergency (Emergency Department operations.)
Comments	•
Constraints	•
Requirements Supported	Requirement Numbers 1, 3, 4, 5, 6, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18.

4.1.22 OperationType

Element	OperationType

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Type	xs:complexType
Usage	**REQUIRED,** MUST be used once and only once
Definition	Gathers information about a particular operation type including the kind (taxonomy driven), name (human readable representations), status, and commentary.
Comments	•
Constraints	•
Sub-elements	• name • status • remarks • ext:extension
Requirements Supported	Requirement Numbers 1, 3, 4, 5, 6, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18.

586

Element	kind
Type	FacilityOperationKind
Usage	**REQUIRED,** MUST be used once and only once
Definition	The high-level kind of operation that is being reported on (plant, security, staffing, or emergency).
Comments	•
Constraints	•
Requirements Supported	Requirement Numbers 1, 3, 4, 5, 6, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18.

587

Element	name
Type	FreeTextType
Usage	**REQUIRED,** MUST be used once and only once
Definition	The name of the operation that is being reported on (e.g. "Food Services").
Comments	•

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Constraints	•
Requirements Supported	Requirement Numbers 1, 3, 4, 5, 6, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18.

588

Element	status
Type	StatusType
Usage	**REQURED,** MUST be used once and only once
Definition	The status of the Operation.
Comments	• Please see the StatusType definition, including sub-element details, for full explanation and guidance on this data type.
Constraints	•
Requirements Supported	Requirement Numbers 1, 3, 4, 5, 6, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18.

589

Element	remarks
Type	edxl-ct:RemarksType
Usage	**OPTIONAL,** MAY be used once and only once
Definition	General comment/summary on the Operation.
Comments	•
Constraints	•
Requirements Supported	Requirement Numbers 1, 2, 3, 4, 5, 6, 11, 12, 15, 16, 17, 18, 19.

590

Element	ext:extension See Section 3.2.4 EDXL Extensions
Type	
Usage	**OPTIONAL,** MAY be used more than once

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Definition	Used to add elements to the OperationType
Comments	•
Constraints	•
Requirements Supported	Requirement Numbers 1, 3, 4, 5, 6, 14, 16.

591

592 ## 4.1.23 ColourCodeDefaultType

Element	ColourCodeDefaultType
Type	xs:simpleType (restriction base: edxl-ct:EDXLStringType)
Usage	**REQUIRED,** MUST be used once and only once
Definition	MUST use one of the following • red (RED - severe/extreme deviation from normal condition. Marks a noted exception from normal conditions.) • yellow (YELLOW - moderate deviation from normal condition but not at SEVERE/EXTREME level.) • green (GREEN - normal conditions.)
Comments	•
Constraints	•
Requirements Supported	Requirement Numbers 1, 3, 4, 6, 11, 17, 18.

593

594 ## 4.1.24 FacilityKindType

Element	FacilityKindType
Type	xs:simpleType (restriction base: edxl-ct:EDXLStringType)
Usage	**REQUIRED,** MUST be used once and only once
Definition	MUST use one of the following • Hospital • longTermCare • urgentCareClinic • temporaryFacility • other

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Comments	•
Constraints	•
Requirements Supported	Requirement Numbers 1, 3, 4, 5, 6, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18.

595

596 ## 4.1.25 TraumaCenterLevelKind

Element	TraumaCenterLevelKind
Type	xs:simpleType (restriction base: xs:token)
Usage	**REQUIRED,** MUST be used once and only once
Definition	MUST use one of the following • level1 (Level 1 Trauma Services.) • level2 (Level 2 Trauma Services.) • level3 (Level 3 Trauma Services.) • no trauma (Level 4 Trauma Services.)
Comments	•
Constraints	•
Requirements Supported	Requirement Numbers 1, 3, 4, 6, 11, 17, 18.

597 ## 4.1.26 LimitedString

Element	LimitedString
Type	xs:simpleType (restriction base: xs:string)
Usage	**OPTIONAL,** MUST be used once and only once
Definition	Text block for preserving whitespace but limiting length to 1024 characters.
Comments	•
Constraints	• xs:whitespace = “0” • xs:maxLength = “1024”
Requirements Supported	Requirement Numbers 1, 3, 4, 5, 6, 11, 15, 16, 17.

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598

599 ## 4.1.27 GeoLocationType

Element	GeoLocationType
Type	xs:complexType
Usage	**REQUIRED,** MUST be used once and only once
Definition	Used to provide accurate geospatial information about location.
Comments	•
Constraints	•
Sub-elements	• wgs84Location • geoLocationExtended
Requirements Supported	Requirement Numbers 1, 3, 5, 10.

600

Element	wgs84Location
Type	xs:complexType (extension base: edxl-gsf:EDXLGeoLocationType)
Usage	**REQUIRED**, MUST be used once and only once
Definition	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.
Comments	• *srsName* attribute is set to a **fixed** value of http://www.opengis.net/def/crs/EPSG/0/4326 • *srsName* is the GML Spatial Reference System Name.
Constraints	
Requirements Supported	Requirement Numbers 1, 3, 5, 10.

601

Element	geoLocationExtended

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Type	xs:complexType (extension base: edxl-gsf:EDXLGeoLocationType)
Usage	**OPTIONAL,** MAY be used more than once
Definition	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 specialize SRS coordinates.
Comments	•
Constraints	• attribute srsName is required
Requirements Supported	Requirement Numbers 1, 3, 5, 10.

602

603 ## 4.1.28 TrafficStatusKind

Element	TrafficStatusKind
Type	xs:simpleType (restriction base: xs:token)
Usage	**REQUIRED**, MUST be used once and only once
Definition	MUST use one of the following • normal (Traffic is at levels that are within norms.) • advisory (Traffic levels are high enough to warrant notifying the that the facility is experiencing higher than expected traffic. • closed (Facility is not accepting patient traffic.)
Comments	•
Constraints	•
Requirements Supported	Requirement Numbers 1, 3, 4, 5, 6, 11, 12, 15, 16, 17, 18.

604

605 ## 4.1.29 OffloadInfoType

Element	OffloadInfoType
Type	xs:complexType
Usage	**REQUIRED,** MUST be used once and only once

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Definition	Provides information about offload.
Comments	•
Constraints	•
Sub-elements	• offload • ext:extension
Requirements Supported	Requirement Numbers 1, 3, 4, 6, 11, 17, 18.

606

Element	offload
Type	OffloadType
Usage	**REQUIRED**, MAY be used more than once
Definition	The particular offload mode, status, and other information for the facility.
Comments	•
Constraints	•
Requirements Supported	Requirement Numbers 1, 3, 4, 6, 11, 17, 18.

607

Element	ext:extension See Section 3.2.4 EDXL Extensions
Type	
Usage	**OPTIONAL,** MAY be used more than once
Definition	Used to add elements to the OffloadInfoType
Comments	•
Constraints	•
Requirements Supported	Requirement Numbers 1, 3, 4, 5, 6, 14, 16.

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608 ### 4.1.30 EmergencyDepartmentType

Element	EmergencyDepartmentType
Type	xs:complexType
Usage	**REQUIRED**, MUST be used once and only once
Definition	The container of all of the elements related to the emergency department status. It describes the ability of this emergency department to treat patients.
Comments	•
Constraints	•
Sub-elements	• status • offloadInfo • traffic • triageCapacity
Requirements Supported	Requirement Numbers 1, 3, 4, 5, 6, 11, 13, 14, 17, 18.

609

Element	status
Type	StatusType
Usage	**REQUIRED,** MUST be used once and only once
Definition	Status of the Emergency Department.
Comments	• Please see the StatusType definition, including sub-element details, for full explanation and guidance on this data type.
Constraints	•
Requirements Supported	Requirement Numbers 1, 3, 11, 15, 16, 17, 18.

610

Element	offloadInfo
Type	OffloadInfoType
Usage	**OPTIONAL,** MAY be used once and only once

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Definition	Information about the Offload state for various modes of transport (Ambulance, Air Ambulance)
Comments	•
Constraints	•
Requirements Supported	Requirement Numbers 1, 3, 4, 6, 11, 17, 18

611

Element	traffic
Type	TrafficType
Usage	**OPTIONAL,** MAY be used once and only once
Definition	Ability of this emergency department to receive patients via emergency medical services.
Comments	•
Constraints	•
Requirements Supported	Requirement Numbers 1, 3, 4, 5, 6, 11, 12, 15, 16, 17, 18.

612

Element	triageCapacity
Type	TriageCapacityType
Usage	**OPTIONAL**, MAY be used once and only once
Definition	The number of each triage patient type the hospital can accept.
Comments	•
Constraints	•
Requirements Supported	Requirement Numbers 1, 3, 4, 6, 11, 17, 18.

613

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614 ### 4.1.31 TriageCapacityType

Element	TriageCapacityType
Type	xs:complexType
Usage	**REQUIRED,** MUST be used once and only once
Definition	The Count for a particular triage level.
Comments	•
Constraints	•
Requirements Supported	Requirement Numbers 1, 3, 4, 6, 11, 17, 18.

615

616 ### 4.1.32 TrafficType

Element	TrafficType
Type	xs:complexType
Usage	**REQUIRED,** MUST be used once and only once
Definition	Provides context for the TriageCountType
Comments	•
Constraints	•
Sub-elements	• status • colourStatus • reason • remarks
Requirements Supported	Requirement Numbers 1, 3, 4, 5, 6, 11, 12, 15, 16, 17, 18.

617

Element	status
Type	TrafficStatusKind

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Usage	**REQUIRED,** MUST be used once and only once
Definition	The operating status of the Emergency Department (normal, advisory, closed).
Comments	•
Constraints	•
Requirements Supported	Requirement Numbers 1, 3, 11, 15, 16, 17, 18.

618

Element	colourStatus
Type	ColourStatusType
Usage	**REQUIRED,** MUST be used once and only once
Definition	Colour-code status for the Emergency Department.
Comments	•
Constraints	•
Requirements Supported	Requirement Numbers 1, 3, 4, 6, 11, 17, 18.

619

Element	reason
Type	FreeTextType [LimitedString (restriction base: xs:string)]
Usage	**OPTIONAL,** MAY be used once and only once
Definition	The rationale for the colourStatus. It is used to report the contributing factor to an EMSTraffic Status.
Comments	•
Constraints	•
Requirements Supported	Requirement Numbers 1, 3, 4, 5, 11, 12, 15, 16, 17.

620

Element	remarks

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Type	edxl-ct:RemarksType
Usage	**OPTIONAL,** MUST be used once and only once
Definition	General comment/summary on the traffic status.
Comments	•
Constraints	•
Requirements Supported	Requirement Numbers 1, 2, 3, 4, 5, 6, 11, 12, 15, 16, 17, 18, 19.

621

622 ## 4.1.33 TraumaCenterLevelType

Element	TraumaCenterLevelType
Type	xs:complexType
Usage	**REQUIRED,** MUST be used once and only once
Definition	Container for Trauma Center Information. Information provided about the Trauma Center (e.g. Trauma Center Level, status, commentary, etc.)
Comments	•
Constraints	•
Sub-elements	• serviceLevel • status • remarks • ext:extension
Requirements Supported	Requirement Numbers 1, 3, 4, 6, 11, 17, 18.

623

Element	serviceLevel
Type	TraumaCenterLevelKind
Usage	**REQUIRED** MUST be used once and only once
Definition	Trauma Center Level - 1 through 3 (I trough III) per American of Surgeons. Beyond Level 3 there is no global standard but this is a good approximation.

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Comments	•
Constraints	•
Requirements Supported	Requirement Numbers 1, 3, 4, 6, 11, 17, 18.

624

Element	status
Type	StatusType
Usage	**REQUIRED,** MUST be used once and only once
Definition	The status of the Facility Trauma Center.
Comments	• Please see the StatusType definition, including sub-element details, for full explanation and guidance on this data type.
Constraints	•
Requirements Supported	Requirement Numbers 1, 3, 4, 6, 11, 17, 18.

625

Element	remarks
Type	edxl-ct:RemarksType
Usage	**OPTIONAL,** MUST be used once and only once
Definition	General comment/summary on the trauma center status.
Comments	•
Constraints	•
Requirements Supported	Requirement Numbers 1, 2, 3, 4, 5, 6, 11, 12, 15, 16, 17, 18, 19.

626

Element	ext:extension See Section 3.2.4 EDXL Extensions
Type	

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Usage	**OPTIONAL,** MAY be used more than once
Definition	Used to add elements to the TraumaCenterLevelType.
Comments	•
Constraints	•
Requirements Supported	Requirement Numbers 1, 3, 4, 5, 6, 14, 16.

627

628 ## 4.1.34 ServicesType

Element	ServicesType
Type	xs:complexType
Usage	**REQUIRED,** MUST be used once and only once
Definition	Specifies information about a service. Container for a list of Services offered by a Facility.
Comments	•
Constraints	•
Sub-elements	• service • comment
Requirements Supported	Requirement Numbers 1, 3, 5, 11, 15, 16, 17, 18.

629

Element	service
Type	ServiceType
Usage	**REQUIRED,** MAY be used more than once
Definition	Service provides a description of a particular service - availability, capacity, and status.
Comments	•
Constraints	•

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Requirements Supported	Requirement Numbers 1, 3, 5, 11, 15, 16, 17, 18.

630

Element	remarks
Type	edxl-ct:RemarksType
Usage	**OPTIONAL,** MAY be used once and only once
Definition	General comment/summary on all of the services.
Comments	•
Constraints	•
Requirements Supported	Requirement Numbers 1, 2, 3, 4, 5, 6, 11, 12, 15, 16, 17, 18, 19.

631

632 ## 4.1.35 FutureServicesType

Element	FutureServicesType
Type	xs:complexType
Usage	**REQUIRED,** MAY be used more than once
Definition	ServiceListItem provides a description of a particular service - availability, capacity, and status.
Comments	•
Constraints	•
Requirements Supported	Requirement Numbers 1, 3, 5, 11, 15, 16, 17, 18.

633

Element	service
Type	ServiceType
Usage	OPTIONAL, MUST be used once and only once
Definition	Service provides a description of a particular service - availability, capacity, and status.

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Comments	•
Constraints	•
Sub-element	• reportingPeriod
Requirements Supported	Requirement Numbers 1, 3, 5, 11, 15, 16, 17, 18.

634

Element	reportingPeriod
Type	edxl-ct:TimePeriodType
Usage	**REQUIRED,** MUST be used once and only once
Definition	The Reporting Period (interval between a from time and to time) applying to the future Service.
Comments	•
Constraints	Must use • fromDateTime • toDateTime
Requirements Supported	Requirement Numbers 1, 8.

635

Element	remarks
Type	edxl-ct:RemarksType
Usage	**OPTIONAL,** MAY be used once and only once
Definition	General comment/summary on the all of the future services.
Comments	•
Constraints	•
Requirements Supported	Requirement Numbers 1, 2, 3, 4, 5, 6, 11, 12, 15, 16, 17, 18, 19.

636

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637 ## 4.1.36 OperationsType

Element	OperationsType
Type	xs:complexType
Usage	**REQUIRED,** MUST be used once and only once
Definition	Information about operations in a facility.
Comments	•
Constraints	•
Sub-elements	• operation • comment
Requirements Supported	Requirement Numbers 1, 3, 4, 5, 6, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18.

638

Element	operation
Type	OperationType
Usage	**REQUIRED,** MUST used once and only once
Definition	Operation that facility provides in the context of key areas such as Clinical Operations, Security Operations, Facility Operations.
Comments	•
Constraints	•
Requirements Supported	Requirement Numbers 1, 3.

639

Element	remarks
Type	edxl-ct:RemarksType
Usage	**OPTIONAL,** MAY be used once and only once
Definition	General comment/summary on all of the operations.

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Comments	•
Constraints	•
Requirements Supported	Requirement Numbers 1, 2, 3, 4, 5, 6, 11, 12, 15, 16, 17, 18, 19.

640

641 ## 4.1.37 TraumaCenterType

Element	TraumaCenterType
Type	xs:complexType
Usage	**REQUIRED,** MUST be used once and only once
Definition	Trauma Center Level of this facility. The Choice/Sequence approach here allows for at least one of Adult or Pediatric Trauma Center Levels to be provided.
Comments	•
Constraints	•
Sub-elements	• Adult • pediatric
Requirements Supported	Requirement Numbers 1, 3, 4, 6, 11, 17, 18.

642

Element	adult
Type	TraumaCenterLevelType
Usage	**REQUIRED,** MUST be used once and only once
Definition	Adult Trauma Services detail.
Comments	• The Choice/Sequence approach used here allows for at least one of Adult or Pediatric Trauma Center Levels to be provided.
Constraints	•
Requirements Supported	Requirement Numbers 1, 3, 4, 6, 11, 17, 18.

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Element	pediatric
Type	TraumaCenterLevelType
Usage	**OPTIONAL REQUIRED,** MUST MAY be used once and only once
Definition	General comment/summary on all of the operations.
Comments	• The Choice/Sequence approach used here allows for at least one of Adult or Pediatric Trauma Center Levels to be provided.
Constraints	•
Requirements Supported	Requirement Numbers 1, 3, 4, 6, 11, 17, 18.

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5 Conformance

5.1 Conformance Targets

The two following conformance targets are defined in order to support the specification of conformance to this standard:

- EDXL-HAVE Message; and
- EDXL-HAVE Message Producer.

An EDXL- HAVE Message is an XML 1.0 element whose syntax and semantics are specified in this standard. An EDXL- HAVE Message Producer is a software entity that produces EDXL- HAVE Messages.

NOTE There is no conformance target corresponding to the consumers of EDXL- HAVE messages

5.2 Conformance as an EDXL-HAVE Message

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 in the "Additional artifacts" noted on the front page of this specification

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~~an "EDXL-HAVE 2.0 Message".

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~~Appendix A. Data Dictionary~~

~~5.1~~5.3 ~~The following PDF is generated from the formal~~Conformance as an EDXL-HAVE ~~2.0 Schema.~~Message Producer

A software entity is a conforming EDXL-HAVE Message Producer if and only if it is constructed in such a way that any XML 1.0 element produced by it and present in a place in which a conforming EDXL- HAVE message is expected (based on contextual information) is indeed a conforming EDXL- HAVE message according to this standard.

NOTE The ~~PDF~~condition above can be satisfied in many different ways. Here are some examples of possible scenarios:

– a standard distribution protocol (say, EDXL-DE) transfers EDXL- HAVE messages; a resource consumer has sent a request message for an EDXL-HAVE report message to a Hospital system which claims to be a conforming EDXL- HAVE Message Producer, and has received an EDXL-DE message which is therefore expected to carry a conforming EDXL-HAVE Message;

– a local test environment has been set up, and the application under test (which claims to be a conforming EDXL- HAVE Message Producer) has the ability to produce an EDXL- HAVE message and write it to a file ~~is available in the "schemas"~~in a directory ~~listed in the "Additional artifacts" section on~~ in response to a request coming from the ~~title page~~testing tool; the testing tool has sent many requests to the application under test and is now verifying all the files present in the directory, which is expected to contain only conforming EDXL-HAVE Messages.

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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-gsf.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
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        - 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

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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	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: http://docs.oasis-open.org Version: 2.0 WD Status: SC DRAFT Copyright: 2012-2015, OASIS, http://www.oasis-open.org Last Modified: 05JAN2015 Last Modified by: Darrell O'Donnell, P.Eng. 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.
Properties	attribute form default: **qualified** element form default: **qualified**

Element(s)

Element `HAVE`

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

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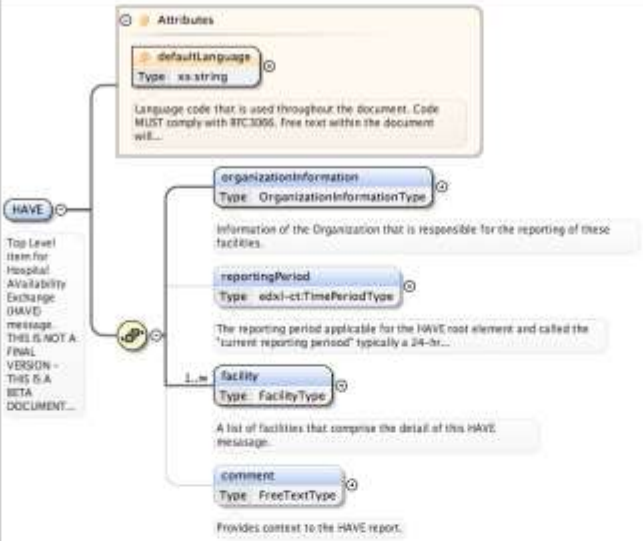
Annotations	Top Level item for Hospital AVailability Exchange (HAVE) message. THIS IS NOT A FINAL VERSION - THIS IS A BETA DOCUMENT AND THIS BETA NATURE NEEDS TO BE CONSIDERED.
Diagram	
Properties	content complex
Model	organizationInformation , reportingPeriod{0,1} , facility+ , comment{0,1}
Children	comment, facility, organizationInformation, reportingPeriod
Instance	<HAVE defaultLanguage="" xmlns="urn:oasis:names:tc:emergency:edxl:have:2.0"> <organizationInformation>{1,1}</organizationInformation> <reportingPeriod>{0,1}</reportingPeriod> <facility ID="" parentID="">{1,unbounded}</facility> <comment>{0,1}</comment> </HAVE>

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.

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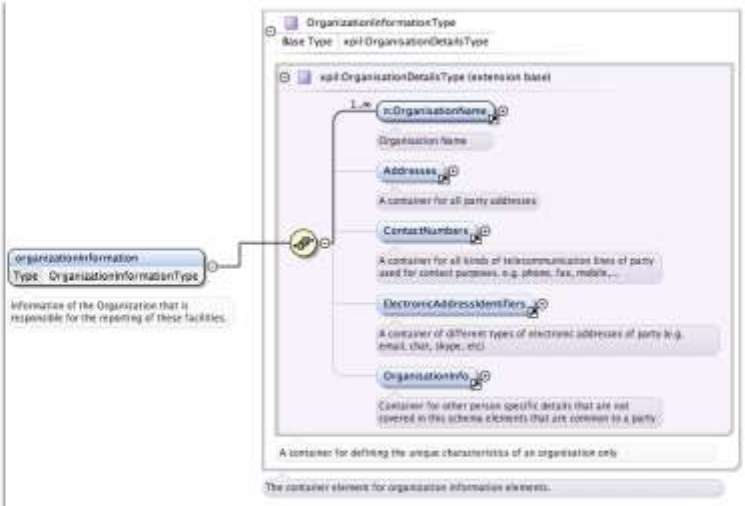
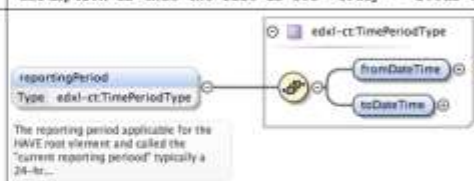
Diagram	
Type	OrganizationInformationType
Type hierarchy	• OrganizationDetailsType • OrganizationInformationType
Properties	content: complex
Model	OrganizationName+ , Addresses{0,1} , ContactNumbers{0,1} , ElectronicAddressIdentifiers{0,1} , OrganisationInfo{0,1}
Children	Addresses, ContactNumbers, ElectronicAddressIdentifiers, OrganisationInfo, OrganizationName
Instance	<organizationInformation xmlns="urn:oasis:names:tc:emergency:edxl:have:2.0" xmlns:ns0="urn:oasis:names:tc:emergency <ns0:OrganisationName OrganisationID="" OrganisationIDType="">{1,unbounded}</ns0:OrganisationName> <xpil:Addresses>{0,1}</xpil:Addresses> <xpil:ContactNumbers>{0,1}</xpil:ContactNumbers> <xpil:ElectronicAddressIdentifiers>{0,1}</xpil:ElectronicAddressIdentifiers> <xpil:OrganisationInfo CategoryType="" DataQualityType="" IndustryCode="" IndustryCodeType="" IndustryType="" Nu xpil:OrganisationInfo> </organizationInformation>

Element HAVE / reportingPeriod

Namespace	urn:oasis:names:tc:emergency:edxl: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	
Type	ct:TimePeriodType
Properties	content: complex minOccurs: 0
Model	ct:fromDateTime , ct:toDateTime
Children	ct:fromDateTime, ct:toDateTime
Instance	<reportingPeriod xmlns="urn:oasis:names:tc:emergency:edxl:have:2.0" xmlns:edxl-ct="urn:oasis:names:tc:emergency:edxl:ct:1.0"> <edxl-ct:fromDateTime>{1,1}</edxl-ct:fromDateTime> <edxl-ct:toDateTime>{1,1}</edxl-ct:toDateTime> </reportingPeriod>

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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.

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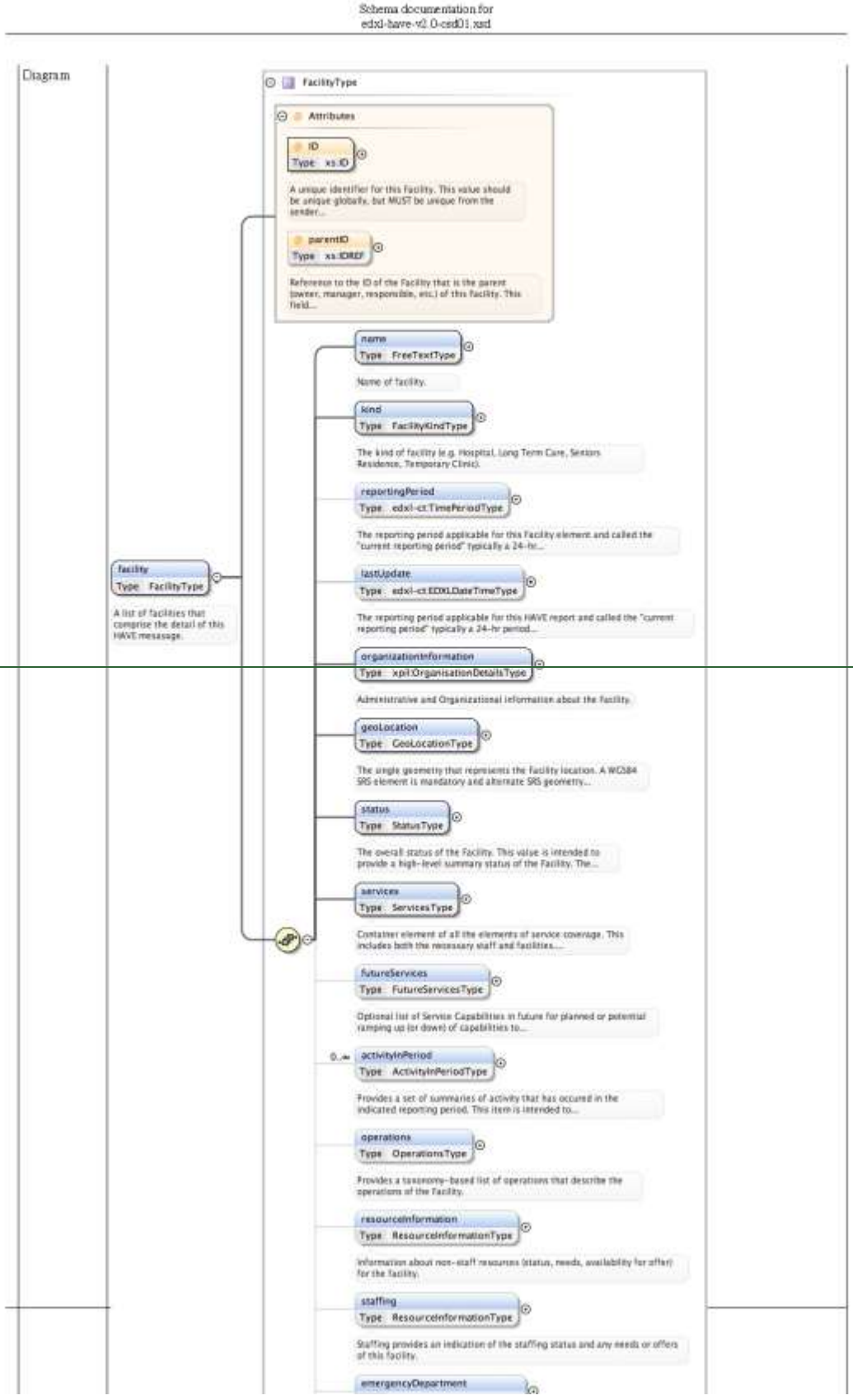

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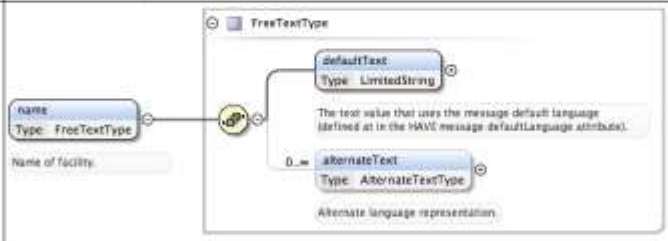
Type	FacilityType
Properties	content complex maxOccurs unbounded
Model	name , kind , reportingPeriod{0,1} , lastUpdate{0,1} , organizationInformation , geoLocation , status , services , futureServices{0,1} , activityInPeriod* , operations{0,1} , resourceInformation{0,1} , staffing{0,1} , emergencyDepartment{0,1} , traumaCenter{0,1} , comment{0,1}
Children	activityInPeriod, comment, emergencyDepartment, futureServices, geoLocation, kind, lastUpdate, name, operations, organizationInformation, reportingPeriod, resourceInformation, services, staffing, status, traumaCenter
Instance	<facility ID="" parentID="" xmlns="urn:oasis:names:tc:emergency:edxl:have:2.0"> <name>{1,1}</name> <kind>{1,1}</kind> <reportingPeriod>{0,1}</reportingPeriod> <lastUpdate>{0,1}</lastUpdate> <organizationInformation>{1,1}</organizationInformation> <geoLocation>{1,1}</geoLocation> <status>{1,1}</status> <services>{1,1}</services> <futureServices>{0,1}</futureServices> <activityInPeriod>{0,unbounded}</activityInPeriod> <operations>{0,1}</operations> <resourceInformation>{0,1}</resourceInformation> <staffing>{0,1}</staffing> <emergencyDepartment>{0,1}</emergencyDepartment> <traumaCenter>{0,1}</traumaCenter> <comment>{0,1}</comment> </facility>

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	content complex
Model	defaultText , alternateText*
Children	alternateText, defaultText
Instance	<name xmlns="urn:oasis:names:tc:emergency:edxl:have:2.0"> <defaultText>{1,1}</defaultText> <alternateText language="">{0,unbounded}</alternateText> </name>

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).

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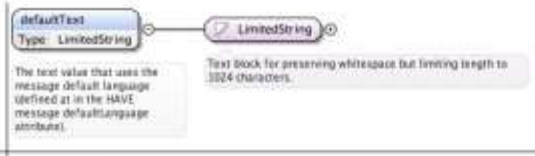
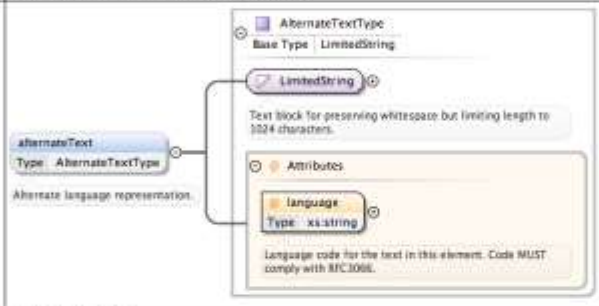
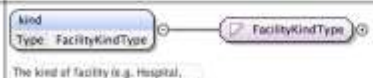
Diagram	
Type	LimitedString
Properties	content simple
Facets	whiteSpace preserve maxLength 1024

Element FreeTextType / alternateText

Namespace	urn:oasis:names:tc:emergency:edxl:have:2.0
Annotations	Alternate language representation.
Diagram	
Type	AlternateTextType
Type hierarchy	• xs:string • LimitedString • AlternateTextType
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	• xs:token • ct:EDXLStringType • FacilityKindType
Properties	content simple

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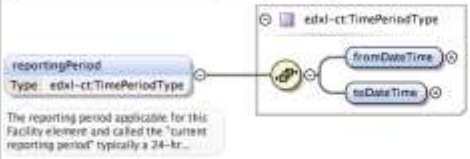
Facets	minLength	1
	maxLength	1023
	enumeration	hospital
	enumeration	longTermCare
	enumeration	urgentCareClinic
	enumeration	temporaryFacility
	enumeration	other

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		
Type	ct:TimePeriodType	
Properties	content	complex
	minOccurs	0
Model	ct:fromDateTime , ct:toDateTime	
Children	ct:fromDateTime, ct:toDateTime	
Instance	<reportingPeriod xmlns="urn:oasis:names:tc:emergency:edxl:have:2.0" xmlns:edxl-ct="urn:oasis:names:tc:emergency:edxl:ct:1.0"> <edxl-ct:fromDateTime>{1,1}</edxl-ct:fromDateTime> <edxl-ct:toDateTime>{1,1}</edxl-ct:toDateTime> </reportingPeriod>	

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		
Type	ct:EDXLDateTimeType	
Properties	content	simple
	minOccurs	0
Facets	pattern	\d\d\d\d-\d\d-\d\dT\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.

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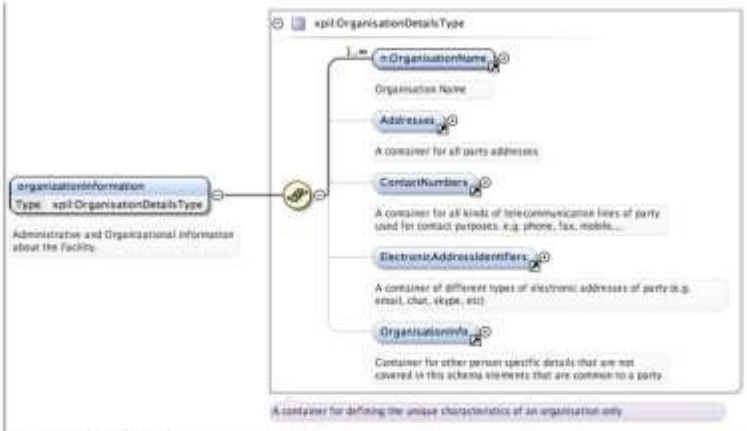
Diagram	
Type	OrganisationDetailsType
Properties	content: complex
Model	OrganisationName+ , Addresses{0,1} , ContactNumbers{0,1} , ElectronicAddressIdentifiers{0,1} , OrganisationInfo{0,1}
Children	Addresses, ContactNumbers, ElectronicAddressIdentifiers, OrganisationInfo, OrganisationName
Instance	<organizationInformation xmlns="urn:oasis:names:tc:emergency:edxl:have:2.0" xmlns:ns0="urn:oasis:names:tc:emergency <ns0:OrganisationName OrganisationID="" OrganisationIDType="">{1,unbounded}</ns0:OrganisationName> <xpil:Addresses>{0,1}</xpil:Addresses> <xpil:ContactNumbers>{0,1}</xpil:ContactNumbers> <xpil:ElectronicAddressIdentifiers>{0,1}</xpil:ElectronicAddressIdentifiers> <xpil:OrganisationInfo CategoryType="" DataQualityType="" IndustryCode="" IndustryCodeType="" IndustryType="" Ref xpil:OrganisationInfo> </organizationInformation>

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	
Type	GeoLocationType
Properties	content: complex
Model	wgs84Location , geoLocationExtended*
Children	geoLocationExtended, wgs84Location
Instance	<geoLocation xmlns="urn:oasis:names:tc:emergency:edxl:have:2.0"> <wgs84Location srsName="http://www.opengis.net/def/crs/EPSG/0/4326">{1,1}</wgs84Location> <geoLocationExtended srsName="">{0,unbounded}</geoLocationExtended> </geoLocation>

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.

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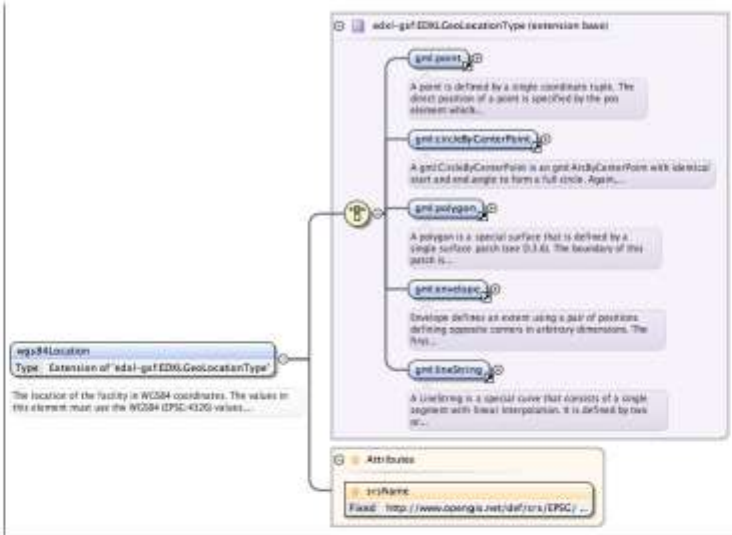
Diagram	
Type	extension of edxl-gsf:EDXLGeoLocationType
Type hierarchy	• edxl-gsf:EDXLGeoLocationType
Properties	content: complex
Model	gml:point | gml:circleByCenterPoint | gml:polygon | gml:envelope | gml:lineString
Children	gml:circleByCenterPoint, gml:envelope, gml:lineString, gml:point, gml:polygon
Instance	<wgs84Location srsName="http://www.opengis.net/def/crs/ EPSG/0/4326" xmlns="urn:oasis:names:tc:emergency:edxl:have:2.0" xmlns:gml="http://www.opengis.net/ gml/3.2"> <gml:point AxisLabels="" gml:id="" SrsDimension="" SrsName="" UomLabels="">{1,1}</gml:point> <gml:circleByCenterPoint Interpolation="CircularArcCenterPointWithRadius" NumArc="1" NumDerivativeInterior="0" N gml:circleByCenterPoint> <gml:polygon AxisLabels="" gml:id="" SrsDimension="" SrsName="" UomLabels="">{1,1}</gml:polygon> <gml:envelope AxisLabels="" SrsDimension="" SrsName="" UomLabels="">{1,1}</gml:envelope> <gml:lineString AxisLabels="" gml:id="" SrsDimension="" SrsName="" UomLabels="">{1,1}</ gml:lineString> </wgs84Location>

Attributes	QName	Type	Fixed	Use
	srsName		http://www.opengis.net/def/crs/EPSG/0/4326	required

Element GeoLocationType / geoLocationExtended

Namespace	urn:oasis:names:tc:emergency:edxl:have:2.0
Annotations	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.

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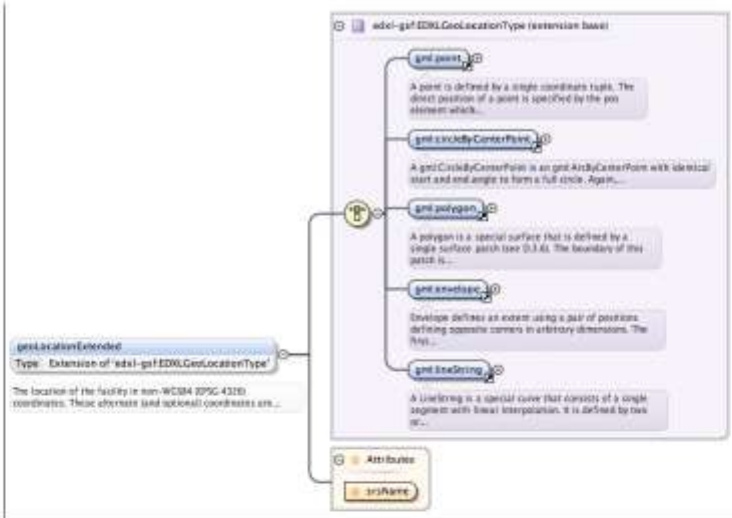
Diagram	
Type	extension of edxl-gsf:EDXLGeoLocationType
Type hierarchy	• edxl-gsf:EDXLGeoLocationType
Properties	content: complex minOccurs: 0 maxOccurs: unbounded
Model	gml:point | gml:circleByCenterPoint | gml:polygon | gml:envelope | gml:lineString
Children	gml:circleByCenterPoint, gml:envelope, gml:lineString, gml:point, gml:polygon

Instance	<pre><geoLocationExtended srsName="" xmlns="urn:oasis:names:tc:emergency:edxl:have:2.0" xmlns:gml="http://www.opengis.net/gml/3.2">
	<gml:point AxisLabels="" gml:Id="" SrsDimension="" SrsName="" UomLabels="">{1,1}</gml:point>
	<gml:circleByCenterPoint Interpolation="CircularArcCenterPointWithRadius" NumArc="1" NumDerivativeInterior="0" N
	gml:circleByCenterPoint>
	<gml:polygon AxisLabels="" gml:Id="" SrsDimension="" SrsName="" UomLabels="">{1,1}</gml:polygon>
	<gml:envelope AxisLabels="" SrsDimension="" SrsName="" UomLabels="">{1,1}</gml:envelope>
	<gml:lineString AxisLabels="" gml:Id="" SrsDimension="" SrsName="" UomLabels="">{1,1}</
	gml:lineString>
	</geoLocationExtended></pre>

Attributes	QName | Type | Use srsName | | 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.

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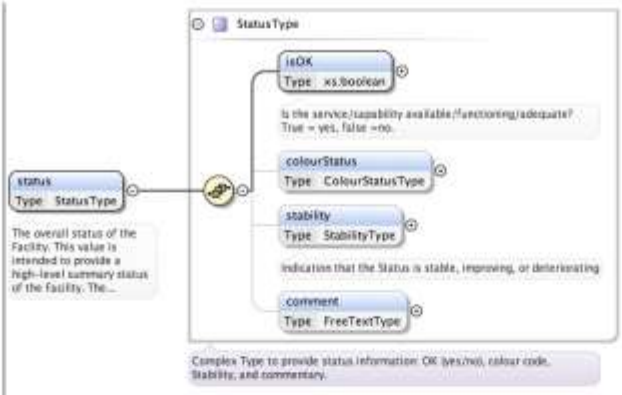
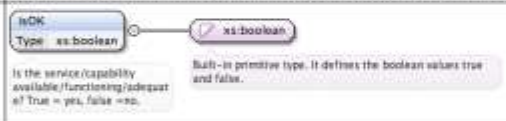
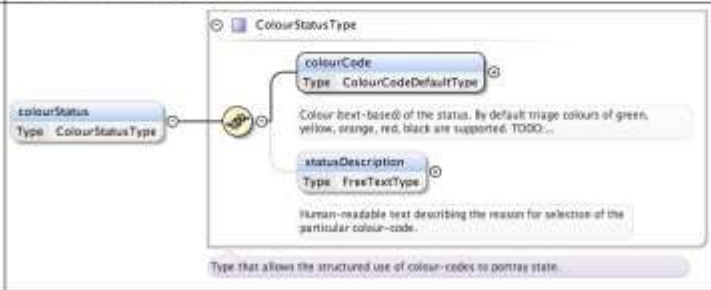
Diagram	
Type	StatusType
Properties	content complex
Model	isOK , colourStatus {0,1} , stability {0,1} , comment {0,1}
Children	colourStatus, comment, isOK, stability
Instance	<status xmlns="urn:oasis:names:tc:emergency:edxl:have:2.0"> <isOK>{1,1}</isOK> <colourStatus>{0,1}</colourStatus> <stability>{0,1}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

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}

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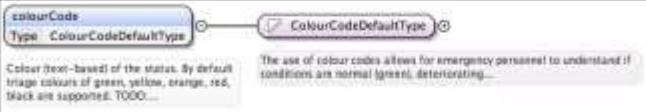
Children	colourCode, statusDescription
Instance	<colourStatus xmlns="urn:oasis:names:tc:emergency:edxl:have:2.0"> <colourCode>{1,1}</colourCode> <statusDescription>{0,1}</statusDescription> </colourStatus>

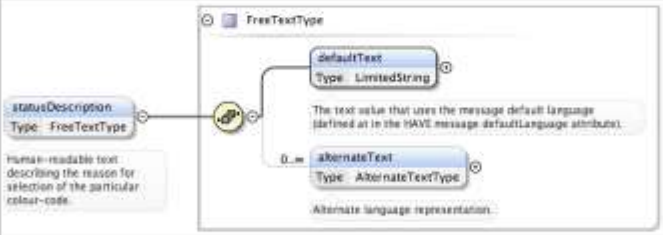
Element ColourStatusType / colourCode

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	• xs:token
	  • ct:EDXLStringType
	  • ColourCodeDefaultType	

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	<statusDescription xmlns="urn:oasis:names:tc:emergency:edxl:have:2.0"> <defaultText>{1,1}</defaultText> <alternateText language="">{0,unbounded}</alternateText> </statusDescription>	

Element StatusType / stability

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

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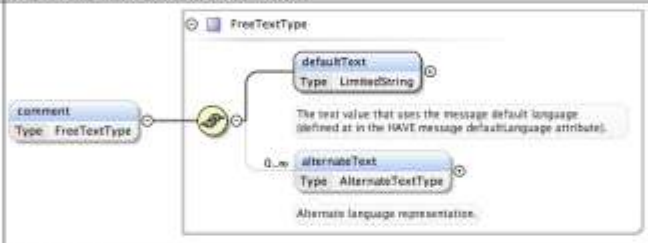
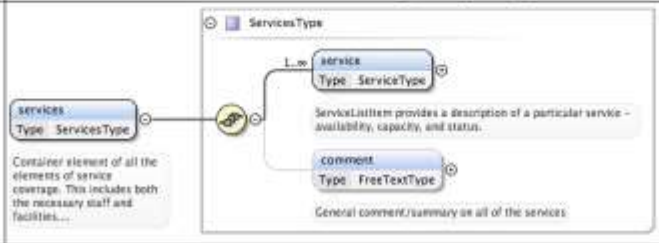
Annotations	Indication that the Status is stable, improving, or deteriorating
Diagram	
Type	StabilityType
Properties	content simple minOccurs 0
Facets	enumeration stable — Stable/unchanging - conditions remain within norms and are not varying out of normal patterns. enumeration improving — Conditions are improving towards normal. enumeration deteriorating — Conditions are deviating negatively from normal.

Element StatusType / 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	<comment xmlns="urn:oasis:names:tc:emergency:edxl:have:2.0"> <defaultText>{1,1}</defaultText> <alternateText language="">{0,unbounded}</alternateText> </comment>

Element FacilityType / 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

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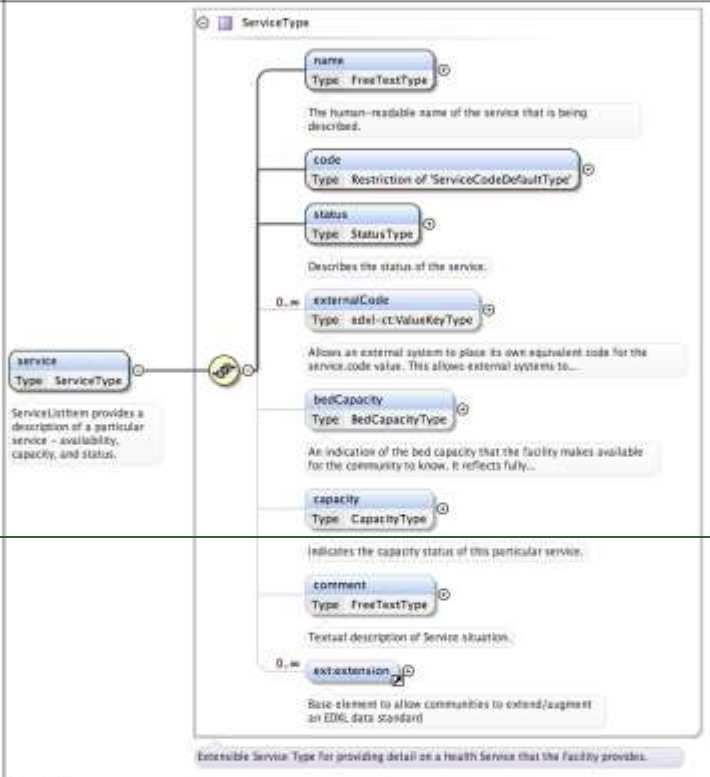
Instance	<services xmlns="urn:oasis:names:tc:emergency:edxl:have:2.0"> <service>{1,unbounded}</service> <comment>{0,1}</comment> </services>

Element ServicesType / 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	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	<service xmlns="urn:oasis:names:tc:emergency:edxl:have:2.0" xmlns:ext="urn:oasis:names:tc:emergency:edxl:extension <name>{1,1}</name> <code>{1,1}</code> <status>{1,1}</status> <externalCode>{0,unbounded}</externalCode> <bedCapacity>{0,1}</bedCapacity> <capacity>{0,1}</capacity> <comment>{0,1}</comment> <ext:extension>{0,unbounded}</ext:extension> </service>

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.

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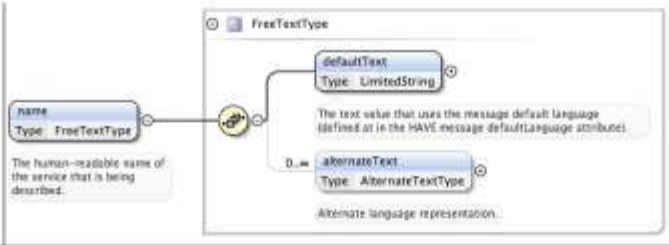
Diagram	
Type	FreeTextType
Properties	content complex
Model	defaultText , alternateText*
Children	alternateText, defaultText
Instance	<name xml:lang="urn:oasis:names:tc:emergency:edxl:have:2.0"> <defaultText>{1,1}</defaultText> <alternateText language="">{0,unbounded}</alternateText> </name>

Element ServiceType / code

Namespace	urn:oasis:names:tc:emergency:edxl:have:2.0		
Diagram			
Type	ServiceCodeDefaultType		
Type hierarchy	• xs:string • ct:ValueType • ServiceCodeDefaultType		
Properties	content	simple	
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	cardiologymi.STEMI	STEMI support
	enumeration	cardiologymi.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

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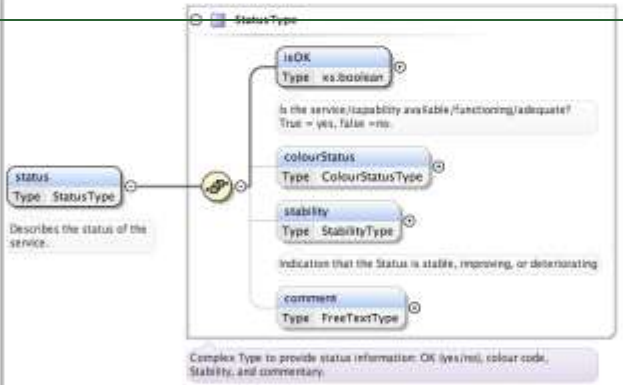
	enumeration	obgyn.withLaborDelivery	OBGYN with labor delivery.
	enumeration	obgyn.withoutLaborDelivery	OBGYN without labor delivery capabilities.
	enumeration	operatingRooms	
	enumeration	opthalmology	Opthalmology services
	enumeration	orthopedic	Orthopedic services
	enumeration	pediatrics	Pediatric 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 surgey capabilities
	enumeration	surgery.hand	Hand surgery capabilities
	enumeration	surgery.reimplantation	Reimplantation 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	
Type	StatusType
Properties	content complex minOccurs 1
Model	isOK , colourStatus {0,1} , stability {0,1} , comment {0,1}
Children	colourStatus, comment, isOK, stability
Instance	<status xmlns="urn:oasis:names:tc:emergency:edxl:have:2.0"> <isOK>{1,1}</isOK> <colourStatus>{0,1}</colourStatus> <stability>{0,1}</stability> <comment>{0,1}</comment> </status>

Element ServiceType / externalCode

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

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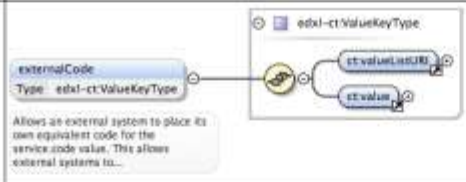
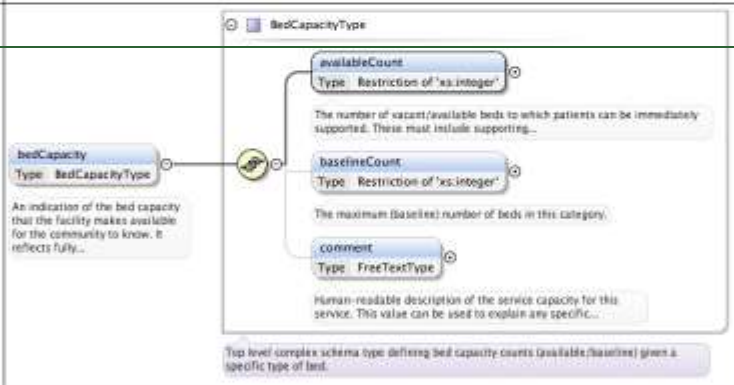
Annotations	Allows an external system to place its own equivalent code for the service.code value. This allows external systems to correlate their data directly in the HAVE report.
Diagram	
Type	ct:ValueKeyType
Properties	content: complex minOccurs: 0 maxOccurs: unbounded
Model	ct:valueListURI , ct:value
Children	ct:value, ct:valueListURI

Instance	`<externalCode xmlns="urn:oasis:names:tc:emergency:edxl:have:2.0" xmlns:edxl-ct="urn:oasis:names:tc:emergency:edxl:ct:1.0">`
	`<edxl-ct:valueListURI>{1,1}</edxl-ct:valueListURI>`
	`<edxl-ct:value>{1,1}</edxl-ct:value>`
	`</externalCode>`

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	content: complex minOccurs: 0
Model	availableCount , baselineCount{0,1} , comment{0,1}
Children	availableCount, baselineCount, comment

Instance	`<bedCapacity xmlns="urn:oasis:names:tc:emergency:edxl:have:2.0">`
	`<availableCount>{1,1}</availableCount>`
	`<baselineCount>{0,1}</baselineCount>`
	`<comment>{0,1}</comment>`
	`</bedCapacity>`

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

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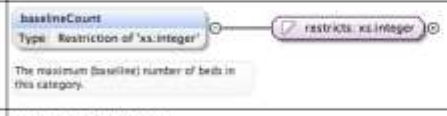
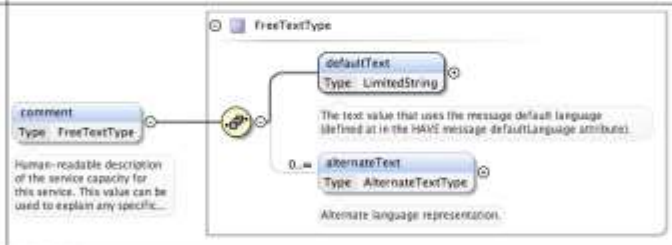
	operate under normal circumstances. These beds are licensed, physically available and have staff on hand to attend to the patient who occupies the bed. NEGATIVE values means the service is operating beyond normal capacity.
Diagram	
Type	xs:integer
Properties	content simple minOccurs 1

Element BedCapacityType / baselineCount

Namespace	urn:oasis:names:tc:emergency:edxl:have:2.0
Annotations	The maximum (baseline) number of beds in this category.
Diagram	
Type	restriction of xs:integer
Properties	content simple minOccurs 0
Facets	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	
Type	FreeTextType
Properties	content complex minOccurs 0
Model	defaultText , alternateText*
Children	alternateText, defaultText
Instance	<comment xmlns="urn:oasis:names:tc:emergency:edxl:have:2.0"> <defaultText>{1,1}</defaultText> <alternateText language="">{0,unbounded}</alternateText> </comment>

Element ServiceType / capacity

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

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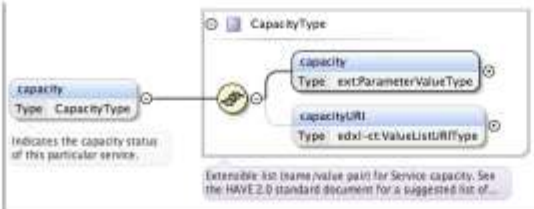
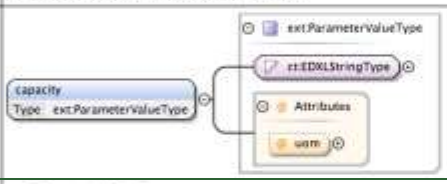
Diagram	
Type	CapacityType
Properties	content complex minOccurs 0
Model	capacity , capacityURI{0,1}
Children	capacity, capacityURI
Instance	<capacity xmlns="urn:oasis:names:tc:emergency:edxl:have:2.0"> <capacity uom="">{1,1}</capacity> <capacityURI>{0,1}</capacityURI> </capacity>

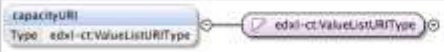
Element CapacityType / capacity

Namespace	urn:oasis:names:tc:emergency:edxl:have:2.0		
Diagram			
Type	ext:ParameterValueType		

Type hierarchy	• xs:token
	  • ct:EDXLStringType
	  • ext:ParameterValueType		

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.

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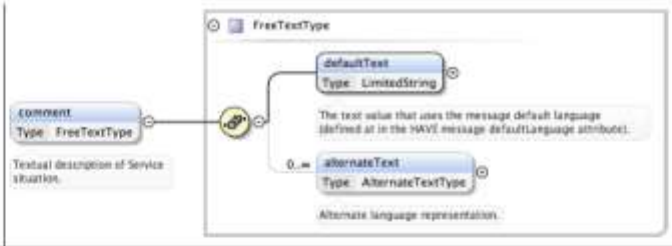
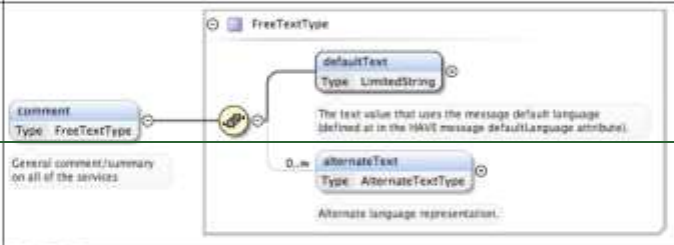
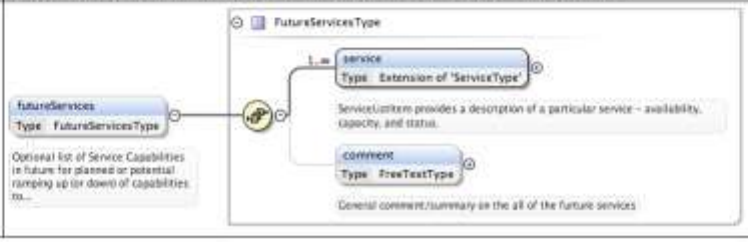
Diagram	
Type	FreeTextType
Properties	content: complex minOccurs: 0
Model	defaultText , alternateText*
Children	alternateText, defaultText
Instance	<comment xmlns="urn:oasis:names:tc:emergency:edxl:have:2.0"> <defaultText>{1,1}</defaultText> <alternateText language="">{0,unbounded}</alternateText> </comment>

Element ServicesType / comment

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

Element FacilityType / futureServices

Namespace	um: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	

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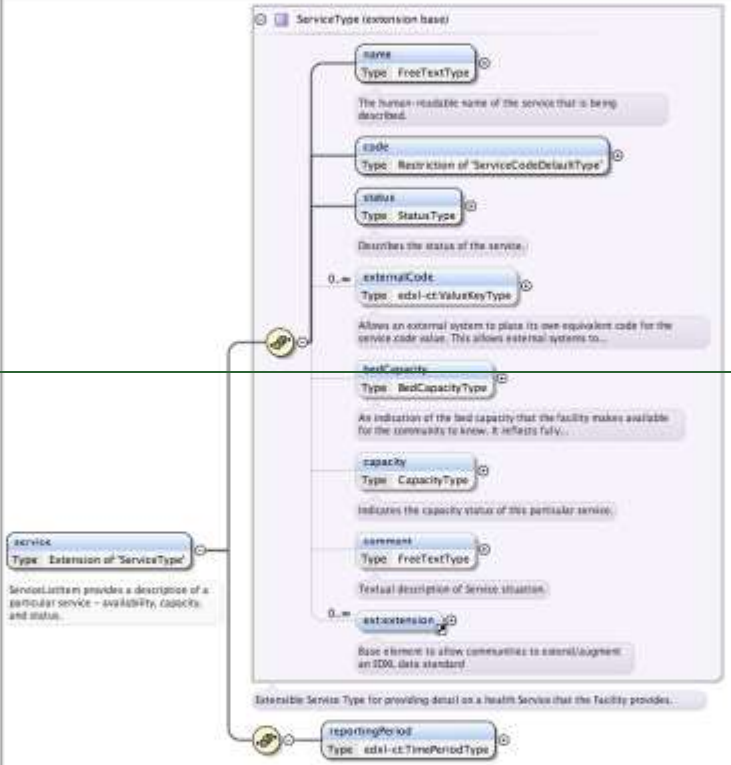
Type	PotureServicesType
Properties	content: complex minOccurs: 0
Model	service+ , comment{0,1}
Children	comment, service
Instance	<futureServices xmlns="urn:oasis:names:tc:emergency:edxl:have:2.0"> <service>{1,unbounded}</service> <comment>{0,1}</comment> </futureServices>

Element FutureServicesType / 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	extension of ServiceType
Type hierarchy	• ServiceType
Properties	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	<service xmlns="urn:oasis:names:tc:emergency:edxl:have:2.0" xmlns:ext="urn:oasis:names:tc:emergency:edxl:extension <name>{1,1}</name> <code>{1,1}</code> <status>{1,1}</status> <externalCode>{0,unbounded}</externalCode>

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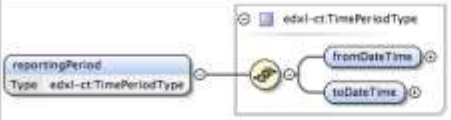
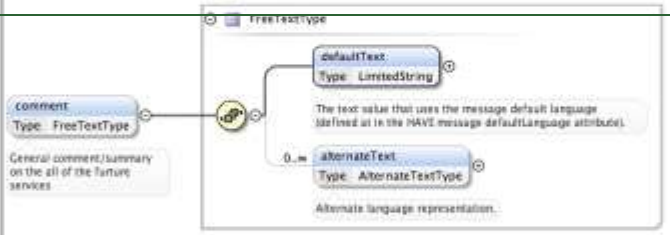
```
    <bedCapacity>{0,1}</bedCapacity>
    <capacity>{0,1}</capacity>
    <comment>{0,1}</comment>
    <ext:extension>{0,unbounded}</ext:extension>
    <reportingPeriod>{1,1}</reportingPeriod>
</service>
```

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	<reportingPeriod xmlns="urn:oasis:names:tc:emergency:edxl:have:2.0" xmlns:edxl-ct="urn:oasis:names:tc:emergency:edxl:ct:1.0"> <edxl-ct:fromDateTime>{1,1}</edxl-ct:fromDateTime> <edxl-ct:toDateTime>{1,1}</edxl-ct:toDateTime> </reportingPeriod>

Element FutureServicesType / comment

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

Element FacilityType / activityInPeriod

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

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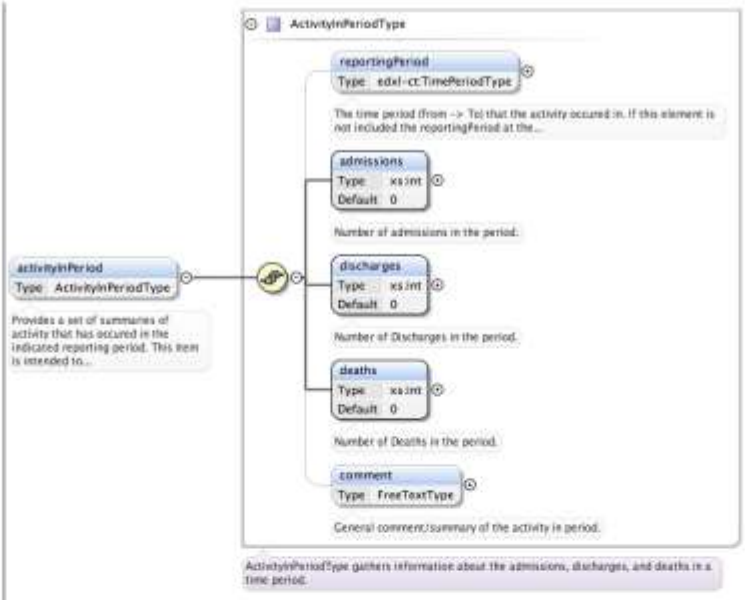
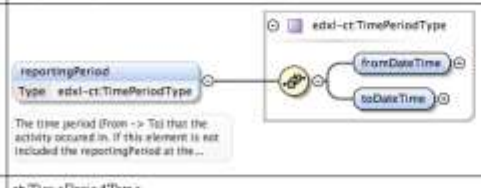
Diagram	
Type	ActivityInPeriodType
Properties	content: complex minOccurs: 0 maxOccurs: unbounded
Model	reportingPeriod{0,1} , admissions , discharges , deaths , comment{0,1}
Children	admissions, comment, deaths, discharges, reportingPeriod
Instance	<activityInPeriod xmlns="urn:oasis:names:tc:emergency:edxl:have:2.0"> <reportingPeriod>{0,1}</reportingPeriod> <admissions>{1,1}</admissions> <discharges>{1,1}</discharges> <deaths>{1,1}</deaths> <comment>{0,1}</comment> </activityInPeriod>

Element ActivityInPeriodType / reportingPeriod

Namespace	urn:oasis:names:tc:emergency:edxl:have:2.0
Annotations	The time period (From -> To) that the activity occured in. If this element is not included the reportingPeriod at the Facility level should be assumed to define the time range.
Diagram	
Type	ct:TimePeriodType
Properties	content: complex minOccurs: 0
Model	ct:fromDateTime , ct:toDateTime
Children	ct:fromDateTime, ct:toDateTime
Instance	<reportingPeriod xmlns="urn:oasis:names:tc:emergency:edxl:have:2.0" xmlns:edxl-ct="urn:oasis:names:tc:emergency:edxl:ct:1.0"> <edxl-ct:fromDateTime>{1,1}</edxl-ct:fromDateTime> <edxl-ct:toDateTime>{1,1}</edxl-ct:toDateTime>

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```
</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

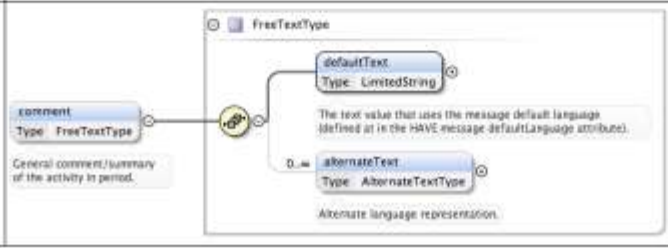
Element ActivityInPeriodType / discharges

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	

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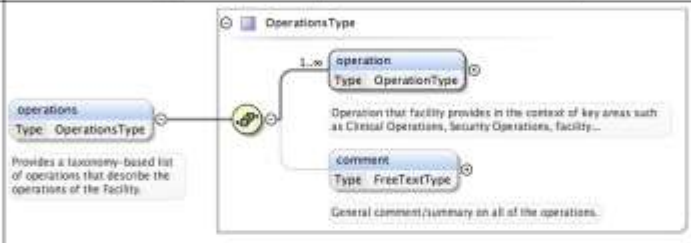
Type	FreeTextType
Properties	content complex minOccurs 0
Model	defaultText , alternateText*
Children	alternateText, defaultText
Instance	<comment xmlns="urn:oasis:names:tc:emergency:edxl:have:2.0"> <defaultText>{1,1}</defaultText> <alternateText language="">{0,unbounded}</alternateText> </comment>

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	
Type	OperationsType
Properties	content complex minOccurs 0
Model	operation+ , comment{0,1}
Children	comment, operation
Instance	<operations xmlns="urn:oasis:names:tc:emergency:edxl:have:2.0"> <operation>{1,unbounded}</operation> <comment>{0,1}</comment> </operations>

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.

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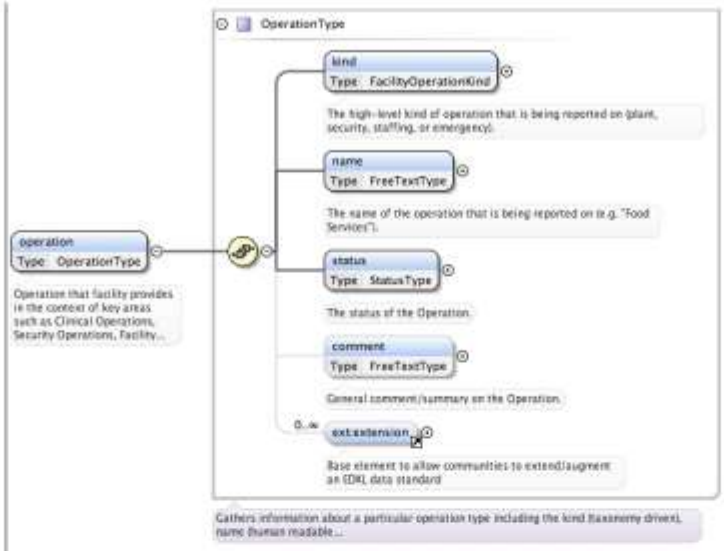
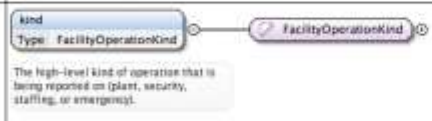
Diagram	
Type	OperationType
Properties	content complex minOccurs 1 maxOccurs unbounded
Model	kind , name , status , comment{0,1} , ext:extension*
Children	comment, ext:extension, kind, name, status
Instance	<operation xmlns="urn:oasis:names:tc:emergency:edxl:have:2.0" xmlns:ext="urn:oasis:names:tc:emergency:edxl:extensi <kind>{1,1}</kind> <name>{1,1}</name> <status>{1,1}</status> <comment>{0,1}</comment> <ext:extension>{0,unbounded}</ext:extension> </operation>

Element OperationType / kind

Namespace	urn:oasis:names:tc:emergency:edxl:have:2.0		
Annotations	The high-level kind of operation that is being reported on (plant, security, staffing, or emergency).		
Diagram			
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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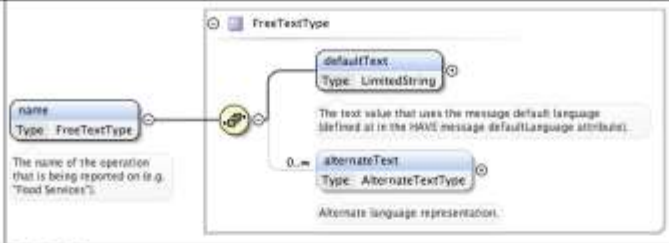
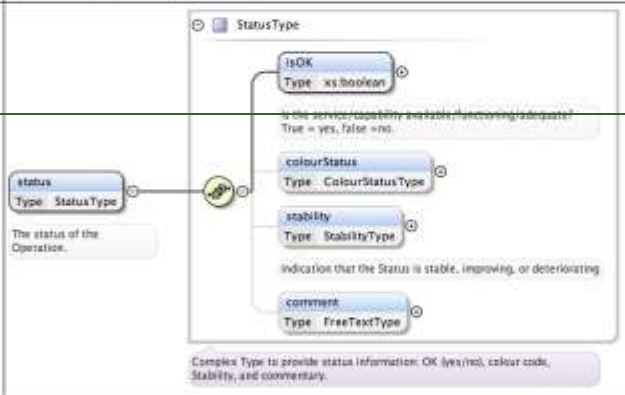
Annotations	The name of the operation that is being reported on (e.g. "Food Services").
Diagram	
Type	FreeTextType
Properties	content complex
Model	defaultText , alternateText*
Children	alternateText, defaultText
Instance	<name xmlns="urn:oasis:names:tc:emergency:edxl:have:2.0"> <defaultText>{1,1}</defaultText> <alternateText language="">{0,unbounded}</alternateText> </name>

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	<status xmlns="urn:oasis:names:tc:emergency:edxl:have:2.0"> <isOK>{1,1}</isOK> <colourStatus>{0,1}</colourStatus> <stability>{0,1}</stability> <comment>{0,1}</comment> </status>

Element OperationType / comment

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

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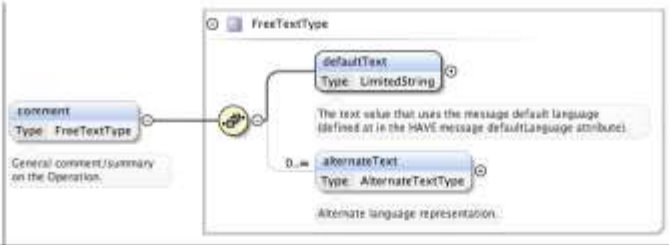
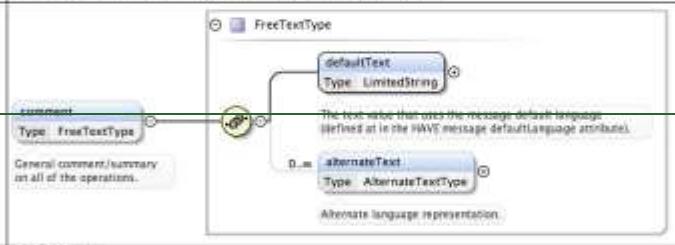
Diagram	
Type	FreeTextType
Properties	content complex minOccurs 0
Model	defaultText , alternateText*
Children	alternateText, defaultText
Instance	<comment xmlns="urn:oasis:names:tc:emergency:edxl:have:2.0"> <defaultText>{1,1}</defaultText> <alternateText language="">{0,unbounded}</alternateText> </comment>

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	content complex minOccurs 0 maxOccurs 1
Model	defaultText , alternateText*
Children	alternateText, defaultText
Instance	<comment xmlns="urn:oasis:names:tc:emergency:edxl:have:2.0"> <defaultText>{1,1}</defaultText> <alternateText language="">{0,unbounded}</alternateText> </comment>

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.

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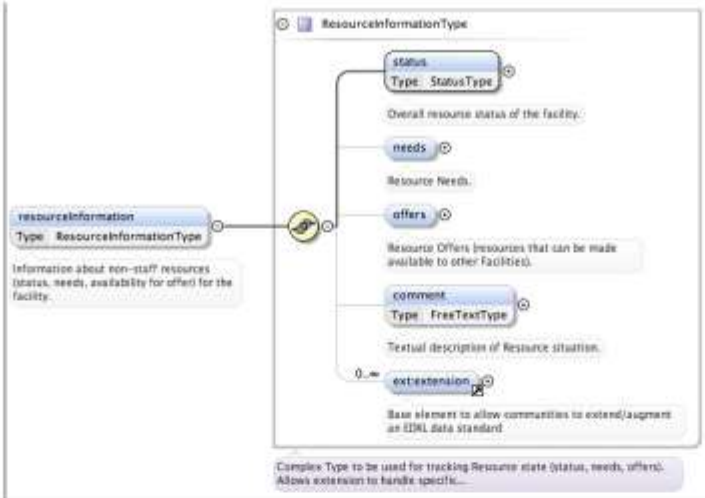
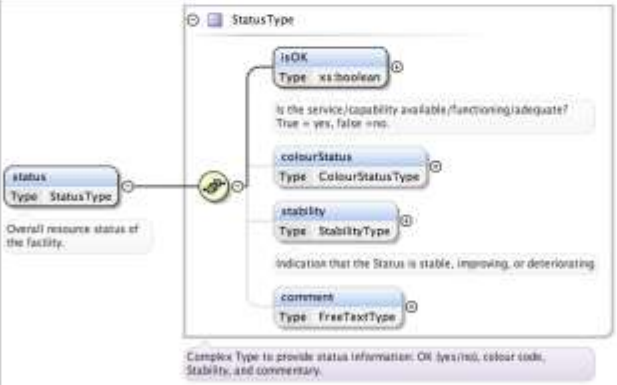
Diagram	
Type	ResourceInformationType
Properties	content complex minOccurs 0
Model	status , needs{0,1} , offers{0,1} , comment{0,1} , ext:extension*
Children	comment, ext:extension, needs, offers, status
Instance	<resourceInformation xmlns="urn:oasis:names:tc:emergency:edxl:have:2.0" xmlns:ext="urn:oasis:names:tc:emergency:ed: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

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

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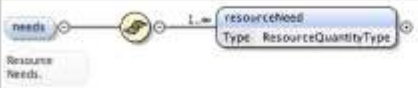
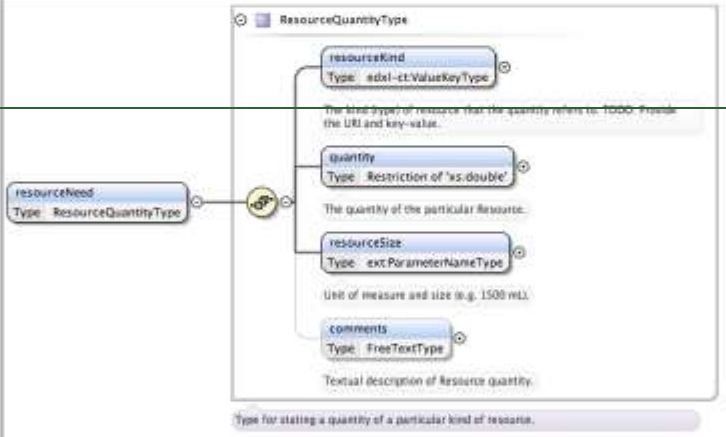
Instance	<status xmlns="urn:oasis:names:tc:emergency:edxl:have:2.0"> <isOR>{1,1}</isOR> <colourStatus>{0,1}</colourStatus> <stability>{0,1}</stability> <comment>{0,1}</comment> </status>

Element ResourceInformationType / needs

Namespace	urn:oasis:names:tc:emergency:edxl:have:2.0
Annotations	Resource Needs.
Diagram	
Properties	content complex minOccurs 0
Model	resourceNeed+
Children	resourceNeed
Instance	<needs xmlns="urn:oasis:names:tc:emergency:edxl:have:2.0"> <resourceNeed>{1,unbounded}</resourceNeed> </needs>

Element ResourceInformationType / needs / resourceNeed

Namespace	urn:oasis:names:tc:emergency:edxl:have:2.0
Diagram	
Type	ResourceQuantityType
Properties	content complex maxOccurs unbounded
Model	resourceKind , quantity , resourceSize , comments{0,1}
Children	comments, quantity, resourceKind, resourceSize
Instance	<resourceNeed xmlns="urn:oasis:names:tc:emergency:edxl:have:2.0"> <resourceKind>{1,1}</resourceKind> <quantity>{1,1}</quantity> <resourceSize xPath="">{1,1}</resourceSize> <comments>{0,1}</comments> </resourceNeed>

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.

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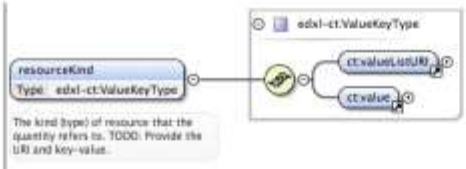
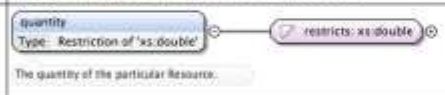
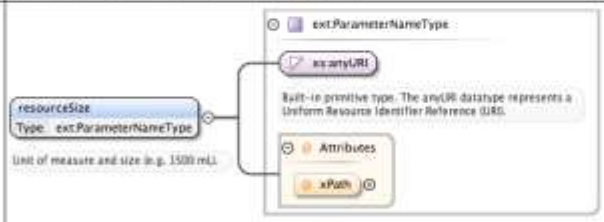
Diagram	
Type	ct:ValueKeyType
Properties	content complex
Model	ct:valueListURI , ct:value
Children	ct:value, ct:valueListURI
Instance	<resourceKind xmlns="urn:oasis:names:tc:emergency:edxl:have:2.0" xmlns:edxl-ct="urn:oasis:names:tc:emergency:edxl:ct:1.0"> <edxl-ct:valueListURI>{1,1}</edxl-ct:valueListURI>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

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:edxl:have:2.0
Annotations	Unit of measure and size (e.g. 1500 mL).
Diagram	
Type	ext:ParameterNameType
Properties	content complex
Attributes	QName: xPath; Type: xs:string; Use: optional

Element ResourceQuantityType / comments

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

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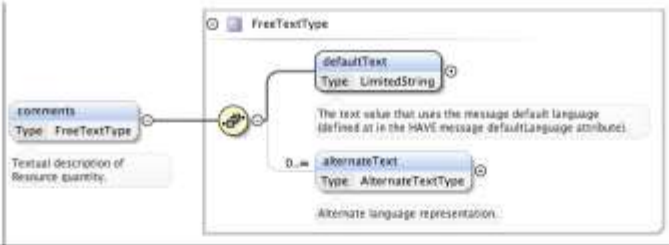
Diagram	
Type	FreeTextType
Properties	content complex minOccurs 0
Model	defaultText , alternateText*
Children	alternateText, defaultText
Instance	<comments xmlns="urn:oasis:names:tc:emergency:edxl:have:2.0"> <defaultText>{1,1}</defaultText> <alternateText language="">{0,unbounded}</alternateText> </comments>

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	<offers xmlns="urn:oasis:names:tc:emergency:edxl:have:2.0"> <resourceOffer>{1,unbounded}</resourceOffer> </offers>

Element ResourceInformationType / offers / resourceOffer

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

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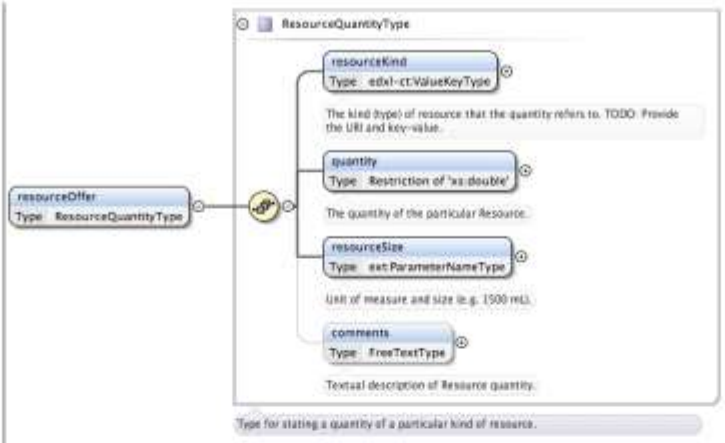
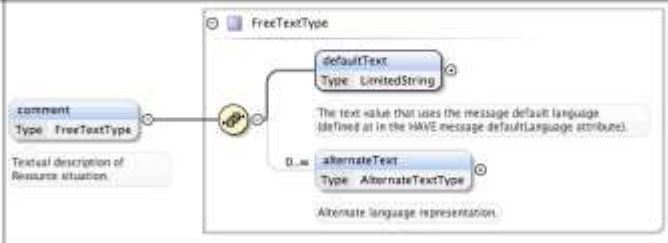
Diagram	
Type	ResourceQuantityType
Properties	content complex maxOccurs unbounded
Model	resourceKind , quantity , resourceSize , comments{0,1}
Children	comments, quantity, resourceKind, resourceSize
Instance	<resourceOffer xmlns="urn:oasis:names:tc:emergency:edxl:have:2.0"> <resourceKind>{1,1}</resourceKind> <quantity>{1,1}</quantity> <resourceSize xPath="">{1,1}</resourceSize> <comments>{0,1}</comments> </resourceOffer>

Element ResourceInformationType / comment

Namespace	urn:oasis:names:tc:emergency:edxl:have:2.0
Annotations	Textual description of Resource situation.
Diagram	
Type	FreeTextType
Properties	content complex minOccurs 0 maxOccurs 1
Model	defaultText , alternateText*
Children	alternateText, defaultText
Instance	<comment xmlns="urn:oasis:names:tc:emergency:edxl:have:2.0"> <defaultText>{1,1}</defaultText> <alternateText language="">{0,unbounded}</alternateText> </comment>

Element FacilityType / staffing

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

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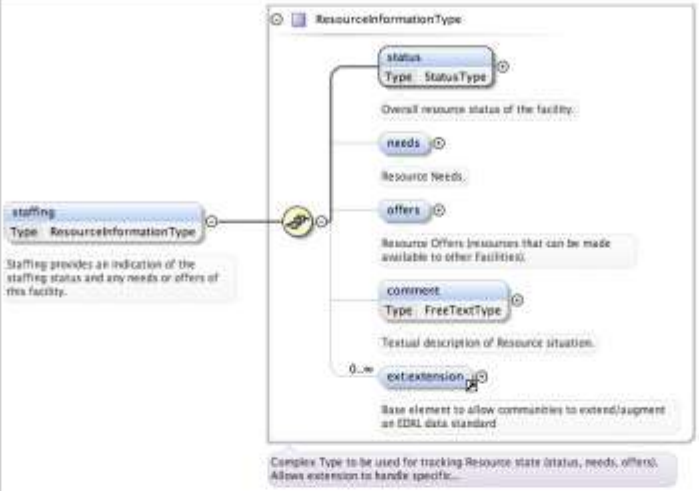
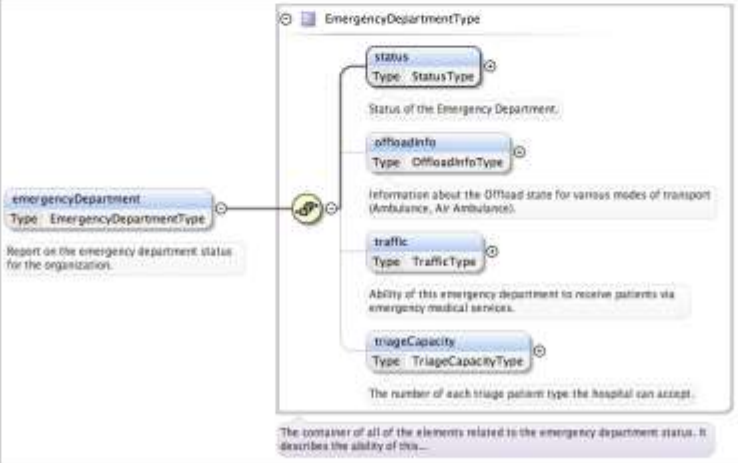
Annotations	Staffing provides an indication of the staffing status and any needs or offers of this facility.
Diagram	
Type	ResourceInformationType
Properties	content complex minOccurs 0
Model	status , needs{0,1} , offers{0,1} , comment{0,1} , ext:extension*
Children	comment, ext:extension, needs, offers, status
Instance	<staffing xmlns="urn:oasis:names:tc:emergency:edxl:have:2.0" xmlns:ext="urn:oasis:names:tc:emergency:edxl:extensio <status>{1,1}</status> <needs>{0,1}</needs> <offers>{0,1}</offers> <comment>{0,1}</comment> <ext:extension>{0,unbounded}</ext:extension> </staffing>

Element FacilityType / emergencyDepartment

Namespace	urn:oasis:names:tc:emergency:edxl:have:2.0
Annotations	Report on the emergency department status for the organization.
Diagram	
Type	EmergencyDepartmentType

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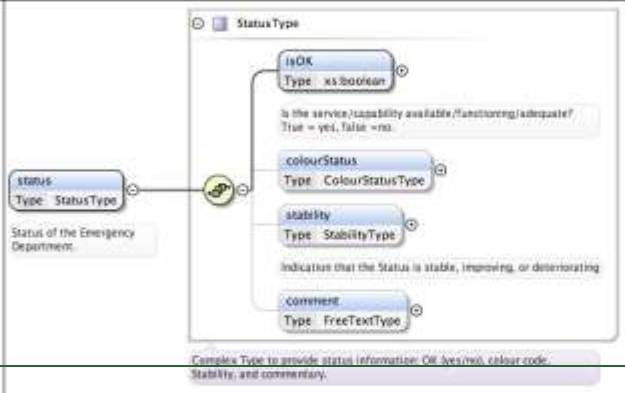
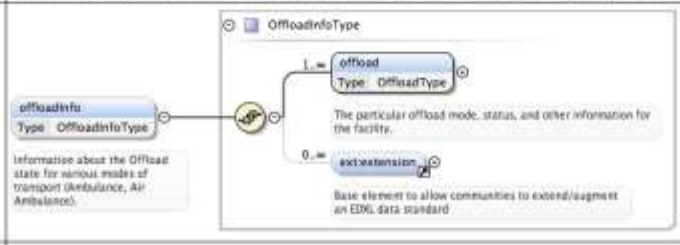
Properties	content	complex
	minOccurs	0
Model	status , offloadInfo{0,1} , traffic{0,1} , triageCapacity{0,1}	
Children	offloadInfo, status, traffic, triageCapacity	
Instance	<emergencyDepartment xmlns="urn:oasis:names:tc:emergency:edxl:have:2.0"> <status>{1,1}</status> <offloadInfo>{0,1}</offloadInfo>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

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	<status xmlns="urn:oasis:names:tc:emergency:edxl:have:2.0"> <isOK>{1,1}</isOK> <colourStatus>{0,1}</colourStatus> <stability>{0,1}</stability> <comment>{0,1}</comment> </status>	

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

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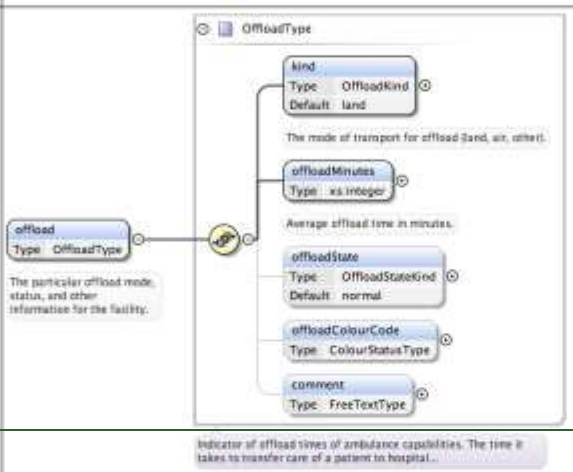
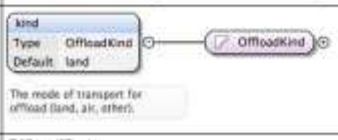
	minOccurs 0
Model	offload+ , ext:extension*
Children	ext:extension, offload
Instance	<offloadInfo xmlns="urn:oasis:names:tc:emergency:edxl:have:2.0" xmlns:ext="urn:oasis:names:tc:emergency:edxl:exten <offload>{1,unbounded}</offload> <ext:extension>{0,unbounded}</ext:extension> </offloadInfo>

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	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	<offload xmlns="urn:oasis:names:tc:emergency:edxl:have:2.0"> <kind>{1,1}</kind> <offloadMinutes>{1,1}</offloadMinutes> <offloadState>{0,1}</offloadState> <offloadColourCode>{0,1}</offloadColourCode> <comment>{0,1}</comment> </offload>

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	content simple default land

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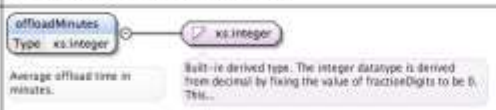
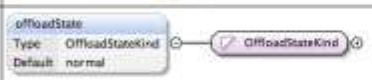
Facets	enumeration	land
	enumeration	air
	enumeration	other

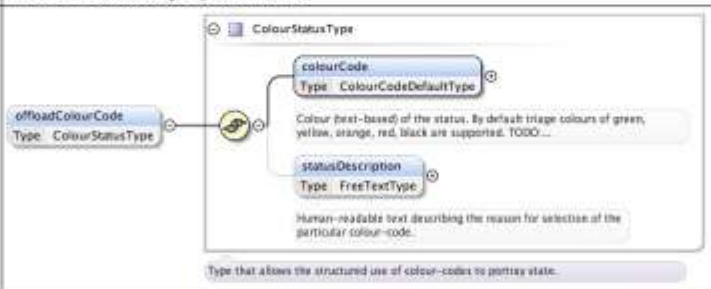
Element offloadType / offloadMinutes

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	<offloadColourCode xmlns="urn:oasis:names:tc:emergency:edxl:have:2.0"> <colourCode>{1,1}</colourCode> <statusDescription>{0,1}</statusDescription> </offloadColourCode>

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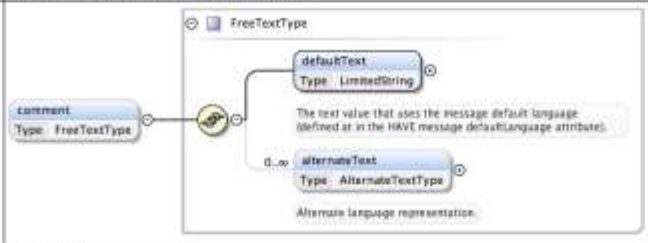
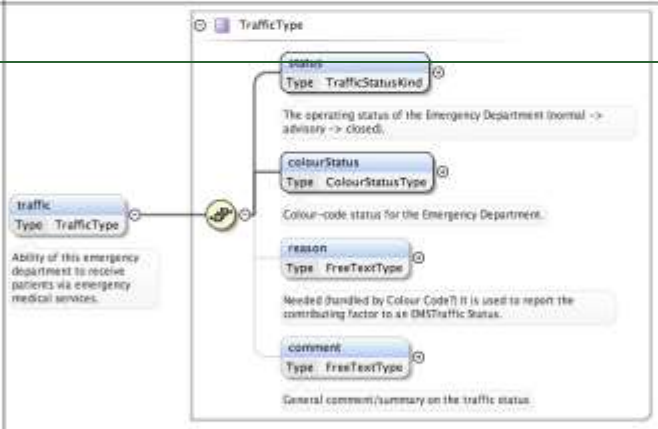
Element `OffloadType / comment`

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	`<comment xmlns="urn:oasis:names:tc:emergency:edxl:have:2.0">`
	`<defaultText>{1,1}</defaultText>`
	`<alternateText language="">{0,unbounded}</alternateText>`
	`</comment>`

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	content: complex minOccurs: 0
Model	status , colourStatus , reason{0,1} , comment{0,1}
Children	colourStatus, comment, reason, status

Instance	`<traffic xmlns="urn:oasis:names:tc:emergency:edxl:have:2.0">`
	`<status>{1,1}</status>`
	`<colourStatus>{1,1}</colourStatus>`
	`<reason>{0,1}</reason>`
	`<comment>{0,1}</comment>`
	`</traffic>`

Element `TrafficType / status`

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

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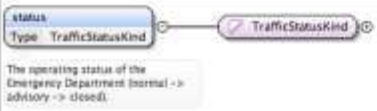
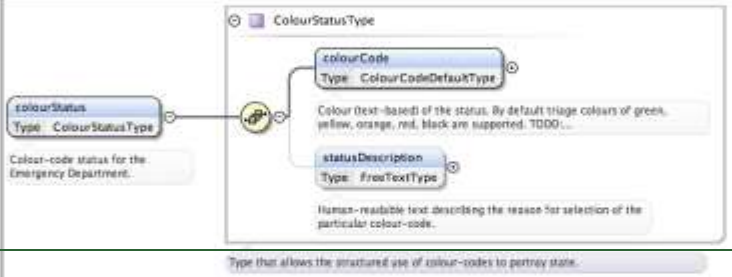
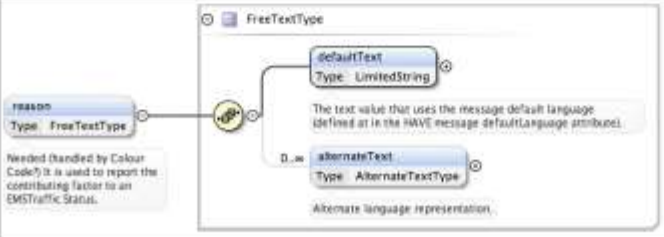
Annotations	The operating status of the Emergency Department (normal -> advisory -> closed).		
Diagram			
Type	TrafficStatusKind		
Properties	content	simple	
Facets	enumeration	normal	Traffic is at levels that are within norms.
	enumeration	advisory	Traffic levels are high enough to warrant notifying 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	<colourStatus xmlns="urn:oasis:names:tc:emergency:edxl:have:2.0"> <colourCode>{1,1}</colourCode> <statusDescription>{0,1}</statusDescription> </colourStatus>		

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	

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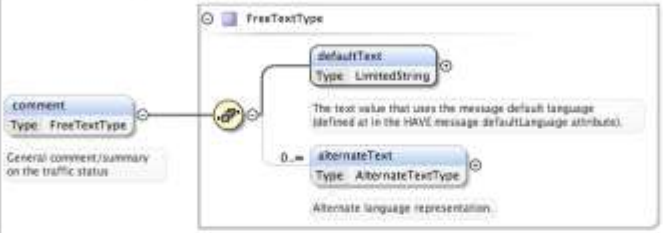
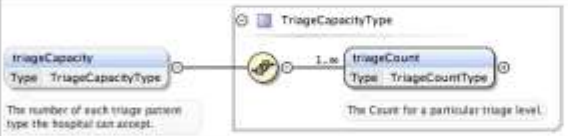
Model	defaultText , alternateText*
Children	alternateText, defaultText
Instance	<reason xmlns="urn:oasis:names:tc:emergency:edxl:have:2.0"> <defaultText>{1,1}</defaultText> <alternateText language="">{0,unbounded}</alternateText> </reason>

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	<comment xmlns="urn:oasis:names:tc:emergency:edxl:have:2.0"> <defaultText>{1,1}</defaultText> <alternateText language="">{0,unbounded}</alternateText> </comment>

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	<triageCapacity xmlns="urn:oasis:names:tc:emergency:edxl:have:2.0"> <triageCount>{1,unbounded}</triageCount> </triageCapacity>

Element TriageCapacityType / triageCount

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

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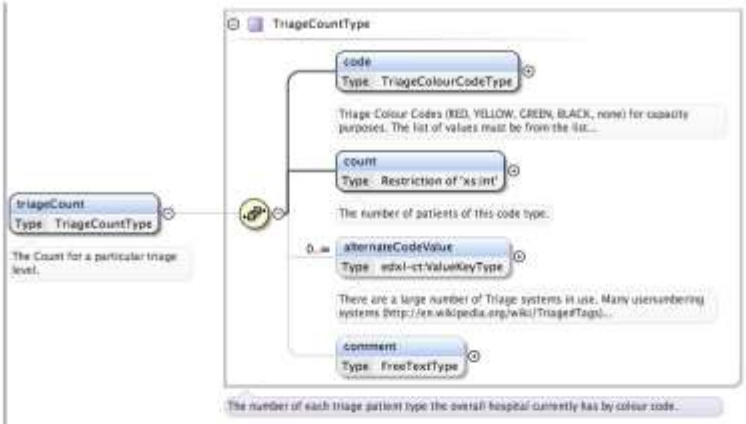
Diagram	
Type	TriageCountType
Properties	content complex minOccurs 1 maxOccurs unbounded
Model	code , count , alternateCodeValue* , comment{0,1}
Children	alternateCodeValue, code, comment, count
Instance	<triageCount xmlns="urn:oasis:names:tc:emergency:edxl:have:2.0"> <code>{1,1}</code> <count>{1,1}</count> <alternateCodeValue>{0,unbounded}</alternateCodeValue> <comment>{0,1}</comment> </triageCount>

Element TriageCountType / code

Namespace	urn:oasis:names:tc:emergency:edxl: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		
Type	TriageColourCodeType	
Type hierarchy	• xs:token • ct:EDXLStringType • TriageColourCodeType	
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

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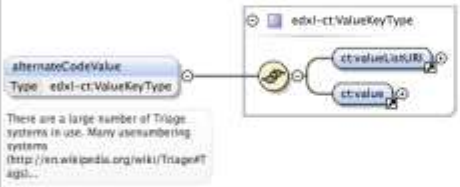
Element TriageCountType / count

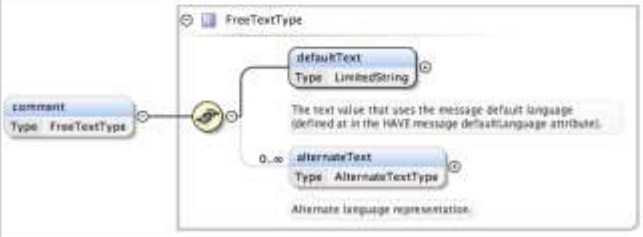
Namespace	urn:oasis:names:tc:emergency:edxl:have:2.0
Annotations	The number of patients of this code type.
Diagram	
Type	restriction of xs:int
Properties	content simple
Facets	minInclusive 0

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 usenumbering systems (http://en.wikipedia.org/wiki/Triage#Tags) 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 untreatable). 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	


```
<alternateCodeValue xmlns="urn:oasis:names:tc:emergency:edxl:have:2.0" xmlns:edxl-
ct="urn:oasis:names:tc:emergency:edxl:ct:1.0">
  <edxl-ct:valueListURI>{1,1}</edxl-ct:valueListURI>
  <edxl-ct:value>{1,1}</edxl-ct:value>
</alternateCodeValue>
```

Element TriageCountType / comment

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

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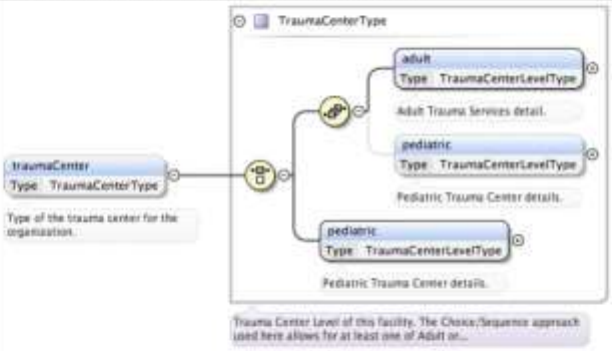
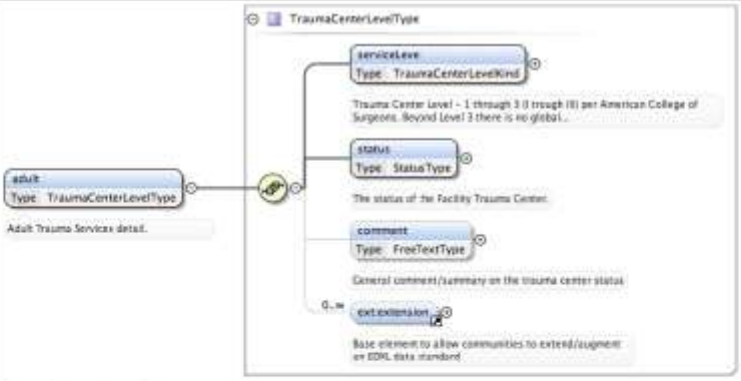
Model	defaultText , alternateText*
Children	alternateText, defaultText
Instance	<comment xmlns="urn:oasis:names:tc:emergency:edxl:have:2.0"> <defaultText>{1,1}</defaultText> <alternateText language="">{0,unbounded}</alternateText> </comment>

Element FacilityType / traumaCenter

Namespace	urn:oasis:names:tc:emergency:edxl: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	<traumaCenter xmlns="urn:oasis:names:tc:emergency:edxl:have:2.0"> <adult>{1,1}</adult> <pediatric>{0,1}</pediatric> <pediatric>{1,1}</pediatric> </traumaCenter>

Element TraumaCenterType / adult

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

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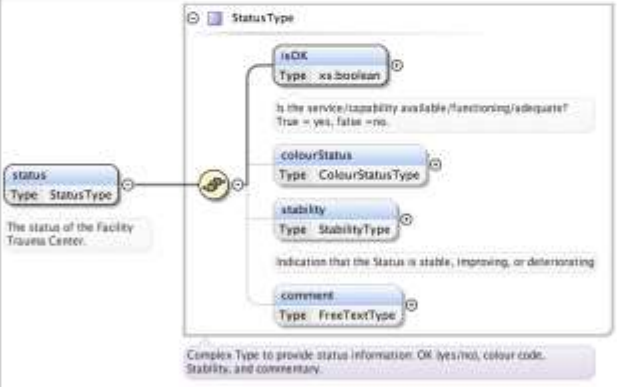
Model	serviceLevel , status , comment{0,1} , ext:extension*
Children	comment, ext:extension, serviceLevel, status
Instance	<adult xmlns="urn:oasis:names:tc:emergency:edxl:have:2.0" xmlns:ext="urn:oasis:names:tc:emergency:edxl:extension:1 <serviceLevel>{1,1}</serviceLevel> <status>{1,1}</status> <comment>{0,1}</comment> <ext:extension>{0,unbounded}</ext:extension> </adult>

Element TraumaCenterLevelType / serviceLevel

Namespace	urn:oasis:names:tc:emergency:edxl:have:2.0		
Annotations	Trauma Center Level - 1 through 3 (I trough III) per American College of Surgeons. Beyond Level 3 there is no global standard but this is a good first approximation.		
Diagram			
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:edxl: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	<status xmlns="urn:oasis:names:tc:emergency:edxl:have:2.0"> <isOK>{1,1}</isOK> <colourStatus>{0,1}</colourStatus> <stability>{0,1}</stability> <comment>{0,1}</comment> </status>

Element TraumaCenterLevelType / comment

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

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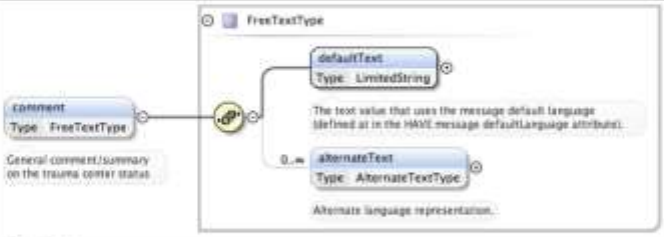
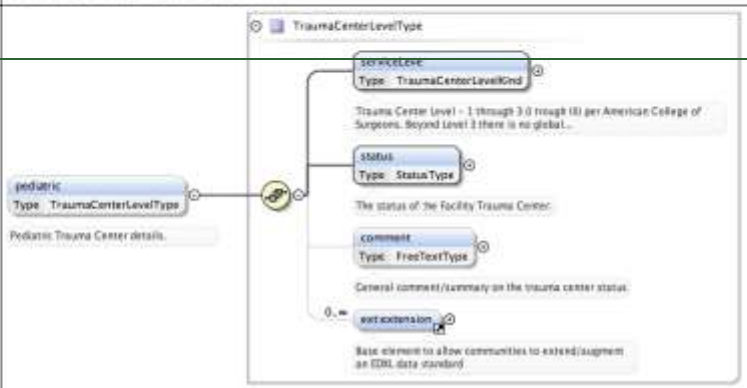
Annotations	General comment/summary on the trauma center status
Diagram	
Type	FreeTextType
Properties	content complex minOccurs 0 maxOccurs 1
Model	defaultText , alternateText*
Children	alternateText, defaultText
Instance	<comment xmlns="urn:oasis:names:tc:emergency:edxl:have:2.0"> <defaultText>{1,1}</defaultText> <alternateText xml:lang="">{0,unbounded}</alternateText> </comment>

Element TraumaCenterType / pediatric

Namespace	urn:oasis:names:tc:emergency:edxl:have:2.0
Annotations	Pediatric Trauma Center details.
Diagram	
Type	TraumaCenterLevelType
Properties	content complex minOccurs 0
Model	serviceLevel , status , comment{0,1} , ext:extension*
Children	comment, ext:extension, serviceLevel, status
Instance	<pediatric xmlns="urn:oasis:names:tc:emergency:edxl:have:2.0" xmlns:ext="urn:oasis:names:tc:emergency:edxl:extensi <serviceLevel>{1,1}</serviceLevel> <status>{1,1}</status> <comment>{0,1}</comment> <ext:extension>{0,unbounded}</ext:extension> </pediatric>

Element FacilityType / comment

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

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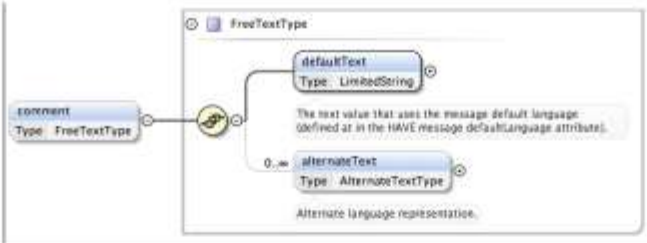
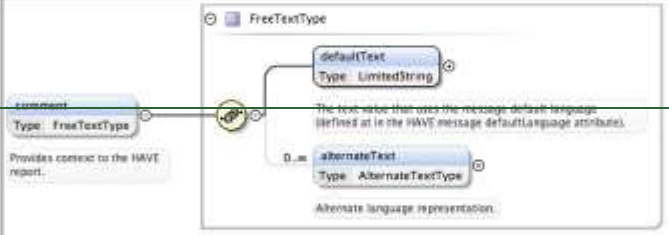
Diagram	
Type	FreeTextType
Properties	content complex minOccurs 0
Model	defaultText , alternateText*
Children	alternateText, defaultText
Instance	<comment xmlns="urn:oasis:names:tc:emergency:edxl:have:2.0"> <defaultText>{1,1}</defaultText> <alternateText language="">{0,unbounded}</alternateText> </comment>

Element HAVE / comment

Namespace	urn:oasis:names:tc:emergency:edxl:have:2.0
Annotations	Provides context to the HAVE report.
Diagram	
Type	FreeTextType
Properties	content complex minOccurs 0
Model	defaultText , alternateText*
Children	alternateText, defaultText
Instance	<comment xmlns="urn:oasis:names:tc:emergency:edxl:have:2.0"> <defaultText>{1,1}</defaultText> <alternateText language="">{0,unbounded}</alternateText> </comment>

Complex Type(s)

Complex Type OrganizationInformationType

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

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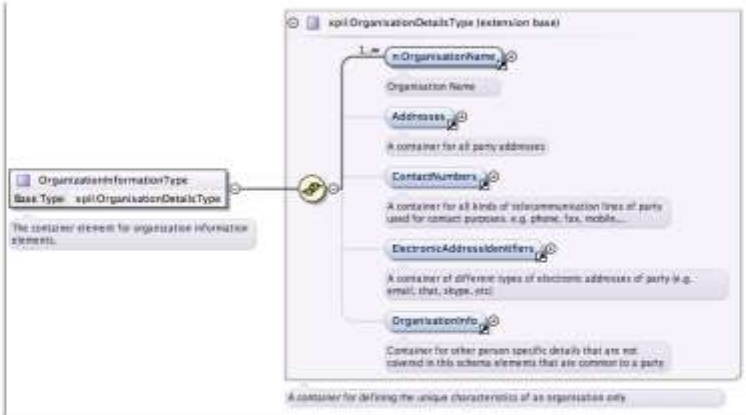
Diagram	
Type	extension of OrganisationDetailsType
Type hierarchy	• OrganisationDetailsType • OrganizationInformationType
Used by	Element HAVE/organizationInformation
Model	OrganisationName+ , Addresses{0,1} , ContactNumbers{0,1} , ElectronicAddressIdentifiers{0,1} , OrganisationInfo{0,1}
Children	Addresses, ContactNumbers, ElectronicAddressIdentifiers, OrganisationInfo, OrganisationName

Complex Type `FacilityType`

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

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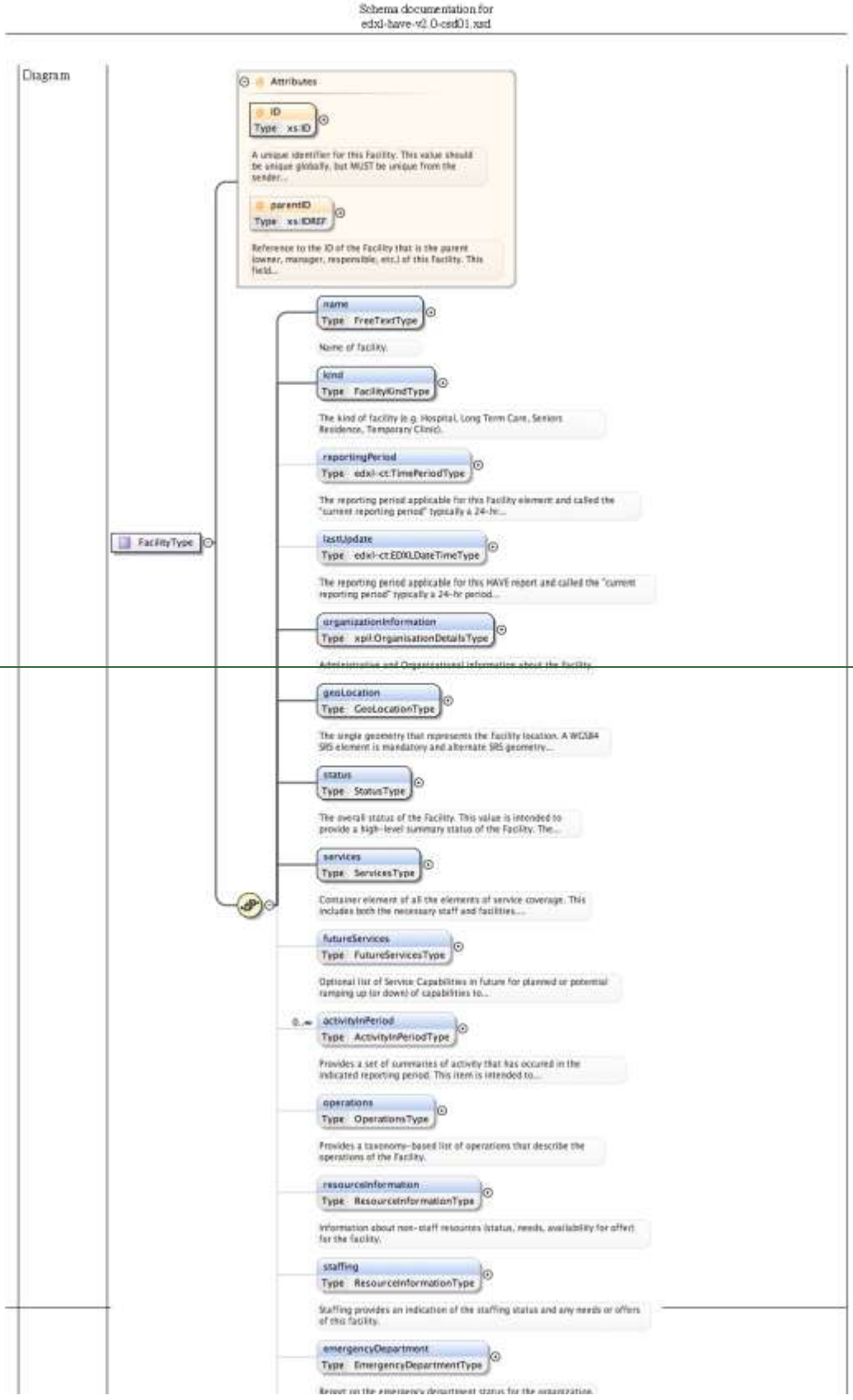

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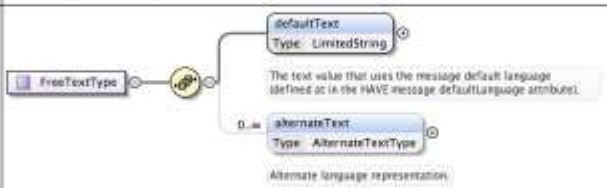
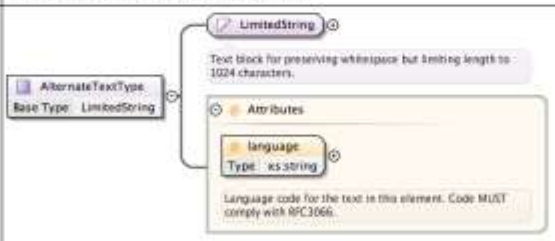
Used by	Element	HAVE/facility		
Model	name , kind , reportingPeriod{0,1} , lastUpdate{0,1} , organizationInformation , geoLocation , status , services , futureServices{0,1} , activityInPeriod* , operations{0,1} , resourceInformation{0,1} , staffing{0,1} , emergencyDepartment{0,1} , traumaCenter{0,1} , 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		
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/comment, 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	• xs:string • LimitedString • AlternateTextType	
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.	

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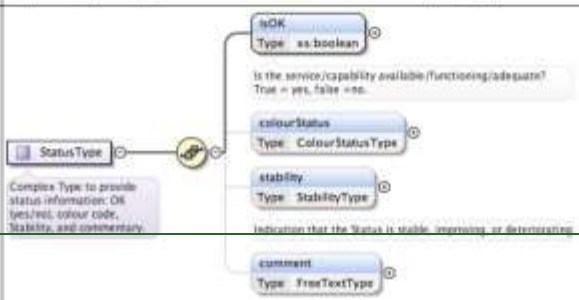
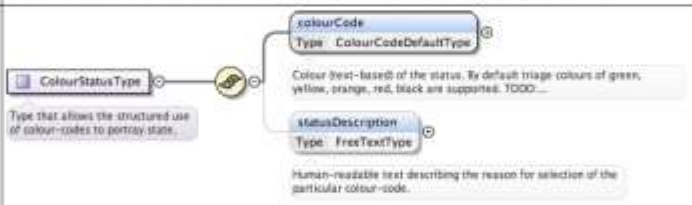
Complex Type GeoLocationType

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

Complex Type StatusType

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

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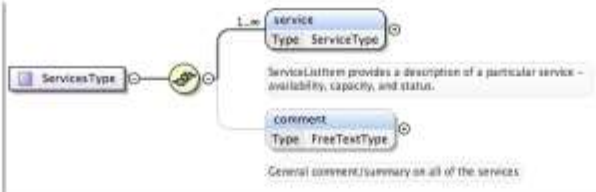
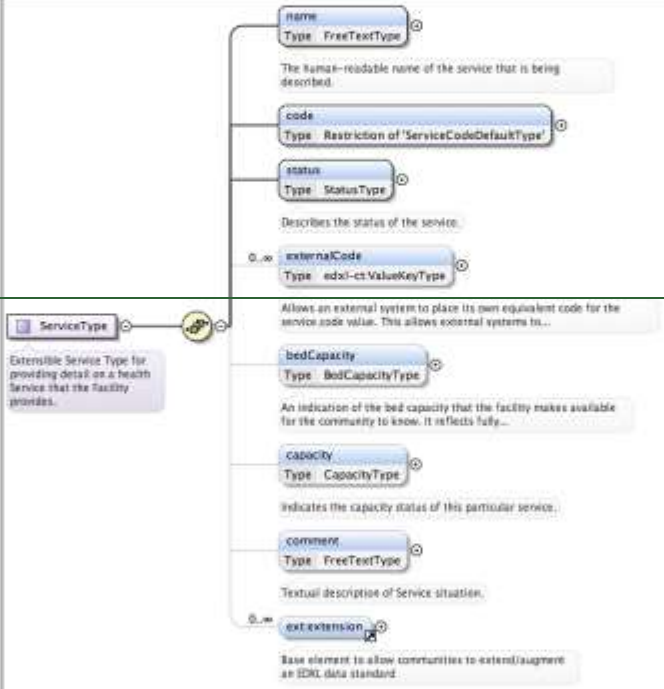
Diagram	
Used by	Element FacilityType/services
Model	service+ , comment{0,1}
Children	comment, service

Complex Type `ServiceType`

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

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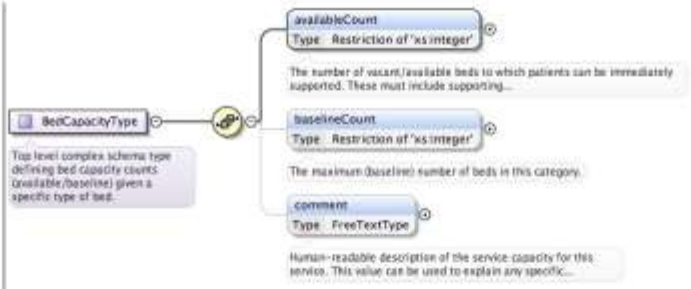
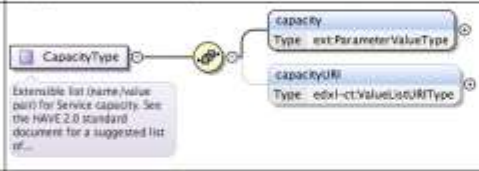
Diagram	
Used by	Element ServiceType/bedCapacity
Model	availableCount , baselineCount{0,1} , comment{0,1}
Children	availableCount, baselineCount, comment

Complex Type `CapacityType`

Namespace	urn:oasis:names:tc:emergency:edxl:have:2.0
Annotations	Extensible list (name/value pair) for Service capacity. See the HAVE 2.0 standard document for a suggested list of capacities.
Diagram	
Used by	Element ServiceType/capacity
Model	capacity , capacityURI{0,1}
Children	capacity, capacityURI

Complex Type `FutureServicesType`

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

Complex Type `ActivityInPeriodType`

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

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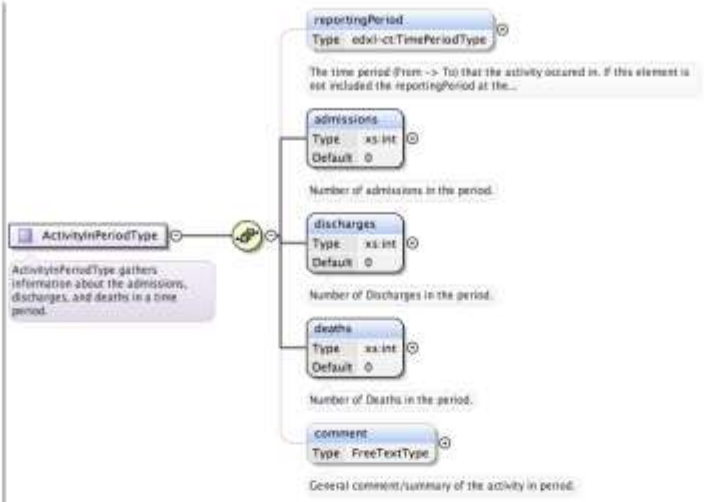
Diagram	
Used by	Element FacilityType/activityInPeriod
Model	reportingPeriod{0,1} , admissions , discharges , deaths , comment{0,1}
Children	admissions, comment, deaths, discharges, reportingPeriod

Complex Type `OperationsType`

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

Complex Type `OperationType`

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

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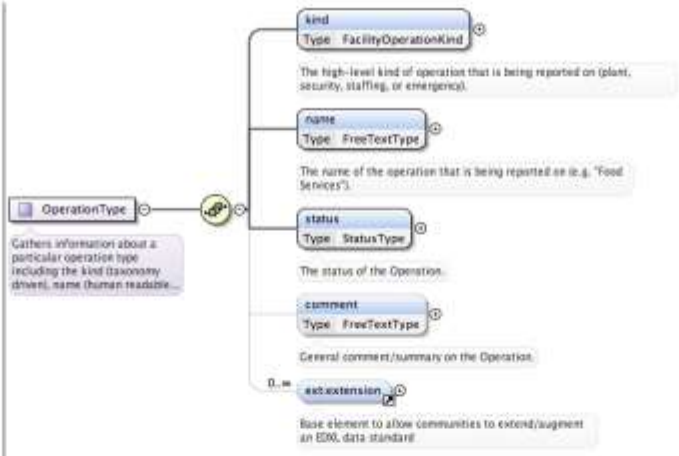
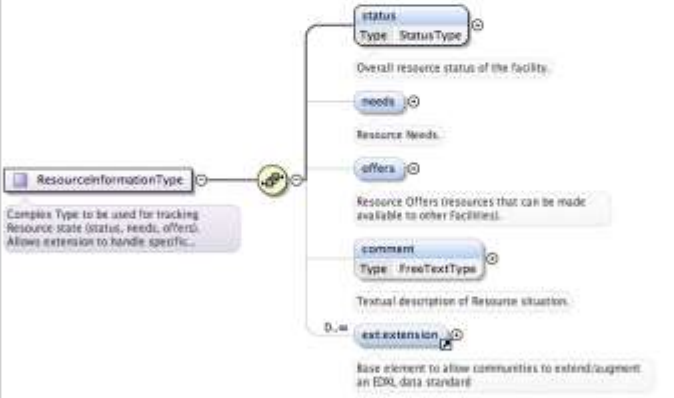
Diagram	
Used by	Element OperationsType/operation
Model	kind , name , status , comment{0,1} , ext:extension*
Children	comment, ext:extension, kind, name, status

Complex Type `ResourceInformationType`

Namespace	urn:oasis:names:tc: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. NIEM payloads, lookups for interoperability with other systems).`
Diagram	
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:tc:emergency:edxl:have:2.0
Annotations	`Type for stating a quantity of a particular kind of resource.`

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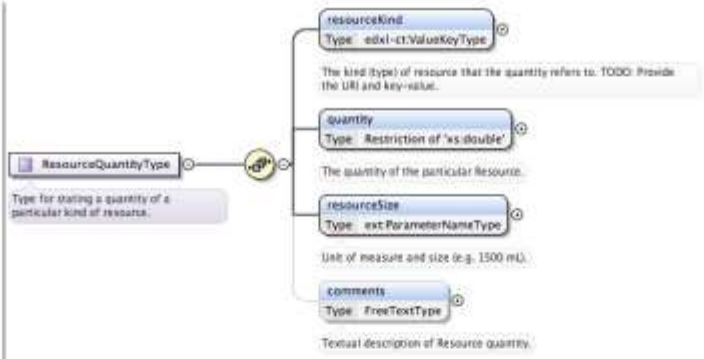
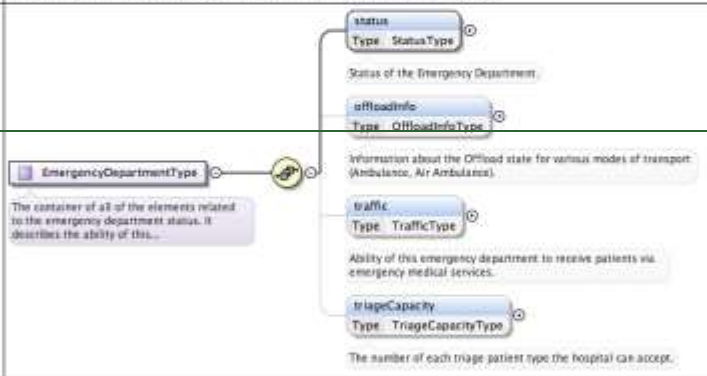
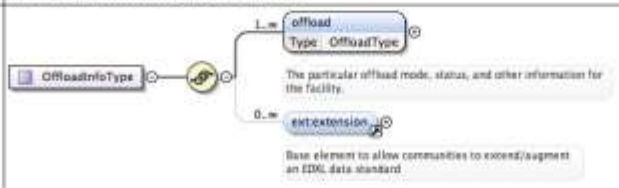
Diagram	
Used by	Elements ResourceInformationType/needs/resourceNeed, ResourceInformationType/offers/resourceOffer
Model	resourceKind , quantity , resourceSize , comments{0,1}
Children	comments, quantity, resourceKind, resourceSize

Complex Type `EmergencyDepartmentType`

Namespace	urn:oasis:names:tc:emergency:edxl:have:2.0
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	
Used by	Element FacilityType/emergencyDepartment
Model	status , offloadInfo{0,1} , traffic{0,1} , triageCapacity{0,1}
Children	offloadInfo, status, traffic, triageCapacity

Complex Type `OffloadInfoType`

Namespace	urn:oasis:names:tc:emergency:edxl:have:2.0
Diagram	
Used by	Element EmergencyDepartmentType/offloadInfo
Model	offload+ , ext:extension*
Children	ext:extension, offload

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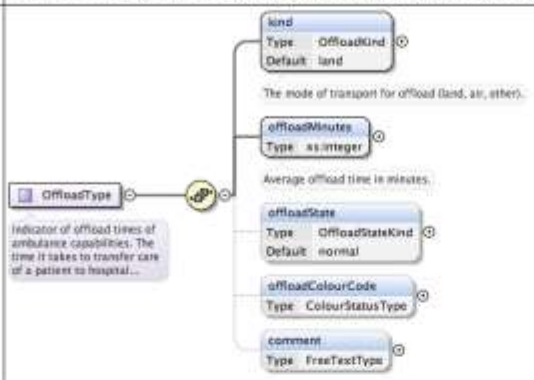
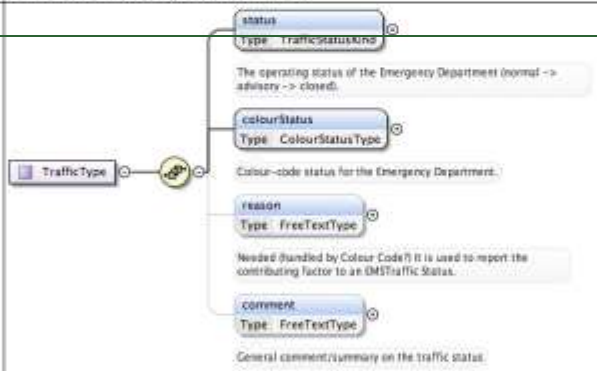
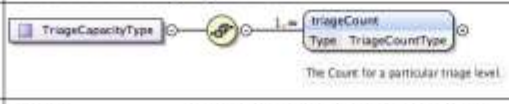
Complex Type `OffloadType`

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

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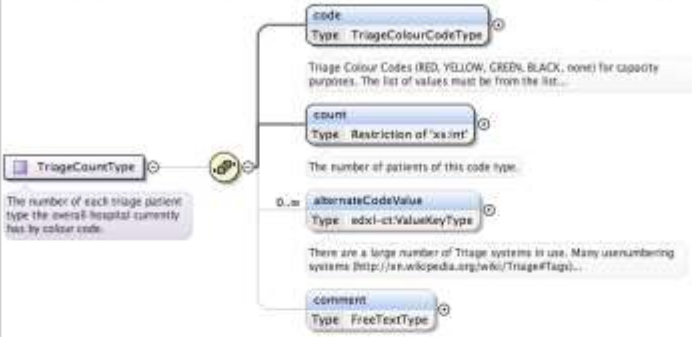
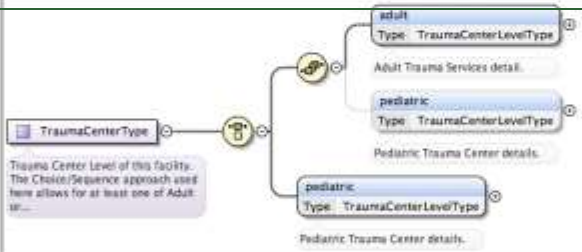
Complex Type `TriageCountType`

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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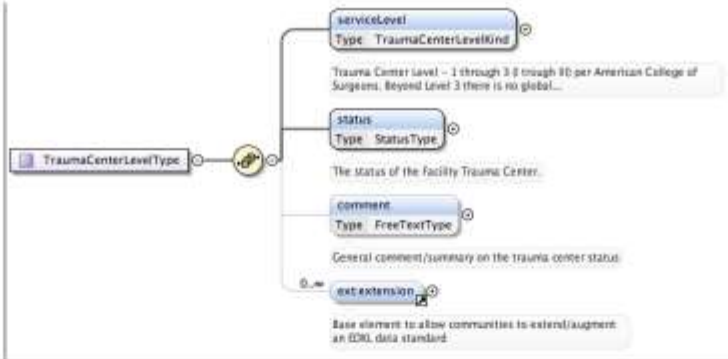
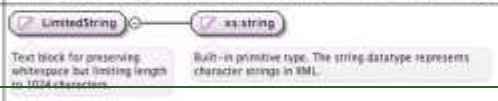
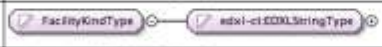
Diagram		
Used by	Elements	TraumaCenterType/adult, TraumaCenterType/pediatric
Model	serviceLevel , status , comment{0,1} , ext:extension*	
Children	comment, ext:extension, serviceLevel, status	

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		
Type	restriction of xs:string	
Facets	whiteSpace	preserve
	maxLength	1024
Used by	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	• xs:token • ct:EDXLStringType • FacilityKindType	
Facets	minLength	1
	maxLength	1023
	enumeration	hospital
	enumeration	longTermCare
	enumeration	urgentCareClinic
	enumeration	temporaryFacility
	enumeration	other
Used by	Element	FacilityType/kind

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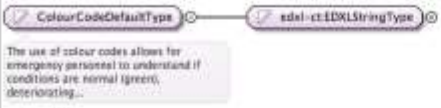
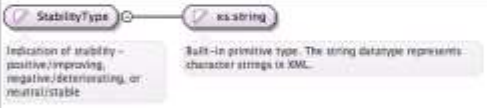
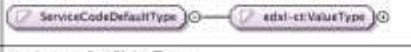
Simple Type ColourCodeDefaultType

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			
Type	restriction of ct:EDXLStringType		
Type hierarchy	• xs:token • ct:EDXLStringType • ColourCodeDefaultType		
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			
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	• xs:string • ct:ValueType • ServiceCodeDefaultType		
Facets	enumeration	airborneInfectionIsolation	
	enumeration	burnUnit	Burn Center services.
	enumeration	cardiology	Cardiology services.
	enumeration	cardiology.invasive	Cardiology with invasive capabilities.

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	enumeration	cardiology.noninvasive	Cardiology with NO invasive capabilities.
	enumeration	cardiologymi.STEMI	STEMI support
	enumeration	cardiologymi.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	opthalmology	Opthalmology 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 surgey capabilities
	enumeration	surgery.hand	Hand surgery capabilities
	enumeration	surgery.reimplantation	Reimplantation 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:oasis:names:tc:emergency:edxl:have:2.0
Diagram	
Type	restriction of xs:token

Facets			
	enumeration	plant	Plant - the key equipment and capabilities needed to operate the facility (e.g. HVAC, cafeteria).

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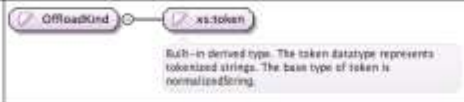
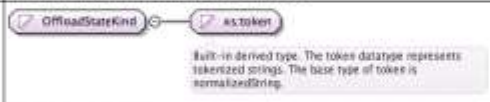
	enumeration	security	Security operations for facility (e.g. patrol, surveillance).
	enumeration	staffing	Staff-related operations (e.g. medical personnel, support staffing, administrative).
	enumeration	emergency	Emergency Department operations.
Used by	Element	OperationType/kind	

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

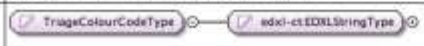
Simple Type OffloadStateKind

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 ct:EDXLStringType	
Type hierarchy	• xs:token	

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	• ct:EDXLStringType • TriageColourCodeType		
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	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.

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Type	xs:ID	
Properties	use:	**required**
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:	**simple**
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 MUST comply with RFC3066. Free text within the document will be assumed to be in this defaultLanguage.	
Type	xs:string	
Properties	use:	**required**
Used by	Element	HAVE

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~~Appendix B.~~Appendix A. Acknowledgments

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~~Appendix C.~~Appendix B. 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~~4~~5	Darrell O'Donnell	Updates to reflect EM TC Committee Specification Draft
WD03	22AUG2017	Rex Brooks	Changes pursuant to new Committee Specification Public Review Draft

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