



Emergency Data Exchange Language (EDXL)

Hospital Availability Exchange (HAVE)

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This specification is related to:

EDXL-DE v1.0 - <http://www.oasis-open.org/committees/emergency>

The EDXL Distribution Element (DE) specification describes a standard message distribution framework for data sharing among emergency information systems using the XML-based Emergency Data Exchange Language (EDXL). This format may be used over any data transmission system, including but not limited to the SOAP HTTP binding.

Abstract:

This Hospital AVailability Exchange (HAVE) describes a standard message for data sharing among emergency information systems using the XML-based Emergency Data Exchange Language (EDXL). This format may be used over any data transmission system, including but not limited to the SOAP HTTP binding.

Status:

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TABLE OF CONTENTS

1	INTRODUCTION.....	5
1.1	OVERVIEW.....	5
1.1.1	PURPOSE.....	5
1.1.2	HISTORY.....	5
1.1.3	STRUCTURE.....	5
1.2	TERMINOLOGY.....	7
1.3	NORMATIVE REFERENCES.....	7
1.4	NON-NORMATIVE REFERENCES.....	8
2	DESIGN PRINCIPLES AND CONCEPTS.....	10
2.1	DESIGN PHILOSOPHY.....	10
2.2	REQUIREMENTS FOR DESIGN.....	10
2.3	EXAMPLE USAGE SCENARIOS.....	10
3	EDXL HOSPITAL AVAILABILITY EXCHANGE (HAVE) ELEMENT STRUCTURE (normative).....	12
3.1	DOCUMENT OBJECT MODEL.....	12
3.2	DATA DICTIONARY.....	13
3.2.1	ORGANIZATION INFORMATION.....	14
3.2.2	EMERGENCY DEPARTMENT STATUS.....	20
3.2.3	HOSPITAL BED CAPACITY STATUS.....	26
3.2.4	SERVICE COVERAGE STATUS.....	31
3.2.5	HOSPITAL FACILITY STATUS.....	42
3.2.6	HOSPITAL RESOURCES STATUS.....	47
3.2.7	SUPPORTING ELEMENTS.....	49
A.	XML SCHEMA FOR THE EDXL Hospital AVailability Exchange (HAVE).....	50
B.	EDXL-HAVE EXAMPLE.....	65
C.	OASIS GML PROFILE NOTE.....	67
C.1	geo-oasis ELEMENTS.....	68
C.2	GROUPS.....	69
C.3	geo-oasis SCHEMA.....	71
D.	ACKNOWLEDGEMENTS.....	73
E.	REVISION HISTORY.....	75

1 INTRODUCTION

1.1 OVERVIEW

1.1.1 PURPOSE

HAVE is a draft XML specification 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 a hospital's facility and operations.

1.1.2 HISTORY

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

Systems that are available today do not record or present data in a standardized format, creating a serious barrier to data sharing between hospitals and emergency response groups. Without data standards, parties of various kinds are unable to view data from hospitals in a state or region that use a different system – unless a specialized interface is developed. Alternatively, such officials must get special passwords and toggle between web pages to get a full picture. Other local emergency responders are unable to get the data imported into the emergency IT tools they use (e.g. a 9-1-1 computer-aided dispatch system or an EOC consequence information management system). They too must get a pass word and go to the appropriate web page. This is very inefficient. A uniform data standard will allow different applications and systems to communicate seamlessly.

1.1.3 STRUCTURE

The EDXL HAVE comprises of the following elements:

<HospitalStatus>

This is the overall top level container element for all the <Hospital> elements that may be present.

41 **<Hospital>**

42

43 This is the top level container element for each reporting organization. Each <Hospital> element has
44 the following set of sub-elements.

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46 **<OrganizationInformation>**

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48 The <OrganizationInformation> element provides basic information about the name and location
49 of the organization about which the status and availability is being reported.

50

51 **<EmergencyDepartmentStatus>**

52

53 The <EmergencyDepartmentStatus> element provides information on the ability of the
54 emergency department of the organization to treat patients.

55

56 **<HospitalBedCapacityStatus>**

57

58 The <HospitalBedCapacityStatus> element provides information on the status and availability of
59 the bed capacity of the organization. The bed capacity information for specific bed types can be
60 reported.

61

62 **<ServiceCoverageStatus>**

63

64 The <ServiceCoverageStatus> element provides information on the availability of specialty
65 service coverage. This includes both the necessary staff and facilities. Some of the services
66 capabilities are broken down into subtypes. This is to allow organizations to designate subtypes,
67 if available. Others can report just the higher level specialties.

68

69 **<HospitalFacilityStatus>**

70

71 The <HospitalFacilityStatus> element provides information on the status of the facility. This
72 includes information on the EOC and the capacity of the facility.

73

74 **<HospitalResourcesStatus>**

75

76 The <HospitalResourcesStatus> element provides information on the status of operations and
77 resources of the organization.

78

79 **<LastUpdateTime>**

80

81 The <LastUpdateTime> element provides information on the time that the information was last
82 updated.

83

84

85 **1.2 TERMINOLOGY**

86
87 The key words “MUST”, “MUST NOT”, “REQUIRED”, “SHALL”, “SHALL NOT”, “SHOULD”, “SHOULD
88 NOT”, “RECOMMENDED”, “MAY”, and “OPTIONAL” in this document are to be interpreted as described
89 in [RFC2119].
90

AHA	American Hospital Association
EDXL	Emergency Data Exchange Language
EOC	Emergency Operations Center
EOP	Emergency Operations Plan
EMS	Emergency Medical Services
GJXDM	Global Justice XML Data Model
HAvBED	Hospital Bed Availability (HAvBED) Project
ICU	Intensive Care Unit
NIEM	National Information Exchange Model
OBGYN	Obstetrics and Gynecology

91
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2 DESIGN PRINCIPLES AND CONCEPTS

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2.1 DESIGN PHILOSOPHY

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The principles that guided the design of the HAVE include:

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- Interoperability - The HAVE message should provide an interoperable mechanism to exchange healthcare organization information among different domains and among multiple systems
- Multi-Use Format – The HAVE message must be designed such that it can be used in everyday events, during mass disasters, and for incident preparedness.
- Flexibility – The design structure must be flexible such that it could be used by a broad range of applications and systems to report status and availability information

2.2 REQUIREMENTS FOR DESIGN

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The Hospital AVailability Specification SHOULD:

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The EDXL HAVE standard MUST:

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1. Allow medical and healthcare organizations to communicate their status and availability information.
2. Be designed to allow its use by a wide variety of medical and healthcare organizations (including hospitals and nursing homes), along with other emergency response organizations (such as emergency management centers, public safety answering points, and dispatch centers).
3. Be able to be used as a payload or content element with the EDXL Distribution Element.
4. Allow the communication of status information of one or more organizations in a single exchange.
5. Allow the communication of the organization's status and availability information with regard to its facilities, operations, services, and resources.
6. Be designed to allow its use in normal operations, day-to-day emergencies and mass disasters.

2.3 EXAMPLE USAGE SCENARIOS

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Use of HAVE during a mass disaster

207 A major disaster has occurred in a heavily populated city. A number of casualties are reported, and the
208 Incident Commander (IC) needs to obtain a common operational picture on the status of the hospitals in
209 the region, including the resources they can offer. The IC sends a message to the regional hospitals for
210 an update on their status and bed availability information.

211

212 Hospitals receive this request, and use their respective systems to send HAVE messages. These
213 messages contain the status of each hospital's emergency department, bed availability information, and
214 the hospital's operations and facilities. These are accepted into the IC's Consequence Incident
215 Management System (CIMS) tool, and similar tools used by other emergency response agencies (e.g.
216 Computer-Aided Dispatch systems used in public safety answering points).

217

218 **Use of HAVE during an everyday emergency**

219

220 A car crash has occurred in a rural area resulting in two badly burned victims, according to on-scene
221 public safety personnel. Before the EMS staff reaches the scene, EMS dispatch sends a request to
222 nearby hospitals for a status of available burn services and burn beds.

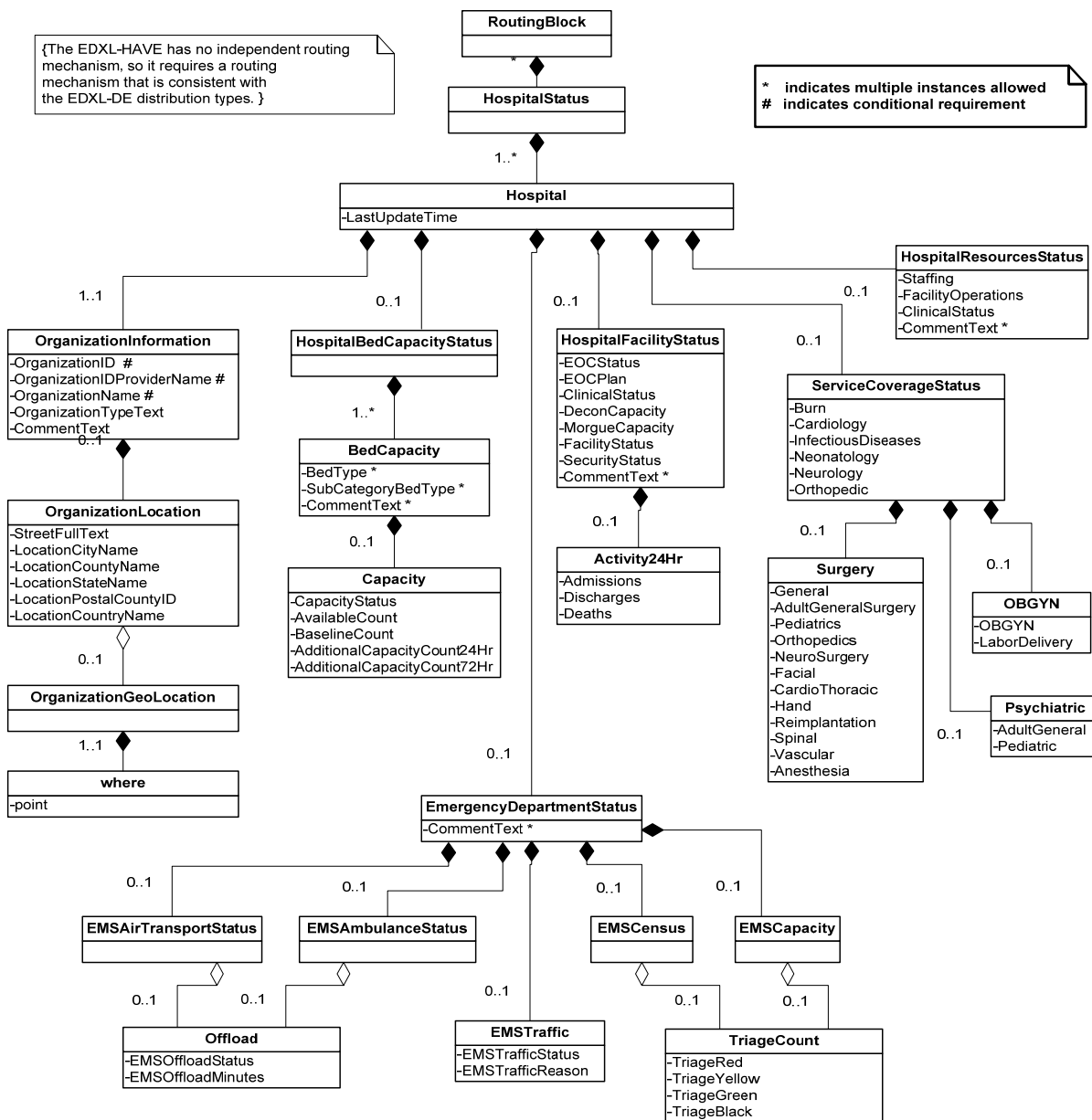
223 A few hospitals respond to the request, and use the service coverage element in the HAVE message to
224 specify the burn coverage available at their facilities. They in turn are able to assemble their burn teams
225 in order to ensure that there is no delay in treatment. Based on the acquired information, the victims are
226 taken to the nearest hospital with the required services.

227

228 **3 EDXL HOSPITAL AVAILABILITY EXCHANGE (HAVE)**
 229 **ELEMENT STRUCTURE (normative)**

230 **3.1 DOCUMENT OBJECT MODEL**

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Figure 1: EDXL-HAVE DOM

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3.2 DATA DICTIONARY

Element	<HospitalStatus>
Type	XML Structure
Usage	REQUIRED , MUST be used once and only once, top level container.
Definition	The top level container element for reporting status of any number of hospitals.
Comments	<ol style="list-style-type: none"> 1. The EDXL-HAVE has no independent routing mechanism, so it requires a routing mechanism that is consistent with the EDXL-DE distribution types. 2. It must contain one or more <Hospital> elements.
Sub-elements	<ul style="list-style-type: none"> • Hospital
Used In	top level element

237

Element	<Hospital>
Type	XML Structure
Usage	REQUIRED , May Use Multiple; Must be used for each reporting hospital status.
Definition	The container element for reporting status of a hospital.
Comments	<ol style="list-style-type: none"> 1. Multiple Instances of the <Hospital> element MAY occur within the <HospitalStatus> container element.
Sub-elements	<ul style="list-style-type: none"> • OrganizationInformation • EmergencyDepartmentStatus • HospitalBedCapacityStatus • ServiceCoverageStatus • HospitalFacilityStatus • HospitalResourcesStatus • LastUpdateTime
Used In	Top level element

238
239

3.2.1 ORGANIZATION INFORMATION

Element	<OrganizationInformation>
Type	XML Structure
Usage	REQUIRED , MUST be used once and only once, top level container
Definition	The container element for organization information elements.
Comments	<ol style="list-style-type: none"> 1. The generic element Organization refers to the entity that is providing the data. 2. This generic name is used throughout this document. 3. Typically, this will include hospitals, nursing care centers, trauma centers etc.
Sub-elements	<ul style="list-style-type: none"> • OrganizationID • OrganizationIDProviderName • OrganizationName • OrganizationTypeText • OrganizationLocation • CommentText
Used In	Top level element

240

Element	<OrganizationID>
Type	xsd:string
Usage	CONDITIONAL
Definition	<p>An identifier of an organization based on the type of organization it is, e.g., for a school, this would be a school identifier, for a lien holder, this would be a lien holder identifier, for a court, this would be a court identifier.</p> <p>Definition Source: GJXDM.</p>
Comments	<ol style="list-style-type: none"> 1. Either the <OrganizationName> or the <OrganizationID> MUST be present. 2. For the purposes of this document, <OrganizationID> is used to specify the identifier for the healthcare organization. 3. This is a unique identifier for the hospital.
Used In	OrganizationInformation

241

Element	<OrganizationIDProviderName>
Type	xsd:string
Usage	CONDITIONAL
Definition	The name of the provider that has provided the identification scheme. This could also be the name a particular identification list.
Comments	<ol style="list-style-type: none"> 1. There are different identification schemes that provide unique identifiers to healthcare organizations. This element can be used to provide a reference to the classification/identification scheme that is being used. 2. If <OrganizationID> is used, <OrganizationIDProviderName> must be used. Example: American Hospital Association
Used In	OrganizationInformation

242

Element	<OrganizationName>
Type	xsd:string
Usage	CONDITIONAL
Definition	The name of the organization. Definition Source: GJXDM
Comments	<ol style="list-style-type: none"> 1. Either the <OrganizationName> or the <OrganizationID> MUST be present. 2. If multiple branches of a hospital are present, the <OrganizationName> may include the location information as well. Example: ABC hospital at Fairfax and ABC hospital at Alexandria
Used In	OrganizationInformation

243

Element	<OrganizationTypeText>
Type	xsd:string
Usage	OPTIONAL
Definition	The general functional type of the organization.

	Definition Source: GJXDM
Comments	Example: Hospital, Nursing Center etc.
Used In	OrganizationInformation

244

Element	<OrganizationLocation>
Type	XML Structure
Usage	OPTIONAL
Definition	The container element for the specifying the location of the organization.
Comments	<ol style="list-style-type: none"> 1. The location consists of the address and the geographic location (which is specified as a point). 2. The geographic coordinates specified in <point> must match the address.
Sub-elements	<ul style="list-style-type: none"> • StreetFullText • LocationCityName • LocationCountyName • LocationStateName • LocationPostalCodeID • LocationCountryName • OrganizationGeoLocation
Used In	Top level element

245

Element	<StreetFullText>
Type	xsd:string
Usage	OPTIONAL
Definition	<p>A complete street reference, e.g., "123 Main Street NW".</p> <p>Definition Source: GJXDM</p>
Used In	OrganizationInformation/OrganizationLocation

246

Element	<LocationCityName>
Type	xsd:string
Usage	OPTIONAL
Definition	A name of a city or town. Definition Source: GJXDM
Comments	
Used In	OrganizationInformation/OrganizationLocation

247

Element	<LocationCountyName>
Type	xsd:string
Usage	OPTIONAL
Definition	A name of a county or parish Definition Source: GJXDM
Comments	
Used In	OrganizationInformation/OrganizationLocation

248

Element	<LocationStateName>
Type	xsd:string
Usage	OPTIONAL
Definition	A name of a state, commonwealth, province, or other sub-region of a country Definition Source: GJXDM
Comments	
Used In	OrganizationInformation/OrganizationLocation

249

Element	<LocationPostalCodeID>
Type	xsd:string
Usage	OPTIONAL
Definition	A zip code or postal code Definition Source: GJXDM
Used In	OrganizationInformation/OrganizationLocation

250

Element	<LocationCountryName>
Type	xsd:string
Usage	OPTIONAL
Definition	A name of a country Definition Source: GJXDM
Used In	OrganizationInformation/OrganizationLocation

251

Element	<OrganizationGeoLocation>
Type	XML Structure
Usage	OPTIONAL
Definition	The container element for specifying the geo-coded address.
Comments	<ol style="list-style-type: none"> 1. This specification uses the OASIS GML profile for specifying the geo-location and its attributes and MUST match the civil address. 2. It contains the <geo-oasis:where> element Note: See Appendix C
Sub-elements	<ul style="list-style-type: none"> • point
Used In	OrganizationInformation/OrganizationLocation

252

Element	<where>
Type	XML Structure
Usage	OPTIONAL
Definition	Root property element of a geo-oasis GML instance
Comments	<ol style="list-style-type: none"> 1. The <where> element has the following sub-elements: <point>, <line>, <polygon> and <envelope> 2. For the purpose of this specification, it is constrained to use only the <point> element. See Appendix C.
Sub-elements/Attributes	<ul style="list-style-type: none"> • point • whereAttrGroup
Used In	OrganizationInformation/OrganizationLocation/OrganizationGeoLocation

253

Element	<point>
Type	geo-oasis: SimplePositionType
Usage	OPTIONAL
Definition	Point property element containing a pair of coordinates representing latitude then longitude in the World Geodetic System 1984 [WGS84] coordinate reference system.
Comments	<ol style="list-style-type: none"> 1. The geo-coded address of the civil location. <pre><OrganizationGeoLocation> <geo-oasis: where> <geo-oasis: point>45.256 -71.92</geo-oasis: point> </geo-oasis: where> </OrganizationGeoLocation></pre> <p>See Appendix C for note on OASIS GML profile.</p>
Used In	OrganizationInformation/OrganizationLocation/OrganizationGeoLocation

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3.2.2 EMERGENCY DEPARTMENT STATUS

Element	<EmergencyDepartmentStatus>
Type	XML Structure
Usage	REQUIRED , MUST be used once and only once, top level container
Definition	The container of all of the elements related to the emergency department status.
Comments	It describes the ability of this emergency department to treat patients.
Sub-elements	<ul style="list-style-type: none">• EMSTraffic• EMSCapacity• EMSCensus• EMSAmbulanceStatus• EMSAirTransportStatus• CommentText
Used In	Top level element

259

Element	<EMSTraffic>
Type	XML Structure
Usage	REQUIRED , MUST be used once and only once, top level container
Definition	The container of all of the elements related to the status of operations of EMS traffic. It defines the ability of this emergency department to receive patients via emergency medical services.
Comments	
Sub-elements	<ul style="list-style-type: none">• EMSTrafficStatus• EMSTrafficReason• CommentText
Used In	EmergencyDepartmentStatus

260
261

Element	<EMSTrafficStatus>
Type	xsd:string with restrictions
Usage	OPTIONAL
Definition	Identifies the status of EMS traffic operations.
Comments	Value must be one of: 1. Normal - Accepting all EMS traffic 2. Advisory - Experiencing specific resource limitations which may affect transport of some EMS traffic. 3. Closed - Requesting re-route of EMS traffic to other facilities. 4. NotApplicable - Not Applicable. This hospital does not have an emergency department.
Used In	EmergencyDepartmentStatus/EMSTraffic

262

Element	<EMSTrafficReason>
Type	xsd:string with restrictions
Usage	OPTIONAL
Definition	It is used to report the contributing factor to an EMSTraffic Status.
Comments	
Used In	EmergencyDepartmentStatus/EMSTraffic

263

Element	<EMSCapacity>
Type	XML Structure
Usage	OPTIONAL
Definition	The number of each triage patient type the hospital can accept.
Comments	
Sub-elements	<ul style="list-style-type: none"> • TriageCount

Used In	EmergencyDepartmentStatus
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264

Element	<EMSCensus>
Type	XML Structure
Usage	OPTIONAL
Definition	The number of each triage patient type the overall hospital currently has.
Comments	
Sub-elements	<ul style="list-style-type: none"> • TriageCount
Used In	EmergencyDepartmentStatus

265

Element	<TriageCount>
Type	XML Structure
Usage	OPTIONAL
Definition	The number of each triage patient type the overall hospital currently has.
Comments	
Sub-elements	<ul style="list-style-type: none"> • TriageRed • TriageYellow • TriageGreen • TriageBlack
Used In	EmergencyDepartmentStatus/EMSCensus EmergencyDepartmentStatus/EMSCapacity

266

Element	<TriageRed>
Type	xsd:integer
Usage	OPTIONAL

Definition	Number of victims with immediate needs.
Comments	
Used In	EmergencyDepartmentStatus/EMSCapacity/TriageCount EmergencyDepartmentStatus/EMSCensus/TriageCount

267

Element	<TriageYellow>
Type	xsd:integer
Usage	OPTIONAL
Definition	Number of victims with delayed needs
Comments	
Used In	EmergencyDepartmentStatus/EMSCapacity/TriageCount EmergencyDepartmentStatus/EMSCensus/TriageCount

268

Element	<TriageGreen>
Type	xsd:integer
Usage	OPTIONAL
Definition	Number of victims with minor needs
Comments	
Used In	EmergencyDepartmentStatus/EMSCapacity/TriageCount EmergencyDepartmentStatus/EMSCensus/TriageCount

269

Element	<TriageBlack>
Type	xsd:integer
Usage	OPTIONAL
Definition	Number of deceased victims

Used In	EmergencyDepartmentStatus/EMSCapacity/TriageCount EmergencyDepartmentStatus/EMSCensus/TriageCount
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270

Element	<EMSAmbulanceStatus>
Type	XML Structure
Usage	OPTIONAL
Definition	The container element to indicate the status and offload time for ambulance capabilities.
Comments	<ol style="list-style-type: none"> 1. The time it takes to transfer care of a patient to hospital staff, thereby freeing the ambulance for assignment. 2. Select from Normal or Delayed and/or specify the average offload average offload time in minutes.
Sub-elements	<ul style="list-style-type: none"> • Offload • CommentText
Used In	EmergencyDepartmentStatus

271

Element	<EMSAirTransportStatus>
Type	XML Structure
Usage	OPTIONAL
Definition	The container element to indicate the status and offload time for ambulance capabilities.
Comments	<ol style="list-style-type: none"> 1. The time it takes to transfer care of a patient to hospital staff, thereby freeing the ambulance for assignment. 2. Select from Normal or Delayed and/or specify the average offload average offload time in minutes.
Sub-elements	<ul style="list-style-type: none"> • Offload • CommentText
Used In	EmergencyDepartmentStatus

272

273

Element	<Offload>
Type	XML Structure
Usage	OPTIONAL
Definition	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.
Sub-elements	<ul style="list-style-type: none"> • EMSOffloadStatus • EMSOffloadMinutes
Used In	EmergencyDepartmentStatus/EMSAmbulanceStatus EmergencyDepartmentStatus/EMSAirTransportStatus

274

Element	<EMSOffloadStatus>
Type	xsd: string with restrictions
Usage	OPTIONAL
Definition	Indicator of offload times of ambulance capabilities.
Comments	<p>Values:</p> <ul style="list-style-type: none"> • Normal – The time required to offload the patient is typical • Delayed – The time required to offload the patient is longer than typical.
Used In	EmergencyDepartmentStatus/EMSAmbulanceStatus/Offload EmergencyDepartmentStatus/EMSAirTransportStatus/Offload

275

Element	<EMSOffloadMinutes>
Type	xsd: integer
Usage	OPTIONAL
Definition	Average offload time in minutes.
Comments	
Used In	EmergencyDepartmentStatus/EMSAmbulanceStatus/Offload EmergencyDepartmentStatus/EMSAirTransportStatus/Offload

276 **3.2.3 HOSPITAL BED CAPACITY STATUS**

277

Element	<HospitalBedCapacityStatus>
Type	XML Structure
Usage	REQUIRED , MUST be used once and only once, top level container
Definition	The container of all of the elements related to the hospital bed capacity and status.
Comments	<ol style="list-style-type: none"> For each of the bed types (AdultICU, MedicalSurgical, etc.), if needed, a collection of named sub-types can be provided. The totals of sub-categories SHOULD equal the capacity data specified in the parent. <div style="border: 1px solid gray; padding: 2px; margin-top: 5px;"> Example, a hospital may sub-categorize Adult ICU beds into Surgery, Cardiac, General and Neuro. </div>
Sub-elements	<ul style="list-style-type: none"> • BedCapacity
Used In	Top level element

278

Element	<BedCapacity>
Type	XML Structure
Usage	REQUIRED ; May use multiple
Definition	Container element to identify the number of available beds.
Comments	<ol style="list-style-type: none"> Each Bed Type and the sub-categories under it must be encapsulated by a <BedCapacity> element. Multiple instances of <BedCapacity> elements are allowed.
Sub-elements	<ul style="list-style-type: none"> • BedType • SubCategoryBedType • CommentText • Capacity
Used In	HospitalBedCapacityStatus

279

280

Element	<BedType>
Type	xsd: string with restrictions
Usage	OPTIONAL , May use multiple
Definition	Enumerated list of available Bed Types.
Comments	<p>Values:</p> <ol style="list-style-type: none"> 1. AdultICU - Capacity status for adult ICU bed type. <ul style="list-style-type: none"> – These can support critically ill or injured patients, including ventilator support. – This category includes all major subtypes of ICU beds, including neuro, cardiac, trauma, or medical, with the exception that this category does not include burn ICU beds. 2. MedicalSurgical - Capacity status for medical-surgical beds. <ul style="list-style-type: none"> – These are also thought of as ward beds. – These beds may or may not include cardiac telemetry capability 3. Burn - Capacity status for burn beds. <ul style="list-style-type: none"> – These are thought of as burn ICU beds, either approved by the American Burn Association or self-designated. – These beds are NOT to be included in other ICU bed counts. 4. PediatricICU <ul style="list-style-type: none"> – Capacity status for pediatric ICU beds. This is similar to adult ICU beds, but for patients 17-years-old and younger. 5. Pediatrics <ul style="list-style-type: none"> – Capacity status for pediatrics beds. These are ward medical/surgical beds for patients 17-years-old and younger. 6. Psychiatric <ul style="list-style-type: none"> – Capacity status for psychiatric beds. These are ward beds on a closed/locked psychiatric unit or ward beds where a patient will be attended by a sitter. 7. NegativeFlowIsolation <ul style="list-style-type: none"> – Capacity status for negative airflow isolation beds. These provide respiratory isolation. NOTE: This value may represent available beds included in the counts of other types. 8. OtherIsolation <ul style="list-style-type: none"> – Capacity status for other isolation beds. These provide isolation where airflow is not a concern. NOTE: This value may represent available beds included in the counts of other types. 9. OperatingRooms <ul style="list-style-type: none"> – Capacity status for operating rooms which are equipped staffed and could be made available for patient care in a short period of time. <ul style="list-style-type: none"> • Each bed type (AdultICU, MedicalSurgical, etc.) may optionally contain a collection of named sub-categories.

	<ul style="list-style-type: none"> The totals of sub-categories should equal the capacity data specified in the parent. Example, a hospital may sub-categorize Adult ICU beds into Surgery, Cardiac, General and Neuro.
Used In	HospitalBedCapacityStatus/BedCapacity

281

Element	<SubCategoryBedType>
Type	xsd: string
Usage	OPTIONAL , May use multiple
Definition	The name of the sub-category bed type
Comments	<ol style="list-style-type: none"> Each bed type may have many one or more named sub-type categories. The totals of each should add up to amounts specified in the parent bed capacity.
Used In	HospitalBedCapacityStatus/BedCapacity

282

Element	<Capacity>
Type	xsd: string
Usage	OPTIONAL , May use multiple
Definition	Container element to define the capacity information of each specified bed type or sub category bed type.
Comments	
Sub-elements	<ul style="list-style-type: none"> CapacityStatus AvailableCount BaselineCount AdditionalCapacityCount24Hr AdditionalCapacityCount72Hr
Used In	HospitalBedCapacityStatus/BedCapacity

283

284

285

Element	<CapacityStatus>
Type	xsd: string with restrictions
Usage	OPTIONAL
Definition	Indicator of status of bed type or sub-category bed type.
Comments	Values: <ol style="list-style-type: none"> 1. VacantAvailable – The type of bed is available. 2. NotAvailable – The type of bed is not available.
Used In	HospitalBedCapacityStatus/BedCapacity/Capacity HospitalBedCapacityStatus/BedCapacity/SubCategoryBedCapacity/Capacity

286

Element	<AvailableCount>
Type	xsd: integer
Usage	OPTIONAL
Definition	The number of vacant/available beds to which patients can be immediately transported.
Comments	<ol style="list-style-type: none"> 1. These must include supporting space, equipment, medical material, ancillary and support services, and staff to operate under normal circumstances. 2. These beds are licensed, physically available and have staff on hand to attend to the patient who occupies the bed.
Used In	HospitalBedCapacityStatus/BedCapacity/Capacity HospitalBedCapacityStatus/BedCapacity/SubCategoryBedCapacity/Capacity

287

Element	<BaselineCount>
Type	xsd: integer
Usage	OPTIONAL
Definition	The maximum (baseline) number of beds in this category
Comments	

Used In	HospitalBedCapacityStatus/BedCapacity/Capacity HospitalBedCapacityStatus/BedCapacity/SubCategoryBedCapacity/Capacity
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288

Element	<AdditionalCapacityCount24Hr>
Type	xsd: integer
Usage	OPTIONAL
Definition	Estimate of the beds, above the current number, that could be made vacant/available within 24 hours.
Comments	1. This includes institutional surge beds as well as beds made available by discharging or transferring patients.
Used In	HospitalBedCapacityStatus/BedCapacity/Capacity HospitalBedCapacityStatus/BedCapacity/SubCategoryBedCapacity/Capacity

289

Element	<AdditionalCapacityCount72Hr>
Type	xsd: integer
Usage	OPTIONAL
Definition	Estimate of the beds, above the current number, that could be made vacant/available within 72 hours.
Comments	1. This includes institutional surge beds as well as beds made available by discharging or transferring patients.
Used In	HospitalBedCapacityStatus/BedCapacity/Capacity HospitalBedCapacityStatus/BedCapacity/SubCategoryBedCapacity/Capacity

290
291

3.2.4 SERVICE COVERAGE STATUS

Element	<ServiceCoverageStatus>
Type	XML Structure
Usage	OPTIONAL
Definition	The 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	<ol style="list-style-type: none"> 1. Some of the services capabilities are broken down into subtypes. This is to allow organizations to designate subtypes, if available. 2. If not, only the higher level specialties are reported.
Sub-elements	<ul style="list-style-type: none"> • Burn • Cardiology • InfectiousDiseases • Orthopedic • Neonatology • Neurology • OBGYN • Psychiatric • Surgery • CommentText
Used In	Top level element

292

Element	<Burn>
Type	xsd: boolean
Usage	OPTIONAL
Definition	The availability of burn center services.
Comments	<p>Values:</p> <ol style="list-style-type: none"> 1. True - This type of services is available. 2. False - This type of services is not available.
Used In	ServiceCoverageStatus

293

Element	<Cardiology>
Type	xsd: boolean
Usage	OPTIONAL
Definition	The availability of cardiology services.
Comments	Values: <ol style="list-style-type: none"> 1. True - This type of services is available. 2. False - This type of services is not available.
Used In	ServiceCoverageStatus

294

Element	<InfectiousDiseases>
Type	xsd: boolean
Usage	OPTIONAL
Definition	The availability of infectious diseases services.
Comments	Values: <ol style="list-style-type: none"> 1. True - This type of services is available. 2. False - This type of services is not available.
Used In	ServiceCoverageStatus

295

Element	<Neonatology>
Type	xsd: boolean
Usage	OPTIONAL
Definition	The availability of neonatology services.
Comments	Values: <ol style="list-style-type: none"> 1. True - This type of services is available. 2. False - This type of services is not available.

Used In	ServiceCoverageStatus
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296

Element	<Neurology>
Type	xsd: boolean
Usage	OPTIONAL
Definition	The availability of neurology services. Values: <ol style="list-style-type: none"> 1. True - This type of services is available. 2. False - This type of services is not available.
Comments	
Used In	ServiceCoverageStatus

297

Element	<Orthopedic>
Type	xsd: boolean
Usage	OPTIONAL
Definition	The availability of orthopedic services.
Comments	Values: <ol style="list-style-type: none"> 1. True - This type of services is available. 2. False - This type of services is not available.
Used In	ServiceCoverageStatus

298

Element	<OBGYN>
Type	xsd: boolean
Usage	OPTIONAL; SUPERTYPE
Definition	The availability of OBGYN services.
Comments	1. Values:

	<ul style="list-style-type: none"> – True - This type of services is available. – False - This type of services is not available. <ol style="list-style-type: none"> 2. This services capability is broken down into the below subtypes. This is to allow organizations to designate subtypes, if available. 3. Others can report just the higher level specialties.
Sub-elements	<ul style="list-style-type: none"> • OBGYN • LaborDelivery
Used In	ServiceCoverageStatus

299

Element	<OBGYN>
Type	xsd: boolean
Usage	OPTIONAL
Definition	The Sub-type element of the OBGYN services.
Comments	<p>Values:</p> <ol style="list-style-type: none"> 1. True - This type of services is available. 2. False - This type of services is not available.
Used In	ServiceCoverageStatus/OBGYN

300

Element	<LaborDelivery>
Type	xsd: boolean
Usage	OPTIONAL
Definition	Sub-type element of the OBGYN Services. Availability of Labor Delivery services.
Comments	<p>Values:</p> <ol style="list-style-type: none"> 1. True - This type of services is available. 2. False - This type of services is not available.
Used In	ServiceCoverageStatus/OBGYN

301

302

Element	<Psychiatric>
Type	xsd: boolean
Usage	OPTIONAL
Definition	The availability of psychiatric services.
Comments	<ol style="list-style-type: none"> 1. This services capability is broken down into the below subtypes. This is to allow organizations to designate subtypes, if available. 2. Values: <ul style="list-style-type: none"> – True - This type of services is available. – False - This type of services is not available. 3. Others can report just the higher level specialties.
Sub-elements	<ul style="list-style-type: none"> • AdultGeneral • Pediatric
Used In	ServiceCoverageStatus

303

Element	<AdultGeneral>
Type	xsd: boolean
Usage	OPTIONAL
Definition	Availability of Adult General Psychiatric services.
Comments	<ol style="list-style-type: none"> 1. Sub-type element of the psychiatric services. 2. Values: <ul style="list-style-type: none"> – True - This type of services is available. – False - This type of services is not available.
Used In	ServiceCoverageStatus/Psychiatric

304

Element	<Pediatric>
Type	xsd: boolean
Usage	OPTIONAL

Definition	Availability of Pediatric Psychiatric services.
Comments	<ol style="list-style-type: none"> 1. Sub-type element of the psychiatric services. 2. Values: <ul style="list-style-type: none"> - True - This type of services is available. - False - This type of services is not available.
Used In	ServiceCoverageStatus/Psychiatric

305

Element	<Surgery>
Type	xsd: boolean
Usage	OPTIONAL
Definition	The availability of general surgery services.
Comments	<ol style="list-style-type: none"> 1. Values: <ul style="list-style-type: none"> - Available - This type of services is available. - NotAvailable - This type of services is not available. 2. This services capability is broken down into the below subtypes. This is to allow organizations to designate subtypes, if available. 3. Others can report just the higher level specialty.
Sub-elements	<ul style="list-style-type: none"> • General • AdultGeneralSurgery • Pediatrics • Orthopedics • NeuroSurgery • Facial • CardioThoracic • Hand • Reimplantation • Spinal • Vascular • Anesthesia
Used In	ServiceCoverageStatus

306

307

Element	<General>
Type	xsd: boolean
Usage	OPTIONAL
Definition	The availability of general surgical services.
Comments	<ol style="list-style-type: none"> 1. Sub-type element of the adult general services. 2. Values: <ul style="list-style-type: none"> - True - This type of services is available. - False - This type of services is not available.
Used In	ServiceCoverageStatus/Surgery

308

Element	<AdultGeneralSurgery>
Type	xsd: boolean
Usage	OPTIONAL
Definition	The availability of adult general services.
Comments	<ol style="list-style-type: none"> 1. Sub-type element of the adult general services. 2. Values: <ul style="list-style-type: none"> - True - This type of services is available. - False - This type of services is not available.
Used In	ServiceCoverageStatus/Surgery

309

Element	<Pediatrics>
Type	xsd: boolean
Usage	OPTIONAL
Definition	The availability of Pediatrics general surgical services.
Comments	<ol style="list-style-type: none"> 1. Sub-type element of pediatrics general surgical services. 2. Values: <ul style="list-style-type: none"> - True - This type of services is available.

	– False - This type of services is not available.
Used In	ServiceCoverageStatus/Surgery

310

Element	<Orthopedics>
Type	xsd: boolean
Usage	OPTIONAL
Definition	The availability of Orthopedic surgical services.
Comments	<ol style="list-style-type: none"> 1. Sub-type element of orthopedic surgical services. 2. Values: <ul style="list-style-type: none"> – True - This type of services is available. – False - This type of services is not available.
Used In	ServiceCoverageStatus/Surgery

311

Element	<NeuroSurgery>
Type	xsd: boolean
Usage	OPTIONAL
Definition	The availability of Neurosurgery services.
Comments	<ol style="list-style-type: none"> 1. Sub-type element of neurosurgery services. 2. Values: <ul style="list-style-type: none"> – True - This type of services is available. – False - This type of services is not available.
Used In	ServiceCoverageStatus/Surgery

312

Element	<Facial>
Type	xsd: boolean
Usage	OPTIONAL

Definition	The availability of facial surgical services.
Comments	<ol style="list-style-type: none"> 1. Sub-type element of facial surgery services. 2. Values: <ul style="list-style-type: none"> - True - This type of services is available. - False - This type of services is not available.
Used In	ServiceCoverageStatus/Surgery

313

Element	<CardioThoracic>
Type	xsd: boolean
Usage	OPTIONAL
Definition	The availability of cardiothoracic surgical services.
Comments	<ol style="list-style-type: none"> 1. Sub-type element of cardiothoracic services. 2. Values: <ul style="list-style-type: none"> - True - This type of services is available. - False - This type of services is not available.
Used In	ServiceCoverageStatus/Surgery

314

Element	<Hand>
Type	xsd: boolean
Usage	OPTIONAL
Definition	The availability of hand surgery services.
Comments	<ol style="list-style-type: none"> 1. Sub-type element of hand surgery services. 2. Values: <ul style="list-style-type: none"> - True - This type of services is available. - False - This type of services is not available.
Used In	ServiceCoverageStatus/Surgery

315

Element	<Reimplantation>
Type	xsd: boolean
Usage	OPTIONAL
Definition	The availability of reimplantation surgical services.
Comments	<ol style="list-style-type: none"> 1. Sub-type element of reimplantation surgical services. 2. Values: <ul style="list-style-type: none"> – Available - This type of services is available. – NotAvailable - This type of services is not available.
Used In	ServiceCoverageStatus/Surgery

316

Element	<Spinal>
Type	xsd: boolean
Usage	OPTIONAL
Definition	The availability of spinal surgical services.
Comments	<ol style="list-style-type: none"> 1. Sub-type element of spinal surgical services. 2. Values: <ul style="list-style-type: none"> – True - This type of services is available. – False - This type of services is not available.
Used In	ServiceCoverageStatus/Surgery

317

Element	<Vascular>
Type	xsd: boolean
Usage	OPTIONAL
Definition	The availability of vascular surgical services.
Comments	<ol style="list-style-type: none"> 1. Sub-type element of vascular surgery services. 2. Values: <ul style="list-style-type: none"> – True - This type of services is available.

	– False - This type of services is not available.
Used In	ServiceCoverageStatus/Surgery

318

Element	<Anesthesia>
Type	xsd: boolean
Usage	OPTIONAL
Definition	The availability of anesthesia services.
Comments	<ol style="list-style-type: none"> 1. Sub-type element of anesthesia services. 2. Values: <ul style="list-style-type: none"> – True – This type of services is available. – False – This type of services is not available.
Used In	ServiceCoverageStatus/Surgery

319 **3.2.5 HOSPITAL FACILITY STATUS**

320

Element	<HospitalFacilityStatus>
Type	XML Structure
Usage	REQUIRED , MUST be used once and only once, top level container
Definition	The container of all of the elements related to the status of the facility.
Comments	
Sub-elements	<ul style="list-style-type: none"> • EOCStatus • EOCPlan • ClinicalStatus • DeconCapacity • MorgueCapacity • FacilityStatus • SecurityStatus • Activity24Hr • CommentText
Used In	Top level element

321

Element	<EOCStatus>
Type	xsd: string with restrictions
Usage	OPTIONAL
Definition	Whether the Emergency Operations Center (EOC) is currently operating.
Comments	<p>Values:</p> <ul style="list-style-type: none"> • Active. • Inactive <p>Note: Note the EOC is typically activated in disasters or other special situations, and this term is NOT intended to indicate whether the clinical emergency department is open for patient care.</p>
Used In	HospitalFacilityStatus

322

Element	<EOCPlan>
Type	xsd: string with restrictions
Usage	OPTIONAL
Definition	Whether the hospital has activated its Emergency Operations Plan (EOP)
Comments	Values: <ul style="list-style-type: none"> • Active • Inactive
Used In	HospitalFacilityStatus

323

Element	<ClinicalStatus>
Type	xsd: string with restrictions
Usage	OPTIONAL
Definition	The clinical status of the facility.
Comments	Values: <ol style="list-style-type: none"> 1. Normal - Hospital clinical resources are operating within normal conditions. 2. Level1 - Hospital clinical resources are operating at Level-1 surge conditions. 3. Level2 - Hospital clinical resources are operating at Level-2 surge conditions. 4. Full - Hospital clinical resources are exceeded and acceptable care cannot be provided to additional patients. Diversion or community surge response is required.
Used In	HospitalFacilityStatus

324

Element	<DeconCapacity>
Type	xsd: string with restrictions
Usage	OPTIONAL
Definition	The capacity for chemical/biological/radiological patient decontamination.
Comments	Values: <ol style="list-style-type: none"> 1. Inactive - Not being used, but available if needed 2. Open - In use and able to accept additional patients

	<ol style="list-style-type: none"> 3. Full - In use at maximum capacity 4. Exceeded - Needs exceed available capacity
Used In	HospitalFacilityStatus

325

Element	<MorgueCapacity>
Type	xsd: string with restrictions
Usage	OPTIONAL
Definition	The status of the morgue capacity.
Comments	<p>Values:</p> <ol style="list-style-type: none"> 1. Open - Space is available 2. Full - All normal space is in use 3. Exceeded - Storage needs exceed available space
Used In	HospitalFacilityStatus

326

Element	<FacilityStatus>
Type	xsd: string with restrictions
Usage	OPTIONAL
Definition	The status of the facility.
Comments	<p>Values:</p> <ol style="list-style-type: none"> 1. Normal - No conditions exist that adversely affect the general operations of the facility. 2. Compromised - General operations of the facility have been affected due to damage, operating on emergency backup systems, or facility contamination. 3. Evacuating - Indicates that a hospital is in the process of a partial or full evacuation. 4. Closed - Indicates that a hospital is no longer capable of providing services and only emergency services/restoration personnel may remain in the facility.
Used In	HospitalFacilityStatus

327

328

329

Element	<SecurityStatus>
Type	xsd: string with restrictions
Usage	OPTIONAL
Definition	The status of security procedures in the hospital.
Comments	<p>Values:</p> <ol style="list-style-type: none"> 1. Normal - The hospital is operating under routine security procedures. 2. Elevated - The hospital has activated increased security procedures (awareness, surveillance) due to a potential threat, or specific security related event i.e. increase in local threat level, VIP, bomb threat. 3. RestrictedAccess - Based on security needs, the hospital has activated procedures to allow access to the facility through a reduced number of controlled entrances. 4. Lockdown - Based on security needs, the hospital has activated procedures to control entry to the facility to authorized persons only. 5. Quarantine - Based on a public health emergency, the entry and exit of the facility is controlled by public health officials.
Used In	HospitalFacilityStatus

330

Element	<Activity24Hr>
Type	XML Structure
Usage	OPTIONAL
Definition	The container element for reporting activities in the last 24 hours.
Comments	<ol style="list-style-type: none"> 1. The time is relative to the timestamp of the <LastUpdateTime> of the <Hospital> element.
Sub-elements	<ul style="list-style-type: none"> • Admissions • Discharges • Deaths
Used In	HospitalFacilityStatus

331

Element	<Admissions>
Type	xsd: integer

Usage	OPTIONAL
Definition	The number of admissions in the last 24 hours.
Comments	1. The time is relative to the timestamp of the <LastUpdateTime> of the <Hospital> element.
Used In	HospitalFacilityStatus/Activity24Hr

332

Element	<Discharges>
Type	xsd: integer
Usage	OPTIONAL
Definition	The number of discharges in the last 24 hours.
Comments	1. The time is relative to the timestamp of the <LastUpdateTime> of the <Hospital> element.
Used In	HospitalFacilityStatus/Activity24Hr

333

Element	<Deaths>
Type	xsd: integer
Usage	OPTIONAL
Definition	The number of deaths in the last 24 hours.
Comments	1. The time is relative to the timestamp of the <LastUpdateTime> of the <Hospital> element.
Used In	HospitalFacilityStatus/Activity24Hr

334 **3.2.6 HOSPITAL RESOURCES STATUS**

335

Element	<HospitalResourcesStatus>
Type	XML Structure
Usage	REQUIRED , MUST be used once and only once, top level container
Definition	The container for all the elements related to the operations of the facility.
Comments	
Sub-elements	<ul style="list-style-type: none"> • Staffing • FacilityOperations • ClinicalOperations • CommentText
Used In	Top level element

336

Element	<Staffing>
Type	xsd: string with restrictions
Usage	OPTIONAL
Definition	The status of staffing.
Comments	Values: <ol style="list-style-type: none"> 1. Adequate – Meets the current needs. 2. Insufficient – Current needs are not being met
Used In	HospitalResourcesStatus

337

Element	<FacilityOperations>
Type	xsd: string with restrictions
Usage	OPTIONAL

Definition	The status of supplies necessary for facility operations.
Comments	Values: 1. Adequate – Meets the current needs. 2. Insufficient – Current needs are not being met.
Used In	HospitalResourcesStatus

338

Element	<ClinicalOperations>
Type	xsd: string with restrictions
Usage	OPTIONAL
Definition	The status of supplies necessary for clinical operations.
Comments	Values: 1. Adequate – Meets the current needs 2. Insufficient – Current needs are not being met
Used In	HospitalResourcesStatus

339 **3.2.7 SUPPORTING ELEMENTS**

340

341 **3.2.7.1 CommentText**

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Element	<CommentText>
Type	xsd:string
Usage	OPTIONAL
Definition	Open Comments field.
Comments	
Used In	Hospital

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344 **3.2.7.2 LastUpdateTime**

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Element	<LastUpdateTime>
Type	xsd:datetime
Usage	REQUIRED
Definition	The last time the information was updated.
Comments	Each Hospital must have a LastUpdateTime
Used In	Hospital

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A. XML SCHEMA FOR THE EDXL Hospital Availability Exchange (HAVE)

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<?xml version="1.0"?>
<!-- edited with XMLSpy v2005 rel. 3 U (http://www.altova.com) by Sukumar Dwarkanath
(private) -->
<schema xmlns:gml="http://www.opengis.net/gml" xmlns="http://www.w3.org/2001/XMLSchema"
xmlns:have="urn:oasis:names:tc:emergency:EDXL:HAVE:1.0" xmlns:geo-
oasis="http://www.opengis.net/gml/geo-oasis/10"
targetNamespace="http://www.w3.org/2001/XMLSchema" elementFormDefault="unqualified"
attributeFormDefault="unqualified">
  <import namespace="http://www.opengis.net/gml/geo-oasis/10" schemaLocation="geo-
oasis.xsd"/>
  <element name="HospitalStatus">
    <annotation>
      <documentation>The top level container element for reporting status of
any number of hospitals. The EDXL-HAVE has no independent routing mechanism, so it
requires a routing mechanism that is consistent with the EDXL-DE distribution types. It
must contain one or more Hospital elements.
</documentation>
    </annotation>
    <complexType>
      <sequence>
        <element name="Hospital" maxOccurs="unbounded">
          <annotation>
            <documentation>The container element for
reporting status of a hospital. Multiple instances of the Hospital element MAY occur
within the HospitalStatus container element. </documentation>
          </annotation>
          <complexType>
            <sequence>
              <element name="OrganizationInformation"
type="OrganizationInformation">
                <annotation>
                  <documentation>The
container element for organization information elements. The generic element
Organization refers to the entity that is providing the data. This generic name is used
throughout this document. Typically, this will include hospitals, nursing care centers,
trauma centers etc.
</documentation>
                </annotation>
              </element>
            </sequence>
          </complexType>
        </element>
      </sequence>
    </complexType>
  </element>
  <element name="EmergencyDepartmentStatus" type="EmergencyDepartmentStatus" minOccurs="0">
    <annotation>
      <documentation>Report on
the emergency department status for the organization.</documentation>
    </annotation>
  </element>
  <element name="HospitalBedCapacityStatus" type="HospitalBedCapacityStatus" minOccurs="0">
    <annotation>
      <documentation>The
hospital bed capacity for the organization.</documentation>
    </annotation>
  </element>
  <element name="ServiceCoverageStatus"
type="ServiceCoverageStatus" minOccurs="0">
    <annotation>
      <documentation>The
physician service coverage status for the organization.</documentation>
    </annotation>
  </element>
  <element name="HospitalFacilityStatus"
type="HospitalFacilityStatus" minOccurs="0">
    <annotation>
```

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415                                     <documentation>The status
416 of operations for the organization.</documentation>
417                                     </annotation>
418                                     </element>
419                                     <element name="HospitalResourcesStatus"
420 type="HospitalResourceStatus" minOccurs="0">
421                                     <annotation>
422                                     <documentation>The status
423 of resources for the organization.</documentation>
424                                     </annotation>
425                                     </element>
426                                     <element name="LastUpdateTime"
427 type="dateTime">
428                                     <annotation>
429                                     <documentation>The last
430 time the information was updated.</documentation>
431                                     </annotation>
432                                     </element>
433                                     </sequence>
434                                     </complexType>
435                                     </element>
436                                     </sequence>
437                                     </complexType>
438 </element>
439 <element name="CommentText" type="string">
440   <annotation>
441     <documentation>One or more comments</documentation>
442   </annotation>
443 </element>
444 <complexType name="OrganizationInformation">
445   <annotation>
446     <documentation>The container element for organization information
447 elements. </documentation>
448   </annotation>
449   <sequence>
450     <element name="OrganizationID" type="string">
451       <annotation>
452         <documentation>An identifier of an organization based
453 on the type of organization it is. In this case, it is used to specify the identifier
454 for the healthcare organization. </documentation>
455       </annotation>
456     </element>
457     <element name="OrganizationIDProviderName" minOccurs="0">
458       <annotation>
459         <documentation>The name of the provider that has
460 provided the identification scheme. This could also be the name a particular
461 identification list. </documentation>
462       </annotation>
463     </element>
464     <element name="OrganizationName" type="string">
465       <annotation>
466         <documentation>The name of the organization. If
467 multiple branches of a hospital are present, the OrganizationName may include the
468 location information as well. </documentation>
469       </annotation>
470     </element>
471     <element name="OrganizationTypeText" type="string" minOccurs="0">
472       <annotation>
473         <documentation>The general functional type of the
474 organization. Example: Hospital, Nursing Center etc.</documentation>
475       </annotation>
476     </element>
477     <element name="OrganizationLocation" minOccurs="0">
478       <annotation>
479         <documentation>The container element for the specifying
480 the location of the organization. The location consists of the address and the
481 geographic location (which is specified as a point). The geographic coordinates
482 specified in Point must match the address.</documentation>
483       </annotation>
484     </complexType>
485   </sequence>

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486                                     <element name="StreetFullText" type="string"
487 minOccurs="0">
488                                     <annotation>
489                                         <documentation>A complete street
490 reference. For example, 123 Main Street NW.</documentation>
491                                     </annotation>
492                                     </element>
493                                     <element name="LocationCityName" type="string"
494 minOccurs="0">
495                                     <annotation>
496                                         <documentation>A name of a city
497 or town.</documentation>
498                                     </annotation>
499                                     </element>
500                                     <element name="LocationCountryName"
501 type="string" minOccurs="0">
502                                     <annotation>
503                                         <documentation>A name of a
504 country</documentation>
505                                     </annotation>
506                                     </element>
507                                     <element name="LocationStateName" type="string"
508 minOccurs="0">
509                                     <annotation>
510                                         <documentation>A name of a
511 state, commonwealth, province, or other subregion of a country.</documentation>
512                                     </annotation>
513                                     </element>
514                                     <element name="LocationPostalCountyId"
515 type="string" minOccurs="0">
516                                     <annotation>
517                                         <documentation>A zip code or
518 postal code.</documentation>
519                                     </annotation>
520                                     </element>
521                                     <element name="LocationCountyName"
522 type="string" minOccurs="0">
523                                     <annotation>
524                                         <documentation>A name of a
525 county, parish, or vicinage.</documentation>
526                                     </annotation>
527                                     </element>
528                                     <element name="OrganizationGeoLocation"
529 type="OrganizationGeoLocation" minOccurs="0">
530                                     <annotation>
531                                         <documentation>The container
532 element for specifying the geo-coded address. For the purpose of this specification, it
533 is constrained to use only the Point element. </documentation>
534                                     </annotation>
535                                     </element>
536                                     </sequence>
537                                     </complexType>
538                                     </element>
539                                     <element ref="CommentText" minOccurs="0"/>
540                                     </sequence>
541                                     </complexType>
542                                     <complexType name="EmergencyDepartmentStatus">
543                                         <annotation>
544                                             <documentation> The container of all of the elements related to the
545 emergency department status. It describes the ability of this emergency department to
546 treat patients.</documentation>
547                                         </annotation>
548                                         <sequence>
549                                             <element name="EMSTraffic" minOccurs="0">
550                                                 <annotation>
551                                                     <documentation>Ability of this emergency department to
552 receive patients via emergency medical services.</documentation>
553                                                 </annotation>
554                                                 <complexType>
555                                                     <sequence>
556                                                         <element name="EMSTrafficStatus" minOccurs="0">

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557                                     <annotation>
558                                     <documentation>Identifies the
status of EMS traffic operations</documentation>
560                                     </annotation>
561                                     <simpleType>
562                                     <restriction base="string">
563                                     <enumeration
564 value="Normal">
565                                     <annotation>
566                                     <documentation>Accepting all EMS traffic.</documentation>
568                                     </annotation>
569                                     </enumeration>
570                                     </enumeration>
571 value="Advisory">
572                                     <annotation>
573                                     <documentation>Experiencing specific resource limitations which may affect transport
of some EMS traffic.</documentation>
576                                     </annotation>
577                                     </enumeration>
578                                     </enumeration>
579 value="Closed">
580                                     <annotation>
581                                     <documentation>Requesting re-route of EMS traffic to other
582 facilities.</documentation>
583                                     </annotation>
584                                     </enumeration>
585                                     <enumeration value="N/A">
586                                     <annotation>
587                                     <documentation>Not Applicable. This hospital does not have an emergency
588 department.</documentation>
591                                     </annotation>
592                                     </enumeration>
593                                     </restriction>
594                                     </simpleType>
595                                     </element>
596                                     <element name="EMSTrafficReason" type="string"
597 minOccurs="0">
598                                     <annotation>
599                                     <documentation>It is used to
600 report the contributing factor to an EMSTraffic Status.</documentation>
601                                     </annotation>
602                                     </element>
603                                     <element ref="CommentText" minOccurs="0"/>
604                                     </sequence>
605                                     </complexType>
606                                     </element>
607                                     <element name="EMSCapacity" type="TriageCount" minOccurs="0">
608                                     <annotation>
609                                     <documentation>The number of each triage patient type
610 the hospital can accept.</documentation>
611                                     </annotation>
612                                     </element>
613                                     <element name="EMSCensus" type="TriageCount" minOccurs="0">
614                                     <annotation>
615                                     <documentation>The number of each triage patient type
616 the hospital currently has.</documentation>
617                                     </annotation>
618                                     </element>
619                                     <element name="EMSAirTransportStatus" type="Offload" minOccurs="0">
620                                     <annotation>
621                                     <documentation>The container element to indicate the
622 status and offload time for ambulance capabilities.</documentation>
623                                     </annotation>
624                                     </element>
625                                     <element name="EMSAmbulanceStatus" type="Offload" minOccurs="0">
626                                     <annotation>

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627         <documentation>The container element to indicate the
628 status and offload time for air transport capabilities. </documentation>
629     </annotation>
630 </element>
631 </sequence>
632 </complexType>
633 <complexType name="HospitalBedCapacityStatus">
634     <annotation>
635         <documentation>The container of all of the elements related to the
636 hospital bed capacity and status. For each of the bed types (AdultICU, MedicalSurgical,
637 etc.), if needed, a collection of named sub-types can be provided. The totals of sub-
638 categories SHOULD equal the capacity data specified in the parent.
639 </documentation>
640     </annotation>
641     <sequence>
642         <element name="BedCapacity" maxOccurs="unbounded">
643             <annotation>
644                 <documentation>Container element to identify the number
645 of available beds. Each Bed Type and the sub-categories under it must be encapsulated by
646 a BedCapacity element. Multiple instances of BedCapacity elements are allowed. For
647 example, a hospital may sub-categorize Adult ICU beds into Surgery, Cardiac, General and
648 Neuro.
649 </documentation>
650             </annotation>
651             <complexType>
652                 <sequence>
653                     <element name="BedType" block="restriction"
654 minOccurs="0" maxOccurs="unbounded">
655                         <annotation>
656                             <documentation>Enumerated list
657 of available Bed Types</documentation>
658                         </annotation>
659                         <simpleType>
660                             <restriction base="string">
661                                 <enumeration
662 value="AdultICU">
663                                     <annotation>
664                                         <documentation>These can support critically ill or injured patients, including
665 ventilator support. category includes all major subtypes of ICU beds, including neuro,
666 cardiac, trauma, or medical, with the exception that this category does not include burn
667 ICU beds.
668 </documentation>
669                                     </annotation>
670                                     </enumeration>
671                                     <enumeration
672 value="MedicalSurgical">
673                                         <annotation>
674                                             <documentation>These are also thought of as ward beds. These beds may or may not
675 include cardiac telemetry capability.
676 </documentation>
677                                             </annotation>
678                                             </enumeration>
679                                             <enumeration
680 value="Burn">
681                                         <annotation>
682                                             <documentation>These are thought of as burn ICU beds, either approved by the American
683 Burn Association or self-designated. These beds are NOT to be included in other ICU bed
684 counts.
685 </documentation>
686                                             </annotation>
687                                             </enumeration>
688                                             <enumeration
689 value="PediatricICU">
690                                         <annotation>
691                                             <documentation>Capacity status for pediatric ICU beds. This is similar to adult ICU
692 beds, but for patients 17-years-old and younger.</documentation>
693                                         </annotation>
694                                     </enumeration>
695                                     </enumeration>
696                                     </enumeration>
697                                     </enumeration>

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        </enumeration>
    </enumeration>
    value="Pediatrics">
        <annotation>
            <documentation>Capacity status for pediatrics beds. These are ward medical/surgical
            beds for patients 17-years-old and younger.</documentation>
        </annotation>
    </enumeration>
    </enumeration>
    value="Psychiatric">
        <annotation>
            <documentation>Capacity status for psychiatric beds. These are ward beds on a
            closed/locked psychiatric unit or ward beds where a patient will be attended by a
            sitter. </documentation>
        </annotation>
    </enumeration>
    </enumeration>
    value="NegativeFlowIsolation">
        <annotation>
            <documentation>Capacity status for negative airflow isolation beds. These provide
            respiratory isolation. NOTE: This value may represent available beds included in the
            counts of other types. </documentation>
        </annotation>
    </enumeration>
    </enumeration>
    value="OtherIsolation">
        <annotation>
            <documentation>Capacity status for other isolation beds. These provide isolation
            where airflow is not a concern. NOTE: This value may represent available beds included
            in the counts of other types. </documentation>
        </annotation>
    </enumeration>
    </enumeration>
    value="OperatingRooms">
        <annotation>
            <documentation>Capacity status for operating rooms which are equipped staffed and
            could be made available for patient care in a short period of time.</documentation>
        </annotation>
    </enumeration>
    </restriction>
</simpleType>
</element>
<element name="SubCategoryBedType"
block="extension" minOccurs="0" maxOccurs="unbounded">
    <annotation>
        <documentation>The name of the
        sub-category bed type. Each bed type (AdultICU, MedicalSurgical, etc.) may optionally
        contain a collection of named sub-categories. The totals of sub-categories should equal
        the capacity data specified in the parent. </documentation>
    </annotation>
    </element>
    <element name="Capacity" type="Capacity"
minOccurs="0">
        <annotation>
            <documentation>Container element
            to define the capacity information of each specified bed type or sub category bed type.
        </documentation>
    </annotation>
    </element>
    <element ref="CommentText" minOccurs="0"
maxOccurs="unbounded" />
</sequence>
</complexType>
</element>
</sequence>
</complexType>
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769     <complexType name="ServiceCoverageStatus">
770         <annotation>
771             <documentation>Container element of all the elements of service
772 coverage. This includes both the necessary staff and facilities. Indicator of the
773 availability of specialty service coverage.</documentation>
774         </annotation>
775         <sequence>
776             <element name="Burn" type="boolean" minOccurs="0">
777                 <annotation>
778                     <documentation>The availability of Burn center
779 services. </documentation>
780                 </annotation>
781             </element>
782             <element name="Cardiology" type="boolean" minOccurs="0">
783                 <annotation>
784                     <documentation>The availability of Cardiology services.
785 </documentation>
786                 </annotation>
787             </element>
788             <element name="InfectiousDisease" type="boolean" minOccurs="0">
789                 <annotation>
790                     <documentation>The availability of Infectious Diseases.
791 </documentation>
792                 </annotation>
793             </element>
794             <element name="Neonatology" type="boolean" minOccurs="0">
795                 <annotation>
796                     <documentation>The availability of Neonatology
797 services. </documentation>
798                 </annotation>
799             </element>
800             <element name="Neurology" type="boolean" minOccurs="0">
801                 <annotation>
802                     <documentation>The availability of Neurology services.
803 </documentation>
804                 </annotation>
805             </element>
806             <element name="Orthopedic" type="boolean" minOccurs="0">
807                 <annotation>
808                     <documentation>The availability of Orthopedic services.
809 </documentation>
810                 </annotation>
811             </element>
812             <element name="OBGYN" minOccurs="0">
813                 <annotation>
814                     <documentation>The availability of OBGYN services.
815 </documentation>
816                 </annotation>
817             <complexType>
818                 <sequence>
819                     <element name="OBGYN" type="boolean"
820 minOccurs="0">
821                         <annotation>
822                             <documentation>The Sub-type
823 element of the OBGYN services.</documentation>
824                         </annotation>
825                     </element>
826                     <element name="LaborDelivery" type="boolean"
827 minOccurs="0">
828                         <annotation>
829                             <documentation>Sub-type element
830 of the OBGYN Services. Availability of Labor Delivery services. </documentation>
831                         </annotation>
832                     </element>
833                 </sequence>
834             </complexType>
835         </element>
836         <element name="Psychiatric" minOccurs="0">
837             <annotation>
838                 <documentation>The availability of psychiatric
839 services. </documentation>

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840         </annotation>
841         <complexType>
842             <sequence>
843                 <element name="Pediatric" type="boolean"
844 minOccurs="0">
845                     <annotation>
846                         <documentation>Availability of
847 Adult General Psychiatric services. </documentation>
848                     </annotation>
849                 </element>
850                 <element name="AdultGeneral" type="boolean"
851 minOccurs="0">
852                     <annotation>
853                         <documentation>Availability of
854 Pediatric Psychiatric services. </documentation>
855                     </annotation>
856                 </element>
857             </sequence>
858         </complexType>
859     </element>
860     <element name="Surgery" minOccurs="0">
861         <annotation>
862             <documentation>The availability of general surgery
863 services. </documentation>
864         </annotation>
865     <complexType>
866         <sequence>
867             <element name="General" type="boolean"
868 minOccurs="0">
869                 <annotation>
870                     <documentation>The availability
871 of general surgical services. </documentation>
872                 </annotation>
873             </element>
874             <element name="AdultGeneralSurgery"
875 type="boolean" minOccurs="0">
876                 <annotation>
877                     <documentation>The availability
878 of adult general services. </documentation>
879                 </annotation>
880             </element>
881             <element name="Pediatrics" type="boolean"
882 minOccurs="0">
883                 <annotation>
884                     <documentation>The availability
885 of Pediatrics general surgical services. </documentation>
886                 </annotation>
887             </element>
888             <element name="Orthopedics" type="boolean"
889 minOccurs="0">
890                 <annotation>
891                     <documentation>The availability
892 of Orthopedic surgical services.</documentation>
893                 </annotation>
894             </element>
895             <element name="Neurosurgery" type="boolean"
896 minOccurs="0">
897                 <annotation>
898                     <documentation>The availability
899 of Neurosurgery services. </documentation>
900                 </annotation>
901             </element>
902             <element name="Facial" type="boolean"
903 minOccurs="0">
904                 <annotation>
905                     <documentation>The availability
906 of facial surgical services. </documentation>
907                 </annotation>
908             </element>
909             <element name="CardioThoracic" type="boolean"
910 minOccurs="0">

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911                                     <annotation>
912                                     <documentation>The availability
913 of cardiothoracic surgical services.</documentation>
914                                     </annotation>
915                                     </element>
916                                     <element name="Hand" type="boolean"
917 minOccurs="0">
918                                     <annotation>
919                                     <documentation>The availability
920 of hand surgery services.</documentation>
921                                     </annotation>
922                                     </element>
923                                     <element name="Reimplantation" type="boolean"
924 minOccurs="0">
925                                     <annotation>
926                                     <documentation>The availability
927 of reimplantation surgical services. </documentation>
928                                     </annotation>
929                                     </element>
930                                     <element name="Spinal" type="boolean"
931 minOccurs="0">
932                                     <annotation>
933                                     <documentation>The availability
934 of spinal surgical services. </documentation>
935                                     </annotation>
936                                     </element>
937                                     <element name="Vascular" type="boolean"
938 minOccurs="0">
939                                     <annotation>
940                                     <documentation>The availability
941 of vascular surgical services. </documentation>
942                                     </annotation>
943                                     </element>
944                                     <element name="Anesthesia" type="boolean"
945 minOccurs="0">
946                                     <annotation>
947                                     <documentation>The availability
948 of anesthesia services. </documentation>
949                                     </annotation>
950                                     </element>
951                                     </sequence>
952                                     </complexType>
953                                     </element>
954                                     <element ref="CommentText" minOccurs="0"/>
955                                     </sequence>
956 </complexType>
957 <complexType name="HospitalFacilityStatus">
958   <annotation>
959     <documentation>The container of all of the elements related to the
960 status of the facility. </documentation>
961   </annotation>
962   <sequence>
963     <element name="EOCStatus" minOccurs="0">
964       <annotation>
965         <documentation>Whether the EOC is currently
966 operating.</documentation>
967       </annotation>
968       <simpleType>
969         <restriction base="string">
970           <enumeration value="Active"/>
971           <enumeration value="Inactive"/>
972         </restriction>
973       </simpleType>
974     </element>
975     <element name="EOCPlan" minOccurs="0">
976       <annotation>
977         <documentation>Whether the EOC has activated its
978 Emergency Operations Plan (EOP).</documentation>
979       </annotation>
980       <simpleType>
981         <restriction base="string">

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982         <enumeration value="Active"/>
983         <enumeration value="Inactive"/>
984     </restriction>
985 </simpleType>
986 </element>
987 <element name="ClinicalStatus" minOccurs="0">
988     <annotation>
989         <documentation>The clinical status of the facility.
990 </documentation>
991     </annotation>
992     <simpleType>
993         <restriction base="string">
994             <enumeration value="Normal">
995                 <annotation>
996                     <documentation>Hospital clinical
997 resources are operating within normal conditions.</documentation>
998                 </annotation>
999             </enumeration>
1000             <enumeration value="Level-1">
1001                 <annotation>
1002                     <documentation>Hospital clinical
1003 resources are operating at Level-1 surge conditions.</documentation>
1004                 </annotation>
1005             </enumeration>
1006             <enumeration value="Level-2">
1007                 <annotation>
1008                     <documentation>Hospital clinical
1009 resources are operating at Level-2 surge conditions.</documentation>
1010                 </annotation>
1011             </enumeration>
1012             <enumeration value="Full">
1013                 <annotation>
1014                     <documentation>Hospital clinical
1015 resources are exceeded and acceptable care cannot be
1016 provided to additional patients. Diversion or community
1017 surge response is required.</documentation>
1018                 </annotation>
1019             </enumeration>
1020         </restriction>
1021     </simpleType>
1022 </element>
1023 <element name="DeconCapacity" minOccurs="0">
1024     <annotation>
1025         <documentation>The capacity for
1026 chemical/biological/radiological patient decontamination.</documentation>
1027     </annotation>
1028     <simpleType>
1029         <restriction base="string">
1030             <enumeration value="Inactive">
1031                 <annotation>
1032                     <documentation>Not being used,
1033 but available if needed.</documentation>
1034                 </annotation>
1035             </enumeration>
1036             <enumeration value="Open">
1037                 <annotation>
1038                     <documentation>In use and able
1039 to accept additional patients.</documentation>
1040                 </annotation>
1041             </enumeration>
1042             <enumeration value="Full">
1043                 <annotation>
1044                     <documentation>In use at maximum
1045 capacity.</documentation>
1046                 </annotation>
1047             </enumeration>
1048             <enumeration value="Exceeded">
1049                 <annotation>
1050                     <documentation>Storage needs
1051 exceed available space.</documentation>
1052                 </annotation>

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```

1053         </enumeration>
1054     </restriction>
1055 </simpleType>
1056 </element>
1057 <element name="MorgueCapacity" minOccurs="0">
1058     <annotation>
1059         <documentation>The status of the morgue capacity.
1060 </documentation>
1061     </annotation>
1062 <simpleType>
1063     <restriction base="string">
1064         <enumeration value="Open">
1065             <annotation>
1066                 <documentation>Space is
1067 available.</documentation>
1068             </annotation>
1069         </enumeration>
1070         <enumeration value="Full">
1071             <annotation>
1072                 <documentation>All normal space
1073 is in use.</documentation>
1074             </annotation>
1075         </enumeration>
1076         <enumeration value="Exceeded">
1077             <annotation>
1078                 <documentation>Storage needs
1079 exceed available space.</documentation>
1080             </annotation>
1081         </enumeration>
1082     </restriction>
1083 </simpleType>
1084 </element>
1085 <element name="FacilityStatus" minOccurs="0">
1086     <annotation>
1087         <documentation>The status of the
1088 facility.</documentation>
1089     </annotation>
1090 <simpleType>
1091     <restriction base="string">
1092         <enumeration value="Normal">
1093             <annotation>
1094                 <documentation>No conditions
1095 exist that adversely affect
1096         </documentation>
1097         </annotation>
1098         </enumeration>
1099         <enumeration value="Compromised">
1100             <annotation>
1101                 <documentation>General
1102 operations of the facility have been
1103 affected due to damage, operating on emergency backup
1104 systems,
1105         </documentation>
1106         </annotation>
1107         </enumeration>
1108         <enumeration value="Evacuating">
1109             <annotation>
1110                 <documentation>Indicates that a
1111 hospital is in the process
1112         </documentation>
1113         </annotation>
1114         </enumeration>
1115         <enumeration value="Closed">
1116             <annotation>
1117                 <documentation>Indicates that a
1118 hospital is no longer capable
1119         </documentation>
1120         </annotation>
1121         </enumeration>
1122     </restriction>
1123 </simpleType>

```

```

1124         </restriction>
1125     </simpleType>
1126 </element>
1127 <element name="SecurityStatus" minOccurs="0">
1128     <annotation>
1129         <documentation>The status of security procedures in the
1130 hospital.</documentation>
1131     </annotation>
1132     <simpleType>
1133         <restriction base="string">
1134             <enumeration value="Normal">
1135                 <annotation>
1136                     <documentation>The hospital is
1137 operating under routine security
1138 procedures.</documentation>
1139                 </annotation>
1140             </enumeration>
1141             <enumeration value="Elevated">
1142                 <annotation>
1143                     <documentation>The hospital has
1144 activated increased security
1145 procedures (awareness, surveillance) due to a potential
1146 threat,
1147 or specific security related event i.e. increase in local
1148 threat
1149 level, VIP, bomb threat.</documentation>
1150                 </annotation>
1151             </enumeration>
1152             <enumeration value="RestrictedAccess">
1153                 <annotation>
1154                     <documentation>Based on security
1155 needs, the hospital has
1156 activated procedures to allow access to the facility
1157 through
1158 a reduced number of controlled entrances.</documentation>
1159                 </annotation>
1160             </enumeration>
1161             <enumeration value="Lockdown">
1162                 <annotation>
1163                     <documentation>Based on security
1164 needs, the hospital has
1165 activated procedures to control entry to the facility to
1166 authorized persons only.</documentation>
1167                 </annotation>
1168             </enumeration>
1169             <enumeration value="Quarantine">
1170                 <annotation>
1171                     <documentation>Based on a public
1172 health emergency, the
1173 entry and exit of the facility is controlled by public
1174 health officials.</documentation>
1175                 </annotation>
1176             </enumeration>
1177         </restriction>
1178     </simpleType>
1179 </element>
1180 <element name="Activity24Hr" minOccurs="0">
1181     <annotation>
1182         <documentation>The container element for reporting
1183 activities in the last 24 hours. </documentation>
1184     </annotation>
1185     <complexType>
1186         <sequence>
1187             <element name="Admissions" minOccurs="0"/>
1188             <element name="Discharges" minOccurs="0"/>
1189             <element name="Deaths" minOccurs="0"/>
1190         </sequence>
1191     </complexType>
1192 </element>
1193 <element ref="CommentText" minOccurs="0"/>
1194 </sequence>

```

```

1195     </complexType>
1196     <complexType name="HospitalResourceStatus">
1197         <annotation>
1198             <documentation>The container for all the elements related to the
1199 operations of the facility. </documentation>
1200         </annotation>
1201         <sequence>
1202             <element name="Staffing" minOccurs="0">
1203                 <annotation>
1204                     <documentation>The status of staffing.
1205 </documentation>
1206                 </annotation>
1207                 <simpleType>
1208                     <restriction base="string">
1209                         <enumeration value="Adequate">
1210                             <annotation>
1211                                 <documentation>Meets the current
1212 needs.</documentation>
1213                             </annotation>
1214                         </enumeration>
1215                         <enumeration value="Insufficient">
1216                             <annotation>
1217                                 <documentation>Current needs not
1218 being met.</documentation>
1219                             </annotation>
1220                         </enumeration>
1221                     </restriction>
1222                 </simpleType>
1223             </element>
1224             <element name="FacilityOperations" minOccurs="0">
1225                 <annotation>
1226                     <documentation>The status of supplies necessary for
1227 facility operations. </documentation>
1228                 </annotation>
1229                 <simpleType>
1230                     <restriction base="string">
1231                         <enumeration value="Adequate">
1232                             <annotation>
1233                                 <documentation>Meets the current
1234 needs.</documentation>
1235                             </annotation>
1236                         </enumeration>
1237                         <enumeration value="Insufficient">
1238                             <annotation>
1239                                 <documentation>Current needs not
1240 being met.</documentation>
1241                             </annotation>
1242                         </enumeration>
1243                     </restriction>
1244                 </simpleType>
1245             </element>
1246             <element name="ClinicalOperations" minOccurs="0">
1247                 <annotation>
1248                     <documentation>The status of supplies necessary for
1249 clinical operations. </documentation>
1250                 </annotation>
1251                 <simpleType>
1252                     <restriction base="string">
1253                         <enumeration value="Adequate">
1254                             <annotation>
1255                                 <documentation>Meets the current
1256 needs.</documentation>
1257                             </annotation>
1258                         </enumeration>
1259                         <enumeration value="Insufficient">
1260                             <annotation>
1261                                 <documentation>Current needs not
1262 being met.</documentation>
1263                             </annotation>
1264                         </enumeration>
1265                     </restriction>

```

```

1266         </simpleType>
1267     </element>
1268     <element ref="CommentText" minOccurs="0"/>
1269 </sequence>
1270 </complexType>
1271 <complexType name="TriageCount">
1272     <annotation>
1273         <documentation>The number of each triage patient type the overall
1274 hospital currently has.</documentation>
1275     </annotation>
1276     <sequence>
1277         <element name="TriageRed" type="integer" minOccurs="0">
1278             <annotation>
1279                 <documentation>Number of victims with immediate
1280 needs.</documentation>
1281             </annotation>
1282         </element>
1283         <element name="TriageYellow" type="integer" minOccurs="0">
1284             <annotation>
1285                 <documentation>Number of victims with delayed
1286 needs.</documentation>
1287             </annotation>
1288         </element>
1289         <element name="TriageGreen" type="integer" minOccurs="0">
1290             <annotation>
1291                 <documentation>Number of victims with minor
1292 needs.</documentation>
1293             </annotation>
1294         </element>
1295         <element name="TriageBlack" type="integer" minOccurs="0">
1296             <annotation>
1297                 <documentation>Number of deceased
1298 victims.</documentation>
1299             </annotation>
1300         </element>
1301     </sequence>
1302 </complexType>
1303 <complexType name="Capacity">
1304     <annotation>
1305         <documentation>Top level complex schema type defining bed capacity
1306 counts
1307 given a specific type of bed.</documentation>
1308     </annotation>
1309     <sequence>
1310         <element name="CapacityStatus" minOccurs="0">
1311             <annotation>
1312                 <documentation>Indicator of status of bed type or sub-
1313 category bed type. </documentation>
1314             </annotation>
1315             <simpleType>
1316                 <restriction base="string">
1317                     <enumeration value="Vacant/Available"/>
1318                     <enumeration value="NotAvailable"/>
1319                 </restriction>
1320             </simpleType>
1321         </element>
1322         <element name="AvailableCount" type="integer" minOccurs="0">
1323             <annotation>
1324                 <documentation>The number of vacant/available beds to
1325 which patients can be immediately transported. These must include supporting space,
1326 equipment, medical material, ancillary and support services and staff to operate under
1327 normal circumstances. These beds are licensed, physically available and have staff on
1328 hand to attend to the patient who occupies the bed.</documentation>
1329             </annotation>
1330         </element>
1331         <element name="BaselineCount" type="integer" minOccurs="0">
1332             <annotation>
1333                 <documentation>The maximum (baseline) number of beds in
1334 this category.</documentation>
1335             </annotation>
1336         </element>

```

```

1337         <element name="AdditionalCapacityCount24Hr" type="integer"
1338 minOccurs="0">
1339             <annotation>
1340                 <documentation>Estimate how many beds above the current
1341 number could be made vacant/available within 24 hours. This includes institutional surge
1342 beds as well as beds made available by discharging/transferring
1343 patients.</documentation>
1344             </annotation>
1345         </element>
1346         <element name="AdditionalCapacityCount72Hr" type="integer"
1347 minOccurs="0">
1348             <annotation>
1349                 <documentation>Estimate how many beds above the current
1350 number could be made vacant/available within 72 hours. This includes institutional surge
1351 beds as well as beds made available by discharging/transferring
1352 patients.</documentation>
1353             </annotation>
1354         </element>
1355     </sequence>
1356 </complexType>
1357 <complexType name="Offload">
1358     <annotation>
1359         <documentation>Indicator of offload times of ambulance capabilities.
1360 The time it takes to transfer care of a patient to hospital staff, thereby freeing the
1361 transport for assignment. </documentation>
1362     </annotation>
1363     <sequence>
1364         <element name="EMSOffloadStatus" minOccurs="0">
1365             <annotation>
1366                 <documentation>Indicator of offload times of ambulance
1367 capabilities. </documentation>
1368             </annotation>
1369             <simpleType>
1370                 <restriction base="string">
1371                     <enumeration value="Normal">
1372                         <annotation>
1373                             <documentation>The time required
1374 to offload a patient is typical.</documentation>
1375                         </annotation>
1376                     </enumeration>
1377                     <enumeration value="Delayed">
1378                         <annotation>
1379                             <documentation>The time required
1380 to offload a patient is longer than typical. </documentation>
1381                         </annotation>
1382                     </enumeration>
1383                 </restriction>
1384             </simpleType>
1385         </element>
1386         <element name="EMSOffloadMinutes" type="integer" minOccurs="0">
1387             <annotation>
1388                 <documentation>Average offload time in
1389 minutes.</documentation>
1390             </annotation>
1391         </element>
1392     </sequence>
1393 </complexType>
1394 <complexType name="OrganizationGeoLocation">
1395     <annotation>
1396         <documentation>The container element for specifying the geo-coded
1397 address. </documentation>
1398     </annotation>
1399     <complexContent>
1400         <extension base="geo-oasis:SimplePositionType">
1401             <sequence>
1402                 <element ref="geo-oasis:where"/>
1403             </sequence>
1404         </extension>
1405     </complexContent>
1406 </complexType>
1407 </schema>

```


B. EDXL-HAVE EXAMPLE

```

1409 <?xml version="1.0" encoding="UTF-8"?>
1410 <EDXLDistribution xmlns="urn:oasis:names:tc:emergency:EDXL:DE:1.0:" >
1411   <distributionID>edxl_dl</distributionID>
1412   <senderID>XML2005</senderID>
1413   <dateTimeSent>2005-11-15T16:53:00-05:00</dateTimeSent>
1414   <distributionStatus>Test</distributionStatus>
1415   <distributionType>Report</distributionType>
1416   <keyword>
1417     <valueListurn>http://www.niem.gov/EventTypeList</valueListurn>
1418     <value>Pandemic Flu</value>
1419   </keyword>
1420   <targetArea>
1421     <polygon>
1422       33.4745,-112.1174 33.4745,-112.0238 33.4238,-112.0238 33.4238,-112.1174 33.4745,-
1423       112.1174
1424     </polygon>
1425   </targetArea>
1426   <contentObject>
1427     <contentDescription>HAVE message reporting bed
1428     capacities</contentDescription>
1429     <xmlContent>
1430       <embeddedXMLContent>
1431         <have:HospitalStatus
1432         xmlns="urn:oasis:names:ec:emergency:have:1.0:" >
1433       </HospitalStatus>
1434     </Hospital>
1435     <OrganizationInformation>
1436       <OrganizationID>XXX1234</OrganizationID>
1437       <OrganizationIDProviderName>AHA</OrganizationIDProviderName>
1438       <OrganizationName>ABC Hospital</OrganizationName>
1439       <OrganizationTypeText>Hospital</OrganizationTypeText>
1440       <OrganizationLocation>
1441         <StreetFullText>123 Main Street</StreetFullText>
1442         <LocationCityName>Fairfax</LocationCityName>
1443         <LocationCountryName>USA</LocationCountryName>
1444         <LocationStateName>Virginia</LocationStateName>
1445       </OrganizationLocation>
1446     </OrganizationInformation>
1447   </contentObject>
1448   <EmergencyDepartmentStatus>
1449     <EMSTraffic>
1450       <EMSTrafficStatus>Normal</EMSTrafficStatus>
1451     </EMSTraffic>
1452     <EMSCapacity>
1453       <TriageRed>40</TriageRed>
1454       <TriageYellow>40</TriageYellow>
1455       <TriageGreen>40</TriageGreen>
1456       <TriageBlack>40</TriageBlack>
1457     </EMSCapacity>
1458     <EMSCensus>
1459       <TriageRed>20</TriageRed>
1460       <TriageYellow>20</TriageYellow>
1461       <TriageGreen>20</TriageGreen>
1462       <TriageBlack>20</TriageBlack>
1463     </EMSCensus>
1464     <EMSAmbulanceStatus>
1465       <EMSOffloadStatus>Normal</EMSOffloadStatus>
1466       <EMSOffloadMinutes>20</EMSOffloadMinutes>
1467     </EMSAmbulanceStatus>
1468   </EmergencyDepartmentStatus>
1469   <HospitalBedCapacityStatus>
1470     <BedCapacity>
1471       <Bed>AdultICU</Bed>
1472       <Capacity>

```

```

1474         <CapacityStatus>Vacant/Available</CapacityStatus>
1475         <AvailableCount>10</AvailableCount>
1476         <BaselineCount>30</BaselineCount>
1477         <AdditionalCapacityCount24Hr>5</AdditionalCapacityCount24Hr>
1478         <AdditionalCapacityCount72Hr>5</AdditionalCapacityCount72Hr>
1479     </Capacity>
1480 </BedCapacity>
1481 </HospitalBedCapacityStatus>
1482
1483 <ServiceCoverageStatus>
1484     <Burn>True</Burn>
1485     <Cardiology>True</Cardiology>
1486     <InfectiousDiseases>True</InfectiousDiseases>
1487     <Neonatology>True</Neonatology>
1488     <Neurology>True</Neurology>
1489     <Orthopedic>True</Orthopedic>
1490     <Surgery>
1491         <General>True</General>
1492     </Surgery>
1493 </ServiceCoverageStatus>
1494
1495 <HospitalFacilityStatus>
1496     <EOCStatus>Active</EOCStatus>
1497     <EOCPlan>Active</EOCPlan>
1498     <ClinicalStatus>Normal</ClinicalStatus>
1499     <DeconCapacity>Inactive</DeconCapacity>
1500     <MorgueCapacity>Open</MorgueCapacity>
1501     <FacilityStatus>Normal</FacilityStatus>
1502     <SecurityStatus>Normal</SecurityStatus>
1503 </HospitalFacilityStatus>
1504
1505 <HospitalResourcesStatus>
1506     <Staffing>Adequate</Staffing>
1507     <FacilityOperations>Adequate</FacilityOperations>
1508     <ClinicalOperations>Adequate</ClinicalOperations>
1509 </HospitalResourcesStatus>
1510 <LastUpdateTime>2001-12-17T09:30:47.0Z</LastUpdateTime>
1511 </Hospital>
1512 </have:HospitalStatus>
1513 </embeddedXMLContent>
1514 </xmlContent>
1515 </contentObject>
1516 </EDXLDistribution>
1517

```

C. OASIS GML PROFILE NOTE

1518

The <where> Element

1519

1520
 1521 The <where> element is structured as a container element with a choice-type component and attributes.
 1522 For the purposes of the EDXL-HAVE document, the Point element will be used most of the time, if not
 1523 always. Taking this into consideration, documentation on the other sub-elements is provided here to
 1524 serve as a context and reference. These are included in the schema below as well.

1525

1526 For additional information, please refer to the Open Geospatial Consortium, OpenGIS® Geography
 1527 Markup Language (GML) Encoding Specification (GML) Version 3.1.1.

1528

1529

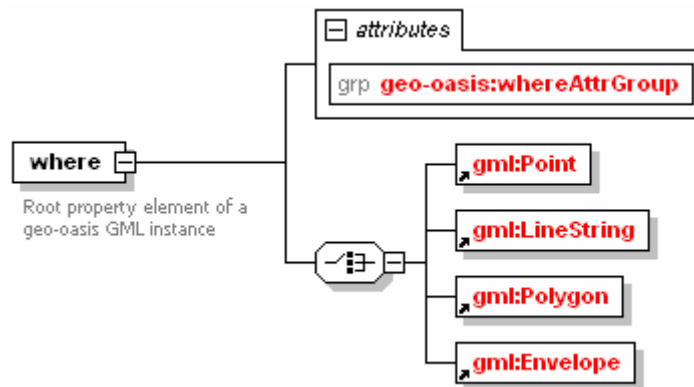


Figure 2: Structure of <where> element

1530

1531

1532

Element	<line>
Type	geo-oasis: SimplePositionType
Usage	OPTIONAL
Definition	Line property element containing a list of pairs of coordinates representing latitude then longitude in the WGS84 coordinate reference system
Comments	1. This geo-oasis Simple element maps completely onto the where <gml:LineString> combination of geo-oasis GML

1533

Element	<polygon>
Type	geo-oasis: SimplePositionType

Usage	OPTIONAL
Definition	Closed ring property element containing a list of pairs of coordinates (first pair and last pair identical) representing latitude then longitude in the WGS84 coordinate reference system.
Comments	1. This geo-oasis Simple element maps completely onto the where <code><gml:Polygon></code> combination of geo-oasis GML

1534

Element	<code><box></code>
Type	<code>geo-oasis: SimplePositionType</code>
Usage	OPTIONAL
Definition	Rectangular envelope property element containing two pairs of coordinates (lower left envelope corner, upper right envelope corner) representing latitude then longitude in the WGS84 coordinate reference system.
Comments	1. This geo-oasis Simple element maps completely onto the where <code><gml:Envelope></code> combination of geo-oasis GML

1535

1536 C.1 geo-oasis ELEMENTS

1537

Element	<code><SimplePositionType></code>
Type	<code>geo-oasis: doubleList</code> extension
Usage	OPTIONAL
Definition	Extended <code><doubleList></code> with the addition of geo-oasis where attributes

1538

Element	<code><doubleList></code>
Type	<code>xsd: double</code>
Usage	OPTIONAL
Definition	XML List based on XML Schema double type, identical to <code><gml:doubleList></code> . An element of this type contains a space-separated list of double values.

1539

1540 C.2 GROUPS

1541

Element	whereAttrGroup
Type	XML Structure
Usage	OPTIONAL
Definition	Optional additional parameters for a geo-oasis location property
Sub-elements/attributes	<ul style="list-style-type: none">• featureTypeTag• relationshipTag• elev• floor• radius

1542

Element	featureTypeTag
Type	xsd:NCName
Usage	OPTIONAL
Definition	Attribute of the <where> element indicating the type of geographic entity is being referred to. Default: "location"
Used In	whereAttrGroup

1543

Element	relationshipTag
Type	xsd:NCName
Usage	OPTIONAL
Definition	Attribute of the <where> element indicating how geo-tagged content is related to the represented location. Default: "isLocatedAt"
Used In	whereAttrGroup

1544

Element	elev
Type	xsd:double
Usage	OPTIONAL
Definition	Attribute of the <where> element indicating a GPS-measured elevation in meters (e.g. WGS84 geoid height)
Used In	whereAttrGroup

1545

Element	floor
Type	xsd: double
Usage	OPTIONAL
Definition	Attribute of the <where> element indicating elevation by building floor.
Used In	whereAttrGroup

1546

Element	radius
Type	xsd: double
Usage	OPTIONAL
Definition	Attribute of the <where> indicating size in meters of a radius or buffer being indicated around the geometry (e.g. radius of circular area around a point geometry).
Used In	whereAttrGroup

1547

1548

1549

1550

1551

1552

1553

1554

1555 C.3 geo-oasis SCHEMA

1556

```
1557 <?xml version="1.0" encoding="UTF-8"?>
1558 <xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema" xmlns:geo-
1559 oasis="http://www.opengis.net/gml/geo-oasis/1.0" xmlns:gml="http://www.opengis.net/gml"
1560 targetNamespace="http://www.opengis.net/gml/geo-oasis/1.0" elementFormDefault="qualified"
1561 attributeFormDefault="unqualified" version="1.0">
1562   <xs:import namespace="http://www.opengis.net/gml" schemaLocation="geo-oasis.xsd"/>
1563   <xs:element name="where">
1564     <xs:annotation>
1565       <xs:documentation>Root property element of a geo-oasis GML
1566 instance</xs:documentation>
1567       <xs:documentation>Container for optional geo-oasis
1568 attributes</xs:documentation>
1569     </xs:annotation>
1570     <xs:complexType>
1571       <xs:choice>
1572         <xs:element ref="gml:Point"/>
1573         <xs:element ref="gml:LineString"/>
1574         <xs:element ref="gml:Polygon"/>
1575         <xs:element ref="gml:Envelope"/>
1576       </xs:choice>
1577       <xs:attributeGroup ref="geo-oasis:whereAttrGroup"/>
1578     </xs:complexType>
1579   </xs:element>
1580   <xs:element name="point" type="geo-oasis:SimplePositionType">
1581     <xs:annotation>
1582       <xs:documentation>Point property element containing a pair of
1583 coordinates representing latitude then longitude in the WGS84 coordinate reference
1584 system</xs:documentation>
1585       <xs:documentation>This geo-oasis Simple element maps completely onto
1586 the where + gml:Point combination of geo-oasis GML</xs:documentation>
1587     </xs:annotation>
1588   </xs:element>
1589   <xs:element name="line" type="geo-oasis:SimplePositionType">
1590     <xs:annotation>
1591       <xs:documentation>Line property element containing a list of pairs of
1592 coordinates representing latitude then longitude in the WGS84 coordinate reference
1593 system</xs:documentation>
1594       <xs:documentation>This geo-oasis Simple element maps completely onto
1595 the where + gml:LineString combination of geo-oasis GML</xs:documentation>
1596     </xs:annotation>
1597   </xs:element>
1598   <xs:element name="polygon" type="geo-oasis:SimplePositionType">
1599     <xs:annotation>
1600       <xs:documentation>Closed ring property element containing a list of
1601 pairs of coordinates (first pair and last pair identical) representing latitude then
1602 longitude in the WGS84 coordinate reference system</xs:documentation>
1603       <xs:documentation>This geo-oasis Simple element maps completely onto
1604 the where + gml:Polygon combination of geo-oasis GML</xs:documentation>
1605     </xs:annotation>
1606   </xs:element>
1607   <xs:element name="box" type="geo-oasis:SimplePositionType">
1608     <xs:annotation>
1609       <xs:documentation>Rectangular envelope property element containing two
1610 pairs of coordinates (lower left envelope corner, upper right envelope corner)
1611 representing latitude then longitude in the WGS84 coordinate reference
1612 system</xs:documentation>
1613       <xs:documentation>This geo-oasis Simple element maps completely onto
1614 the where + gml:Envelope combination of geo-oasis GML</xs:documentation>
1615     </xs:annotation>
1616   </xs:element>
1617   <!-- ===== -->
1618   <xs:complexType name="SimplePositionType">
1619     <xs:simpleContent>
1620       <xs:annotation>
```

```

1621         <xs:documentation>Extended doubleList with the addition of
1622 geo-oasis where attributes</xs:documentation>
1623     </xs:annotation>
1624     <xs:extension base="geo-oasis:doubleList">
1625         <xs:attributeGroup ref="geo-oasis:whereAttrGroup"/>
1626     </xs:extension>
1627     </xs:simpleContent>
1628 </xs:complexType>
1629 <!-- ===== -->
1630 <xs:simpleType name="doubleList">
1631     <xs:annotation>
1632         <xs:documentation>XML List based on XML Schema double type, identical
1633 to gml:doubleList. An element of this type contains a space-separated list of double
1634 values</xs:documentation>
1635     </xs:annotation>
1636     <xs:list itemType="xs:double"/>
1637 </xs:simpleType>
1638 <!-- ===== -->
1639 <xs:attributeGroup name="whereAttrGroup">
1640     <xs:annotation>
1641         <xs:documentation>Optional additional parameters for a geo-oasis
1642 location property </xs:documentation>
1643     </xs:annotation>
1644     <xs:attribute name="featuretypetag" type="xs:NCName" use="optional">
1645         <xs:annotation>
1646             <xs:documentation>Optional where attribute indicating the type
1647 of geographic entity is being referred to. Default is
1648 &quot;location&quot;</xs:documentation>
1649         </xs:annotation>
1650     </xs:attribute>
1651     <xs:attribute name="relationshiptag" type="xs:NCName" use="optional">
1652         <xs:annotation>
1653             <xs:documentation>Optional where attribute indicating how
1654 geotagged content is related to the represented location. Default is
1655 &quot;isLocatedAt&quot;</xs:documentation>
1656         </xs:annotation>
1657     </xs:attribute>
1658     <xs:attribute name="elev" type="xs:double" use="optional">
1659         <xs:annotation>
1660             <xs:documentation>Optional where attribute indicating a GPS-
1661 measured elevation in meters (e.g. WGS84 geoid height)</xs:documentation>
1662         </xs:annotation>
1663     </xs:attribute>
1664     <xs:attribute name="floor" type="xs:double" use="optional">
1665         <xs:annotation>
1666             <xs:documentation>Optional where attribute indicating
1667 elevation by building floor</xs:documentation>
1668         </xs:annotation>
1669     </xs:attribute>
1670     <xs:attribute name="radius" type="xs:double" use="optional">
1671         <xs:annotation>
1672             <xs:documentation>Optional where attribute indicating size in
1673 meters of a radius or buffer being indicated around the geometry (e.g. radius of
1674 circular area around a point geometry </xs:documentation>
1675         </xs:annotation>
1676     </xs:attribute>
1677 </xs:attributeGroup>
1678 <!-- ===== -->
1679 </xs:schema>

```

1680

1681

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1682 The following individuals have participated in the creation of this specification and are gratefully
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1684

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E. REVISION HISTORY

Revision	Date	Editor	Changes Made
Public Review Version 2.0	13 November 2006	Sukumar Dwarkanath	<ul style="list-style-type: none"> • Changed document status from 'Public Review Draft 1.0 Revision 01' to 'Public Review Draft 2.0' • Changed approval date to '02 November 2006'
Public Review Version 1.0 Revision 01	23 October 2006	Sukumar Dwarkanath	<ul style="list-style-type: none"> • Changed datatype of <LocationPostalCodeID> from 'Integer' to 'String' • Changed Cardinality of Capacity element from '0 to *' to '0 to 1'; modified DOM to reflect changes • Renamed <Bed> to <BedType> • Renamed <SubCategoryBed> to <SubCategoryBedType> • Removed Maximum limit enumeration – 60 Mts – from <EMSOffloadMinutes> • Changed datatype of <ServiceCoverageStatus> element to xsd:boolean type • Changed datatype of Surgery element to xsd:boolean • Replaced OGC GML Profile schema with new version of schema; replaced schema diagram • Modified EDXL-HAVE schema; modified EDXL-HAVE example • Formatted document to be consistent with OASIS template • Added metadata - This Version and Previous version; corrected IPR Policy note – changed year from '2005' to '2006'; corrected IPR note – Changed 'wsrf' to 'emergency'; removed Organization affiliation from Editor Name; corrected numbering of sections 3.2.6 and 3.2.7; added Non-normative changes; removed Corporate Affiliations from List of Associate Members in Appendix; modified key word list. • Added Revision History Table • Formatted element names, datatype, and parent elements. • Renamed appendix C.1 - geo-oasis ELEMENTS