OASIS Emergency Data Exchange Language (EDXL)

Standardized Data Sharing in Support of Healthcare Preparedness and Response

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Introduction to the Emergency Data eXchange Language (EDXL)
Published by the Organization for the Advancement of Structured Information Standards (OASIS)

with focus on these standards:

The EDXL-Hospital Availability Exchange (HAVE)
The EDXL-Tracking of Emergency Patients (TEP)

Bi-directional Transformation of OASIS EDXL-TEP (Tracking of Emergency Patients) v1.1 and HL7 v2.7.1 Specification Version 1.0
EDXL Standard Benefits

- **Development:**
  Open, voluntary, collaborative process by First Responder, Emergency and Disaster Management, and Industry experts

- **Availability:**
  Internationally and at no cost

- **Benefits:**
  - Enables a “Crawl, Walk, Run” approach
  - Supports all incident types, day to day and mass casualty
  - Low-cost approach - Build once, reuse over and over again
  - Scalable from the local, national and international level
  - Leverage and enhance current system and infrastructure without extensive development, upgrades, and training
  - Use your own systems, screens and data
  - Force Multiplier
EDXL was developed by Emergency and Health Practitioners

- In 2003 the first Practitioner Steering Group (PSG) was formed to address this need
- Emergency Data Exchange Language (EDXL) Process

![Diagram of EDXL process]

- Practitioner Requirements
- Standards Working Group (SWG)
- Draft Requirements Message Design Specification
- Scenario Teams
- Emergency Interoperability Consortium (EIC)
- Vendor Reviewed Requirements and Recommendations
- Internationally Recognized Standard
- OASIS
- Testing and Live Exercises
- Customers

- Emergency and Healthcare Practitioners
- Local, State & Federal Government
- Industry - Product Providers
Emergency Data Exchange Language (EDXL) Standards

- **Hospital AVailability Exchange** (EDXL-HAVE 1.0; HAVE 2.0 Comment resolution underway – Hospital status, services, resources

- **Tracking of Emergency Patients** (EDXL-TEP 1.1 and Transformation Specification for HL7 messaging) – Emergency patient and EMS tracking information

- **Committee Note: Bi-directional Transformation of OASIS EDXL-TEP (Tracking of Emergency Patients) v1.1 and HL7 v2.7.1 Specification Version 1.0**

- **Tracking of Emergency Clients** (EDXL-TEC, Registry Public Review complete – Emergency Evacuee tracking and Shelter information

- **Resource Messaging** (EDXL-RM 1.0) – Emergency resource information

- **Situation Reporting** (EDXL-SitRep, in development) – Situation / incident / event and response information

- **Common Alerting Protocol** (EDXL-CAP 1.2) – Emergency alerts, notifications, and public warnings

- **Distribution Element** (EDXL-DE 1.0, EDXL-DE 2.0 Committee Specification) – Wrap and route any emergency information (XML and non-XML)
HAVE and TEP Context - Continuum of Patient Movement

EDXL-TEP (Pre-Hospital) → HL7 In-Hospital → HL7 Hospital to Hospital (e.g. Lab info)

Emergency Response → State, Local, Federal ESF’s → Emergency Management → EDXL-HAVE Emergency Hospital Availability Exchange → Hospital
EDXL - HAVE
Hospital Availability Exchange

● Overview:
  • EDXL-HAVE allows the communication of the status of a hospital, its services, and its resources.
  • Includes bed capacity and availability, emergency department status, available services and the status of a hospital’s facility and operations.

● Features:
  • Multiple use – EDXL-HAVE provides a flexible format which can be used during disasters, everyday emergencies, reporting etc.

● Versions:
  • v1.0 - 2008 (v2.0 Q4 2016)
  • Working with HHS HavBed for consistent interoperability
  • Considering joint release with HL7
Hospital Availability Exchange
EDXL-HAVE

- Hospital Status – day-to-day and in crisis:
  - Capacities (bed counts, utilization)
  - Services Offered
  - Ambulance status (offload times – air and land)
  - Deployed widely in the U.S and internationally (e.g. Haiti)
  - Being adapted for non-Hospital Use (e.g. urgent care, temporary facilities, doctor offices, walk-in clinics)

<table>
<thead>
<tr>
<th>Coordination</th>
</tr>
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<tbody>
<tr>
<td><strong>Situation</strong></td>
</tr>
<tr>
<td>U: Returned to Overcapacity &gt;20%. Moderate surge capacity strategies in place.</td>
</tr>
<tr>
<td>D: Has returned to 10-20% overcapacity</td>
</tr>
<tr>
<td>M: Remains 10-20%&gt; Capacity. Still high number of admitted patients, at least half on isolation.</td>
</tr>
<tr>
<td>U: Has returned to N.</td>
</tr>
<tr>
<td>P: repri increased gastro activity in Toronto. Considered Normal this time of year, because of number of social events.</td>
</tr>
<tr>
<td>June 24: 8:30 am</td>
</tr>
</tbody>
</table>
HAVE Detail

- Facility Information
- Facility Status
- Services (names, codes, bed counts)
- Operations
- Resources
- Emergency Department
- Trauma Center
EDXL - TEP
Tracking of Emergency Patients

● Overview:
  • EDXL-TEP provides tracking for Emergency Medical Services (EMS) and others across the emergency medical care continuum, from patient encounter; to patient release, hospital admission or morgue.
  • TEP tracks day-to-day EMS patient transfers and hospital evacuation

● Features:
  • Facilitates cross-jurisdiction and cross-profession information sharing, collaboration and coordination involving all types of day to day and mass casualty incidents, and planned events

● Versions:
  • v1.1 Committee Specification is published
  • Bi-directional Transformation of OASIS EDXL-TEP (Tracking of Emergency Patients) v1.1 and HL7 v2.7.1 Specification Version 1.0
EDXL-TEP Core Elements

**PATIENT INFO**

- Patient unique Identifier
- Gender
- Age / DOB
- Name
- Evacuation Status
- Special Transportation Needs
- Special Medical Needs
- Security / Supervision Needs
- Special Communication Needs
- Family Unification Code

**PATIENT CONDITION**

- Current Disposition
- Contam. / Rad. / Contag.
- Chief Complaint
  - (Vitals e.g. pulse rate)

**PATIENT TRACKING**

- Incident
- Estimated and Actual Departure and Arrival
- Care Provider
- Location (current, destination)
- Transport
Bi-directional Transformation of OASIS EDXL-TEP v1.1 and HL7 v2.7.1 Specification Version 1.0
Thanks and Thoughts

HL7 Working Group – Public Health Emergency Response (PHER)

Standards Development Organization Coordination

Questions and Discussion
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