IHE Work Item Proposal (Detailed)

# Proposed Work Item: Discharge to EMS Transport (DET)

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Domain: Patient Care Coordination

**Summary**

There are presently no standards available that would enable healthcare organizations to communicate key patient data to EMS transport organization to support transfer of patients. Much of the information is currently available in standard formats in electronic discharge summaries used in US, Canada and European healthcare settings using the HL7® CDA® Release 2.0 Standard. Other standards, such as HL7® FHIR® resources could also be used to communicate this information between the discharging facility and EMS transport company.

Use of electronic transfer summaries would benefit both Hospitals and EMS companies by decreasing staff time used to communicate such information, and hospitals would further benefit by in reduced patient wait times for transfers and increase bed availability that could result. As the developer of many of the core standards presently used in CDA-based discharge summaries, IHE is a excellent venue to solve this problem because it already has substantial experience with the standard and the necessary content. IHE can also provide a mechanism for EMS System vendors and Hospital system vendors to establish and test a solution. Much of the content is already in use for specified transfers of care between clinicians and can be reused to fulfill EMS transport information needs.

# The Problem

EMS transport organizations must record information about patients being transferred under their care. This is often done in electronic information systems, but due to lack of standards, the information provided by the hospital must be reentered by EMS transport staff. Every EMS transport organization keeps records regarding patient transport documents necessary care and to be able to provide informed interventions if needed. This information is either gathered verbally through nursing staff or by perusing extensive paperwork to find the information needed for the transport patient care record. Once the transport is completed, the same information is also communicated as part of the transport summary.

**Value statement:**

Creating a patient summary for the EMS transport team is a low cost incremental function because it will be a combination of information that is already in the current inpatient system. If this issue can be solved, EMS floor time can be greatly reduced and the EMS provider can spend more time providing care to the patient rather than spending prolonged periods of time searching for, and manually reentering the needed information for patent transport and informed patient care. Improved throughput for Emergency Department (ED) and inpatient bed availability become a hospital benefit, by creating more free bed space that can then be filled by the constant hospital demand.

# Use Cases

**Before:** An 87-year-old male is discharged from a hospital following a hospitalization for a severe fall in the patient’s home that resulted in a compound hip fracture. The patient had a total hip replacement. The next step in patient care is to send the patient to a rehabilitation facility. The contracted EMS provider crew arrives on scene to transport the patient to a rehabilitation facility. The Emergency Medical Technician (EMT) for the transport contacts the patient’s current nurse to document the patient’s current condition. After obtaining this information the EMS crew needs to obtain a CMN (Certificate of Medical Necessity) report, explaining why the patient needs to be transported by ambulance, which the crew needs to manually input into the EMS system. The patient’s past medical history, current medications, allergies, and insurance information are identified in various locations in the patient discharge papers. Once the information is manually entered into the EMS system the patient contact is made, where the transport team finds that the patient has an undocumented mental handicap and is unable to sign for himself. The EMS crew then needs to locate the patient’s nurse and obtain a patient transport acceptance signature. Once this is obtained the patient transport to the rehabilitation center is carried out after approximately 30 minutes of floor time dedicated to finding and inputting required patient information.

**After:** An 87-year-old male is discharged from a hospital following a hospitalization for a severe fall in the patient’s home that resulted in a compound hip fracture. The patient had a total hip replacement. The next step in patient care is to send the patient to a rehabilitation facility. The hospital contacts an EMS provider to transport and generates an electronic patient summary for EMS. The contracted EMS care team arrives on scene for transport and imports the electronic patient information into their patient care system. With the known history of mental handicap, the EMT knows to obtain a patient transport acceptance signature from the nurse. Patient contact is then made and transport is carried out.

# Standards & Systems

HL7 Implementation Guide for CDA® Release 2 – Level 3: Emergency Medical Services; Patient Care Report, Release 1 – US Realm

NEMSIS

IHE PCC: Transport Record Summary Profiles (ETS and ITS)

HL7 Version 3 Domain Analysis Model, Emergency Medical Services, Release 1

HL7 version 3 Domain Information Model; Emergency Model Services, release 1

HL7 Version 3 Implementation Guide for CDA Release 2

HL7® FHIR® standard DSTU2 (v1.0.2) <http://hl7.org/fhir/DSTU2/index.html>

# Technical Approach

This would be a content profile for a CDA document containing the information needed for the EMS transport. The hospital would send a CDA document to the EMS transport company that contains all information the transport team needs before they meet the patient. It is anticipated that the majority of this information already exists in standards based summary documents that can already be produced by the hospital. The transport summary would simply be a subset of this document. A thorough review of data requirements will be performed to determine any additional constraints on existing summary content, or additional data that may be needed.

**New actors**

None anticipated if this is only a content profile for CDA. If the committee determines that FHIR is an appropriate option, then additional actors may be needed. FHIR will reuse Content Creator and Content Consumer

**Existing actors**

Content Creator and Content Consumer actors will be used.

**New transactions (standards used)**

No new transactions anticipated.

**Impact on existing integration profiles**

None anticipated.

**New integration profiles needed**

None anticipated

**Breakdown of tasks that need to be accomplished**

* Identify Discharge to EMS discharge requirements
* Compare the requirements with current CDA summary about what is available in the summary
* Review available FHIR resources to determine feasibility of FHIR support
* Identify value set requirements
* Prepare Volume 1
  + Finalize actors and transactions
  + Prepare use cases
  + Prepare swim-lane diagrams
* Prepare Volume 2 if FHIR used
  + Identify FHIR resources and alignment with required EMS data requirements
* Prepare Volume 3 content
  + Identify mapping of EMS content to CDA
  + Identify sections and entry specifications to support EMS content
  + Identify vocabulary constraints when needed

# Risks

* Need to identify value for implementers
* Limited engagement of EMS vendors in IHE

# Open Issues

Need to determine if the use of the FHIR standard is appropriate.

# Effort Estimates

Medium