NEMSIS Data Standardization

Initiation Phase

Project Charter

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Glossary

ANSI – American National Standards Institute (www.ansi.org)
DAM – Domain analysis model: An information model constructed to represent the concepts in a problem domain.
DMIM – Domain message information model: A constrained information model constructed to represent the concepts in a problem domain in a form in which every feature is assigned to a corresponding feature in the HL7 Reference Information Model.
EMS – Emergency medical services: a branch of emergency services dedicated to providing out-of-hospital acute medical care and/or transport to definitive care, to patients with illnesses and injuries which the patient, or the medical practitioner, believes constitutes a medical emergency.
HDF – HL7 Development Framework, which documents the process for HL7 standards development
HITSP – Health Information Technology Standards Panel (www.hitsp.org)
HL7 – Health Level Seven, an ANSI-recognized standards development organization in the healthcare interoperability space (www.hl7.org)
IHE PCC – Integrating the Healthcare Enterprise (www.ihe.net) Patient Care Coordination domain
IS04 – The HITSP specification for Emergency Responder – Electronic Health Record Interoperability
NEMSIS – National Emergency Medical Services Information System (www.nemsis.org)
NEMSIS TAC NEMSIS Technical Assistance Center, a federally funded/chartered organization to support EMS agencies using the NEMSIS dataset
SDO – Standards development organization
1 Charter Purpose

This charter states the direction of the project to develop Health Level Seven (HL7) standards based on the National Emergency Medicine Services Information System (NEMSIS) data set.

1.1 Background
The NEMSIS Project is an effort to create a National EMS Database, containing data from local and state agencies from across the nation. NEMSIS defines EMS and pre-hospital care in order to improve patient care and EMS curricula and define a standard by which to measure care.

The NEMSIS data set is a de facto standard, but in order to improve and encourage interoperability it is necessary to establish a de jure standard.

2 Stakeholders and Objectives

2.1 Objectives
The primary objective of the project is to create HL7 standards to support the interoperability needs of Emergency Medical Services (EMS).

In addition, the project will
- ensure that the resulting standards can be used to support the development of international standards,
- ensure that the development is open to contributions from concerned parties by the use of a consensus-based process,
- minimize the difficulty NEMSIS stakeholders will have migrating from NEMSIS to the new HL7 specifications, and
- address selected gaps identified in Health Information Technology Standards Panel (HITSP) IS04 (Emergency Responder – Electronic Health Record Interoperability Specification).

2.2 Stakeholders
The following stakeholders have been identified for this project.

- NEMSIS Technical Assistance Center
  NEMSIS TAC is a Federal Technical Assistance Center, serving to coordinate and enable the consolidation of EMS data. NEMSIS’ primary interest is to ensure its continued effective operation.

- NEMSIS Data Standard Task Force
  The NEMSIS Task Force represents a broad set of professional organizations and government entities as listed on the NEMSIS web site. It is charged with identifying and resolving issues with the use of the dataset. They will participate in NEMSIS updates via the NEMSIS Version 3 effort (see related projects, below), and they will be asked to participate in the balloting process.

- National Highway Traffic Safety Administration (NHTSA)
  NHTSA coordinates financial support for the NEMSIS Technical Assistance Center. Like NEMSIS, it is concerned to ensure its continued effective operation. One strategy for doing so is to see the data set made into an ANSI standard, to encourage wider adoption and support greater interoperability.

- Health Information Technology Standards Panel (HITSP)
  HITSP is a cooperative partnership between the public and private sectors. The Panel was formed for the purpose of harmonizing and integrating standards that will meet clinical and business needs for sharing
information among organizations and systems. In IS04, HITSP has identified the lack of an SDO-developed standard for the EMS space as a concern. This project will address part of the EMS-specific concerns.

- Health Level Seven (HL7)
HL7 supports the development of healthcare interoperability standards. In the development of such standards, HL7 will be concerned to ensure that the consensus process is used appropriately.

Any other person or organization concerned with the reporting or use of EMS data is also a stakeholder, and may participate in the development and balloting process, per the HL7 development process. Membership in HL7 is not required for participation, but is encouraged.

3 Scope
The pre-hospital emergency medical services space is a large domain. In order to have a manageable scope, this project has chosen to limit its scope to that part of this space defined by the NEMSIS dataset. Initially, this project will focus on the 2.2.1 version of the NEMSIS dataset: concurrently, NEMSIS is developing a version 3 of its dataset which may expand this scope to address additional parts of the domain. Areas currently within the NEMSIS dataset include EMS planning, dispatch, response, triage, assessment, pre-hospital patient care, treatment, and disposition (including transportation). This involves multiple interfaces with existing standards within public health, public safety, and healthcare.

Domain requirements are scoped by the following:
- NEMSIS dataset version 2.2.1
- NEMSIS dataset updates for version 3
- Direction from NEMSIS on element interpretation and inclusion

In addition, the process must meet requirements defined by the HL7 Development Framework (HDF).

4 Approach
The project will follow the HL7 Development Framework (HDF). The first activity will be to create a Domain Analysis Model (DAM) that can then be used to create a variety of interoperability standards. Once the DAM is complete, a series of specifications will be developed, as well as a set of implementation guides for those specifications. The types of specifications may include HL7 V3 messages, documents, or services. Which specifications will be developed will not be determined until the DAM is complete.

4.1 Activities
Activities will follow the process defined by HL7 for standard development in the HL7 Development Framework (HDF).

These activities include the following:
Initiation: Write charter; plan activities
Requirements: Create DAM and DMIM to support specifications; ballot as informative
Specification: Create and ballot specifications identified in Requirements phase
Localization: Create and ballot implementation guides
4.2 Milestones
We estimate the following schedule for project activities:

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<th>2009</th>
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<td>Manage ballot</td>
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5 Communication

5.1 Interested Parties

- **NEMSIS Version 3**
The NEMSIS organization is undertaking a revision of version 2.2.1 based on public comment. This process engages the NEMSIS Task Force (see above) to identify and articulate changes to the standard. The NEMSIS data standardization project will draft a DAM based on the current (2.2.1) version of NEMSIS, but will update it with changes made under the NEMSIS Version 3 project before going to ballot.

- **NEMSIS Transition Assistance Project**
After the specifications are defined, NEMSIS TAC will take primary responsibility for assisting state and local EMS agencies in their migration to the HL7 V3 standards.

- **Emergency Care DAM Project**
There is project under Emergency Care to develop a DAM for the Emergency Care domain, which has identified pre-hospital care as a likely focus of effort in the future. The NEMSIS data standardization project will coordinate with this project in order to ensure points of contact or overlap are addressed consistently.

- **Integrating the Healthcare Enterprise Patient Care Coordination domain**
IHE is an initiative by healthcare professionals and industry that promotes the coordinated use of established standards such as DICOM and HL7 to address specific clinical need in support of optimal patient care. IHE has an active PCC domain, which is currently investigating the possibility of creating a CDA standard to meet ISO4 requirements.

- **HL7 workgroups**
There are, in addition, several work groups within HL7 whose subject areas overlap the domain of this project. HL7 processes support ongoing operational coordination of standards development to ensure interoperability of the resulting specifications.

The HL7 community represents a broad group of parties and organizations. Any such party or organization can participate in the development process via the HL7 process. Participation is anticipated particularly from the work groups which are co-sponsors of this project; Emergency Care, Patient Care, and Public Health and Emergency Response.
5.2 Communication processes
The project will take full advantage of HL7 project management infrastructure. This includes the use of an HL7 conference line, Wiki for document sharing and contact information, meeting space at working group meetings, and listserv for broadcast updates.

Status will be reported regularly to the sponsoring committee.

There is a risk of the scope expanding to the point of being unmanageable. In order to address this risk, effort will be kept on task through the use of clear communication of scope—through the HL7 scope statement, this document, and, when available, the DAM use case model.

Other HL7 workgroups will be engaged when touchpoints are recognized, and their participants are invited to attend and participate in project meetings when they recognize such touchpoints.

5.3 Frequently Asked Questions
The following questions were frequently asked during the inception of this project.

1. **Why is this project sponsored by the CIC as opposed to the Emergency Care Workgroup?** The project team recognizes that the NEMSIS specification includes content that extends beyond the mission of the Emergency Care Workgroup, such as EMS Dispatch, Crash Notification, and Credentialing. Some aspects of the project are expected to be within the domain of the Public Health and Emergency Response workgroup and the Patient Care workgroup. The project team and its funding source, the National Highway Traffic Safety Administration (NHTSA), prefer to conduct the domain analysis under the auspices of the Clinical Interoperability Council because it offers the broadest mission encompassing the scope of this project.

2. **Will this project be developing message specifications or clinical document specifications?** Neither. The scope of this project is limited to development of a Domain Analysis Model and a DMIM for EMS. The DAM will function as a requirements specification for subsequent specification development projects, which may include development of message specifications and/or clinical documents. The DAM may also identify requirements that are fulfilled by existing specifications.

3. **Does this project address the scope of the HISTP ISO4 Integrated Emergency Medical Response use case?** The project does fall within the scope of the HISTP IS04 use case, but it seeks to define only that portion of the requirement that is currently supported by the NEMSIS specification or that is incorporated in the version of the NEMSIS specification currently under development. This represents a subset of the requirements expressed in IS04.

4. **How does this project related to the IHE Patient Care Coordination project?** The IHE PCC is currently developing CDA specifications for use in the exchange of EMS Patient Care Reports. They are doing so without the benefit of a Domain Analysis Model. The DAM produced by this project is expected to include the exchange of Patient Care Reports among the uses cases it supports. This DAM may help to inform and be informed by the work of IHE.

5. **Does the indication of "Other" under the Scope Statement number 2.a (Project Intent) exclude paramedical or first responder actions?** The project most certainly includes the actions of paramedical and first responders. It includes the actions of all EMS responders including medical assessment and intervention actions. The project includes all actions taken in response to a medical emergency in a pre-hospital setting.
6. **Project Scope Statement number 10 (Realm) indicates 'Universal,' but number 5 (Project Objectives and Deliverables) has a solely US focus. What is the domain of the effort?** The project is Universal because we hope to include input from other members of CIC. Admittedly, the project team is US based, as its funding is from a US agency; however, the project calls are open and CIC has extended an open invitation for participation. International participation is welcomed and encouraged. The DAM will most certainly be international in perspective. There may end up being derived specifications that are US domain-specific if we are unable to garner the international participation we are seeking. However, that is not our goal.

7. **How does this effort collaborate with related work efforts?** The project is aware of its relationship to other work efforts internal and external to HL7. We have EC, PC, and PHER as co-sponsors along with CIC as an effort to reach out to other work efforts. We are also keeping an eye on activities going on in IHE and HITSP. We have regularly scheduled joint sessions with all of the sponsors to facilitate collaboration across project. And we have made an explicit commitment to work with the EC workgroup which is building a DAM for in-hospital emergency services.