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| MDS/CCDDesign Guide |
| CCD Representation of MDS Clinical Data  |
| Alschuler Associates, LLC |
|  |
| **July 19, 2010** |

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| This design document provides a high-level description of how to represent MDSv3 clinical information in a CCD document. It is a guide for pilot application development. |

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# Introduction

The Continuity of Care Document (CCD) is a Clinical Document Architecture (CDA) implementation of the American Society for Testing and Materials (ASTM) Continuity of Care Record (CCR). CCD is a core dataset of the most relevant administrative, demographic, and clinical facts about a patient’s health care, covering one or more health care encounters. It provides a means for one health care practitioner, system, or setting to aggregate all of the pertinent data about a patient and forward it to another practitioner, system, or setting to support the continuity of care.

The Minimum Data Set Version 3.0 (MDSv3) CDA implementation is a standardized Questionnaire Assessment instrument for nursing homes. Nursing homes collect MDS data on residents at specified intervals during their stay. These measures assess residents’ physical and clinical conditions and abilities, as well as preferences and health care wishes. This assessment data can inform another practitioner, system, or setting about how nursing homes are caring for their residents’ physical and clinical needs.

The U.S. Health Information Technology Standards Panel (HITSP) identified CDA and the CCD as the exchange standards for transmitting assessment instruments and data elements. HITSP also identified CCD as the exchange standard for transfer/discharge summaries in HITSP Interoperability Specification 09 (HITSP IS09). Furthermore, HITSP identified LOINC®, SNOMED CT®, and the International Classification of Functioning, Disability and Health (ICF) as standards for patient assessments that include functional status.

This document describes how to use CCD patterns present in both the MDS CDA and HL7-compliant CCD to foster exchange of standardized MDSv3 assessment data in a CCD. Existing HITSP constructs are used where applicable.

NOTE: The CCD described here is not HITSP C32 compliant. It can become HITSP C32-compliant with the addition of required identifiers, links into the narrative block, and a few other formalisms. All the clinical data required for HITSP compliance is present.

The sample CCD file that accompanies this Design Guide reuses information drawn from the MDS to populate the following sections:

* Section B - Hearing, Speech and Vision
* Section C - Cognitive Pattern
* Section E - Behavior
* Section G - Functional Status
* Section H - Bladder and Bowel
* Section I - Active Disease Diagnosis
* Section J - Health Conditions
* Section M - Skin Conditions
* Section O - Special Treatments and Procedures

The balance of the CCD would be populated from other sources and is supplied here to provide the overall context of a transfer of care summary.

# CCD Representation for MDSv3 Data

## Overarching Use Case

This MDS CCD Design Document is based upon the following overarching use case for “patient transfer of care”:

A patient had stayed in a nursing home due to health conditions and functional status limitations, including “Diabetes Mellitus,” for continuous treatment since 2000-02-12. An MDS assessment had been performed on 2000-02-12 and again on 2000-03-12. In the MDS assessment of 2000-02-12, the patient had the active diseases Diabetes Mellitus and “Pneumonia.” In the MDS assessment of 2000-03-12, the Pneumonia was cured, the Diabetes Mellitus was still active, and a new active disease “Renal Failure/ESRD” was included. Because of the Renal Failure/ESRD, the patient was transferred to a hospital at 2000-03-12 for further examination and treatment. To prepare a transfer of care summary report, a CCD document is created using clinical information extracted from the MDS assessment reports and from other sources.

## Basic Design Principles

This Design Document does not cover every MDS data element for the corresponding CCD representation. It provides pattern-based design guidance in accordance with the following design principles:

1. Analyze and map MDS sections to the corresponding CCD sections.
2. Use a set of typical clinical MDS data elements to demonstrate the CCD representation.
3. Use data from multiple MDS reports within a single CCD report.
4. Keep the CCD representation simple.

## MDS CCD Mapping

### General MDS CCD Content Mapping

The CCD Functional Status Section describes the patient’s normal functioning at the time the Care Record was created. Any deviation from normal function should be included (see ). The CCD Problems Section lists and describes all clinical problems relevant at the time the summary is generated. At a minimum, all pertinent current and historical problems should be listed.

Table : MDS CCD Sections Mapping

| **MDS Section** | **Might Need In CCD?** | **Maps to CCD** | **CCD Clinical Statement Templates** |
| --- | --- | --- | --- |
| Section A - Identification Information | Yes | CDA Header |  N/A |
| Section B - Hearing, Speech and Vision | Yes | Functional Status | problem act problem observationORresult organizer result observation |
| Section C - Cognitive Pattern | Yes | Functional Status |
| Section D - Mood | Yes | Functional Status |
| Section E - Behavior | Yes | Functional Status |
| Section F - Preferences for Customary Routine and Activities | Yes | Functional Status |
| Section G - Functional Status | Yes | Functional Status |
| Section H - Bladder and Bowel | Yes | Functional Status |
| Section K - Swallowing/Nutritional Status | Yes | Functional Status |
| Section L - Oral/Dental Status | Yes | Functional Status |
| Section I - Active Disease Diagnosis | Yes | Problems | problem act problem observation |
| Section J - Health Conditions | Yes | Problems |
| Section M - Skin Conditions | Yes | Problems |
| Section N - Medications | No (CCD requires specific medication information. MDS medication is too general.) |  |   |
| Section O - Special Treatments and Procedures | Yes | Procedures |  Observation |
| Section P - Restraints | Yes or No  | Functional Status |  Result Observation |
| Section Q - Participation in Assessment and Goal Setting | No |   |   |
| Section S - State-Specific Questions | No |   |   |
| Section T - Therapy Supplement for Medicare PPS | No |   |   |
| Section Z - Assessment Administration | Yes | CDA Header |   |

The CCD Functional Status and Problems Sections can represent the MDS data. The CCD Header can contain all of the document-level metadata and demographic data from MDS Sections A and Z. Furthermore, note that the MDS Medications Section is general [for example, “Section N - Medications N0300 (Number of days injectable medications received)”], whereas the CCD requires specific medication history and status. Therefore, medication information is more properly drawn from outside the MDS and is not drawn from the MDS here.

Two sets of MDS clinical statement templates are used in their corresponding CCD sections:

* problemAct/problemObservation
* resultOrganizer/ resultObservation.

### MDS Sections for CCD

An MDS document contains a broad range of clinical information. Some of the information is important and should be provided during a transfer to a health care facility, and some of the information may be less relevant during transfer of care. Based upon a preliminary analysis, the MDS data most likely to be reused for transfer of care is listed in . The balance of the MDS sections may also contain important clinical information; however, the sections identified in are sufficient to demonstrate the concepts and patterns in reuse.

The methodology illustrated in the document can be applied to the rest of the MDS sections, as appropriate.

Table : Illiusrated MDS CCD Setion Mapping

| **MDS** | **Map to CCD** |
| --- | --- |
| Section B - Hearing, Speech and Vision | Functional Status |
| Section C - Cognitive Pattern | Functional Status |
| Section E - Behavior | Functional Status |
| Section G - Functional Status | Functional Status |
| Section H - Bladder and Bowel | Functional Status |
| Section I - Active Disease Diagnosis | Problems |
| Section J - Health Conditions | Problems |
| Section M - Skin Conditions | Problems |
| Section O - Special Treatments and Procedures | Procedures |

## General CCD representation for MDS Q/A Pair

### Pattern 1: Representation in CCD Result Observation

The *MDS CDA Implementation Guide (MDS IG),* states that each MDS question and answer must adhere to the MDS Base Pattern (see MDS IG Section 2.9.1), and also conform to the CCD Result Observation template (templateId 2.16.840.1.113883.10.20.1.31). All question/answer pairs of selected MDS sections use the MDS question/answer base pattern. and demonstrate different uses of the MDS base pattern (i.e., CCD Results Observation template). Figure 1 the value is a boolean and in figure 2, the value is a concept descriptor data type.

Figure : MDS question/answer CCD representation (boolean)

<text>

 <!-- narrative block -->

 <list>

 <item ID="H0100B">

 <content styleCode="Bold">H0100B</content>

 Appliances: external (condom) catheter:

 <content styleCode="Bold">true</content>.

 </content>

 </item>...

 </list>

</text>

<entry typeCode="DRIV">

<observation classCode="OBS" moodCode="EVN">

 <id nullFlavor="NI"/>

 <!-- MDS question -->

 <code code="54763-8"

 displayName="Appliances: external (condom) catheter"

 codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC">

 <translation code="H0100B" codeSystem="2.16.840.1.113883.4.340"

 codeSystemName="MDSLocalCodeSystem"/>

 </code>

 <statusCode code="completed"/>

 <!-- MDS answer -->

 <value xsi:type="BL" value="true"/>

</observation>

</entry>

Figure : MDS question/answer CCD representation (CD)

<text>

 <!-- narrative block -->

 <list>

 <item ID="G0300A">

 <content styleCode="Bold">K0200B</content>

 Balance: moving from seated to standing position:

 <content styleCode="Bold">1 </content>

 (Not steady, but able to stabilize without human assistance).

 </item>

 </list>

</text>

<observation classCode="OBS" moodCode="EVN">

 <id nullFlavor="NI"/>

 <!-- MDS question -->

 <code code="54749-7"

 displayName="Balance: moving from seated to standing position"

 codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC">

 <translation code="G0300A" codeSystem="2.16.840.1.113883.4.340"

 codeSystemName="MDSLocalCodeSystem"/>

 </code>

 <statusCode code="completed"/>

 <value xsi:type="CD" code="LA11032-2"

 displayName="Not steady, but able to stabilize without human assistance"

 codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC">

 <translation code="1" codeSystem="1.3.6.1.4.1.12009.10.1.31" codeSystemName="G0300A-ValueSetOid"/>

 </value>

</observation>

This MDS question/answer pattern conforms to the CCD Result Observation template, thus no additional transformation is needed for a CCD Result Observation. For any CCD sections having a Result Observation clinical statement, the MDS question/answer information can be directly extracted from an MDS report and inserted into the corresponding CDA section/entry under a Report Organizer clinical statement.

Figure 3 below shows how the MDS question/answer pairs in and are represented in the CCD Functional Status Section. This MDS CCD representation pattern is applicable to all question/answer pairs in MDS sections that map to the CCD Functional Status and Procedures Sections.

Figure : MDS question/answer CCD representation in Functional Status Section

<!-- CCD Functional Status Section -->

<section>

 <!-- narrative block -->

 <text>

 <table>

 <thead>

 <tr>

 <th>Functional Condition</th>

 <th>Date</th>

 <th>Condition Status</th>

 </tr>

 </thead>

 <tbody>

 <tr>

 <td>MDS G0300A (Balance: moving from seated to standing position)</td>

 <td>2000-03-12</td>

 <td>1 (Not steady, but able to stabilize without human assistance)</td>

 </tr>

 ...

 <tr>

 <td>MDS H0100B (Appliances: external (condom) catheter)</td>

 <td>2000-03-12</td>

 <td>true</td>

 </tr>

 </tbody>

 </table>

 </text>

 <entry>

 <organizer classCode="CLUSTER" moodCode="EVN">

 <!-- result organizer template -->

 <templateId root="2.16.840.1.113883.10.20.1.32"/>

 <statusCode code="completed"/>

 <author>

 <time value="20000312"/> <!-- authored at 2000-03-12 -->

 <assignedAuthor>

 <id extension="33333333" root="2.16.840.1.113883.4.6.9999999999"/>

 </assignedAuthor>

 </author>

 <component> <!-- MDS Q/A pair -->

 <observation classCode="OBS" moodCode="EVN">

 <!-- result observation template -->

 <templateId root="2.16.840.1.113883.10.20.1.31"/>

 <id nullFlavor="NI"/>

 <code code="54749-7"

 displayName="Balance: moving from seated to standing position"

 codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC">

 <translation code="G0300A" codeSystem="2.16.840.1.113883.4.340"

 codeSystemName="MDSLocalCodeSystem"/>

 </code>

 <statusCode code="completed"/>

 <value xsi:type="CD" code="LA11032-2"

 displayName="Not steady, but able to stabilize without human assistance" codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC">

 <translation code="1" codeSystem="1.3.6.1.4.1.12009.10.1.31" codeSystemName="G0300A-valuSetOid"/>

 </value>

 </observation>

 </component>

 ...

 <component>

 <!-- result observation template -->

 <templateId root="2.16.840.1.113883.10.20.1.31"/>

 <id nullFlavor="NI"/>

 <code code="54763-8"

 displayName="Appliances: external (condom) catheter"

 codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC">

 <translation code="H0100B" codeSystem="2.16.840.1.113883.4.340" codeSystemName="MDSLocalCodeSystem"/>

 </code>

 <statusCode code="completed"/>

 <!-- MDS answer -->

 <value xsi:type="BL" value="true"/>

 </component>

 </organizer>

 </entry>

</section>

### Pattern 2: Representation in CCD Problem Observation

MDS Health Condition, Skin Condition and Active Disease Diagnosis Sections contain patient active problems and diagnoses during the assessment period. These sections map to the CCD Problems Section. The CCD Problems Section uses the Problem Organizer and Problem Observation templates, whereas MDS uses the Result Observation template to represent Health Condition, Skin Condition and Active Disease Diagnoses.

According to the CCD conformance specification, any valid Result Observation is a valid Problem Observation, therefore when representing MDS Health Condition, Skin Condition, and Active Disease Diagnoses in CCD, we can use the Problem Observation template identifiers. and show problem and diagnosis Result Observation representations in an MDS document.

Figure 6 shows the MDS problem/diagnosis Problem Observation representation in a CCD document.

This MDS CCD representation pattern is applicable to all question/answer pairs in MDS sections that map to the CCD Problems Section.

Figure : Problem in Result Observation representation in MDS document

<text>

 <!-- narrative block -->

 <list>

 <item ID="M1040B">

 <content styleCode="Bold">M1040B</content>(Other skin probs: diabetic foot ulcer(s)):

 <content styleCode="Bold">true</content>.

 </item>

 </list>

</text>

<entry>

 <observation classCode="OBS" moodCode="EVN">

 <id nullFlavor="NI"/>

 <code code="54963-4"

 displayName="Other skin probs: diabetic foot ulcer(s)"

 codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC">

 <translation code="M1040B" codeSystem="2.16.840.1.113883.4.340"

 codeSystemName="MDSLocalCodeSystem"/>

 </code>

 <statusCode code="completed"/>

 <value xsi:type="BL" value="true"/>

 </observation>

</entry>

Figure : Diagnosis in Result Observation representation in MDS document

<text>

 <!-- narrative block -->

 <list>

 <item ID="I2900">

 <content styleCode="Bold">I2900</content> (Diabetes mellitus (DM)):

 <content styleCode="Bold">true</content>.
 </item>

 </list>

</text>

<entry>

 <observation classCode="OBS" moodCode="EVN">

 <id nullFlavor="NI"/>

 <code code="54795-0"

 displayName="Diabetes mellitus (DM)"

 codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC">

 <translation code="I2900" codeSystem="2.16.840.1.113883.4.340"

 codeSystemName="MDSLocalCodeSystem"/>

 </code>

 <statusCode code="completed"/>

 <value xsi:type="BL" value="true"/>

 </observation>

</entry>

Figure : MDS problem and diagnosis in Problem Observation representation in CCD document

<section>

 <text>

 <!-- narrative block -->

 <table border="1" width="100%">

 <thead>

 <tr>

 <th>Condition</th>

 <th>Dates</th>

 <th>Condition Status</th>

 </tr>

 </thead>

 <tbody>

 <tr>

 <td colspan="3">

 <content styleCode="BoldItalics">Problems</content>

 </td>

 </tr>

 <tr>

 <td>MDS M1020F (Other skin probs: open lesion(s))</td>

 <td>2000-03-12</td>

 <td>true</td>

 </tr>

 ...

 <tr>

 <td>MDS I2900 (Diabetes mellitus (DM))</td>

 <td>2000-03-12</td>

 <td>active</td>

 </tr>

 </tbody>

 </table>

 </text>

 <entry typeCode="DRIV"> <!-- MDS problems -->

 <act classCode="ACT" moodCode="EVN">

 <!-- Problem act template -->

 <templateId root="2.16.840.1.113883.10.20.1.27"/>

 <id root="6a2fa88d-4174-4909-aece-db44b60a3abb"/>

 <code nullFlavor="NA"/>

 <entryRelationship typeCode="SUBJ">

 <observation classCode="OBS" moodCode="EVN">

 <!-- Problem Observation template -->

 <templateId root="2.16.840.1.113883.10.20.1.28"/>

 <id nullFlavor="NI"/>

 <code code="54967-5" displayName="Other skin probs: open lesion(s)"

 codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC">

 translation code="M1020F" codeSystem="2.16.840.1.113883.4.340"

 codeSystemName="MDSLocalCodeSystem"/>

 </code>

 <statusCode code="completed"/>

 <value xsi:type="BL" value="true"/>

 </observation>

 </entryRelationship>

 <!-- other problems -->

 <entryRelationship typeCode="SUBJ">...</entryRelationship>

 ...

 </act>

 </entry>

 <!-- MDS Active Disease Diagnosis-->

 <entry>

 <act classCode="ACT" moodCode="EVN">

 <!-- Problem act template -->

 <templateId root='2.16.840.1.113883.10.20.1.27'/>

 <id root="6a2fa88d-4174-4909-aece-db44b60a3abb"/>

 <code nullFlavor="NA"/>

 <entryRelationship typeCode="SUBJ">

 <observation classCode="OBS" moodCode="EVN">

 <!-- Problem Observation template -->

 <templateId root="2.16.840.1.113883.10.20.1.28"/>

 <id nullFlavor="NI"/>

 <code code="54795-0" displayName="Diabetes mellitus (DM))"

 codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC">

 <translation code="I2900" codeSystem="2.16.840.1.113883.4.340"

 codeSystemName="MDSLocalCodeSystem"/>

 </code>

 <statusCode code="completed"/>

 <value xsi:type="BL" value="true"/>

 </observation>

 </entryRelationship>

 </act>

 </entry>

</section>

## Multiple MDS Reports in CCD Representation

Nursing homes routinely collect assessment data on patients at specified intervals during their stay, which appears in a series of MDS reports. At the time a transfer of care event occurs, a patient may have multiple MDS reports on file. Clinical information recorded in present and past MDS reports can be represented in the corresponding CCD document.

As described in , an MDS question/answer in CCD can be either in Result Observation grouped by Result Organizer OR in Problem Observation grouped by Problem Act.

The MDS data elements represented in the CCD Functional Status Section will be present as Result Observations grouped by the Result Organizer template. All data elements contained in a Result Organizer should come from a single MDS report. The Result Organizer template has a data element author that contains a mandatory time element. The author/time should indicate when the corresponding MDS assessment data was reported, and its value should be the author/time value from the corresponding MDS Header.

The MDS problems and diagnoses are present in CCD Problem Observation templates. According to the CCD, a Problem Act template should be created for each active disease diagnosis to group the pertinent problem observations together. The CCD Problem Observation has a data element author that contains a mandatory time element. The author/time should indicate when the corresponding MDS assessment data was reported. Unless overwritten by an MDS Section author, the CCD Problem Observation author/time value should come from the MDS Header author/time.

For example, a patient has an active disease diagnosis of pneumonia and diabetes mellitus recorded in an MDS on 2000-02-12. A second MDS report is created on 2000-03-12 because there was a significant change in the patient's condition. In the second MDS report, the patient has diabetes mellitus and renal insufficiency as active disease diagnoses (pneumonia was cured). The disease histories in both MDS reports need to be represented in the CCD Problems Section. The Problem Observation author/time should indicate the disease occurrence timeline.

Figure 7 and

Figure 8 show the disease diagnosis information drawn from multiple MDS reports. shows how the clinical information from multiple MDS reports is represented in a single CCD document by using author/time.

Figure : Active disease diagnosis in 2000-02-12 MDS report

<ClinicalDocument> ...

 <author>

 <time value="20000212"/> <!-- MDS Authoring Date 2000-02-12 -->

 ...

 </author>

 ...

<component>

 <structureBody>

 <section>

 <!-- narrative block -->

 <text>

 <list>

 <item ID="I2000">

 <content styleCode="Bold">I2000</content> (Pneumonia):

 <content styleCode="Bold">true</content>.

 </item> ...

 <item ID="I2900">

 <content styleCode="Bold">I2900</content> (Diabetes mellitus (DM)):

 <content styleCode="Bold">true</content>.

 </item>

 </list>

 </text>

 <entry>

 <observation classCode="OBS" moodCode="EVN">

 <code code="54790-1" displayName="Pneumonia" codeSystem="2.16.840.1.113883.6.1"

 codeSystemName="LOINC">

 <translation code="I2000" codeSystem="2.16.840.1.113883.4.340"

 codeSystemName="MDSLocalCodeSystem"/>

 </code>

 <statusCode code="completed"/>

 <value xsi:type="BL" value="true"/>

 </observation>

 </entry>

 <entry>

 <observation classCode="OBS" moodCode="EVN">

 <code code="54795-0" displayName="Diabetes mellitus)"

 codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC">

 <translation code="I2900" codeSystem="2.16.840.1.113883.4.340"

 codeSystemName="MDSLocalCodeSystem"/>

 </code>

 <statusCode code="completed"/>

 <value xsi:type="BL" value="true"/>

 </observation>

 </entry>

 ...

</ClinicalStatement>

Figure : Active disease dagnosis in 2000-03-12 MDS report

<ClinicalDocument>

 ...

 <author>

 <time value="20000312"/> <!-- MDS Authoring Date 2000-03-12 -->

 ...

 </author>

 ...

<component>

 <structureBody>

 <section>

 <!-- narrative block -->

 <text>

 <list>

 <item ID="I2000">

 <content styleCode="Bold">I2000</content> (Pneumonia):

 <content styleCode="Bold">false</content>.

 </item>

 <item ID="I1500">

 <content styleCode="Bold">I1500</content>

 (Renal insufficiency or renal failure/ESRD):

 <content styleCode="Bold">true</content>.

 </item> ...

 <item ID="I2900">

 <content styleCode="Bold">I2900</content> (Diabetes mellitus (DM)):

 <content styleCode="Bold">true</content>.

 </item>

 </list>

 </text>

 <entry>

 <observation classCode="OBS" moodCode="EVN">

 <code code="54790-1" displayName="Pneumonia" codeSystem="2.16.840.1.113883.6.1"

 codeSystemName="LOINC">

 <translation code="I2000" codeSystem="2.16.840.1.113883.4.340"

 codeSystemName="MDSLocalCodeSystem"/>

 </code>

 <statusCode code="completed"/>

 <value xsi:type="BL" value="false"/>

 </observation>

 </entry>

 <entry>

 <observation classCode="OBS" moodCode="EVN">

 <code code="54787-7"

 displayName="Renal insufficiency or renal failure/ESRD"

 codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC">

 <translation code="I1500" codeSystem="2.16.840.1.113883.4.340"

 codeSystemName="MDSLocalCodeSystem"/>

 </code>

 <statusCode code="completed"/>

 <value xsi:type="BL" value="true"/>

 </observation>

 </entry>

 <entry>

 <observation classCode="OBS" moodCode="EVN">

 <code code="54795-0" displayName="Diabetes mellitus)"

 codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC">

 <translation code="I2900" codeSystem="2.16.840.1.113883.4.340"

 codeSystemName="MDSLocalCodeSystem"/>

 </code>

 <statusCode code="completed"/>

 <value xsi:type="BL" value="true"/>

 </observation>

 </entry>

 ...

</ClinicalStatement>

Figure : Active disease diagnosis CCD representation from multiple MDS reports

<!-- MDS Section I - Active Disease Diagnosis -->

<!-- Pneumonia reported at 2000-02-12 and 2000-03-12 -->

<text>

 <!-- narrative block -->

 <table border="1" width="100%">

 <thead>

 <tr>

 <th>Condition</th>

 <th>Dates</th>

 <th>Condition Status</th>

 </tr>

 </thead>

 <tbody>

 <tr>

 <td colspan="3">

 <content styleCode="BoldItalics">Active Disease Diagnosis</content>

 </td>

 </tr>

 <tr>

 <td>MDS I2000 (Pneumonia)</td>

 <td>reported at 2000-02-12</td>

 <td>resolved</td>

 </tr>

 <tr>

 <td>MDS I2900 (Diabetes mellitus (DM))</td>

 <td>reported at 2000-02-12</td>

 <td>active</td>

 </tr>

 <tr>

 <td>MDS I2900 (Diabetes mellitus (DM))</td>

 <td>reported at 2000-03-12</td>

 <td>active</td>

 </tr>

 <tr>

 <td>MDS I1500 (Renal insufficiency or renal failure/ESRD)</td>

 <td>reported at 2000-03-12</td>

 <td>active</td>

 </tr>

 </tbody>

 </table>

</text>

<entry>

 <act classCode="ACT" moodCode="EVN">

 <!-- Problem act template -->

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 codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC">

 <translation code="I2000" codeSystem="2.16.840.1.113883.4.340"

 codeSystemName="MDSLocalCodeSystem"/>

 </code>

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 <value xsi:type="BL" value="true"/>

 <author>

 <time value="20000212"/> <!-- authored at 2000-02-12 -->

 <assignedAuthor>

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 <!-- Problem Observation template -->

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 codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC">

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 <author>

 <time value="20000312"/> <!-- authored at 2000-03-12 -->

 <assignedAuthor>

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 </assignedAuthor>

 </author>

 </observation>

 </entryRelationship>

 </act>

</entry>

<!-- MDS Section I - Active Disease Diagnosis -->

<!-- Diabetes Mellitus reported at 2000-02-12 and 2000-03-12 -->

<entry>

 <act classCode="ACT" moodCode="EVN">

 <!-- Problem act template -->

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 <observation classCode="OBS" moodCode="EVN">

 <!-- Problem Observation template -->

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 <id nullFlavor="NI"/>

 <code code="54795-0" displayName="Diabetes mellitus (DM))"

 codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC">

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 codeSystemName="MDSLocalCodeSystem"/>

 </code>

 <statusCode code="completed"/>

 <value xsi:type="BL" value="true"/>

 <author>

 <time value="20000212"/> <!-- authored at 2000-02-12 -->

 <assignedAuthor>

 <id extension="33333333" root="2.16.840.1.113883.4.6.9999999999"/>

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 </entryRelationship>

 <entryRelationship typeCode="SUBJ">

 <observation classCode="OBS" moodCode="EVN">

 <!-- Problem Observation template -->

 <templateId root="2.16.840.1.113883.10.20.1.28"/>

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 <code code="54795-0" displayName="Diabetes mellitus (DM))"

 codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC">

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 </entryRelationship>

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</entry>

<!-- MDS Section I - Active Disease Diagnosis -->

<!-- Renal Failure reported at 2000-03-12 -->

<entry>

 <act classCode="ACT" moodCode="EVN">

 <!-- Problem act template -->

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 <observation classCode="OBS" moodCode="EVN">

 <!-- Problem Observation template -->

 <templateId root="2.16.840.1.113883.10.20.1.28"/>

 <id nullFlavor="NI"/>

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 codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC">

 <translation code="I1500" codeSystem="2.16.840.1.113883.4.340"

 codeSystemName="MDSLocalCodeSystem"/>

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 <statusCode code="completed"/>

 <value xsi:type="BL" value="true"/>

 <author>

 <time value="20000312"/> <!-- authored at 2000-03-12 -->

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 </assignedAuthor>

 </author>

 </observation>

 </entryRelationship>

 </act>

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# references

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* CCD Implementation Guide 2007
* Dolin RH, Alschuler L, Boyer S, Beebe C, Behlen FM, Biron PV, Shabo A, (Editors). HL7 Clinical Document Architecture, Release 2.0. ANSI-approved HL7 Standard; May 2005. Ann Arbor, Mich.: Health Level Seven, Inc.:
<http://www.hl7.org/documentcenter/private/standards/cda/r2/cda_r2_normativewebedition.zip>
* Dolin RH, Alschuler L, Boyer S, Beebe C, Behlen FM, Biron PV, Shabo A., HL7 Clinical Document Architecture, Release 2. J Am Med Inform Assoc. 2006;13:30­39:
<http://www.jamia.org/cgi/reprint/13/1/30>
* Extensible Markup Language:
http://[www.w3.org/XML](http://www.w3.org/XML)
1. CCD Functional Status Section Brief

The template identifier for the Functional Status Section is 2.16.840.1.113883.10.20.1.5.

Functional statusdescribes the patient’s status of normal functioning at the time the Care Record was created. Functional status includes information regarding the patient relative to:

* Ambulatory ability
* Mental status or competency
* Activities of Daily Living (ADLs), including bathing, dressing, feeding, grooming
* Home/living situation
* Ability to care for self
* Social activity, including issues with social cognition, participation with friends and acquaintances other than family members
* Occupation activity, including activities partly or directly related to working, housework, or volunteering, as well as family and home responsibilities or activities
* Communication ability, including issues with speech, writing, or cognition required for communication
* Perception, including sight, hearing, taste, skin sensation, kinesthetic sense, proprioception, or balance

Any deviation from normal function that the patient displays that is recorded in the record should be included. Of particular interest are those limitations that would in any way interfere with self-care or the medical therapeutic process. In addition, an improvement or any change in status or noting that the patient has normal functioning status is also valid for inclusion.

1. Codesystems used in the XmL Sample code
* **LOINC:**

codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC"

* **MDS Local CodeSystem:**

codeSystem="2.16.840.1.113883.4.340" codeSystemName="MDSLocalCodeSystem"