Contributing Pain Assessment Concepts to a Controlled Terminology
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ABSTRACT
The objectives of this project were to 1) use a multi-disciplinary pain assessment information model to identify concepts required in Logical Observation Identifiers, Names and Codes (LOINC), 2) submit the proposed LOINC codes to the LOINC committee, and 3) have LOINC names and codes created for others to use.

Keywords: Pain Assessment, Controlled Terminology, LOINC

BACKGROUND
Standardized terminologies are essential for interoperability, decision support, and research. Thirteen terminologies are currently in use and recognized by the American Nurses Association (ANA). In 2002, the ANA recognized LOINC as a terminology for use in nursing, however in order to use LOINC for clinical applications, more content is needed [1]. LOINC has also been included in the Unified Medical Language System (UMLS) compiled by the National Library of Medicine (NLM).

METHODS
An information model is defined as “the structure of the information to be stored” [2]. An information model for a pain assessment was compared and matched to existing LOINC concepts using the Regenstrief LOINC Mapping Assistant (RELMA®). The authors found only one LOINC code, “32419-4” or “PAIN QUALITY:FIND:PT^PATIENT:NOM:”, that matched a value in our existing model. Two copyrighted pain severity assessment scales were included after receiving permission from the respective developers.

RESULTS
The LOINC Committee reviewed and accepted the proposed pain assessment codes. Data sharing of a pain assessment using LOINC codes can occur between different enterprises or applications. Examples of the new LOINC concepts and names are presented in Table 1.

DISCUSSION
One limitation we found was that LOINC is more specific than our information model. For example, in our model, items inherit meaning from their parents. This meant we could not map LOINC code “38201-0” (PAIN ONSET:TMSTP: PT^PATIENT:QN: REPORTED) to our “Date of Onset”, because our “Date of Onset” is less specific and can be reused by other information models such as “difficulty breathing”.

CONCLUSION
A local pain assessment was compared to LOINC. New LOINC codes were developed and submitted for inclusion in the LOINC database.

REFERENCES

Table 1- Pain LOINC Codes

<table>
<thead>
<tr>
<th>LOINC #</th>
<th>Component</th>
<th>Property</th>
<th>Time</th>
<th>System</th>
<th>Scale</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>38201-0</td>
<td>PAIN ONSET</td>
<td>TMSTP</td>
<td>PT</td>
<td>^PATIENT</td>
<td>QN</td>
<td>REPORTED</td>
</tr>
<tr>
<td>38204-4</td>
<td>PAIN PRIMARY LOCATON</td>
<td>ANAT</td>
<td>PT</td>
<td>*</td>
<td>NOM</td>
<td>REPORTED</td>
</tr>
<tr>
<td>38207-7</td>
<td>PAIN DURATION</td>
<td>TIME</td>
<td>PT</td>
<td>^PATIENT</td>
<td>QN</td>
<td>REPORTED</td>
</tr>
<tr>
<td>38214-3</td>
<td>PAIN SEVERITY</td>
<td>FIND</td>
<td>PT</td>
<td>^PATIENT</td>
<td>QN</td>
<td>REPORTED. VISUAL ANALOG SCORE</td>
</tr>
<tr>
<td>38210-1</td>
<td>PAIN ALLEVIATING FACTORS</td>
<td>FIND</td>
<td>PT</td>
<td>^PATIENT</td>
<td>NOM</td>
<td>REPORTED</td>
</tr>
</tbody>
</table>

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