Connecting CCC to SNOMED CT and LOINC in a Terminology Server

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Introduction/Aims. Systemized Nomenclature of Medicine Clinical Terms (SNOMED CT) and Logical Observations Names and Codes (LOINC) have been mandated as the terminologies to use when messaging coded data between settings. Specifically, SNOMED CT has been mandated as the terminology to use when messaging coded problems and LOINC has been mandated for outcome measures. Nursing process data is key to providing a complete clinical picture of the patient. The Clinical Care Classification (CCC) is a nursing termiinology recognized by the American Nurses Association. It contains nursing care components that provide the framework for classifying nursing diagnoses, interventions and outcomes. There are 21 care components for diagnosis and interventions. Under the care components are specific nursing diagnoses, interventions, and outcomes that must be linked to SNOMED CT and LOINC for messaging. The 3M Healthcare data dictionary (HDD) is a terminology server that houses the wide range of standard terminologies required to document clinical care, including SNOMED CT and LOINC. This project used the HDD as the terminology server to organize the CCC data and link to SNOMED CT and LOINC to facilitate interoperability between systems. Methods/Process/Procedures. The process of implementing the CCC data structure starts with building a terminology model to incorporate all of the CCC concepts, relationships and representations. Each CCC concept is given a numeric unique identifier and relationships in the hierarchy. After the model is completed, the CCC concepts are linked to SNOMED CT and LOINC concepts through relationships. Results. The resulting CCC terminology model consists of the 21care components linked to the 60 major diagnoses using a 'has major diagnosis' relationship and to the 77 major interventions are using a 'has major intervention' relationship. Each of the 116 sub-categories for diagnosis is linked to a major diagnosis by a 'has sub-diagnosis' relationship and the 124 sub-interventions are linked to the major interventions using a 'has sub-intervention' relationship. Each sub-diagnosis has three outcomes: improved, stabilized and deteriorated. These outcomes are linked to the sub-diagnosis using a 'has outcome' relationship. Each sub-intervention is linked to the four action types using a 'has child' relationship. The nursing diagnoses and intervention concepts have relationships to SNOMED CT Clinical Finding concepts and the CCC outcome concepts are linked to LOINC concepts. Discussion/Outcomes. Housing the CCC within the HDD will support the continued use of CCC in systems and facilitate interoperability by providing terminology translations between CCC, LOINC, and SNOMED CT. Continued use and support of standardized nursing terminologies maintains nursing knowledge and supports the documentation of the nursing process. The mappings to SNOMED and LOINC support national messaging standards.