Mapping Standardized Nursing Statement to OMOP Common Data Model

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Background and Motivation

Standardized nursing statements

- A structured approach to nursing documentation that preserves expressivity while ensuring consistency.

- Examples include: "provided emotional support," "denied dyspnea," "observed blood tinged sputum," "chest tube insertion site is clean," etc.

- Documentation is done by selecting relevant statements from a pre-defined list

- Often treated similarly to free-text in CDW, which limits their usefulness for research

Study aim
To evaluate whether standardized nursing statements can be represented within the OMOP CDM to enable large-scale clinical observational research leveraging nursing data.

Methods & Results

- Selected 100 standardized nursing statements
  - 40 nursing judgement (e.g., "airway clearance is effective")
  - 60 nursing actions (e.g., "check drainage tube")
- Map to OMOP CDM tables
  - Nursing judgments
    - Condition_Occurrence
    - Observation
  - Nursing interventions
    - Procedure_Occurrence
    - Device_Exposure
    - Drug_Exposure
    - Observation

OMOP CDM Table	Nursing Action	Nursing Judgement
CONDITION_OCCURRENCE		34
DEVICE EXPOSURE	3	
DRUG_EXPOSURE	1	
OBSERVATION	3	6
PROCEDURE_OCCURRENCE	53	
Total	60	40

Discussion

- Most nursing statements can be represented using the OMOP CDM.

- Nursing statements often aim to demonstrate the value of nursing by highlighting nursing actions.

- However, because the mapping primarily focuses on key clinical information, the nursing action itself is often not explicitly represented.

- Mapping nursing statements related to patient education, emotional support, planned care, and information provision raises the question of whether they should be modeled as *Procedure_Occurrence* or *Observation*.

- This study demonstrated that standardized nursing statements can be feasibly represented within the OMOP CDM, supporting scalable, research-ready nursing datasets in clinical data warehouses.

- It also opens a new research question regarding the extent to which "value of nursing" should be explicitly captured in the OMOP CDM.