Feasible Medical Image Extension from DICOM to OMOP CDM

INTRO:
• This study aims to bridge the gap between imaging research and observational research by integrating image-based measurements into OMOP CDM.

METHODS
1. The research team includes imaging researchers and observational researchers who are familiar with OMOP CDM, and researchers on various fields were consulted to gather insights.
2. This study designed new tables to encompass imaging events and features provenance, following the OMOP CDM conventions.
3. Contrary to Radiology-CDM (You et al., 2020), the proposed model incorporates a broader range of medical specialties and references more clinical domain tables from the existing OMOP CDM.

RESULTS
• We have developed two tables, Image_occurrence table and Image_feature table, for standardized representation of complex medical imaging events and features.
• We propose to incorporate widely used imaging vocabularies such as DICOM and RadLex into OMOP CDM Standard Vocabulary table.

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