Title: Pregnancy extension table in the OMOP CDM

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What do we propose?

- We propose a pregnancy extension table with the aim to facilitate future federated pregnancy studies using the OMOP CDM.

Why do we propose it?

- Many Data Partners have detailed information related to the pregnancy period.
- The current OMOP CDM lacks standard concepts to define a pregnancy episode.
- The current OMOP CDM lacks standard concepts for clinical events and observations related to pregnancy.

How will it be done?

- We developed an initial proposal of a pregnancy extension table for the OMOP CDM based on discussions with three Data Partners: SIDIAP, University of Oslo, and HIC Dundee.
- We propose an initial list of key required and optional fields (Table 1).
- Required and optional fields will aim to fit the diverse nature of source data from different Data Partners.
- The proposed table will be tested using data from electronic health records (SIDIAP; Spain) and health registries (Norwegian Health Registries; Norway).

Conceiving a **pregnancy extension table** in the **OMOP CDM**

CDM Field	Description
	Required fields
person_id	Unique identifier of the person for whom the pregnancy is recorded
pregnancy_id	Unique identifier of each pregnancy episode
pregnancy_start_date	Date when the pregnancy episode started (first day of last menstrual period)
pregnancy_end_date	Date when the pregnancy episode ended
pregnancy_outcome_id	Outcome of the pregnancy Categories: livebirth, miscarriage (<20 weeks), stillbirth (>20 weeks), voluntary termination of pregnancy
mode_delivery	How the delivery was initiated Categories: vaginal, c-section
gestational_length_in_day	Length of gestation in days (based on ultrasound estimations or calculated from last menstrual period if ultrasound information is missing)
number_fetuses	Number of fetuses in the given pregnancy
	Optional fields
pregnancy_smok	Reported smoking during pregnancy (yes/no)
pregnancy_alc	Reported alcohol consumption during pregnancy (yes/no)
pregnancy_folic	Reported using folic acid in recommended period (yes/no)
pregnancy_BMI	Pre-pregnancy BMI
pregnancy_ART	Received Assisted Reproductive Technology treatment for the given pregnancy (yes/no)
pregnancy_apgar	Score obtained from the Apgar test 5 minutes after birth
pregnancy_BW	Birth weight of the newborn
pregnancy_TOFPA	Termination of pregnancy for a fetal anomaly (yes/no)
pregnancy_SGA	Small for gestational age of the newborn (yes/no)
pregnancy_FGR	Fetal growth restriction of the newborn (yes/no)
number_liveborn	Number of liveborns in the given pregnancy

Table 1. Extract of the proposed pregnancy extension table for the OMOP CDM

What will we obtain?

- Identification of pregnancy episodes with their relevant pregnancy-related information.
- From a preliminary assessment:
  - ✓ SIDIAP could map >678,000 pregnancy episodes covering all required fields between 2006 and 2021.
  - ✓ The Norwegian Health Registries could map >720,000 pregnancy episodes covering all required fields between 2008 and 2020.
- Final list of fields to be included is currently under discussion. Feedback from the OHDSI community is welcome!

What do we expect?

- The pregnancy extension table will help standardize pregnancy data from different Data Partners with a high level of granularity.
- Successful integration of this table in the future version of OMOP CDM will help facilitate federated pregnancy studies, such as medication safety during pregnancy and early life determinants of health and disease.

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