

Using the OMOP CDM to identify gender discordant administrative codes

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**INTRODUCTION**

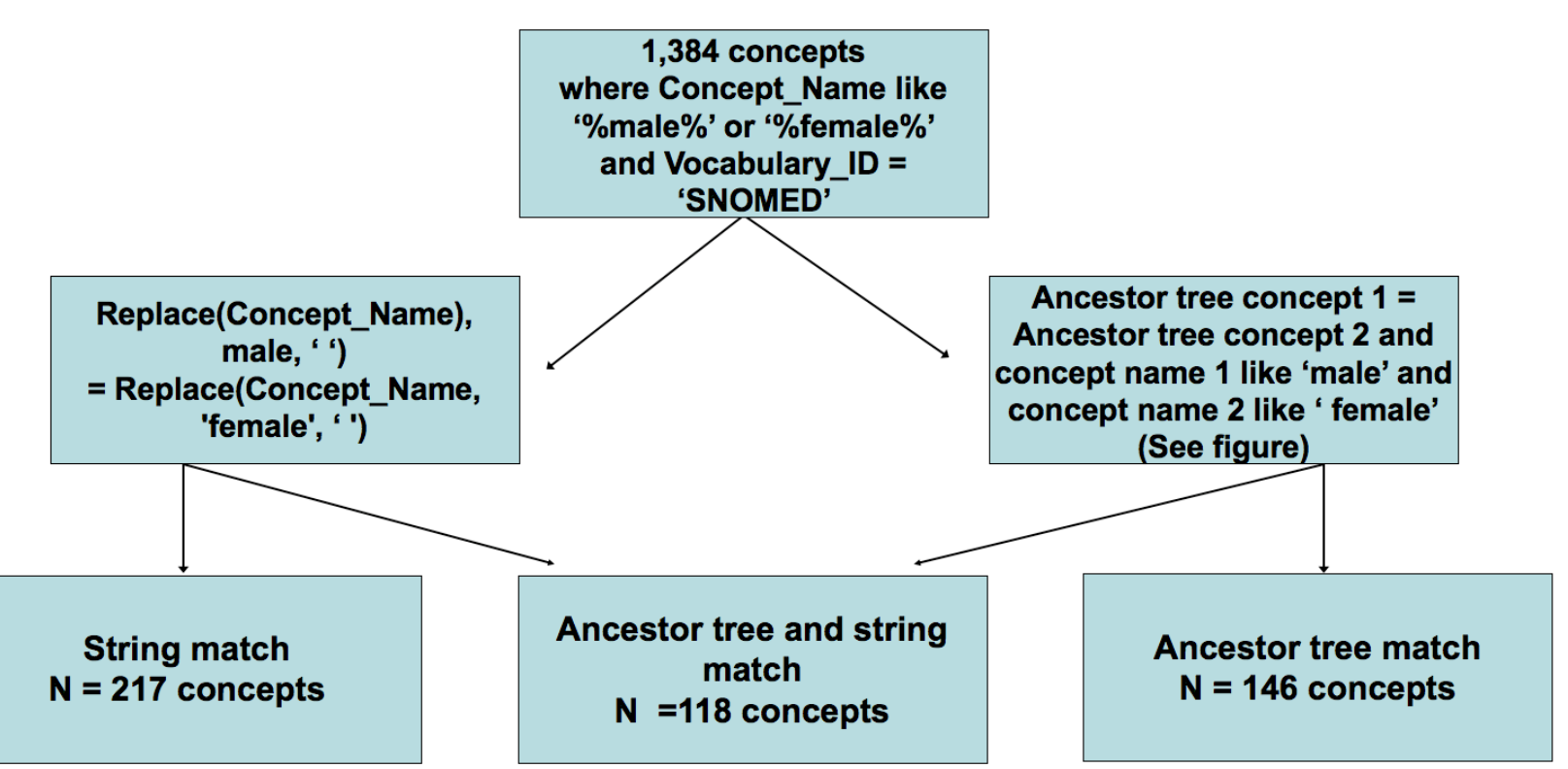
- Administrative codes sourced from electronic medical record (EMR) data can potentially create bias in epidemiologic research due to data entry errors.
- The causes of errors are multifaceted, but incomplete knowledge of the existence of gender-specific coding schemas may be a factor.
- ❖ SNOMED 93884005: primary malignant neoplasm of the **male** breast
- ❖ SNOMED 93796005: primary malignant neoplasm of the **female** breast

**OBJECTIVES**

- Using EMR data that has been transformed into the OMOP CDM, we sought to:
  - Use the Concept Ancestor table and Concept Name string matching to identify gender code SNOMED dyads (source data = ICD9/10)
  - Quantify the misalignment between records of gender-specific administrative codes and patient gender
  - Determine misalignment differences between an EMR of federal healthcare system (Department of Veterans Affairs (VA)) and a private healthcare system (Vanderbilt University Medical Center (VUMC)).

**METHODS**

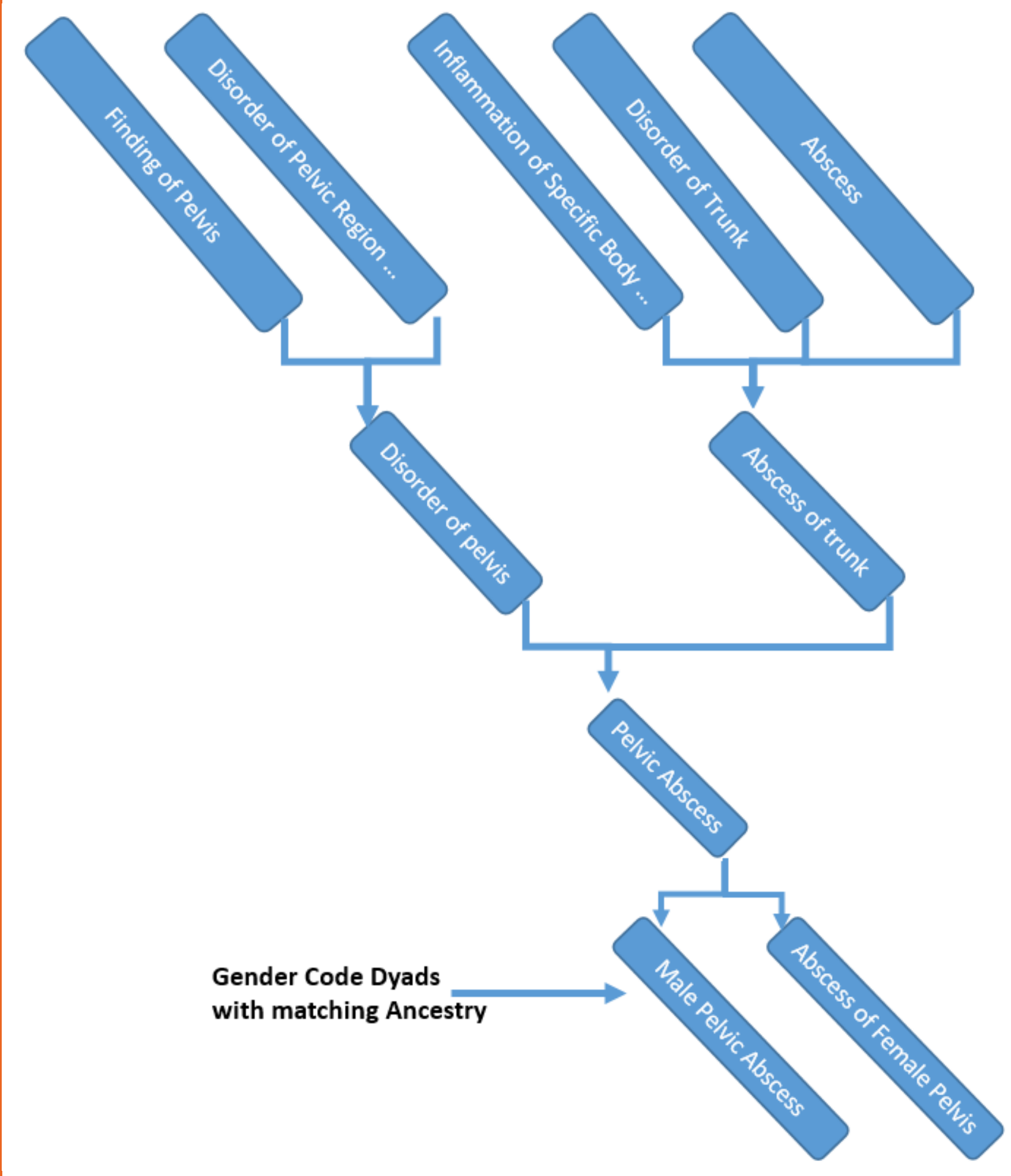
- Find eligible SNOMED dyads



- Find patient SNOMED instances in ConditionOccurrence table
- Find patient gender in Person table

# Implausible codes due to gender conflict occur with varying frequencies in electronic medical record data. The OMOP Concept Ancestor table can help identify potential problematic codes.

Figure. Example of 1 of 481 SNOMED gender-code dyads



**Top 10 VA SNOMEDs by # of Records Discordant**

	SNOMED Description	VA Discord Ct (%)
1	Primary malignant neoplasm of female breast	49,407 (9.1%)
2	Secondary malignant neoplasm of female genital organ	19,505 (97.1%)
3	Female stress incontinence	10,866 (7.9%)
4	Male urinary stress incontinence	5,364 (4.4%)
5	Male pattern alopecia	2,290 (50.2%)
6	Injury of female external genital organs	1,681 (95.9%)
7	Overlapping malignant neoplasm of female breast	1,557 (6.4%)
8	Secondary malignant neoplasm of female breast	1,203 (38.0%)
9	Malignant neoplasm of nipple and areola of female breast	899 (20.0%)
10	Primary malignant neoplasm of male breast	736 (2.3%)

**Top 10 VUMC SNOMEDs by # of Records Discordant**

	SNOMED Description	VUMC Discord Ct (%)
1	Primary malignant neoplasm of male breast	4,470 (83.6%)
2	Female stress incontinence	1,953 (5.1%)
3	Primary malignant neoplasm of female breast	1,359 (0.5%)
4	Female infertility	780 (3.9%)
5	Male pattern alopecia	771 (53.8%)
6	Male sterility	493 (47.1%)
7	Male infertility	205 (7.9%)
8	Male urinary stress incontinence	189 (17.3%)
9	Female sterility	108 (13.7)
10	Congenital anomaly of female genital system	79 (1.8%)



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