MEDICATION COUNTS THAT SEEM TOO LOW

USE CASE

Joe is a clinician researcher, new to using EHR data in research. Initial counts of patients using a medication of interest come back much lower than expected based on his clinical experience.

BROAD TOPIC AREAS

MEDICATION

PaTH Network
patient empowered research

KEY CONSIDERATIONS

1. Were all formulations of the medication incorporated into the query or computable phenotype (CP, i.e., case definition) for the medication of interest?

*Keep in mind that different health systems may have different prescribing patterns, so it should be based on a comprehensive list.

   a. Incorporate both generic and brand name forms of the drug.
   b. Think about the possibility of combination therapy (e.g., two drugs combined into a single capsule or tablet);); are they relevant to the study question? If so, include them in the computable phenotype.

2. Do the standard medication mapping systems (RxNorm and NDC) adequately address the medication? For example, not all drugs are assigned an RxNorm code.

3. Has a mapping error caused existing prescriptions in the EHR to be "missed" so that CDM labels do not indicate the true extent to which the drug is prescribed?

CATEGORIZATION

Key Considerations	Kahn Framework	PaTH Data Quality Framework
1	N/A	Analytic Variable Definition
2	?	Codes not fine enough or appropriate to the data
3	Atemporal Plausibility	ETL practice in extracting data

POTENTIAL SOLUTIONS

1. **Re-examine the query and/or computable phenotype and adjust if needed.**
   a. **Consider working from a published, validated CP, though keep i n mind that even the best CPs often require periodic updates.**
   b. **Incorporate the full list of drug formulations, including combination therapy if applicable.**
   c. **Engage with clinical experts, possibly including those outside the study team, to identify additional medications or formulations.**
   d. **Keep in mind that for publication, you may need to document details of your query, including sources and methods you used to develop the query.**

2. **If RxNorm or NDC codes are unavailable, it may be possible to identify the medication by searching not only the RxNorm / NDC fields but also to look in the RAW field for the drug name (the original data as pulled from the EHR) . Keep in mind th at this will require additional informatician effort compared with a standard query and may have budget implications.**

3. **A re-examination of the source data (raw EHR data) may reveal a mapping error that can be corrected so that a repeat query will yield more accurate numbers.**