

HemOnc: A New Standard Vocabulary for Chemotherapy Regimen Representation in the OMOP Common Data Model

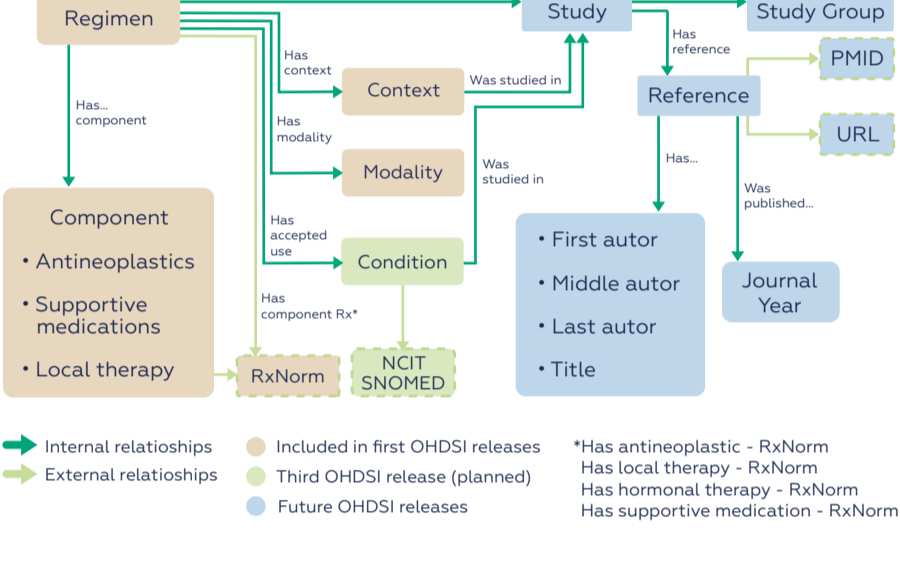
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1 MOTIVATION

- Chemotherapeutics are administered in complex combination protocol called 'regimens'
- These are not well-represented in current systems, since they are fixed combinations of drugs in a predefined temporal order
- The HemOnc.org¹ and OHDSI Oncology Group² created the first OMOP-compatible vocabulary of chemotherapy regimen concepts, to be made available in the ATHENA³
- This work builds upon the prior HemOnc.org OWL ontology^{4,5}

2 HEMONC REGIMEN DATA MODEL (SIMPLIFIED)



3 COMPARISON OF SOURCES OF REGIMEN CONCEPTS

Terminology	Maps to Drugs	Disease Context	Treatment Context	Modality	Link to Evidence	Number of regimens
SNOMED-CT	Yes*	No	No	No	No	6
SEER*Rx	Yes*	No	No	No	No	513
NCI Thesaurus	Yes*	Yes	No	No	No	735
HemOnc	Yes	Yes	Yes	Yes	Yes	2 940

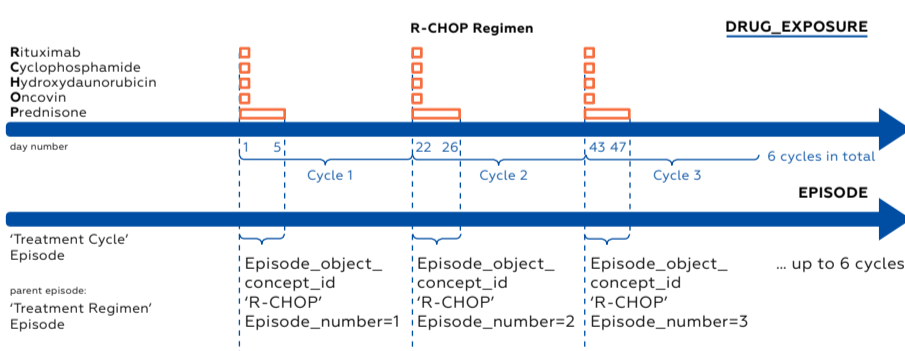
*Antineoplastics; HemOnc also maps to supportive medications

4 IMPLEMENTATION

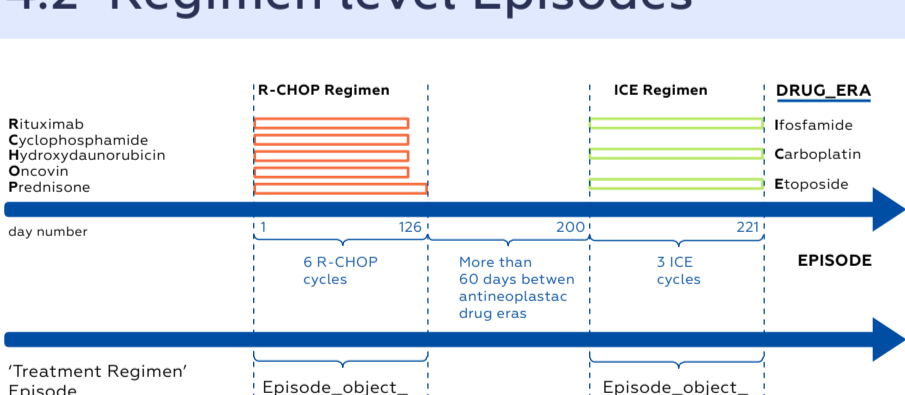
Episode table was introduced as a part of OMOP CDM Oncology Extension⁶

4.1 Cycle level Episodes

To build this we need to know drug administration schedule (which doesn't exist yet in the OMOP Vocabulary), but this approach gives more accurate results.



4.2 Regimen level Episodes



CONCLUSION

HemOnc is the only comprehensive system which contains all factors needed that are used in DRUG_EXPOSURE, DRUG_ERA and EPISODE tables.

REFERENCES

- 1 Warner et al. 2015 doi:10.1200/JOP.2014.001511
- 2 <https://www.ohdsi.org/web/wiki/doku.php?id=projects:workgroups:oncology-sg>
- 3 <http://athena.ohdsi.org>
- 4 Maltz et al. 2018 doi:10.1200/CCI.17.00142
- 5 <https://hemonc.org>
- 6 <https://www.ohdsi.org/web/wiki/lib/exe/fetch.php?tok=b27917&media=https%3A%2F%2Fgithub.com%2FOHDSI%2FCommonDataModel%2Ffiles%2F2589698%2FOncology.CDM.Proposal.2018-11-15.pdf>