

# Towards comprehensive and non-redundant Cancer diagnosis and treatment in the OMOP Standardized Vocabularies

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## INTRODUCTION

Oncology data collected for individual patient care or registries use dictionaries to report disease diagnosis, biomarkers, procedures and disease progression, for example NAACCR Dictionary and CAP Checklists. However, these collections are not suitable for use in standardized vocabularies and network research because of

1. Lack of nomenclature (table 1)
2. Lack of context (table 2)
3. Inconsistent post-coordination (table 3)
4. Mixture of transactional with observational content (table 4)
5. They are not integrated or linked to each other.

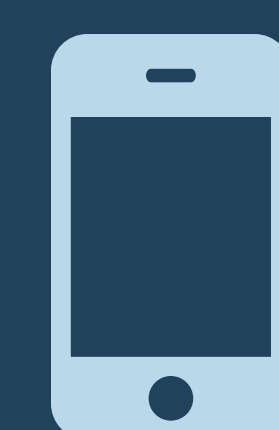
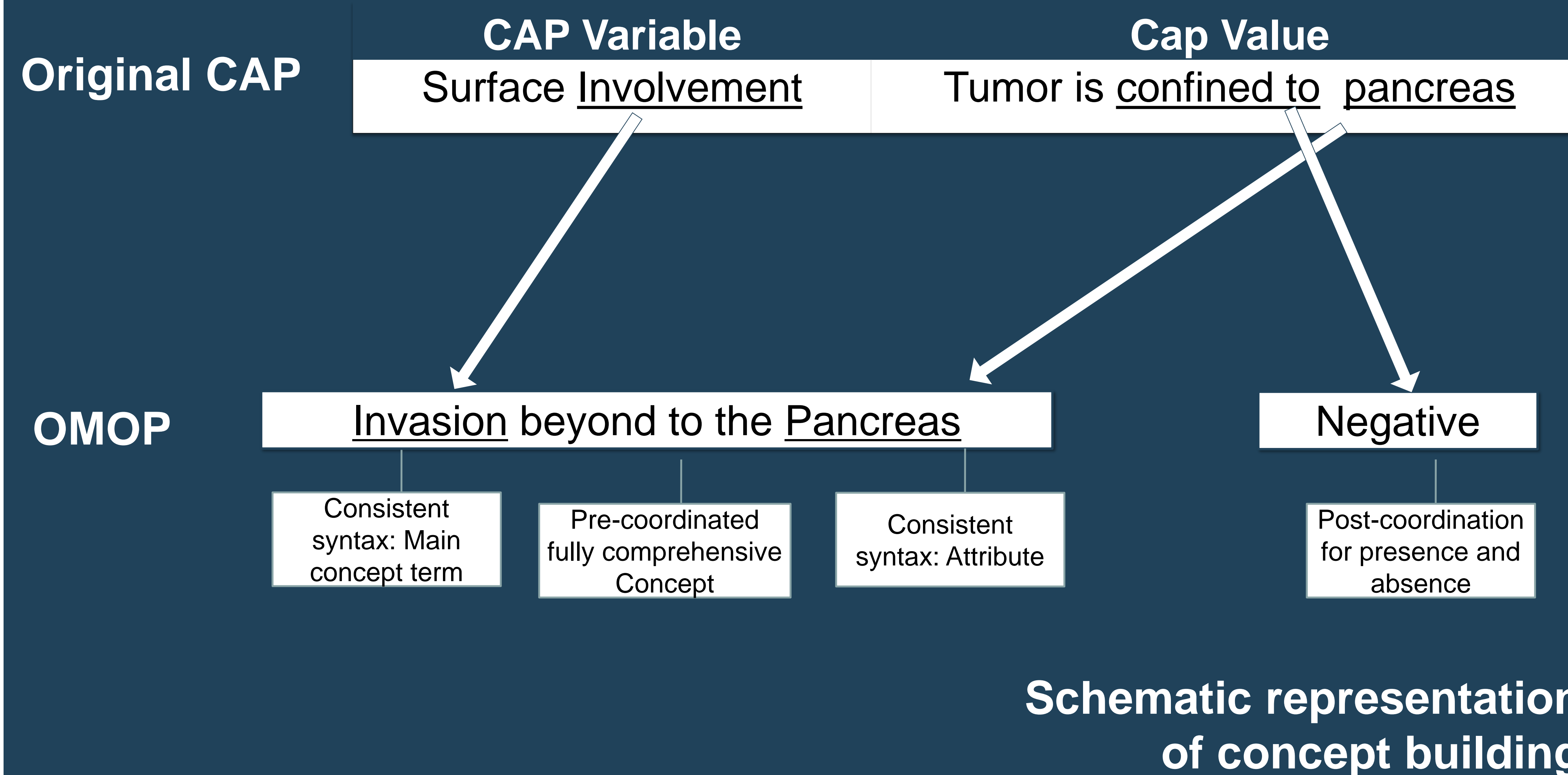
## METHODS

1. We undertook an effort to develop a common syntax and consistent set of concepts
2. We used the semantic content of both NAACCR and CAP.
3. We converted combinations of schema/protocol, variables and values to create fully pre-coordinated concepts. Only presence and absence attributes were left post-coordinated.
4. We consolidated the concepts across NAACCR and CAP.
5. We categorized the resulting concepts into a set of concept classes.

## RESULTS

- 2666 concepts are available in Athena. The concept classes within vocabulary are shown in figure 1.

# New cancer diagnostic modifiers based on NAACCR registry dictionary and CAP cancer checklists ready for use in the OMOP CDM



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**Table 1. Inconsistent nomenclature**

Name
Adenopathy
Lymphadenopathy
Lymph nodes
Lymph node metastases
Lymph node mets
LN
Sites
Nodes
Glands
Nodal status
Nodal sites
Nodal stations

Different names for one entity

**Table 2. Lack of context**

CAP Variable	CAP Value
Fusion Partner Genes	ERG
	Unknown 2 <sup>nd</sup> "partner"

**Table 3. Inconsistent post-coordination**

Variable	Value
Anatomical location in Variable	Tumor involves <b>mediastinal pleura</b>
<b>Visceral Pleura</b> Invasion (Note E)	Anatomical location in Value

**Table 4. Mixture of transactional with observational content**

Variable	Value	Comments	Our implementation
Bone invasion not present/not identified on imaging	Negative fact	Post-coordinated "Invasion into the Bone" with "Negative"	
Bone invasion present/ident...	Positive fact	Invasion into Bone	
No imaging done...	Transactional information	Dropped	
Not applicable: Informat...	Instructions for registry curator	Dropped	
OBSOLETE DATA CONVERTED V0200 ...	Life cycle information	Dropped	
Unknown or no information ...	Flavor of null	Dropped	

Bone Invasion

**Figure 1. 'Cancer Modifier' vocabulary**

Concept class	Concepts representation
Extension/Invasion	544
Topography	510
Staging/Grading	479
Histopattern	441
Margin	432
Nodes	192
Dimension	40
Metastasis	28

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