OHDSI APAC Community Call

20260917

OHDSI
Observational Health Data Sciences and Informatics

Agenda

- **OHDSI News**
- **Leveraging LLM in OHDSI: *Standardization in the Era of Mecial AI***
  - *FastOMOP by **Niko***
  - *ARKE by **Sumin** and **Kyulee***

2026 OHDSI APAC Symposium @ Seoul, Korea

- https://www.youtube.com/watch?v=ll-FtlguGYc

2026 APAC Symposium UPDATE

Main Conference | Nov 13, 2026

Time	Agenda
08:30 - 09:00	Reception
09:00 - 09:15	Opening Keynote
09:15 - 09:30	OHDSI Global Update
Session 1 - Regulatory	
09:30 - 09:50	Malaysian Health Data: Looking To The Future
09:50 - 10:05	OMOP CDM as a National Healthcare Data Standard
10:05 - 10:20	Medical Device Safety Surveillance Using OMOP CDM
10:20 - 10:35	Singapore Health Data
	Break (15min)
Session 2 - Reproducible & Reliable (AI)	
10:50 - 11:05	AI for CDM
11:05 - 11:20	Healthcare AI
11:20 - 11:35	AI and the Future of Real-World Evidence: Separating Hype from Transformational Impact
11:35 - 12:10	Debate: Standardization or No?
	Lunch + Poster/Networking Session (90min)
Session 3 - Regional but Global	
13:40 - 14:40	OHDSI APAC in Action: 2026 Achievements and Momentum
	Break (15min)
Session 4 - Research in Action	
14:55 - 15:10	FUN Session
15:10 - 15:35	VALUE Study: A global chacterisation study of VALproate Utilisation and Exposure among men and women of childbearing age
15:35 - 15:45	Making the Most of What We Have: Characterising OHDSI Regional Database Performances in Network Studies
15:45 - 15:55	Pediatric Data Network: Connecting pediatric data for better child health: Korean Kids Network
15:55 - 16:05	Medical Imaging CDM and MIMIC

2026 APAC Symposium UPDATE

Speaker Highlights

UNIVERSITI MALAYA

- **Awang Bulgiba Awang Mahmud**
  - Emeritus Professor, University of Malaya
  - Sharing Malaysia's health data perspective

NIDS 한국의료기기안전정보원 National Institute of Medical Device Safety Information

- **Tai Gwon, Kim**
  - **NIDS, Korea (National Institute of Medical Device Safety Information)**
  - Expanding OMOP CDM discussion into medical device safety and post-market surveillance

HIRA HEALTH INSURANCE REVIEW & ASSESSMENT SERVICE

- **Rae Woong, Park**
- **HIRA, Korea (Health Insurance Review and Assessment Service)**
  - Presenting OMOP CDM as a national healthcare data standard

- APAC community speakers will also join from **Korea, Singapore, Taiwan, Australia, Japan, Malaysia, and IQVIA**

2026 APAC Symposium UPDATE

Current Progress

- Main Conference agenda and speakers are being finalized
- Tutorial structure remains mostly the same as planned
  - **New addition:** D4L will provide a tutorial on **AI-based Cohort Creation**

- If you haven't registered yet, **please SIGN UP soon**! We'd love to see you in Seoul! ☺

Building Community Generating Reliable Evidence Advancing Data Science

2026 OHDSI GLOBAL SYMPOSIUM

October 20-22

Hyatt Regency
2 Albany Street
New Brunswick, New Jersey
USA 08901

OHDSI Titan Awards 2026

- The **OHDSI Titan Awards** serve to recognize those who have gone above and beyond to foster community engagement, lead research and development efforts, and make significant contributions towards OHDSI's mission.
- Nomination due date: Sept. 22, 2026
- Descriptions
  - Titan Awards for **Data Standards**
  - Titan Awards for **Methodological Research**
  - Titan Awards for **Open-Source Development**
  - Titan Awards for **Clinical Application**
  - Titan Awards for **Community Collaboration**
  - Titan Awards for **Community Leadership**
  - Titan Awards for **Community Support**

Leveraging LLM in OHDSI:

Standardization in the Era of Mecial AI

In the era of foundation models, does data standardization still matter?

LLMs read raw clinical text directly — no ETL, no mapping.
So is the OMOP CDM a trust mechanism for AI evidence, or a legacy cost we keep paying out of habit?

WHY NOW · THE GAP

- ✓ Clinicians were asked — AMA, 2026
- ✓ Global experts in medical informatics, AI, bioethics, and etc were asked — npj Digital Medicine, 2026

It's not a clean split — the same person can hold both views, shifting by domain, data type and task.

IN SOME DOMAINS — A LEGACY COST

If natural language becomes the universal interface, do rigid vocabularies still earn their keep?

IN OTHERS — THE GUARDRAIL YOU CAN'T DROP

Ontologies keep LLM agents accurate, auditable and interoperable. Lexical tools alone break on messy terms.

TAKE THE SURVEY

≈ 7 minutes — do it now, it counts

Today’s Talk

- **FastOMOP**
  - an multi-agent architecture that makes trustworthy agentic RWE real
  - Presenter: Niko Moeller-Grell (King’s College London)
- **ARKE**
  - the cognitive and semantic foundation that lets these agents work reliably
  - Presenter: Sumin Lee & Kyulee Jeon (Yonsei University)

Where we started - easing access to OMOP

Whilst the healthcare sector boasts a wealth of standardised OMOP data, its potential remains partly untapped as retrieval and analysis require expert domain knowledge

Reducing complexity: bridging SQL

```
SELECT
    COUNT(DISTINCT p.person_id) AS male_diabetes_patients
FROM
    person p
JOIN
    condition_occurrence co ON p.person_id = co.person_id
JOIN
    concept c_condition ON co.condition_concept_id = c_condition.concept_id
JOIN
    concept c_gender ON p.gender_concept_id = c_gender.concept_id
WHERE
    c_condition.concept_name LIKE '%diabetes%'
    AND c_gender.concept_name = 'MALE';
```

The vision: democratising access through natural language

How many patients have been diagnosed with diabetes?

We have 1,021,344 patients currently in our database diagnosed with diabetes

Contact: niko.moeller-grell@kcl.ac.uk - linkedin.com/in/niko-moeller-grell

OHDSI

Where we are - decomposing complex workflows

Deploying a collaborative agentic workflow to address complex RWE tasks, breaking them down into achievable tasks.

Lancaster University

KING'S College LONDON

NHS Lancashire Teaching Hospitals NHS Foundation Trust

DRIVE-Health

Agentic teams tackling complex challenges - FastOMOP

- Specialised agents designed to handle different subtasks of OMOP CDM analysis

FastOMOP

Orchestrator

Cohort generator

Statistical Analyser

Cohort profiler

Reliable tools and air gapped sandboxes - OMCP

- Reliable, deterministic and explainable tool calling
- Connected to LLM Agents through Model Context (MCP) Protocol

OMCP

OMOP MCP SERVER

DARWIN EU

OHDSI tools

R analysis

python sandbox

Research Task → Cohort generation → Statistical analysis → Result synthesising

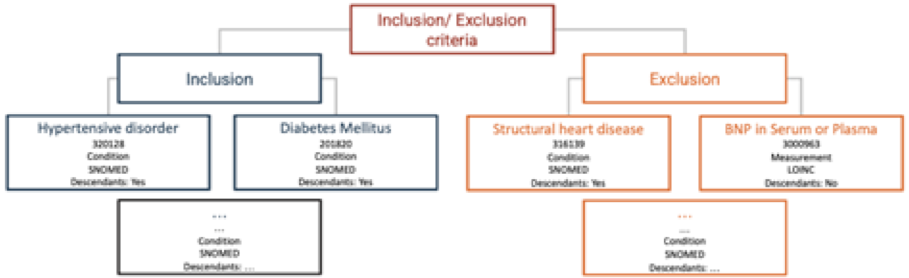
Contact: niko.moeller-grell@kcl.ac.uk - linkedin.com/in/niko-moeller-grell

Co-work on OMOP study execution

Building a trustworthy assistant capable of co-designing OMOP CDM studies

Build a cohort of patients at risk of congestive heart failure

Cohort generated: 81,346 patients with Stage A risk factors identified



Analyse the use of metformin in this cohort

Here is the drug utilisation breakdown per gender and age group:

Metric	Overall	Male	Female
Patients exposed	**12,847**	6,231	6,616
Median duration (days)	**365 (IQR 120–730)**	340	385
Mean daily dose (mg)	**1,450**	1,520	1,390
Persistence at 90 d	**78.3%**	76.1%	80.2%
Persistence at 365 d	**52.1%**	49.8%	54.2%

Age group	N	Median duration	Mean dose
18–44	1,203	245 d	1,200 mg
45–64	6,412	390 d	1,500 mg
65+	5,232	365 d	1,450 mg

Contact: niko.moeller-grell@kcl.ac.uk - linkedin.com/in/niko-moeller-grell

Lowering access barriers to clinical insights and RWE Processes with FastOMOP

Create me a concept set for...SLE without drug induced SLE

Systemic Lupus Erythematosus
257628

Drug-induced lupus erythematosus
4198217

Ontology matching

Is a → **Lupus erythematosus** 255891

Is a → **Systemic lupus erythematosus** 255891

Graph reasoning

Analyse cohort descr. → Vocabulary lookup → Cohort generation → Statistical profiling

Towards the next generation: a thinking, learning agent

Stay in touch

Next steps: enhancing learning, reasoning and memory

- Continuous learning from each execution step towards a self-optimising assistant
- Skill implementation for easy transferability
- From tool orchestration to study lifecycle management: agents that participate in the full arc; hypothesis, cohort construction, analysis, diagnostics, reporting; with human checkpoints at each stage
- Agents for regulatory studies with DARWIN EU R packages and HARPER protocols

The team behind

Vishnu Chandrabalan

Richard Dobson

Shihao Shenzhang

Zhangshu Joshua Jiang

Niko Moeller-Grell

Acknowledgements:
This work was supported by the UK Engineering and Physical Sciences Research Council (EPSRC) [EP/Y035216/1] Centre for Doctoral Training in Data-Driven Health (DRIVE-Health) at King's College London, with additional support from the National Institute for Health and Care Research (NIHR) Maudsley Biomedical Research Centre (BRC) [NIHR203318] and Lancashire Teaching Hospitals NHS Foundation Trust. The views expressed are those of the author(s) and not necessarily those of the NHS, the NIHR, the Department of Health and Social Care, or Lancashire Teaching Hospitals NHS Foundation Trust.

Contact: niko.moeller-grell@kcl.ac.uk - linkedin.com/in/niko-moeller-grell

OHDSI APAC Community Call

ARKE: Ontology-Driven Standardization of Radiology Procedure Terms Using Constrained LLMs

Presenter: *Sumin Lee, Kyulee Jeon*

Leader: *Seng Chan You*

Yonsei University College of Medicine, Seoul, Korea

OBSERVATIONAL HEALTH DATA SCIENCES AND INFORMATICS

J Biomed Inform 2026;180:105071

Journal of Biomedical Informatics 180 (2026) 105071

Contents lists available at ScienceDirect

Journal of Biomedical Informatics

journal homepage: www.elsevier.com/locate/yjbin

Original Research

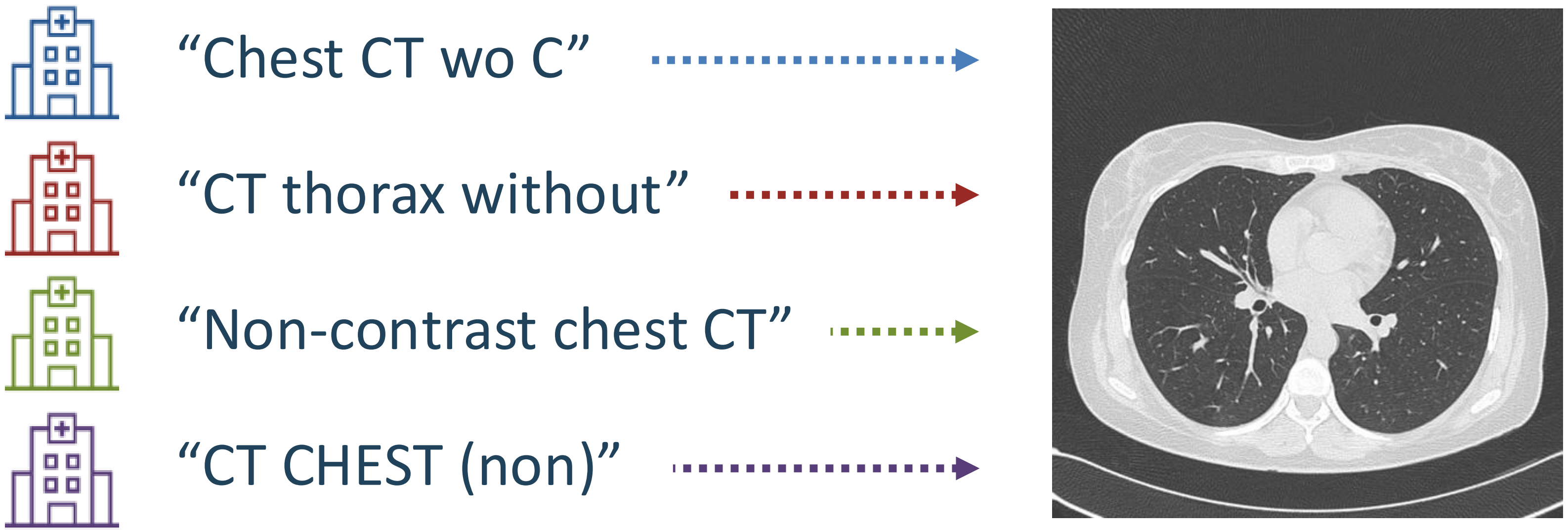
ARKE: An ontology-driven framework for automated mapping of local radiology procedure terms to the LOINC-RadLex playbook using large language model

Sumin Lee[a,b,1], Kyulee Jeon[a,b,1], Joon Seok Lim[c], Yiju Park[a,b], Min Seong Kim[a,b], Ju Hyun Jin[d], Chang Hoon Han[a,b], Soon Ho Yoon[e,f,2], Seng Chan You[a,b,2,*]

[a] Department of Biomedical Systems Informatics, Yonsei University College of Medicine, Seoul, The Republic of Korea
[b] Yonsei Institute for Digital Health, Yonsei University, Seoul, The Republic of Korea
[c] Department of Radiology, Severance Hospital, Yonsei University College of Medicine, Seoul, The Republic of Korea
[d] Department of Medicine, Yonsei University College of Medicine, Seoul, The Republic of Korea
[e] Department of Radiology, Seoul National University College of Medicine, Seoul, South Korea
[f] Department of Radiology, National Jewish Health, Denver, CO, USA

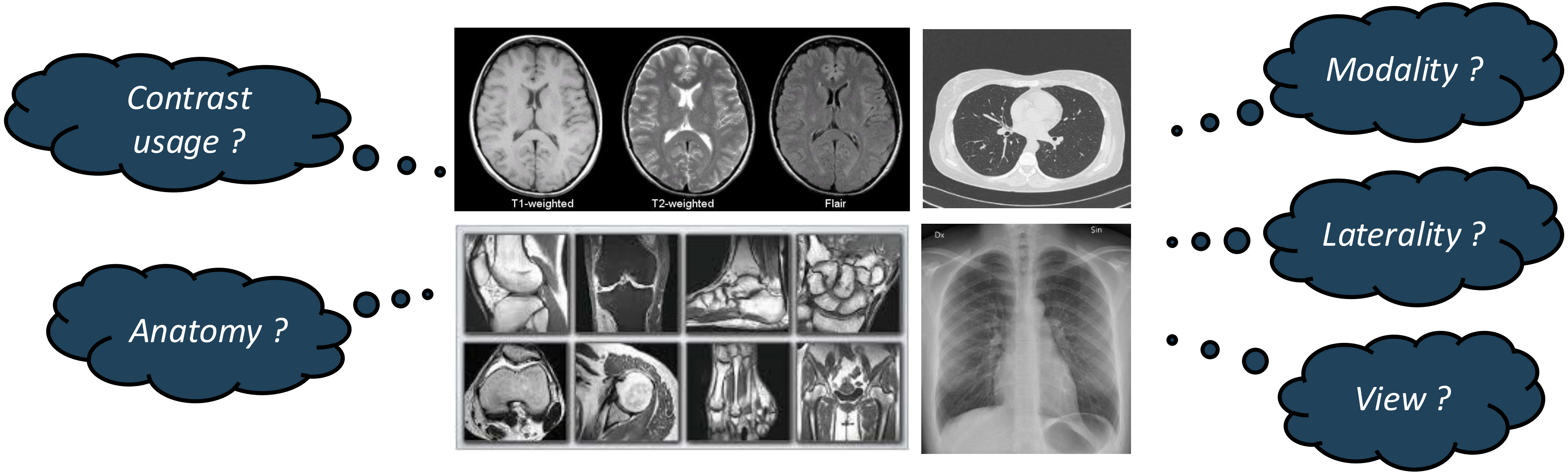
Motivation

- Imaging research integrates data across institutions and health systems.
- Before multi-site analyses can occur, **the fundamental question —“Was the same exam performed?” is often ambiguous**.



Existing Standards… But Not Radiology-Specific

- Multiple coding systems exist, yet none were designed to capture the **compositional nature** of imaging exams
  - Imaging exams are built from components like **modality, contrast, and anatomical focus**
  - A component-based encoding is needed **to group, route, and match** similar exams



LOINC/RSNA Playbook

- To address this gap, the **LOINC/RSNA Playbook** was developed.
  - LOINC: global standard terminology for diagnostic tests
  - RSNA RadLex: granular radiology vocabulary (modality, anatomy, contrast, etc.)
  - LOINC/RSNA Playbook = LOINC radiology codes x RadLex playbook
    - *Analogy: like RxNorm, it composes a set of **RadLex** (modality + region + …) into one **LOINC** code*

LOINC Radiology		**LOINC/RSNA Radiology Playbook**				**RadLex Playbook**	
LoincNumber	LongCommonName	PartNumber	**PartTypeName**	PartName	PartSequence Order	RID	PreferredName
100349-0	US.doppler Penis vessels W vasodilator IV	LP207608-3	Rad.Modality.**Modality Type**	US	A	RID10326	Ultrasound
		LP207609-1	Rad.Modality.**Modality Subtype**	Doppler	A	RID10375	Doppler
		LP199998-8	Rad.Anatomic Location.**Region Imaged**	Pelvis	A	RID2507	Pelvis
		LP208051-5	Rad.Anatomic Location.**Imaging Focus**	Penis vessels	A	RID49825	set of penis vessels
		LP200088-5	Rad.**Timing**	W	A	RID49853	with
		LP432424-2	Rad.Pharmaceutical.**Substance Given**	Vasodilator	A	RID50652	Vasodilator
		LP200078-6	Rad.Pharmaceutical.**Route**	IV	A	RID11160	intravenous

Real-World Gap Between Standard and Practice

- Despite its strengths, the Playbook is **not widely adopted** in practice.
- Mapping local terms to Playbook concepts remains challenging due to:
  - **Time-consuming and labor-intensive**,
  - **Difficult to perform consistently even for radiologists**, and
  - Complicated by the **frequent updates to the standard**,

  making it challenging for institutions to maintain up-to-date standardized mappings.

Limitations of Direct LLM-Based Mapping

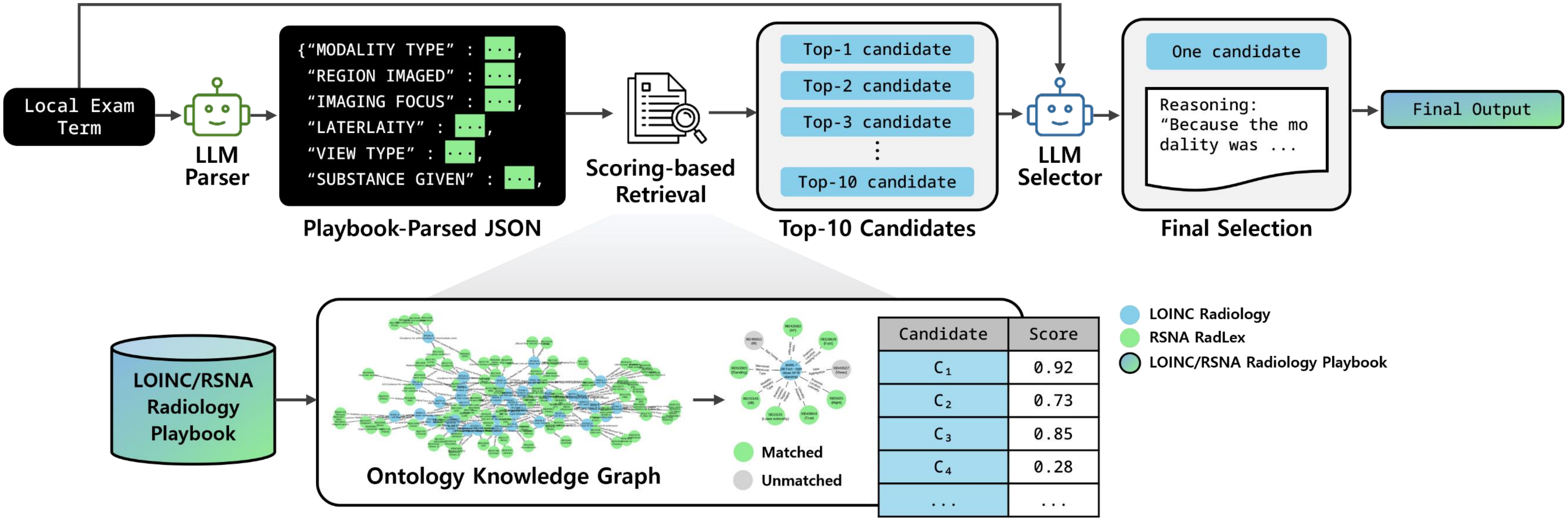
- Recent attempts to use large language models (LLM) for terminology mapping demonstrate notable limitations:
  - **Hallucinated attributes**, adding or changing contrast or anatomy
  - **Incomplete interpretations**, losing key attributes
  - **Inconsistency**, with variable outputs for the same input

ARKE: Auto Radiology Knowledge-Encoding

- We introduce a **knowledge-encoding** framework for standardizing imaging exam names. ARKE integrates two core principles:

1. **Ontology-Based Weighted Matching**
   - Utilizes the RadLex to assign weights to modality, anatomy, and other key attributes.
   - Retrieves Top-N candidate terms from the ontology, preventing hallucination.
2. **Constrained LLM Reasoning**
   - LLM usage is restricted to two structured steps:
     1) Converting the local exam term into a RadLex–based JSON structure
     2) Selecting one final term from the ontology-derived Top-10 candidates
   - The LLM does not generate or extend codes independently.

Overview


Local Exam Term
LLM Parser
{"MODALITY TYPE" : ...,
"REGION IMAGED" : ...,
"IMAGING FOCUS" : ...,
"LATERLAITY" : ...,
"VIEW TYPE" : ...,
"SUBSTANCE GIVEN" : ...,
Playbook-Parsed JSON
Scoring-based Retrieval
Top-1 candidate
Top-2 candidate
Top-3 candidate
Top-10 candidate
Top-10 Candidates
LLM Selector
One candidate
Reasoning: "Because the mo dality was ...
Final Selection
Final Output
LOINC/RSNA Radiology Playbook
Ontology Knowledge Graph
Matched
Unmatched
Candidate | Score
C1 | 0.92
C2 | 0.73
C3 | 0.85
C4 | 0.28
... | ...
LOINC Radiology
RSNA RadLex
LOINC/RSNA Radiology Playbook

Data Source and Evaluation Design

- **Local radiology procedure names** from two tertiary hospitals in Seoul, Korea
  - Severance Hospital, YUHS: 3,036 unique names (as of 2024-09-04)
    - Random 6:3:1 split → Training 1,821 / Validation 911 / Internal Test 304
  - Seoul National University Hospital: 2,900 unique names
    - Random 10% (n=290) → External Test Set
- **Reference standard** against the LOINC/RSNA Playbook (v2.80, February 2025)
  - Internal: one board-certified radiologist; **237 evaluated** after excluding 67 ambiguous entries
  - External: two radiologists, disagreements adjudicated by a clinical informatics expert; **195 evaluated** after excluding 95 consensus “None” cases
  - Inter-rater agreement: Cohen’s κ 0.49 across all 290 cases; 0.81 after excluding the 141 cases with a “None” from either reviewer
- **Metrics**: Recall@1/3/5/10, MRR, NDCG@10, and attribute-wise accuracy

Data Preprocessing

- **Normalize local terms** into RadLex–based JSON structure

Local Radiology Terms

Foot Standing AP Rt

LLM as **Parser**

Structured Local Radiology Terms


```
{
  "Name": "Foot Standing AP Right",
  "Parts": {
    "Rad.Modality.Modality Type": "XR",
    "Rad.Modality.Modality Subtype": "",
    "Rad.Anatomic Location.Region Imaged": "Lower extremity",
    "Rad.Anatomic Location.Imaging Focus": "Foot",
    "Rad.Anatomic Location.Laterality.Presence": "True",
    "Rad.Anatomic Location.Laterality": "Right",
    "Rad.View.Aggregation": "",
    "Rad.View.View Type": "AP",
    "Rad.Timing": "",
    "Rad.Maneuver.Maneuver Type": "Standing",
    "Rad.Pharmaceutical.Substance Given": "",
    "Rad.Pharmaceutical.Route": "",
    "Rad.Reason for Exam": "",
    "Rad.Guidance for.Presence": "",
    "Rad.Guidance for.Approach": "",
    "Rad.Guidance for.Action": "",
    "Rad.Guidance for.Object": "",
    "Rad.Subject": ""
  }
}
```


- Name key:
  Translated local terms with special character removed
- Parts key:
  Structured local terms using 18 RadLex-PartTypes

Framework - Ontology-Based Weighted Matching

- Attribute-**Weighted Matching**
  - key PartTypes: Modality, Anatomic location, View, Timing, Pharmaceutical

Input Text Parsed into RadLex PartTypes


```
{
  "Name": "Foot Standing AP Right",
  "Parts": {
    "Rad.Modality.Modality Type": "XR",
    "Rad.Modality.Modality Subtype": "",
    "Rad.Anatomic Location.Region Imaged": "Lower extremity",
    "Rad.Anatomic Location.Imaging Focus": "Foot",
    "Rad.Anatomic Location.Laterality.Presence": "True",
    "Rad.Anatomic Location.Laterality": "Right",
    "Rad.View.Aggregation": "",
    "Rad.View.View Type": "AP",
    "Rad.Timing": "",
    "Rad.Maneuver.Maneuver Type": "Standing",
    "Rad.Pharmaceutical.Substance Given": "",
    "Rad.Pharmaceutical.Route": "",
    "Rad.Reason for Exam": "",
    "Rad.Guidance for.Presence": "",
    "Rad.Guidance for.Approach": "",
    "Rad.Guidance for.Action": "",
    "Rad.Guidance for.Object": "",
    "Rad.Subject": ""
  }
}
```


Retrieval Top-10 Candidates based on Weighted-Matching Score Method

R_{text}: RadLex PartTypes parsed from the input text

C^k: k–th LOINC candidate ($k = 1, \dots, n$)

R^k_{cand}: RadLex PartTypes corresponding to C^k ($k = 1, \dots, n$)

Step 1 — Candidate–wise Scoring

$$Score^k = \sum_{r \in R_{text} \cap R^k_{cand}} w(r) - \sum_{r \in R^k_{cand} - R_{text}} w(r) - \sum_{r \in R_{text} - R^k_{cand}} w(r)$$

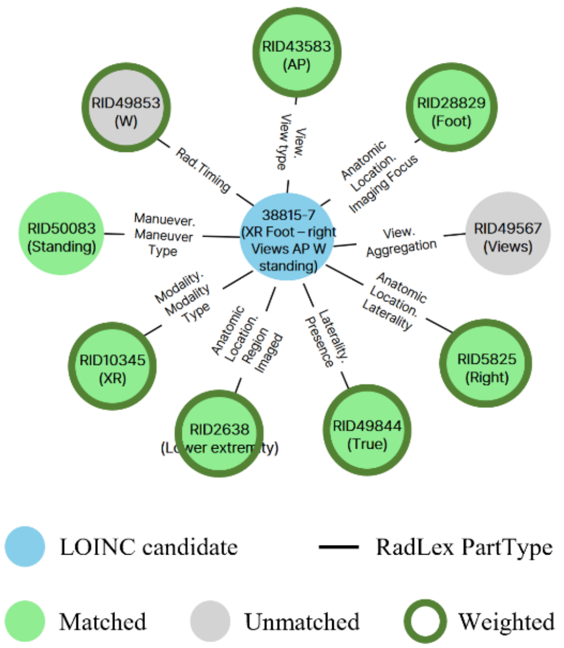
$$w(r) = \begin{cases} 1.5, & \text{if } r \text{ is a high–priority PartType (e.g., Laterality, View)} \\ 1, & \text{otherwise} \end{cases}$$

Step 2 — Ranking and Top–10 Selection

$$\{i_1, i_2, \dots, i_n\} = \mathrm{argsort}_{i=1,\dots,n}\left(Score^i\right)_{desc}$$

$$Top\text{-}j\ Candidate = C^{i_j}, j = 1, \dots, 10$$

Visual Example of Input–Candidate Matching (Step 1)



Framework - Constrained LLM Reasoning

- LLM with **reasoning** to capture clinical nuances beyond rule-based scoring

Input

Foot Standing
AP Rt

Top-10 Candidates

Top-1

38815-7
XR Foot - right Views
AP W standing

LLM Prompting

…

(General instruction)

- Select only from the provided candidates.
- Do not add details not present in the input term.
- Preserve all explicitly stated specificity (e.g., views, vessels, contrast).
- Maintain modality/type exactly.
- If similar, choose the most general candidate.

…

Final 1 Selection

{
"**Reasoning**": "The input term 'Foot Standing AP Rt' specifies an X-ray of the right foot with an anteroposterior (AP) view while standing.… Therefore, 38815-7 is the most appropriate choice."

"**Selected_loinc**": "38815-7",

"**Long_common_name**": "XR Foot - right Views AP W standing"
}

Results - Candidate Retrieval and Final Mapping

- Playbook attribute-based methods substantially outperformed direct code-name mapping at both stages ($p < 0.001$); differences among the attribute-based methods were not significant

Internal Test Set (N=237)									
Method		Final selection		Top-1	Top-3	Top-5	Top-10 candidates		
		Recall@1	p-value*	Recall@1	Recall@3	Recall@5	Recall@10	MRR	NDCG@10
LOINC-RadLex mapping	Weighted-matching	**0.70**	Ref	0.49	**0.65**	**0.78**	**0.90**	0.61	**0.68**
	Simple overlap	0.65	0.024	**0.49**	**0.65**	0.76	0.87	**0.61**	0.67
	Jaccard similarity	0.68	0.302	0.47	**0.65**	0.77	0.88	0.60	0.66
	F1-score	0.68	0.267	0.47	**0.65**	0.77	0.88	0.60	0.66
Direct LOINC mapping	Cosine similarity	0.48	<0.001	0.24	0.42	0.51	0.62	0.36	0.42

External Test Set (N=195)									
Method		Final selection		Top-1	Top-3	Top-5	Top-10 candidates		
		Recall@1	p-value*	Recall@1	Recall@3	Recall@5	Recall@10	MRR	NDCG@10
LOINC-RadLex mapping	Weighted-matching	**0.78**	Ref	0.60	0.76	0.87	**1.00**	0.71	0.78
	Simple overlap	0.78	0.814	0.60	0.76	0.87	0.98	0.71	0.77
	Jaccard similarity	0.81	0.502	**0.59**	**0.77**	**0.89**	0.99	**0.71**	**0.78**
	F1-score	0.80	0.628	**0.59**	**0.77**	**0.89**	0.99	**0.71**	**0.78**
Direct LOINC mapping	Cosine similarity	0.50	<0.001	0.14	0.35	0.47	0.64	0.28	0.36

Results - Attribute-wise Accuracy

- Comparing the RadLex PartTypes of the parsed input and the final candidates revealed low agreement in anatomic location—particularly for the region imaged and **imaging focus** attributes

Attribute	YUHS Internal Test Set (N=237) (Accuracy, 95% CI)	SNUH External Test Set (N=195) (Accuracy, 95% CI)
Modality Type	0.95 (0.91–0.97)	0.92 (0.88–0.95)
Modality Subtype	0.96 (0.92–0.98)	0.94 (0.90–0.97)
Region Imaged	0.78 (0.72–0.83)	0.79 (0.73–0.85)
Imaging Focus	0.65 (0.59–0.71)	0.65 (0.58–0.71)
View Type	0.86 (0.81–0.90)	0.93 (0.88–0.96)
Presence + Laterality	0.84 (0.79–0.89)	0.87 (0.82–0.91)
Pharmaceutical + Timing	0.90 (0.85–0.93)	0.82 (0.76–0.87)

Results - Analysis of Misclassified Cases

- In many cases, ARKE produced outputs with greater semantic specificity than the reference labels, offering more detailed procedural or anatomic information

Input Text		Gold Reference	Final Mapping Candidate
Not captured by weighted attributes	OB US 1st Trimester Detailed US Twin 11w13w6d	US for pregnancy in first trimester	US for multiple gestation pregnancy in first trimester
Clinical relevance	MRI Lt Upper Arm noncontrast	MR Upper extremity - left WO contrast	MR Upper arm-left WO contrast
Specific attributes missed by human reviewers	Tibia Both Oblique Lt	XR Tibia and Fibula Oblique Views	XR Tibia and Fibula –left Oblique Views
Playbook coverage	MRI15T Whole body contrast	MR Whole body	MR Whole body WO and W contrast IV

Significance and Community Contribution

- **ARKE is not just a mapping tool** : it turns local terms into standardized, computable knowledge
  - Raw local term → Structured attributes → RadLex ontology → Standardized LOINC/RSNA radiology code
  - The **ontology acts as a decision boundary**, not just a codebook:
    - Candidate retrieval needs no LLM, so LLM reasoning stays inside an ontologically valid search space

- **For the OHDSI community**
  - Fits directly into OMOP medical imaging extension
  - Reduces site-level mapping variation → **consistent imaging cohort definitions** across a network
  - Empirical evidence for incorporating the LOINC/RSNA Playbook and RadLex into the **OMOP Vocabulary**
  - The ontology-constrained design **generalizes to other terminology-mapping tasks**

Limitations and Next Steps

- **Limitations**
  - Gold labels were selected from the weighted-matching Top-10
  - Two tertiary hospitals in one country; other languages, health systems remain untested
  - Bound by the standard itself: concepts absent from the Playbook cannot be recovered by mapping alone

- **Next steps**
  - Multi-national external validation
  - Integration with OMOP CDM imaging extensions and OHDSI vocabulary tools
  - Combining ontology-based encoding with systematic synonym expansion
  - Playbook-wide annotation to better characterize borderline cases

Thank You!

- Acknowledgement:
  - Seng Chan You
  - Soonho Yoon, Joon Seok Lim
  - Dept. of Biomedical Informatics, Yonsei University College of Medicine
    - Yiju Park, Min Seong Kim, Juhyeon Jin, Changhoon Han
  - OHDSI Medical Imaging Working Group
  - OHDSI Early-Stage Researchers Working Group
- Contact:
  - lsm0801@yuhs.ac, jklee320@yuhs.ac
  - CHANDRYOU@yuhs.ac