2025 Phenotype Phebruary Kick Off

Phenotype Phebruary 2025 and Guidelines 2025

- **Welcome and kick off and introduction of the team**
  - Azza Shoaibi, Lana Shubinsky, Anna Ostropolets, Gowtham Rao
  - AND the 14 study leads

- **Mission of 2025 Phenotype Phebruary**
  - One-month focused effort for the community to come together and advance the science of Phenotype Development and Evaluation

2025 Phenotype Phebruary team

Guideline-driven study leads
Chungsoo Kim
Anna Ostropolets
Kevin Haynes
Chang Hoon Han & Seng Chan You
Asieh Golozar
Christopher Mecoli
Oleg Zhuk
Tatiana Skugarevskaya
Masha Khitrun
Vlad Korsik
Cindy Cai
Chen Yanover & Vanessa Rouach
Bohdan Khilchevskyi
Michelle Hribar

From the phenotype working group
Azza Shoaibi
Gowtham Rao
Anna Ostropolets
Lana Shubinsky

Community collaborators
https://forms.office.com/r/i7jMDxmdPC

Link for you to participate!!

Objective – deliver first step of Guidelines 2025

To **finalize as many phenotypes as possible** for the **Guideline-driven** studies, ensuring they are **ready for analysis** and **available in the OHDSI Phenotype Library** for broader community re-use.

Phenotype Phebruary 2025 Calendar

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Week 1: Clinical Descriptions & Prior Work						
				Study team's complete clinical description	*Office hours*	
6	7	8				
ets and Logic						
				Study team's complete 1st drafts of cohorts in Atlas	*Office hours*	
13	14	15				
s & Iterations						
				Study team's complete cohort review and iterations	*Office hours*	
20	21	22				
ools for Evaluation						
	Community call update & evaluation demos	*Office hours*		*Study team's wrap up cohorts and document evaluation*	*Office hours*	*All cohorts are done!*
23	24	25	26	27	28	

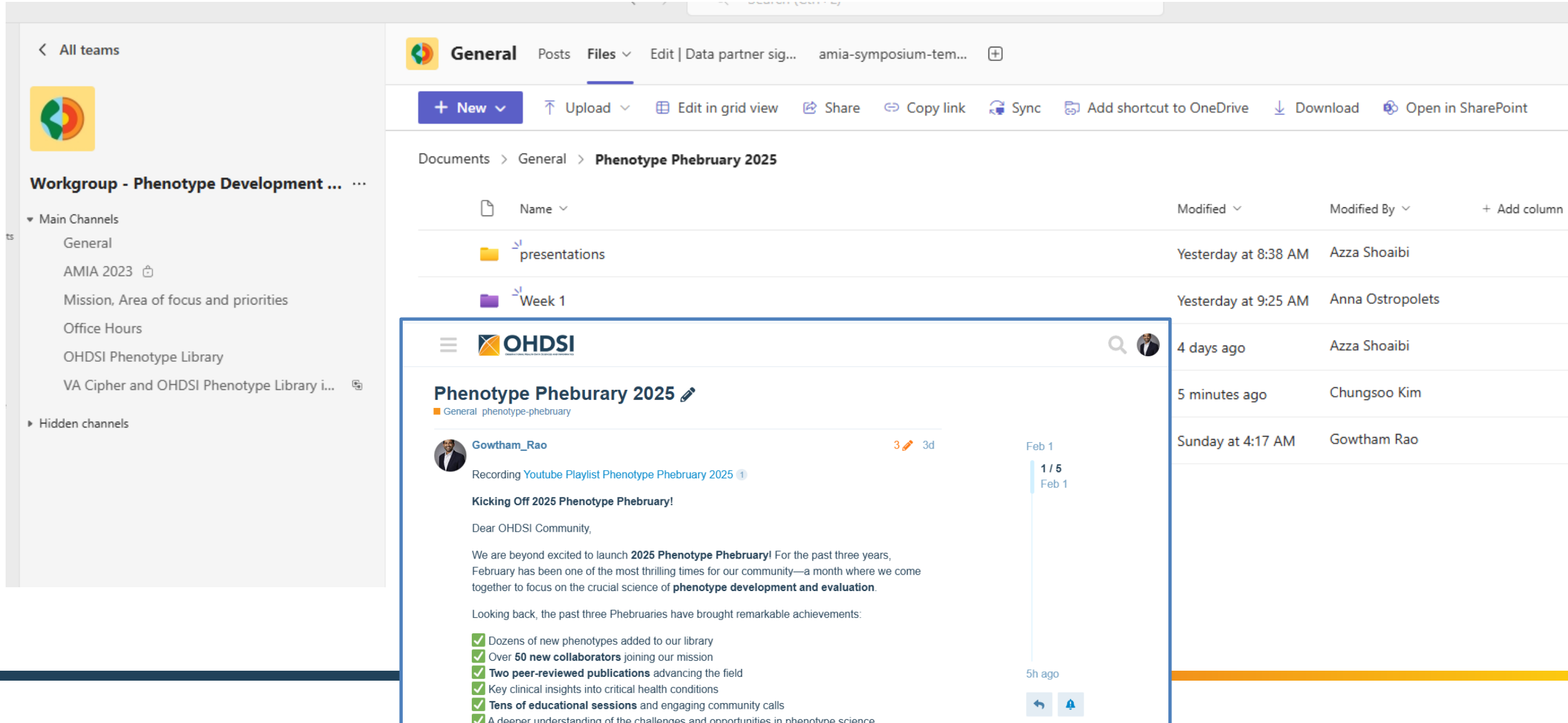
- **Week 1 – Clinical Description:**
  A session is planned to discuss clinical descriptions. Participants are expected to use a Gen AI prompt (developed by @Gowtham_Rao) that extracts necessary information to form a phenotype. This step also includes a literature search and an exploration of existing phenotype definitions (for example, checking for pre-existing definitions of AKI or obesity management).

- **Week 2 – Concept Set and Logic Building:**
  The second week focuses on creating the concept sets and building the logical framework of the phenotype. Here, many participants already familiar with tutorial work on concept sets building are expected to contribute. The study leads are expected to be fully engaged.

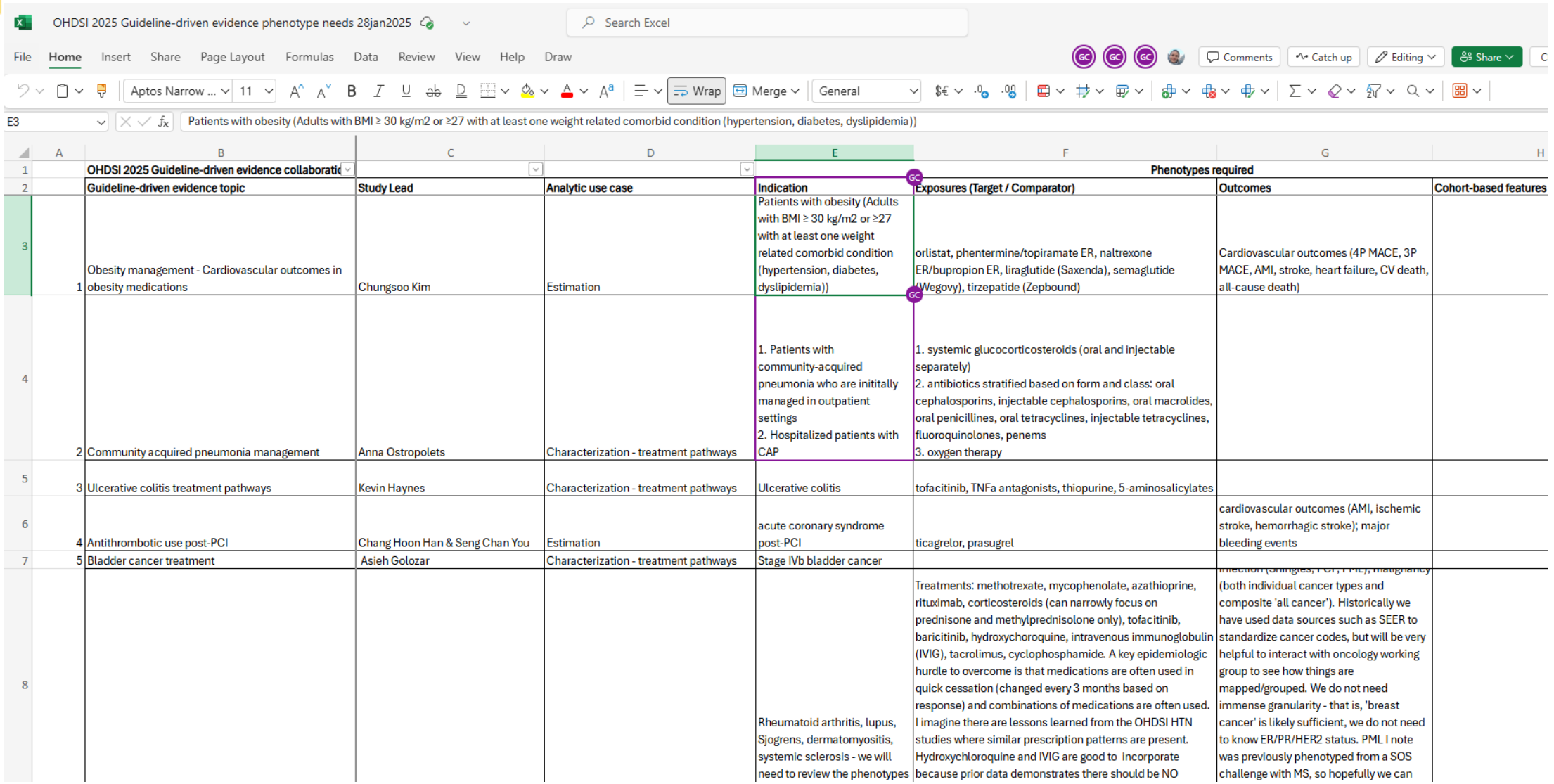
- **Weeks 3–4 – Evaluation and Iteration:**
  The final two weeks are dedicated to evaluating the developed phenotypes using tools such as cohort diagnostics. Iterations and refinements will be made based on these diagnostics. There is also mention of showcasing additional tools and validation approaches during these weeks.

https://forums.ohdsi.org/t/ohdsi-phenotype-phebruary-and-workgroup-updates/20940/69

Collaboration location



OHDSI Guidelines 2025

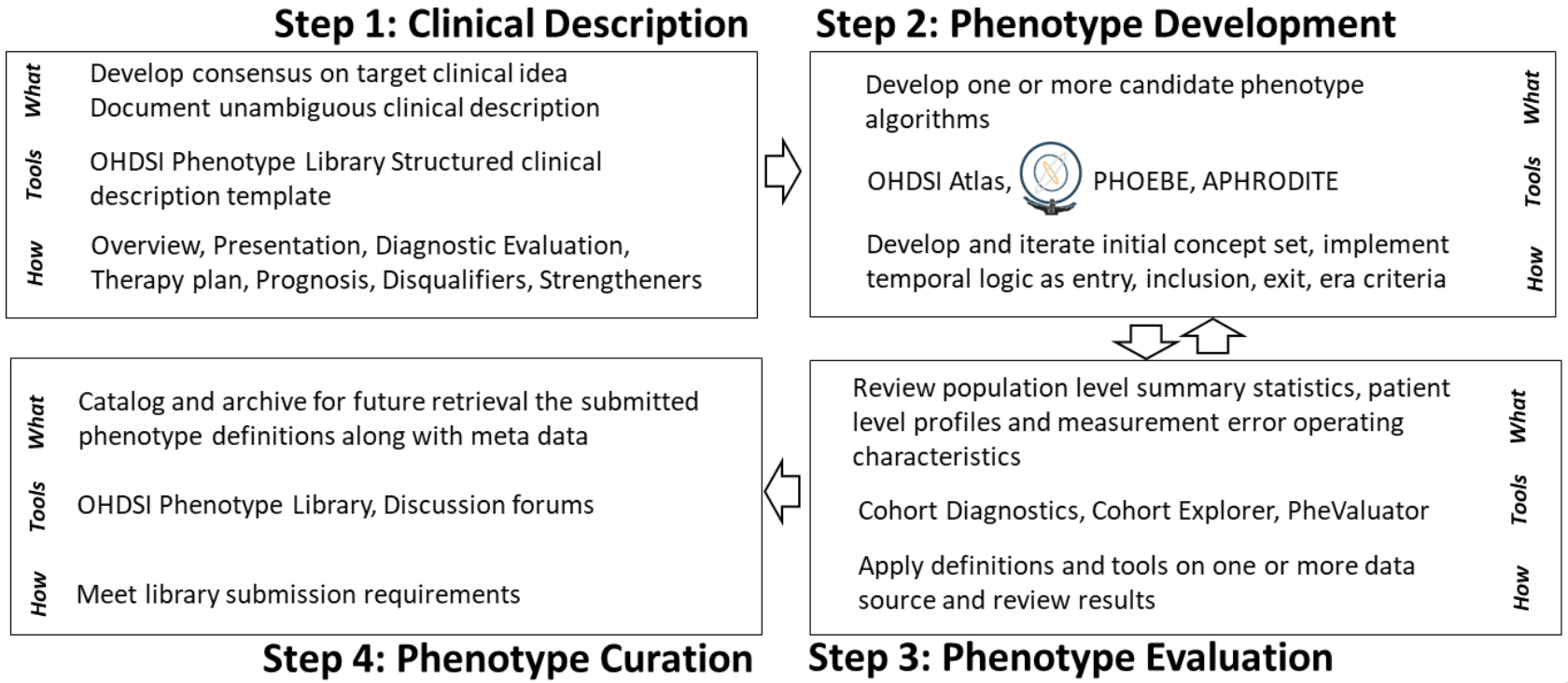


	A	B	C	D	E	F	G	H
1		OHDSI 2025 Guideline-driven evidence collaboratio				Phenotypes required		
2		Guideline-driven evidence topic	Study Lead	Analytic use case	Indication	Exposures (Target / Comparator)	Outcomes	Cohort-based features
3	1	Obesity management - Cardiovascular outcomes in obesity medications	Chungsoo Kim	Estimation	Patients with obesity (Adults with BMI ≥ 30 kg/m2 or ≥27 with at least one weight related comorbid condition (hypertension, diabetes, dyslipidemia))	orlistat, phentermine/topiramate ER, naltrexone ER/bupropion ER, liraglutide (Saxenda), semaglutide (Wegovy), tirzepatide (Zepbound)	Cardiovascular outcomes (4P MACE, 3P MACE, AMI, stroke, heart failure, CV death, all-cause death)	
4	2	Community acquired pneumonia management	Anna Ostropolets	Characterization - treatment pathways	1. Patients with community-acquired pneumonia who are inititally managed in outpatient settings 2. Hospitalized patients with CAP	1. systemic glucocorticosteroids (oral and injectable separately) 2. antibiotics stratified based on form and class: oral cephalosporins, injectable cephalosporins, oral macrolides, oral penicillines, oral tetracyclines, injectable tetracyclines, fluoroquinolones, penems 3. oxygen therapy		
5	3	Ulcerative colitis treatment pathways	Kevin Haynes	Characterization - treatment pathways	Ulcerative colitis	tofacitinib, TNFa antagonists, thiopurine, 5-aminosalicylates		
6	4	Antithrombotic use post-PCI	Chang Hoon Han & Seng Chan You	Estimation	acute coronary syndrome post-PCI	ticagrelor, prasugrel	cardiovascular outcomes (AMI, ischemic stroke, hemorrhagic stroke); major bleeding events	
7	5	Bladder cancer treatment	Asieh Golozar	Characterization - treatment pathways	Stage IVb bladder cancer			
8					Rheumatoid arthritis, lupus, Sjogrens, dermatomyositis, systemic sclerosis - we will need to review the phenotypes	Treatments: methotrexate, mycophenolate, azathioprine, rituximab, corticosteroids (can narrowly focus on prednisone and methylprednisolone only), tofacitinib, baricitinib, hydroxychoroquine, intravenous immunoglobulin (IVIG), tacrolimus, cyclophosphamide. A key epidemiologic hurdle to overcome is that medications are often used in quick cessation (changed every 3 months based on response) and combinations of medications are often used. I imagine there are lessons learned from the OHDSI HTN studies where similar prescription patterns are present. Hydroxychloroquine and IVIG are good to incorporate because prior data demonstrates there should be NO	Infection (Shingles, PCP, PML), malignancy (both individual cancer types and composite 'all cancer'). Historically we have used data sources such as SEER to standardize cancer codes, but will be very helpful to interact with oncology working group to see how things are mapped/grouped. We do not need immense granularity - that is, 'breast cancer' is likely sufficient, we do not need to know ER/PR/HER2 status. PML I note was previously phenotyped from a SOS challenge with MS, so hopefully we can	

OHDSI Conceptual Framework

Phenotype Development Evaluation and Curation

Week 1



https://onlinelibrary.wiley.com/doi/10.1002/pds.70042?af=R

PDS Pharmacoepidemiology & Drug Safety | ispe Official Journal of the International Society for Pharmacoepidemiology

ORIGINAL ARTICLE | Open Access

Standardised and Reproducible Phenotyping Using Distributed Analytics and Tools in the Data Analysis and Real World Interrogation Network (DARWIN EU)

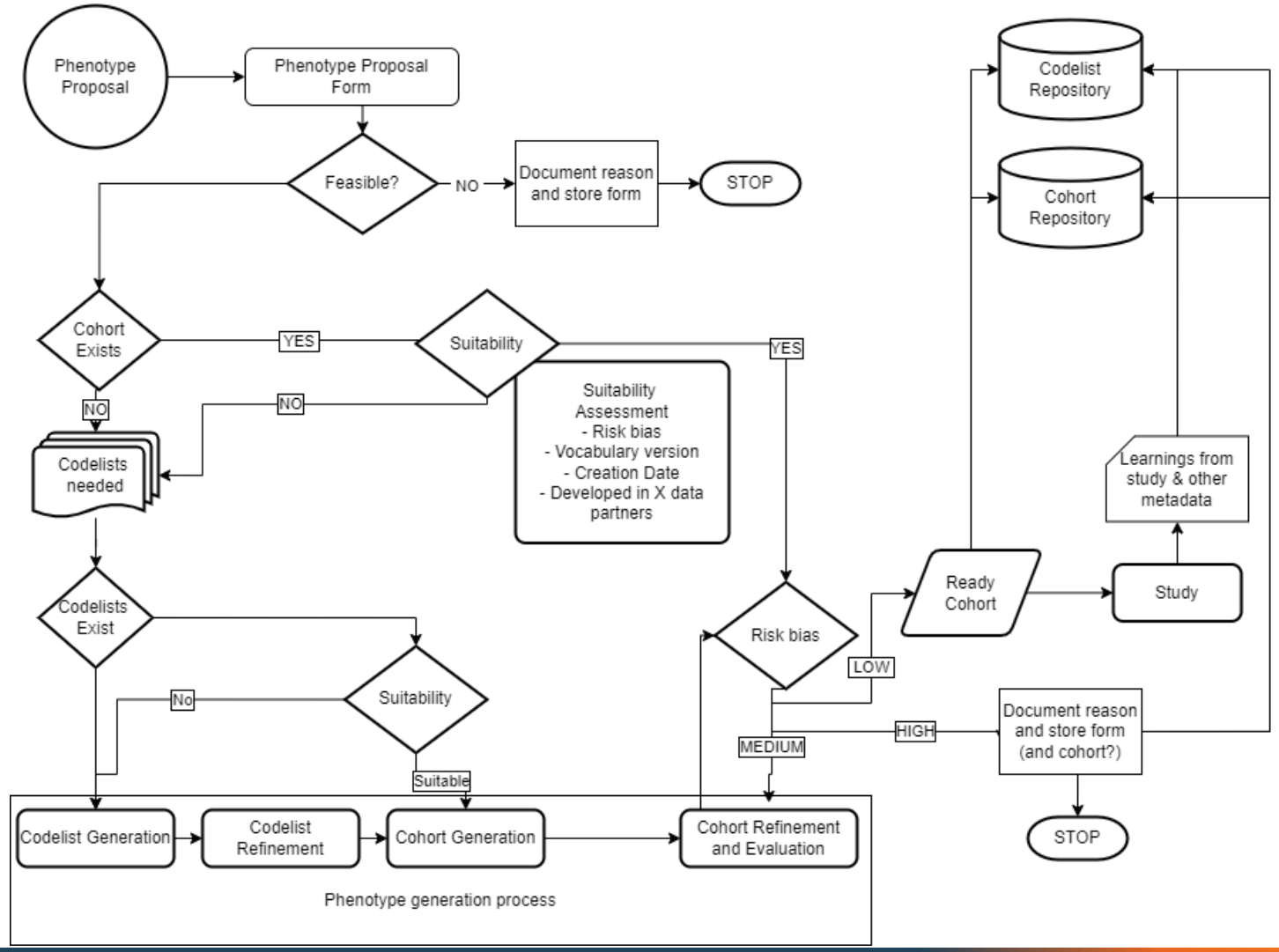
Francesco Dernie, George Corby, Abigail Robinson, James Bezer, Nuria Mercade-Besora, Romain Griffier, Guillaume Verdy, Angela Leis, Juan Manuel Ramirez-Anguita, Miguel A. Mayer ... See all authors

First published: 12 November 2024 | https://doi.org/10.1002/pds.70042 | Citations: 1

OHDSI Conceptual Framework

Phenotype Development Evaluation and Curation

Week 1



PDS Pharmacoepidemiology & Drug Safety | ispe Official Journal of the International Society for Pharmacoepidemiology

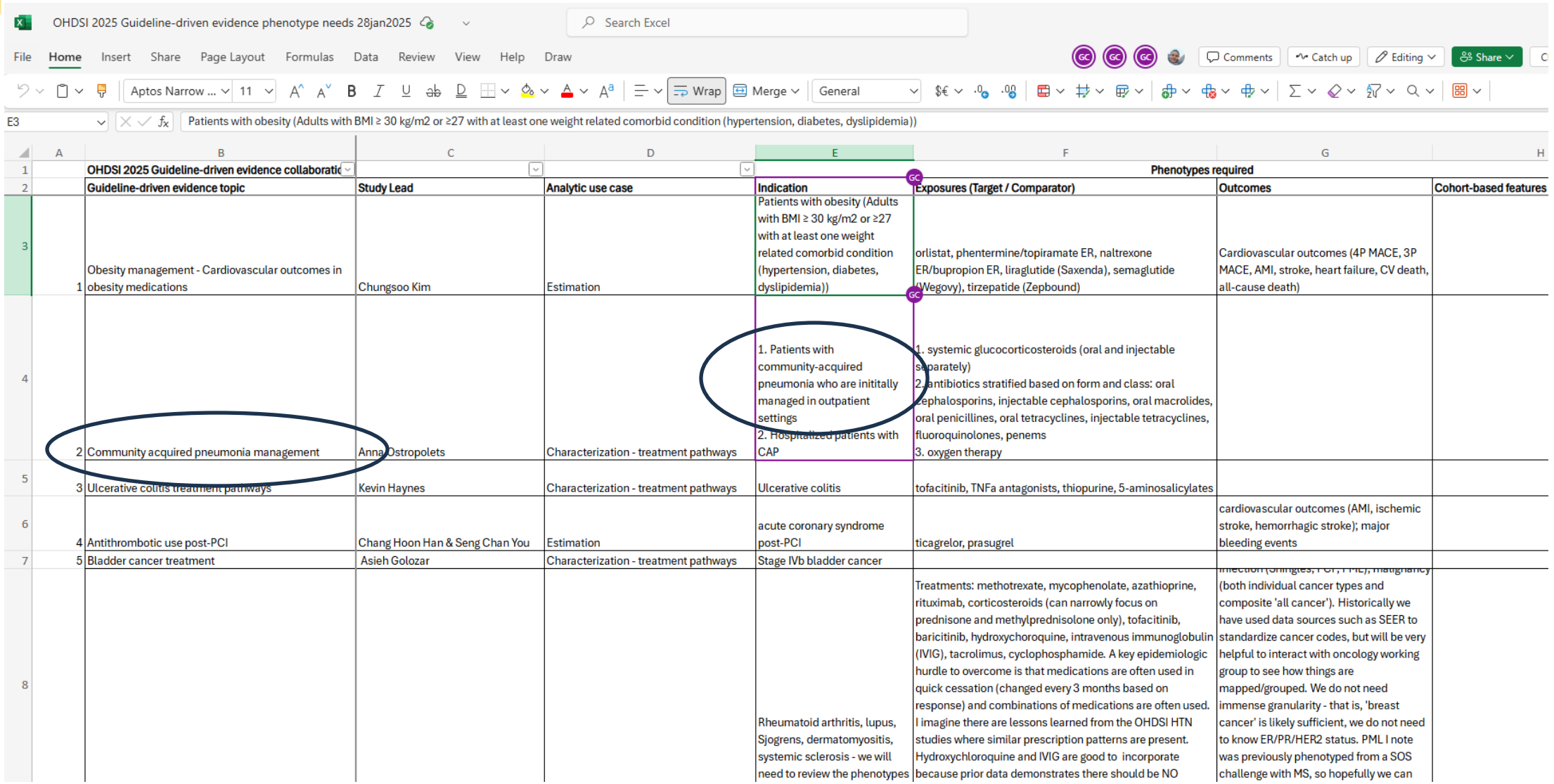
ORIGINAL ARTICLE | Open Access

Standardised and Reproducible Phenotyping Using Distributed Analytics and Tools in the Data Analysis and Real World Interrogation Network (DARWIN EU)

Francesco Dernie, George Corby, Abigail Robinson, James Bezer, Nuria Mercade-Besora, Romain Griffier, Guillaume Verdy, Angela Leis, Juan Manuel Ramirez-Anguita, Miguel A. Mayer ... See all authors

First published: 12 November 2024 | https://doi.org/10.1002/pds.70042 | Citations: 1

OHDSI Guidelines 2025



OHDSI 2025 Guideline-driven evidence phenotype needs 28jan2025

Search Excel

File Home Insert Share Page Layout Formulas Data Review View Help Draw

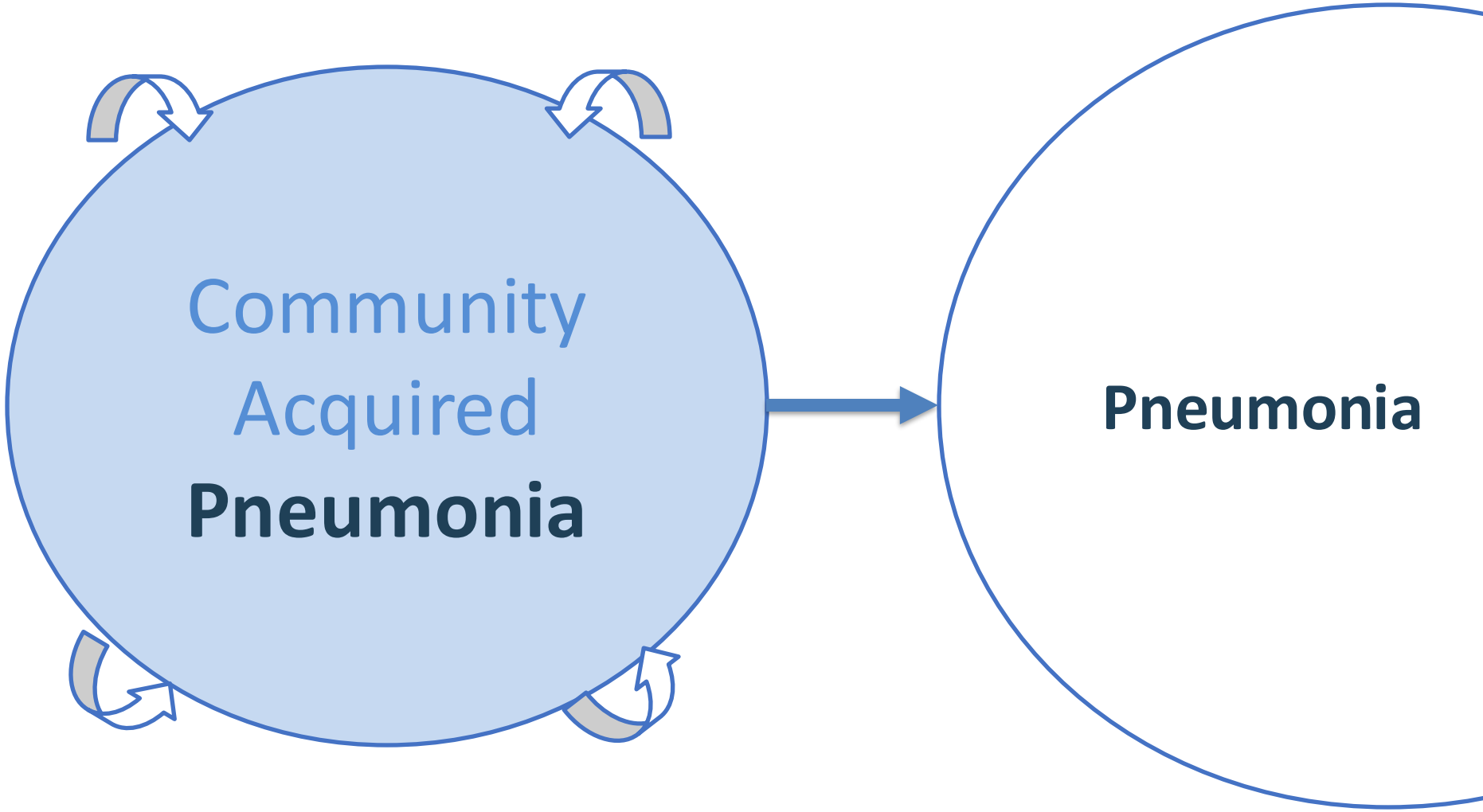
Comments Catch up Editing Share

Aptos Narrow ... 11 Wrap Merge General

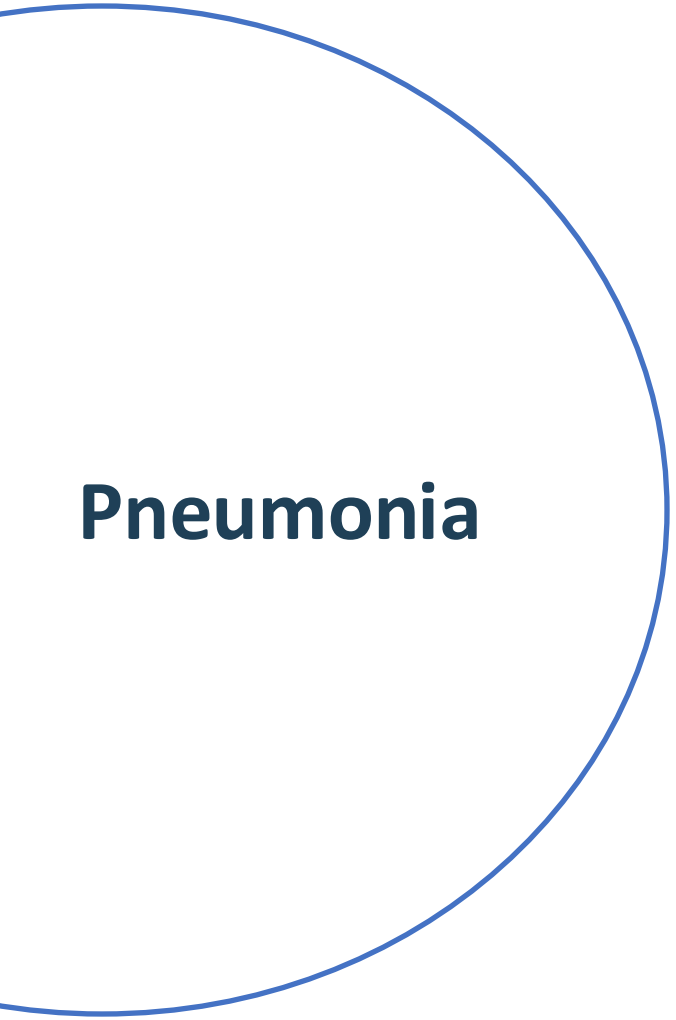
E3 Patients with obesity (Adults with BMI ≥ 30 kg/m2 or ≥27 with at least one weight related comorbid condition (hypertension, diabetes, dyslipidemia))

	A	B	C	D	E	F	G	H
1		OHDSI 2025 Guideline-driven evidence collaboratio				Phenotypes required		
2		Guideline-driven evidence topic	Study Lead	Analytic use case	Indication	Exposures (Target / Comparator)	Outcomes	Cohort-based features
3	1	Obesity management - Cardiovascular outcomes in obesity medications	Chungsoo Kim	Estimation	Patients with obesity (Adults with BMI ≥ 30 kg/m2 or ≥27 with at least one weight related comorbid condition (hypertension, diabetes, dyslipidemia))	orlistat, phentermine/topiramate ER, naltrexone ER/bupropion ER, liraglutide (Saxenda), semaglutide (Wegovy), tirzepatide (Zepbound)	Cardiovascular outcomes (4P MACE, 3P MACE, AMI, stroke, heart failure, CV death, all-cause death)	
4	2	Community acquired pneumonia management	Anna Ostropolets	Characterization - treatment pathways	1. Patients with community-acquired pneumonia who are inititally managed in outpatient settings 2. Hospitalized patients with CAP	1. systemic glucocorticosteroids (oral and injectable separately) 2. antibiotics stratified based on form and class: oral cephalosporins, injectable cephalosporins, oral macrolides, oral penicillines, oral tetracyclines, injectable tetracyclines, fluoroquinolones, penems 3. oxygen therapy		
5	3	Ulcerative colitis treatment pathways	Kevin Haynes	Characterization - treatment pathways	Ulcerative colitis	tofacitinib, TNFa antagonists, thiopurine, 5-aminosalicylates		
6	4	Antithrombotic use post-PCI	Chang Hoon Han & Seng Chan You	Estimation	acute coronary syndrome post-PCI	ticagrelor, prasugrel	cardiovascular outcomes (AMI, ischemic stroke, hemorrhagic stroke); major bleeding events	
7	5	Bladder cancer treatment	Asieh Golozar	Characterization - treatment pathways	Stage IVb bladder cancer			
8					Rheumatoid arthritis, lupus, Sjogrens, dermatomyositis, systemic sclerosis - we will need to review the phenotypes	Treatments: methotrexate, mycophenolate, azathioprine, rituximab, corticosteroids (can narrowly focus on prednisone and methylprednisolone only), tofacitinib, baricitinib, hydroxychoroquine, intravenous immunoglobulin (IVIG), tacrolimus, cyclophosphamide. A key epidemiologic hurdle to overcome is that medications are often used in quick cessation (changed every 3 months based on response) and combinations of medications are often used. I imagine there are lessons learned from the OHDSI HTN studies where similar prescription patterns are present. Hydroxychloroquine and IVIG are good to incorporate because prior data demonstrates there should be NO	Infection (Shingles, PCP, PML), malignancy (both individual cancer types and composite 'all cancer'). Historically we have used data sources such as SEER to standardize cancer codes, but will be very helpful to interact with oncology working group to see how things are mapped/grouped. We do not need immense granularity - that is, 'breast cancer' is likely sufficient, we do not need to know ER/PR/HER2 status. PML I note was previously phenotyped from a SOS challenge with MS, so hopefully we can	

Clinical descriptions: Minimizing the ambiguity



We need to be Specific for Community Acquired Pneumonia



Community acquired pneumonia

Aspiration pneumonia

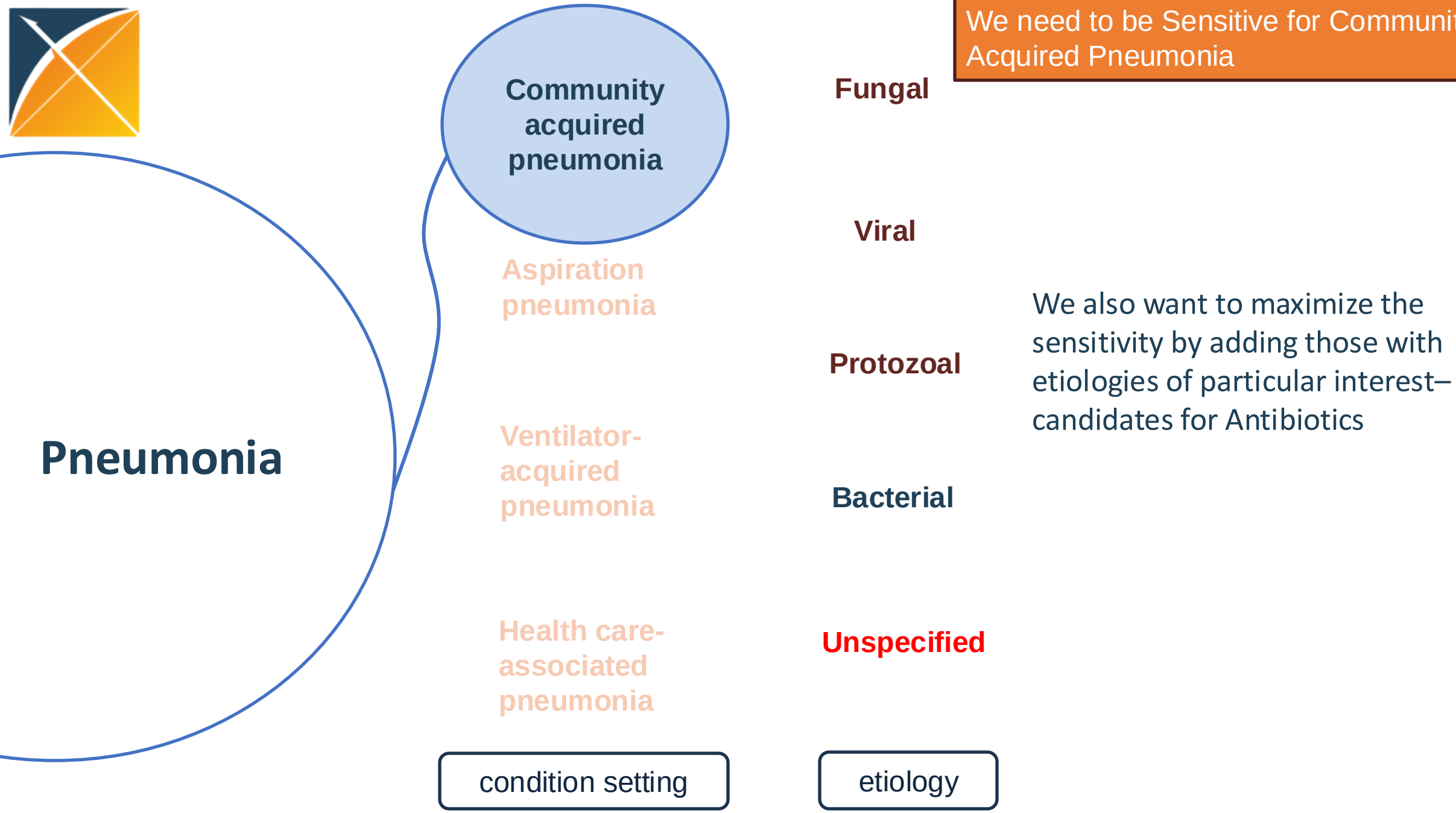
Ventilator-acquired pneumonia

Health care-associated pneumonia

condition setting

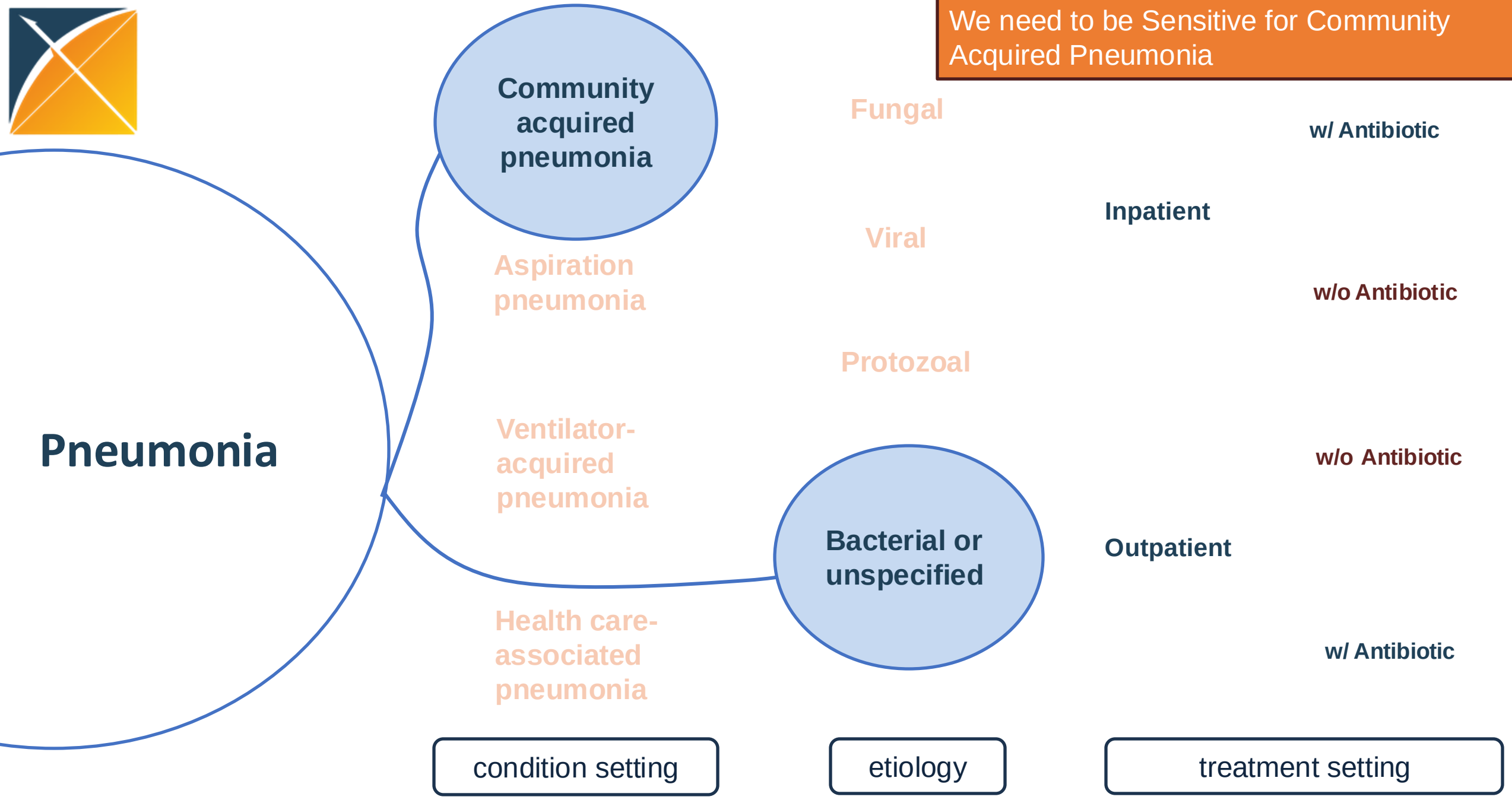
We need to create an unambiguous definition of the condition settings by including/excluding clearly encoded ones and applying proper cohort rules.

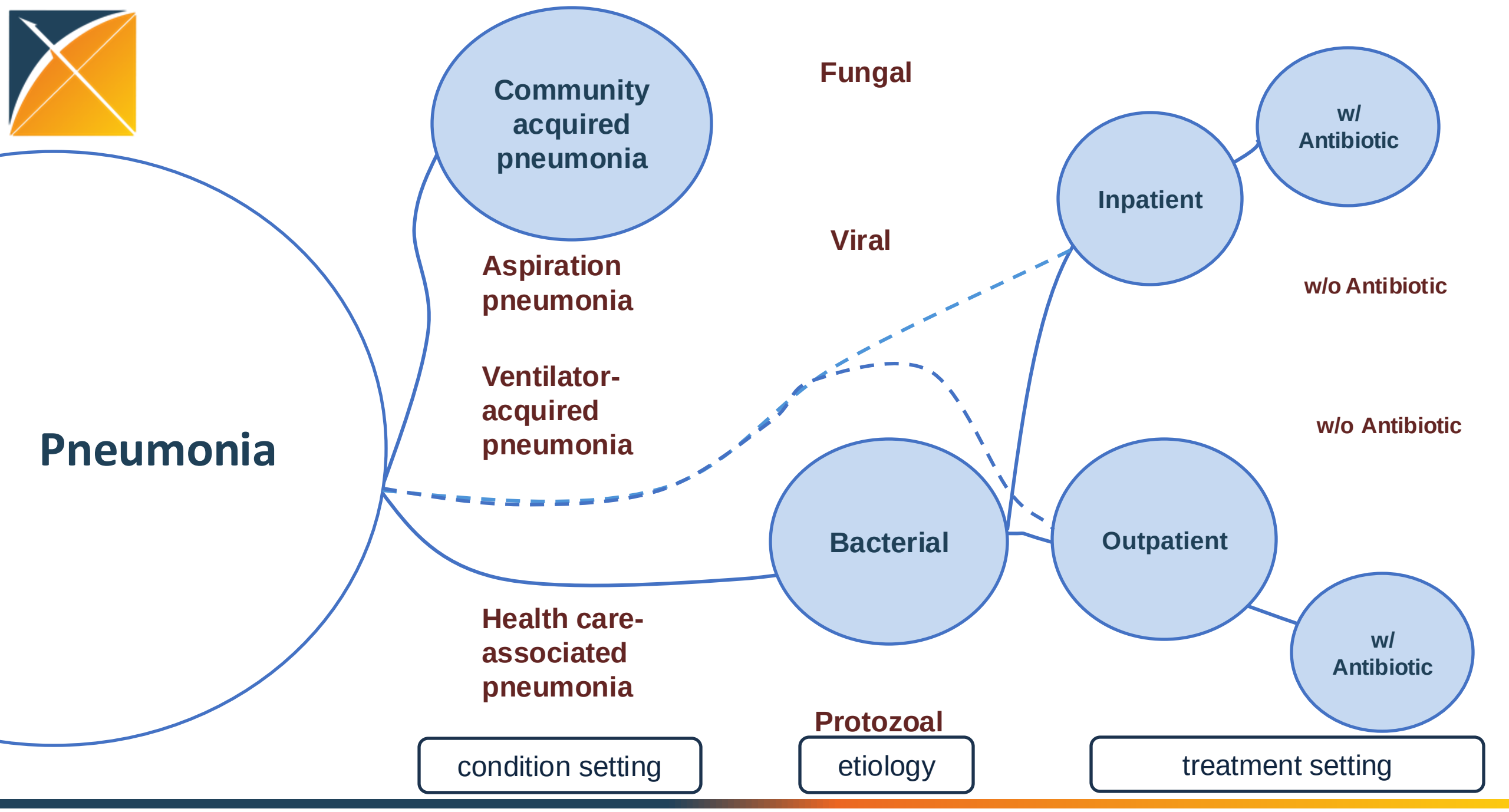
We need to be Sensitive for Community Acquired Pneumonia



We also want to maximize the sensitivity by adding those with etiologies of particular interest– candidates for Antibiotics

We need to be Sensitive for Community Acquired Pneumonia




Pneumonia
Community acquired pneumonia
Aspiration pneumonia
Ventilator-acquired pneumonia
Health care-associated pneumonia
Fungal
Viral
Bacterial
Protozoal
Inpatient
Outpatient
w/ Antibiotic
w/o Antibiotic
w/ Antibiotic
w/o Antibiotic
condition setting
etiology
treatment setting

Comparison of Pneumonia and Community-Acquired Pneumonia (Non-HCAI, Outpatient)

Aspect	Pneumonia	Community-Acquired Pneumonia
Definition	An acute infection of the lung parenchyma characterized by inflammation of the alveoli, which may fill with fluid or pus, leading to symptoms such as cough, fever, chills, and difficulty breathing.	CAP that is not *health care associated, nosocomial (developing ≥48 hours after hospital admission), or aspiration pneumonia*, and has received outpatient treatment, is defined as an acute infection of the pulmonary parenchyma occurring in individuals *with no recent healthcare exposure*, *managed outside of hospital settings*.
Setting of Acquisition	Can occur in any setting: community, healthcare-associated, hospital-acquired, aspiration-related.	Exclusively acquired in the community, with no recent exposure to healthcare facilities, hospitalizations, or antibiotic treatments in the prior 90 days
Etiology	Broad range: bacterial, viral, fungal, aspiration, drug-induced.	Infectious origin only; typically, bacterial, excluding aspiration and drug-induced causes.
Radiographic Findings	Infiltrates, consolidation, ground-glass opacities—patterns vary by cause.	New infiltrates on chest X-ray typical for community-acquired infection without complex patterns.
Treatment Approach	Varies: antibiotics, antivirals, antifungals, supportive care depending on etiology.	Antibiotics are the mainstay for bacterial CAP

Community-Acquired Pneumonia (CAP) Overview

Community-Acquired Pneumonia (CAP) Overview

- **Definition:** Acute lung infection in individuals with no recent healthcare exposure, excluding nosocomial, aspiration, or healthcare-associated pneumonia.
- **Etiology:** Caused by *Streptococcus pneumoniae*, *Mycoplasma pneumoniae*, and respiratory viruses.
- **Symptoms:** Cough, fever, dyspnea, pleuritic chest pain, fatigue.
- **Diagnosis:** Chest X-ray (new infiltrates), sputum/blood cultures, PCR for viral detection.
- **Treatment:**
  - **Bacterial CAP:** Amoxicillin, doxycycline, macrolides.
  - **Viral CAP:** Antivirals (e.g., oseltamivir for influenza).
  - **Drug-induced CAP:** Discontinue causative drug, corticosteroids if needed.
- **Prognosis:** Generally favorable with outpatient care; improved with early intervention for drug-induced cases.
- **Pharmacovigilance Focus:** Monitoring for drug-induced CAP, identifying ADRs, and ensuring proper antibiotic stewardship.

Gen AI enabled workflow to capture shared understanding as target clinical description

Required Input 1

Clinical description

Required Input 2

Prior knowledge literature/other sources

Phenotype Libraries: OHDSI library, VA Cipher

Phenotype proposal

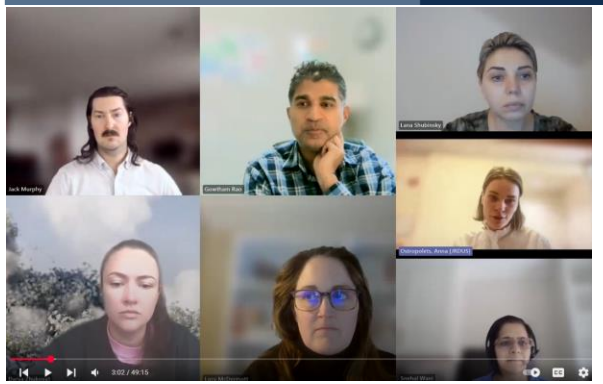
Gen AI enabled workflow

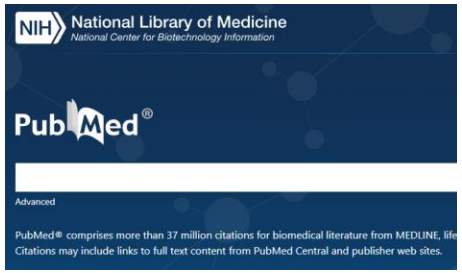
Shared Understanding

Cohort Definition Logic (Atlas Cohort Definition Rules)

Phenotype Phebruary 2025 Calendar

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Week 1: Clinical Descriptions & Prior Work						
	Community call kick off & clinical description demos	*Office hours*	*Study team's complete clinical description*	*Office hours*		
2	3			6	7	8





Cohort Definition

OHDSI Phenotype Library

○	3	Cough or Sputum
○	4	Diarrhea
○	5	Dyspnea
○	6	Fever
○	7	Headache or Headache disorder
○	8	Altered smell or taste including Anosmia, Hyposmia or Dysgeusia
○	9	Sore throat
○	10	Nausea or Vomiting
○	11	Malaise and or fatigue
○	12	Rhinitis or common cold or Sinusitis
○	13	Myalgia (not explained by injury, ischemia or systemic inflammation)
○	14	Myalgia
○	19	Acute Typical Pneumonia
○	20	Bronchitis or Bronchiolitis
○	21	Acute respiratory distress syndrome (ARDS) or Acute Respiratory Failure
○	23	Inpatient Hospitalization (1Pe, 0Era)
○	24	Emergency room visits (0Pe, 0Era)
○	25	All cause mortality
○	26	Asthma or Chronic obstructive pulmonary disease (COPD)
○	27	Asthma without COPD

Seeking volunteers

Gowtham_Rao 33m

Seeking Volunteers: Help Create and Manage Tracking Spreadsheet

Hey everyone,

We are seeking volunteers to assist in converting the **OHDSI_2025_GuidelineDrivenEvidencePhenotypeNeeds_28Jan2025.xlsx** dataset from its current wide format to a long format. This restructuring is crucial for our ongoing efforts in the OHDSI 2025 **Guideline-driven Evidence Phenotype** initiative.

Objective:

Transform the dataset so that each row represents a single phenc detailed in separate columns.

Target Long-Form Structure something like:

Each row should include the following columns

1. *phenotypeName* – The name of the phenotype.
2. *phenotypeType* – Classification such as indication, target, cc
3. *needPhenotypeDevEval* – Indicates whether phenotype development and evaluation are needed (e.g., drug cohorts).
4. *similarCohortsInOhdsiPI* – References to any similar cohorts in the OHDSI Phenotype Library.
5. *canReuseCohortsInOhdsiPI* – Specifies if existing cohorts in the OHDSI Phenotype Library can be reused.
6. *linkToLiteratureSearch* – URLs or references to literature supporting the phenotype
7. *studyLeadsNeedPhenotype* – Names of study leads who require this phenotype.
8. *targetClinicalDescription* – A detailed clinical description of the phenotype.
9. *candidateCohortDefinitions* – Any candidate cohort definitions; track contributions from the community (e.g., atlas-data.ohdsi.org)

Community contributor leaders - Thank you, Lana Shubinsky for helping us!!

https://forms.office.com/r/i7jMDxmdPC

https://forums.ohdsi.org/t/ohdsi-phenotype-phebruary-and-workgroup-updates/20940/70

Standardized way to identify the patients of interest in the data

Link to demo Atlas
https://atlas-demo.ohdsi.org/

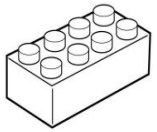
Required Inputs:

Clinical description

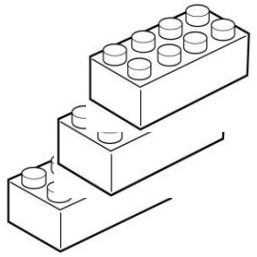
Prior knowledge literature/other sources

(OHDSI library, Cipher)

Create concept sets

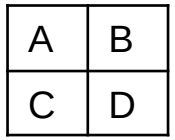


Create cohort definition = phenotyping algorithm



Execute

Evaluate performance



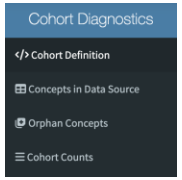
Expected Outputs:

{Cohort definition(s)}

Evaluation report

Cohort

Link to the library repo
https://ohdsi.github.io/PhenotypeLibrary/articles/CohortDefinitionsInOhdsiPhenotypeLibrary.html ,
https://phenomics.va.ornl.gov/web/



OHDSI / PheValuator Public

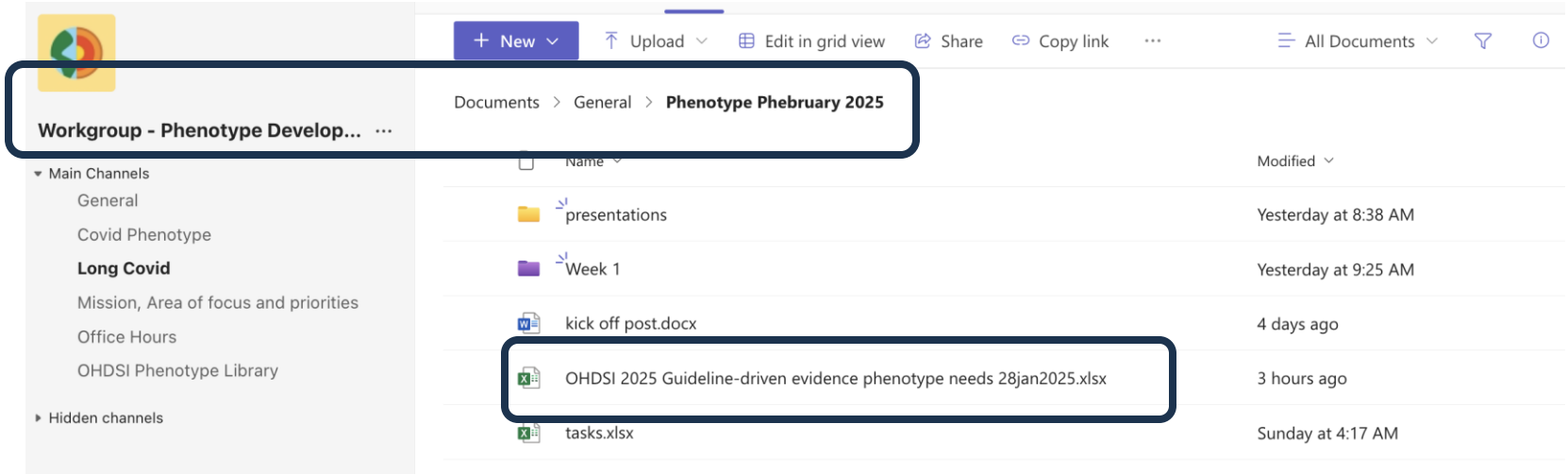
OHDSI / Keeper Public

PHOEBE 2.0:

Next steps

Study leads

1. Review phenotype names in working file

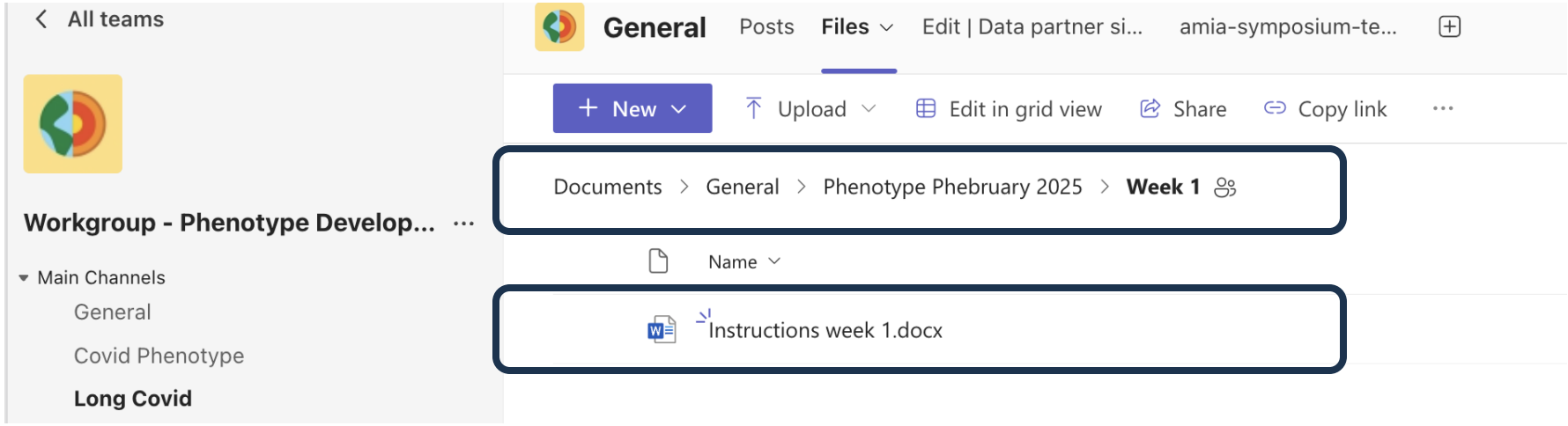


Next steps

Study leads

1. Review phenotype names in working file

2. Create clinical descriptions for all of them. Review prior work and identify the cohorts that can be re-used vs those that need to be created from scratch



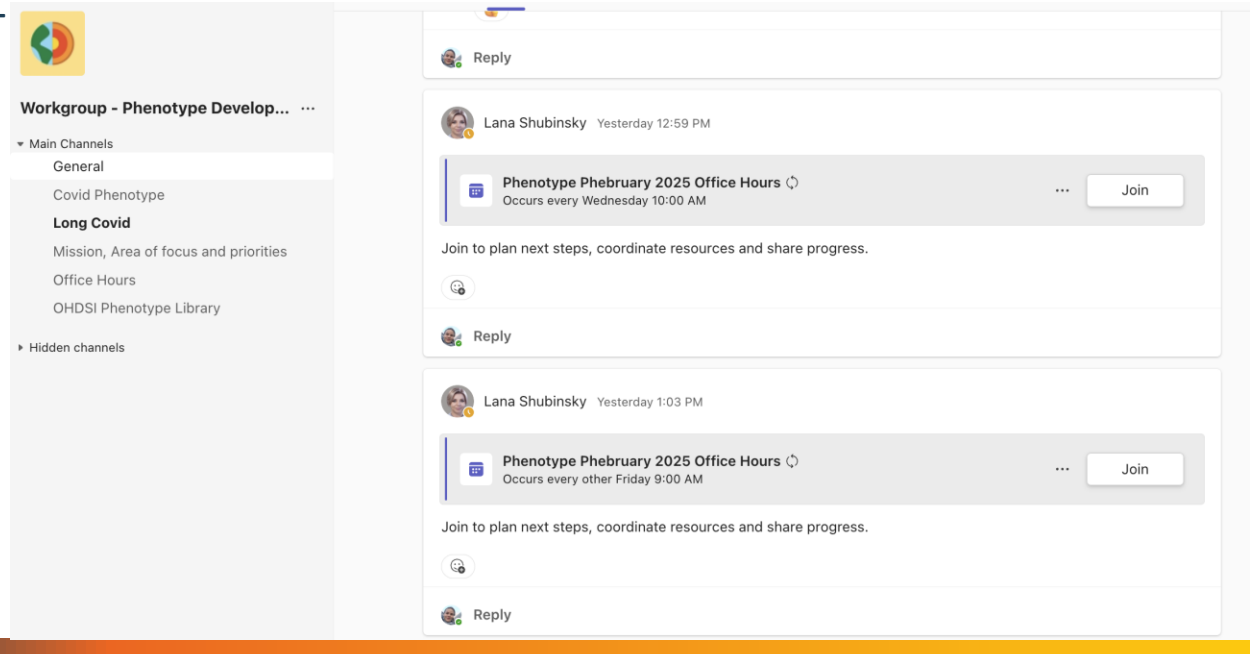
Next steps

Study leads

1. Review phenotype names in working file

2. Create clinical descriptions for all of them. Review prior work and identify the cohorts that can be re-used vs those that need to be created from scratch

3. Come to the office hours on Wednesday 10am EST
   Friday. 9am EST

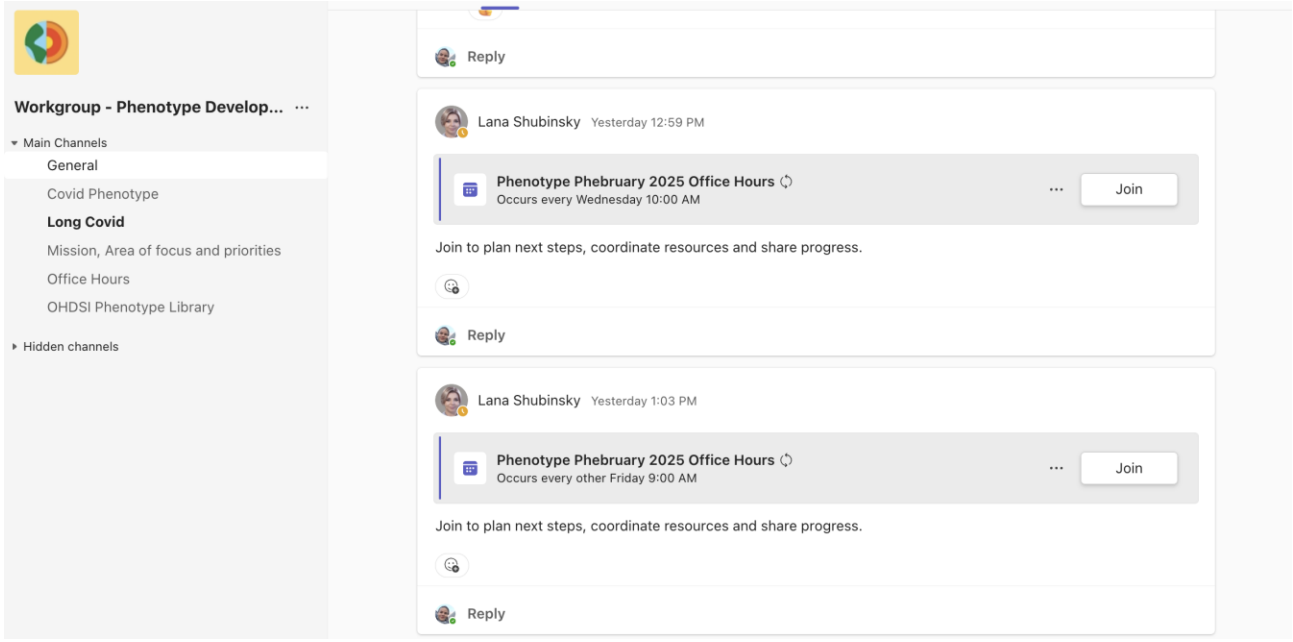


Next steps

Anybody who wants to participate

1. Fill the form

2. Come to the office hours on Wednesday 10am EST
   Friday 9am EST



Gowtham_Rao 33m

Seeking Volunteers: Help Create and Manage Tracking Spreadsheet

Hey everyone,

We are seeking volunteers to assist in converting the **OHDSI_2025_GuidelineDrivenEvidencePhenotypeNeeds_28Jan2025.xlsx** dataset from its current wide format to a long format. This restructuring is crucial for our ongoing efforts in the OHDSI 2025 **Guideline-driven Evidence Phenotype** initiative.

Objective:

Transform the dataset so that each row represents a sing
detailed in separate columns.

Target Long-Form Structure something like:

Each row should include the following columns

1. *phenotypeName* – The name of the phenotype.
2. *phenotypeType* – Classification such as indication, t
3. *needPhenotypeDevEval* – Indicates whether pheno
   needed (e.g., drug cohorts).
4. *similarCohortsInOhdsiPI* – References to any similar cohorts in the OHDSI Phenotype Library.
5. *canReuseCohortsInOhdsiPI* – Specifies if existing cohorts in the OHDSI Phenotype Library can be reused.
6. *linkToLiteratureSearch* – URLs or references to literature supporting the phenotype
7. *studyLeadsNeedPhenotype* – Names of study leads who require this phenotype.
8. *targetClinicalDescription* – A detailed clinical description of the phenotype.
9. *candidateCohortDefinitions* – Any candidate cohort definitions; track contributions from the community. Use atlas-demo.ohdsi.org

https://forms.office.com/r/i7jMDxmdPC