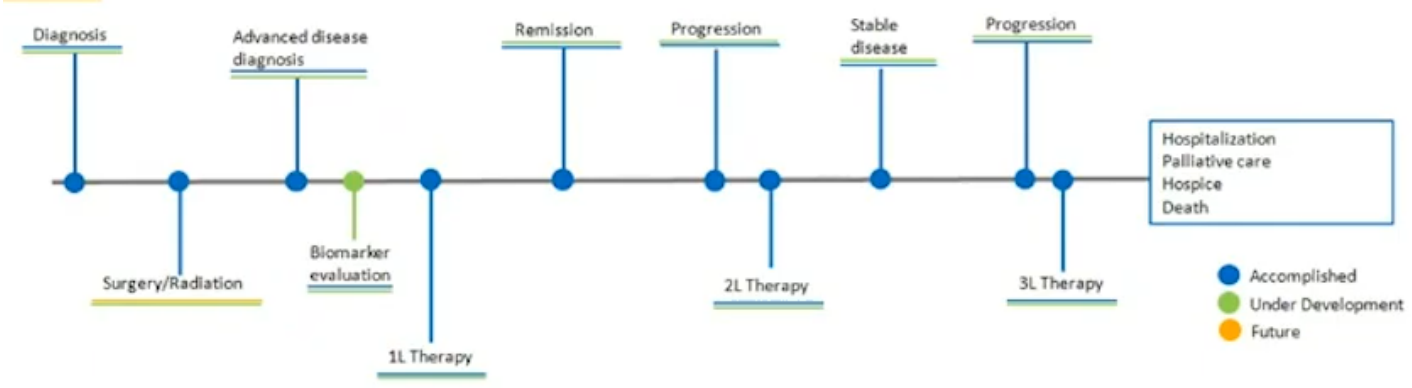
# Oncology WG 2021

Shilpa Ratwani

# Oncology WG – ROADMAP




**Accomplished:**

- Granular representation of cancer based on ICD-O and NAACCR
- Ingestion of tumor registry data using vocabulary-driven ETL
- Derivation of First Cancer Occurrence Episode from tumor registry
- Derivation of First Treatment Course Episode from tumor registry
- Derivation of Chemotherapy regimen from lower level medication
- Incorporation of CAP and NAACCR in the vocabulary
- Standardized vocabulary for representing diagnostic modifiers
- Development of models and vocabularies for disease progression, response, and other episodes
- Genomic-CDM
- Incorporation of high-level treatment concept for surgery, radiation and systemic therapies
- Data quality checks for NAACCR ETL

**Under Development:**

- Expansion of Drug Regimen Algorithm, improving precision of chemo regimen identification, cycles, schedules
- Development of algorithms for identifying disease progression/response
- EHR into OMOP CDM

**Future:**

- Domain for Imaging
- Adverse events
- Integration of patient reported outcomes

# Oncology Working Group 2020 Recap

1. Oncology Model and Vocabulary
    a) Integrated NAACCR tumor registry and ICDO3
    b) Creation of the Cancer Modifier Vocabulary
    c) Harmonized Genomic Vocabulary from different variant databases
    d) Conventions for defining Cancer Episode Model
2. ETL Productization/Adoption - MSK, IQVIA, Columbia, Tufts, NWU
3. Education and Dissemination
    a) European OHDSI Oncology Workshop
    b) JCO Paper Publication: “Extending the OMOP Common Data Model and Standardized Vocabularies to Support”,
    c) JMIR: "Characterizing the Anticancer Treatment Trajectory and Pattern in Patients Receiving Chemotherapy for Cancer Using Harmonized Observational Databases: Retrospective Study"
4. Network Studies
    a) Treatment pattern and outcomes of patients with metastatic bladder cancer using the Oncology Module and Vocabulary
    b) Study Execution Partners -> MSK, IQVIA, Columbia. Tufts, NWU

# Objectives and Key Results for 2021

1. Apply for funding
    a) Address the problem of standard knowledge representation and harmonization by completing the KB of clinical oncology and building crosswalks between existing ontology (NAACCR, AJCC, CAP, mCODE, OncoTree etc) to the KB
    b) Address the problem of aggregation by developing and validating data conversion process into OMOP
    c) Develop Progression Detection Algorithm V1
2. Complete the Episode Model Definition and respective Vocabulary Extensions
3. Develop Regimen Detection Algorithm V2
4. Drive adoption of the Oncology Model & Vocabulary
    a) 2+ Tutorials
    b) 3+ new data partners, preferably with genomic data
5. Integrate with other prominent entities in the Oncology Precision Medicine and Genomic Data Harmonization space like OncoTree, GENIE, VICC, MCode, Nebraska Lexicon, HL7
6. Run Studies
    a) Collaborate on 1+ network study related to cancer burden, characteristics, treatment patters
    b) Bladder Cancer Study Execution -> University of Colorado
    c) Liver Mets NSCLC Study —> NIH, UAB Collaboration