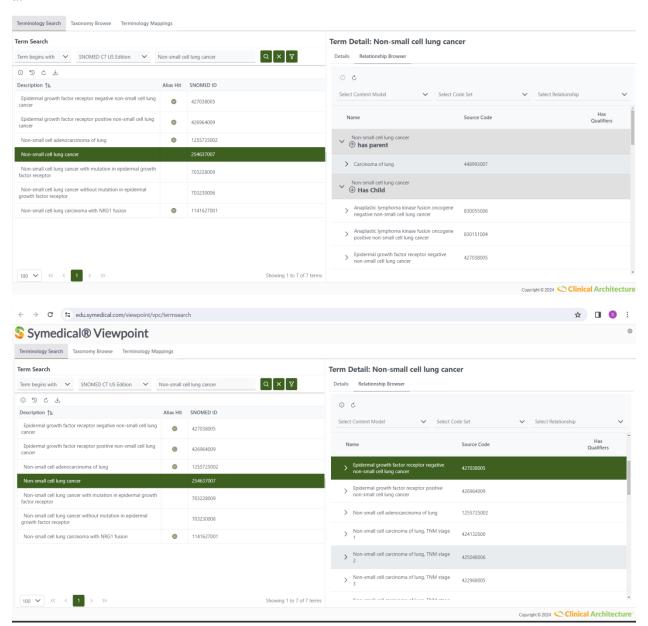
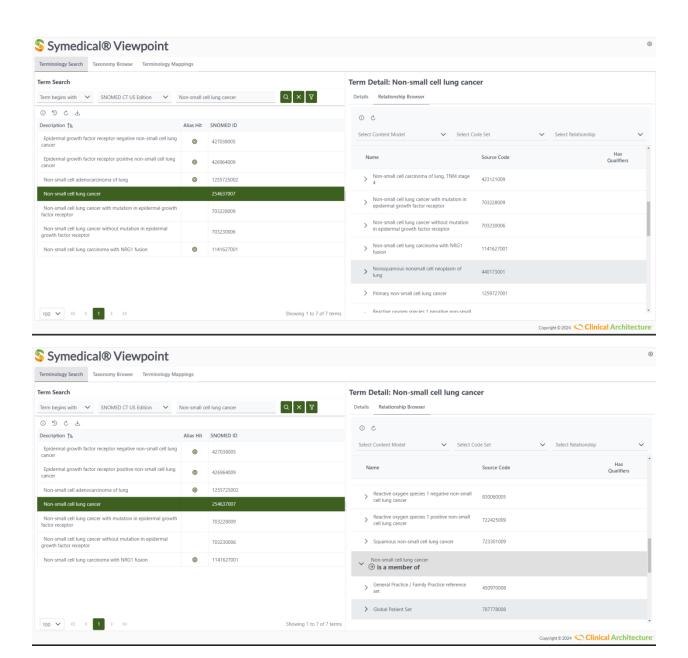
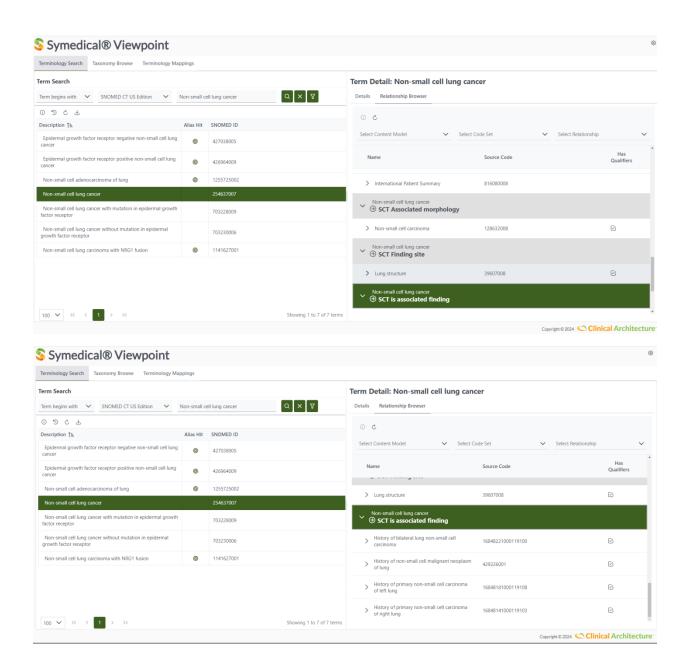
Assignment AL4: Precision Medicine Exploration

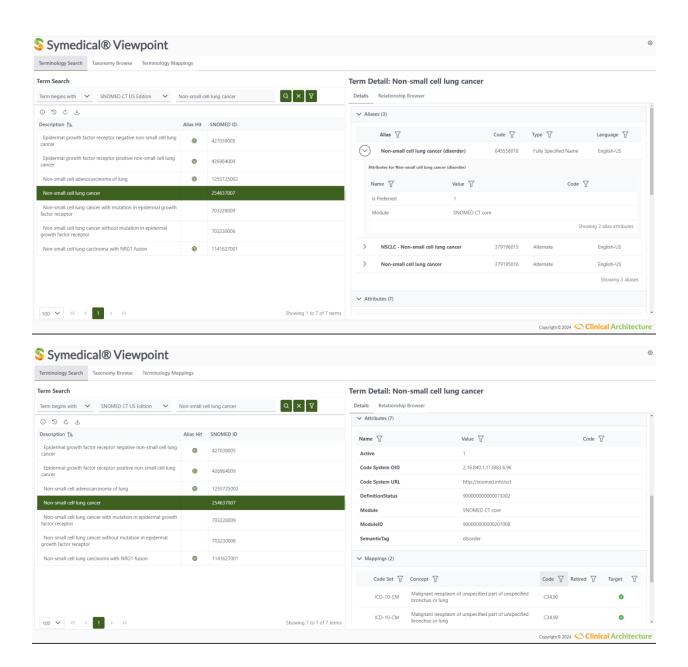
PART A

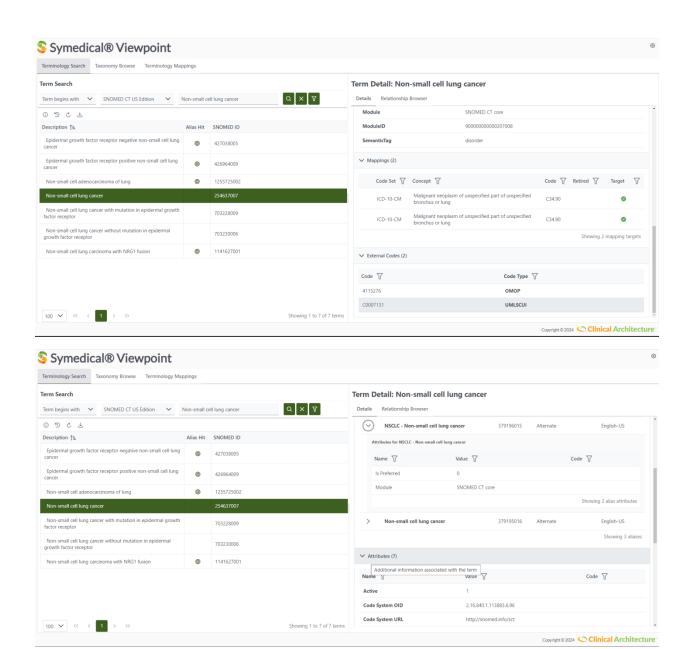
a.

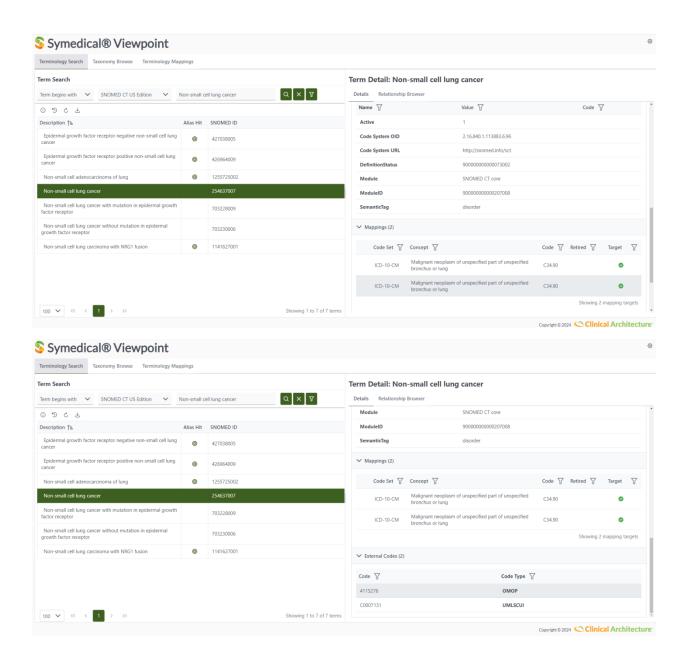


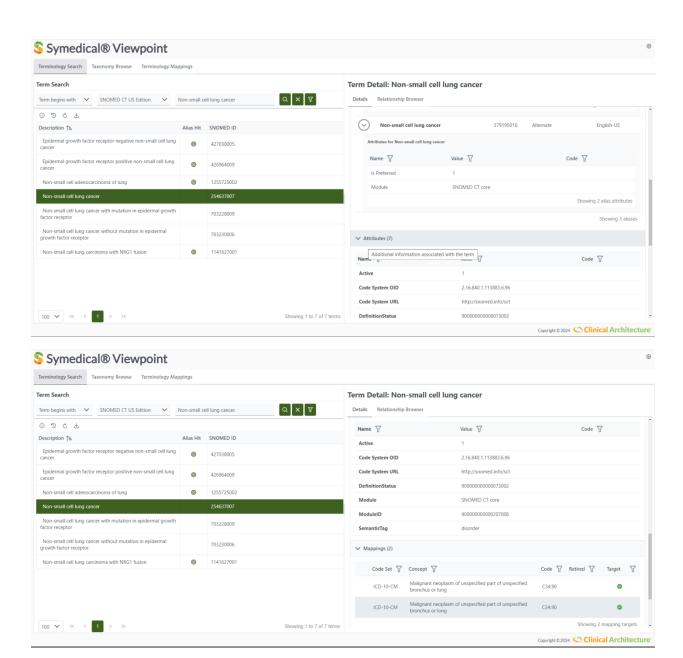


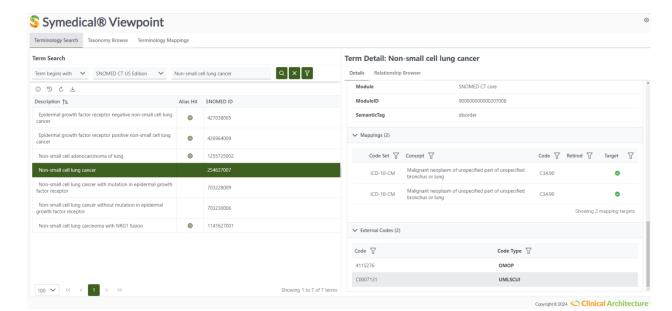




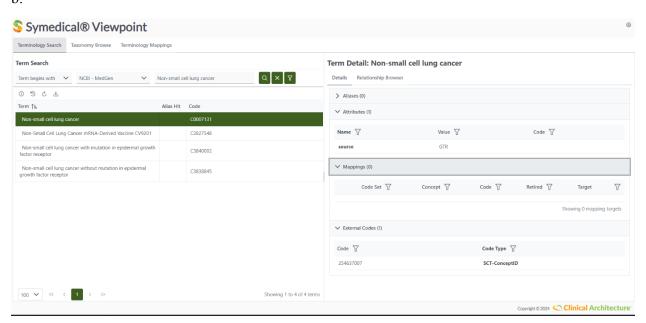


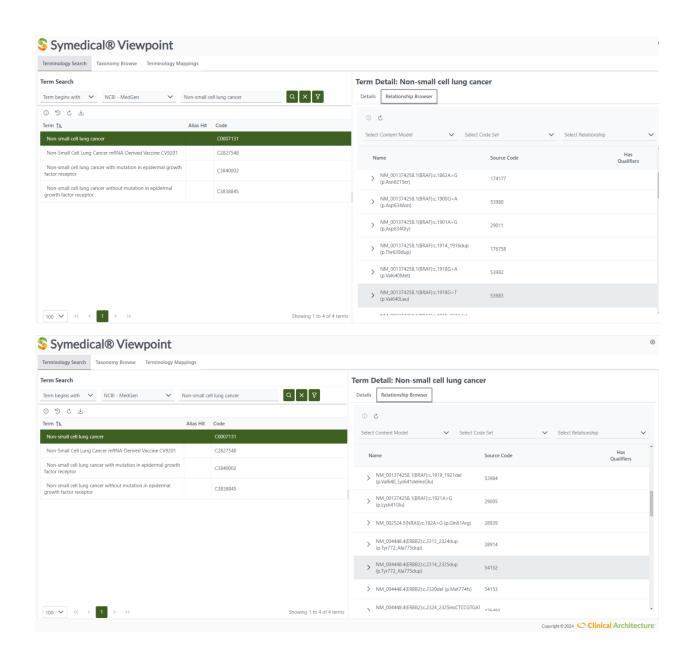


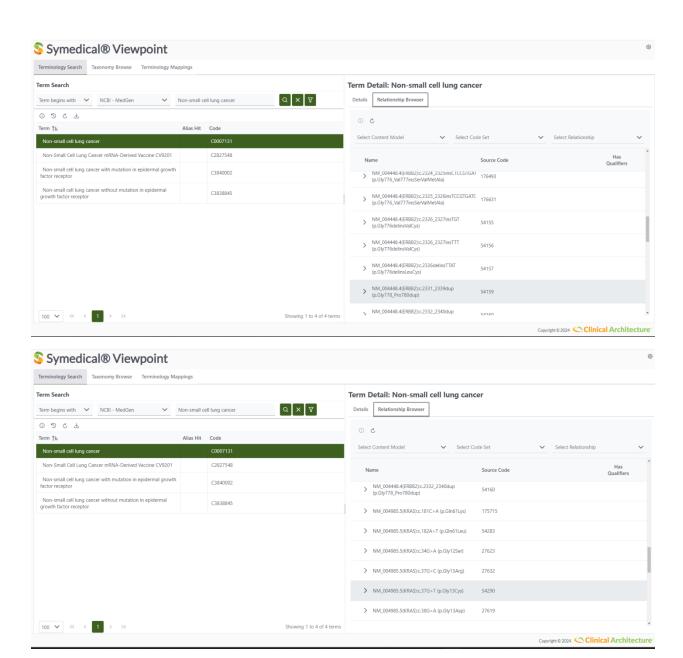


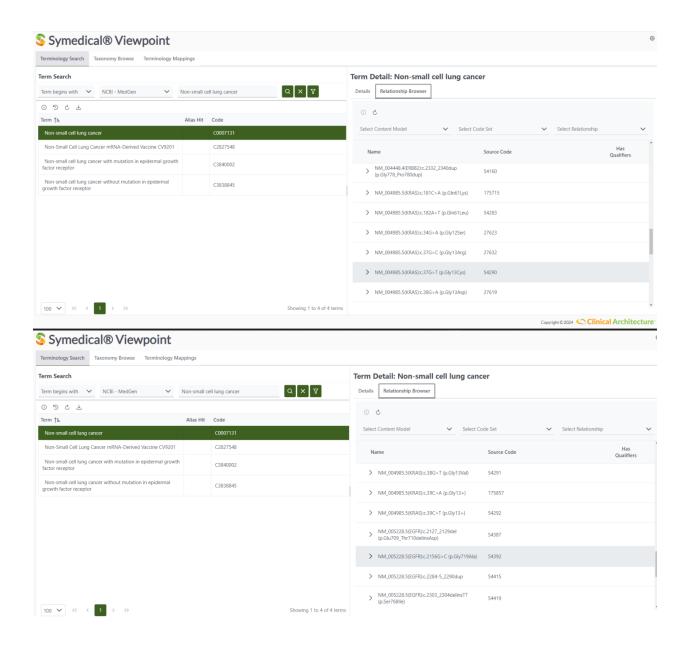


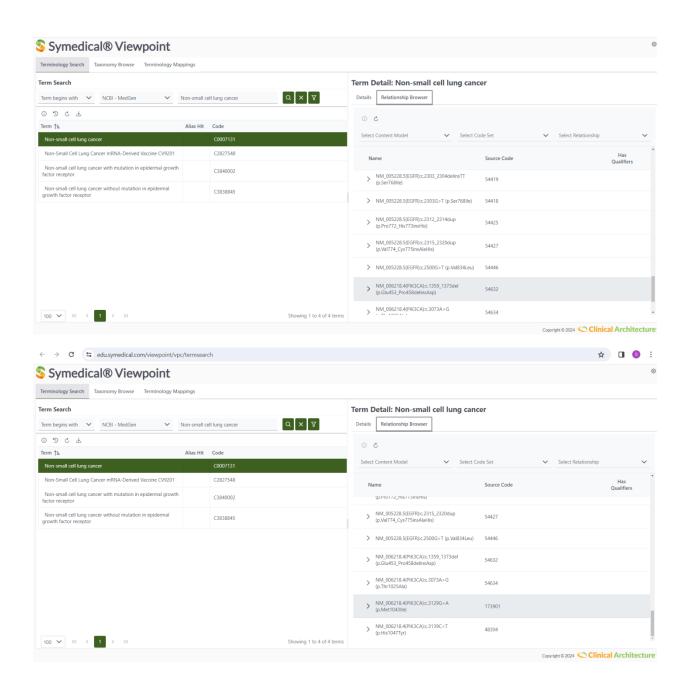
b.



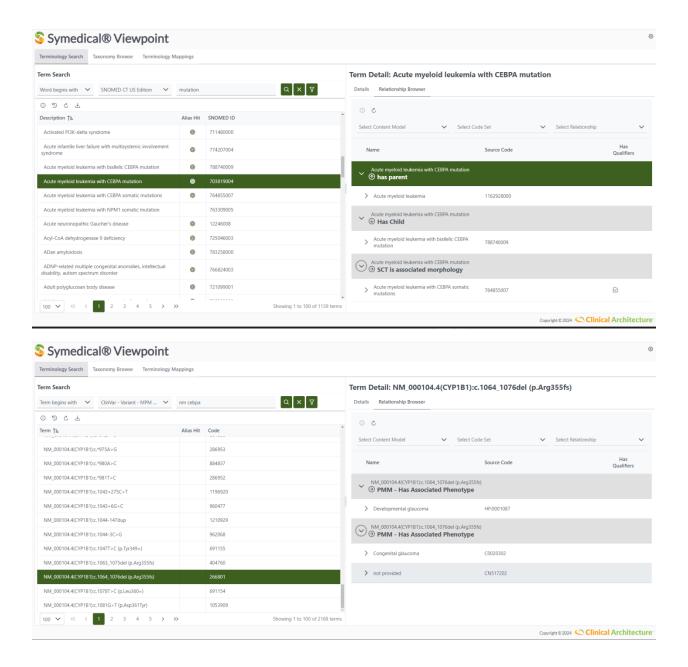








PART B



PART C

C2a.

SNOMED CT, a standardized clinical terminology, offers a broad vocabulary for recording detailed medical data across various contexts, including disease diagnosis, treatment procedures, and patient outcomes (Chang & Mostafa, 2021). Its comprehensive structure allows for precise clinical documentation and interoperability across health systems (Chang & Mostafa, 2021).

On the other hand, NCBI – MedGen focuses on genetic disorders, providing in-depth information about phenotypes, inheritance patterns, and the genetic underpinnings of diseases

(NCBI, n.d.). It links to genetic databases and literature, facilitating research and clinical understanding of genetic conditions ((MedGen Help Documentation, n.d.)

b. The overlap between these two systems enhances patient care by integrating detailed clinical descriptions with genetic insights. This integration supports personalized medicine, allowing for targeted treatments based on a patient's specific clinical presentation and genetic profile(Chang & Mostafa, 2021). However, gaps in this integration could limit the effectiveness of such personalized approaches, underscoring the importance of ongoing efforts to link clinical and genetic data more closely.

C4a.

SNOMED CT functions as a standardized framework for documenting and reporting clinical healthcare information. It encompasses a vast range of medical terms, encompassing diagnoses, procedures, medications, allergies, and outcomes. This comprehensive structure facilitates communication and data sharing across diverse healthcare settings, ensuring detailed and accurate representation of patient data (SNOMED International, n.d.).

On the other hand, ClinVar focuses specifically on the genetic aspect of healthcare, cataloging information about genomic variation and its impact on human health (Landrum et al., 2015). It includes detailed annotations and interpretations of genetic variants, offering valuable insights into their relevance to various diseases. This information is crucial for geneticists, researchers, and clinicians in diagnosing genetic conditions, understanding variant pathogenicity, and guiding treatment decisions informed by genetic data (Landrum et al., 2015).

b. The relationship data in ClinVar plays a significant role in personalized medicine for individuals with genetic variants. It provides essential information for diagnosis, prognostic assessments, and identifying potential therapeutic options (Landrum et al., 2015). However, the absence of clear, annotated relationships or interpretations for some variants creates uncertainties in clinical decision-making processes. This underscores the importance of comprehensive genetic data analysis for advancing personalized medicine.

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