7.2 Population-Based Analytics

Population-based analytics encompasses those analytics services that benefit entire populations, including trend analysis, public health surveillance, pharmacovigilance, care delivery audits and healthcare service planning. Population-based analytics contributes to public health programs by helping to identify health threats, inform public policy and manage healthcare resources.

Efficient healthcare delivery and service planning depends on high quality clinical data. Clinical data is typically scattered between multiple different healthcare providers using different clinical systems. Collating this information for analysis requires both standardized terminologies and common information models. Identifying relevant and useful facts in large volumes of collated data also requires this data to be accurate, meaningful and machine processable.

SNOMED CT supports population-based analytics in a number of ways. Firstly, it enables more accurate capture of clinical data by allowing it to be represented at the appropriate level of clinical detail. Secondly, it supports the integration of disparate clinical data sources by serving as a reference terminology into which free text and other code systems can be mapped. And thirdly, it enables more meaningful and powerful queries to be performed over the data using the descriptions, hierarchies and logic-based definitions of each concept.

Vendor products, which provide population health solutions include Caradigm's Intelligence Platform, Allscript's Clinical Quality Management and Clinical Performance Management tools, Cerner's PowerInsight® Data Warehouse and Epic's analytics and reporting suite.

In this section, we discuss three key types of population-based analytics: trend analysis, pharmacovigilance, and clinical audit.
