PatientGraph - Predict diseases, save lives, and lower costs using a Knowledge Graph and OpenText

The U.S. healthcare system's inherent high costs amplify the financial implications of preventable diseases. The U.S. spends 16.9% of its GDP on healthcare, with the cost of preventable illnesses estimated at a massive $730.4 billion.

Given this context, it's clear that self-insured healthcare delivery systems have compelling financial motivations to minimize the number of unhealthy patients. A staggering 68% of the expenses are attributed to just the top 10% of high-cost, high-need patients. Among these, some of the most significant preventable costs arise from re-admissions, diabetes, and heart failure.

Identifying potential high-cost patients and devising intervention strategies is crucial. However, it presents a challenge, largely because the vast majority of hospital data exists in isolated pockets or massive Enterprise Data Warehouses. These data repositories are often too expensive or technically challenging to harness for the data science needed to enhance patient outcomes.

To illustrate this complexity, consider Epic's Clarity database. It boasts 18,000 tables and approximately 200,000 column names. Achieving certification can take weeks, as can learning how to query the data, or even determining if a particular query is feasible. For instance, in one healthcare Enterprise Data Warehouse, a staggering 250 different column names were used just to indicate the start time of an event.

Leading industry experts, including Gartner, concur that Knowledge Graphs are pivotal for contemporary data and analytics. They appear to offer the most effective solution for discerning relationships among diverse data sets. In the healthcare context, the Knowledge Graph approach addresses the complexity issue by streamlining 18,000 tables and 200,000 columns down to 350 classes and 1,000 attributes. This optimization offers data scientists a consistent 'data shape' applicable across various data science and reporting tasks. By viewing a patient both as a sequence of events and as a graph, data scientists can better pinpoint high-cost, high-need patients, enabling healthcare organizations to provide more timely and targeted care. By leveraging the Knowledge Graph methodology, an average-sized hospital system stands to save between $10 to $20 million annually.

Franz's PatientGraph solution is designed to fast track a healthcare organization's adoption of the Knowledge Graph approach and quickly begin to improve care outcomes and lower costs.