TRANSFORMING IDMP ADOPTION WITH KNOWLEDGE GRAPHS

In today's connected world, using established standards to identify medicine globally just makes sense. The Identification of Medicinal Products (IDMP) standards, maintained by the International Organization for Standardization (ISO), are a strict safety framework used around the world to identify the drugs in medicinal products. These standards ensure safe, error-free medicine for consumers and consistent, supply-chain-wide drug information for pharmaceutical organizations — but the data is siloed in different systems, formats, and structures with little integration, making IDMP compliance a challenge. Additionally, adoption is hindered by differences in interpretation of the standards.

Knowledge graphs are transformational technology that break down data silos and provide an integrated, interoperable view of IDMP information. Pharmaceutical manufacturers can deploy knowledge graphs for a speedy, scalable solution that makes all IDMP data completely accessible.

Challenges in IDMP Adoption

For pharmaceutical companies, following IDMP standards is nonnegotiable — and managing them comes with complex challenges.

1. Impact analysis: Pharmaceutical companies need to track potential consequences following manufacturing disruptions and delays. IDMP standards must be assigned to all batches: every drug, in every dose, in every product. Complex issues arise in pursuing information at such a granular level when data is stored in silos.
2. Tracking PFAS: Polyfluoroalkyl substances (PFAS), known as "forever chemicals," are highly regulated, potentially harmful substances found in certain medicinal products. PFAS can also be found throughout the manufacturing process. It's imperative for organizations to pinpoint exactly where PFAS appear so they can avoid cross-contamination and ensure correct usage. With regulations constantly in flux, manufacturers need to track new substances quickly and with the structures they already use to monitor PFAS.
3. Pharmacovigilance: Pharmacovigilance is the practice of studying and preventing adverse effects that occur when taking or mixing medications. IDMP standards can facilitate better pharmacovigilance globally by identifying medicinal products in safety reports, but this information is often incredibly isolated, depending on the manufacturer and where adverse effects are recorded.

Where Knowledge Graphs Come In

IDMP compliance faces many hurdles due to siloed data and inflexible systems. Accessing data stored in different locations and formats — including structured, semi-structured, and unstructured sources — is difficult. The lack of interconnection and integration stymies manufacturing processes and medicinal tracing. In response, knowledge graphs offer a holistic, integrated view of vital data that gives domain experts answers to pressing questions at scale and speed. Through semantic integration and flexible, ontology-based data models, users can ask their knowledge graphs specific questions like, “Which product contains substance 1X2Y3?” and “When was this batch made?” Whether problems are related to manufacturing or pharmacovigilance, knowledge graphs streamline IDMP implementation to speed up solutions.

IDMP Impact Analysis

Manufacturers can identify medication shortages at the earliest possible stage by using the data knowledge graphs pull together. As IDMP standards operate globally and nationally, manufacturers can alert the appropriate authorities of upcoming shortages months in advance, thanks to knowledge graphs. Additionally, proactive IDMP impact analysis empowers decision-makers to make data-driven decisions, like reprioritizing affected drugs, following disruptions.

Tracing PFAS

With environmental safety and human lives hanging in the balance, tracking potentially harmful PFAS is paramount. Knowledge graphs empower researchers and scientists to track the chemicals’ IDMP data throughout the product management life cycle to identify them correctly, catalog the therapeutics in which they’re used, and determine how much ends up in the final product. This information can have life-changing effects. Knowledge graphs enable decisive, accurate reports of these PFAS. Moreover, knowledge graphs offer a scalable solution that can easily integrate additional data sources to track newly regulated substances quickly.

Keeping Pace with Pharmacovigilance

Adverse-effect data is stored in a variety of siloed data warehouses and databases across different pharmaceutical manufacturers, open-source repositories, and healthcare providers. Knowledge graphs break down these silos and deliver an integrated system that keeps easily accessible records of different drug reactions for efficient data governance. By using knowledge graphs, researchers can quickly identify possible adverse reactions and inform clinicians who interact with patients daily.

Knowledge graphs can help your organization meet today’s regulatory standards and surpass tomorrow’s challenges. Contact us to learn more.