Normalizing Allergy Source Data Using SNOMED CT
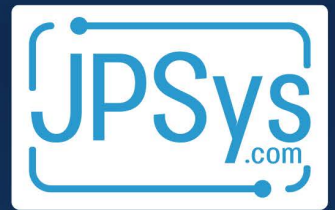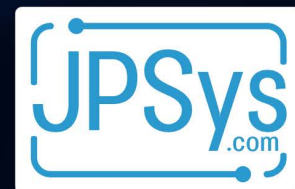
Healthcare today is a world of data that can take many forms and be from many different sources, even within the same institutions. To improve patient outcomes and patient safety, this data often needs to be normalized. In its simplest form, normalizing data is the process of taking clinical information that may exist in different formats, gathered from various systems, and harmonizing the clinical data into a unified and accurate informatics system.

Normalizing disparate clinical data can be an overwhelmingly complex task that requires specialized subject matter experts with both clinical and terminology expertise. This process involves careful analysis and cleanup of medical data which includes patient medications, allergies, and laboratory results. These processes facilitate the normalization and mapping of data to standard terminologies.

On a recent project, J P Systems provided VA with experienced clinicians and informaticists who collectively analyzed over 5,000 allergy terms. The team verified existing allergy types and, if the term did not contain an associated allergy type, the team assigned one of four agreed upon allergy types to the existing allergen. Assigning a specific allergy type allowed the team to create specific mapping guidelines. These guidelines were then used to standardize and facilitate the mapping of the allergy terms. Using the mapping guidelines, all allergens which were determined to have an allergy type of "Drug" or "Drug, Food" were mapped to RxNorm while allergens which were determined to have an Allergy type of "Food" or "Other" were mapped to the SNOMED terminology.

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Developing mapping guidelines such as these helps provide consistent and reproducible mapping results which helps VA standardize disparate information that can be used to improve reimbursement, ensure regulatory compliance, increase interoperability, enable clinical decision support and help to ensure overall patient safety.

Using international data standards such as SNOMED-CT to record allergies also helps VA transition its legacy healthcare information system to one that emphasizes currency and interoperability among its numerous facilities, the Department of Defense (DoD), and other non-VA entities. Using these standards helps VA comply with Federal legislation and guidelines such as the National Defense Authorization Act (NDAA) and the Coronavirus Aid, Relief, and Economic Security (CARES) Act.

In addition, these mappings assist with Clinical Decision Support and allow both VA and DoD clinicians to view patient allergies through the Joint Longitudinal Viewer (JLV) in disparate Electronic Health Record systems. This interface, which combines data from VA and DoD health information systems, allows patient data to be observed by both VA and DoD clinicians, thereby increasing overall interoperability and patient safety.

What is SNOMED-CT?

Snomed is the most comprehensive, multilingual clinical healthcare terminology in the world. It is a resource with comprehensive, scientifically validated clinical content that enables consistent representation of clinical content in electronic health records. Snomed is mapped to other international standards and is used in more than eighty countries.