

semedy.

Solutions for your
healthcare organization.

ANALYTICS



SOLUTIONS

What are the Semedey solutions?

Our knowledge management software is designed for a number of the challenges facing the healthcare system. To better help you understand its wide range of benefits, we have designed a predetermined set of solutions for varying scenarios, or solutions. The solutions are designed for efficiency and scalability that provide significant competitive advantages. Each solution is available through our Clinical Knowledge Management System (CKMS).

Who are the Analytics solutions for?

This set of solutions provided through the CKMS software are suitable for providers of real-world data and analytics services, advanced research organizations, and platforms that extract insights from data.

Where can I see how the solutions work?

Our team at Semedey will be providing live demonstrations of each solution during Virtual HIMSS20. If you are interested in seeing a solution in action, please sign up here:

himss20.semedey.com/solutions

Where can I find more information?

For more information on the Semedey knowledge management software, please visit semedey.com.

For inquiries, please contact himss20@semedey.com

METADATA MANAGEMENT

Healthcare organizations are progressively becoming more data-focused. A critical step toward this strategy is to select a robust and extensible metadata management solution. Metadata is essential to understand data lineage and quality, and also to support data governance and improve data accessibility. Improved accessibility enables users to effectively select and utilize available data resources. Smedy's solution is designed to support all data lake metadata requirements, including different types of data obtained from multiple sources and iterative cycles of integration and refinement. This solution allows an organization to:

- Catalog, organize, and manage metadata describing multiple types of data resources – from large datasets to detailed data models and discrete data elements
- Enable metadata exploration (queries) to confirm data availability, provenance, and level of detail, including access restrictions (data use agreements)
- Enable automated metadata updates directly from data sources – capture current state and track changes (evolution)
- Provide extensible metadata models to capture fine-grained details – drill down to discrete data elements with bindings to code systems and mappings to reference terminologies
- Provide semantic tagging at multiple levels – essential to help find and categorize available data resources

IMPLEMENTATION

Smedy's Metadata management solution, implemented using our Clinical Knowledge Management System (CKMS), includes extensible metadata models, ETL pipelines for import and/or export, and configurable views, queries, and reports. During an initial implementation stage, simple descriptive metadata details are automatically imported from each available data resource. These initial metadata records can be progressively refined and linked to information models, which in turn are linked to data dictionaries, terminologies, and value sets. Proprietary models can be cross-referenced to open standards (e.g. FHIR, OMOP CDM, etc.). All types of metadata artifacts are curated and managed within CKMS, enabling the development of reusable phenotype and cohort definitions that can be tested and validated using synthetic test data.

DEMONSTRATION

Using our CKMS platform, the demonstration will showcase how metadata is represented, searched, visualized, and cross-referenced using examples created by Smedy and from commonly used sources. We will demonstrate how to search and review data sets and their corresponding models, how to identify the data use agreement associated with a given data set, and how to determine which data sets contain data elements of interest. We will also illustrate how other Smedy solutions (e.g. Information Models, Terminologies, Patient Cohorts, Synthetic health data, etc.) can be used to enable a comprehensive metadata solution for data lakes.

SYNTHETIC HEALTH DATA

Synthetic health data are realistic but simulated health records for artificial patients. These include manufactured medication, laboratory, procedure, observation, allergy, and diagnosis records for fictitious patients. Smedy's Synthetic Health Data Solution is for creating and managing these valuable knowledge assets and utilizing them to test software applications, clinical decision support, and patient cohort definitions; as well as to support interoperability and data analytics initiatives. This solution allows an organization to:

- Create, maintain, import, and export synthetic health records
- Perform testing and quality assurance on knowledge content and software applications that depend on realistic patient data without resorting to using and potentially compromising or corrupting real patient data
- Robustly test clinical information system functionality such as clinical decision support, population health management registries, and electronic clinical quality measures
- Robustly test research information system functionality such as patient cohort specification, generation, and reporting
- Share synthetic health data across disparate systems within and amongst different



IMPLEMENTATION

Smedy's Synthetic Health Data Solution includes preconfigured and extensible models, extract/transform/load (ETL) pipelines for input and/or export, convenient authoring templates, configurable views, queries, and reports. Source content can be loaded from an external source, such as Synthea™ or SyntheticMass; cloned and modified from existing content; or created new.

DEMONSTRATION

The demonstration includes how simulated patient records can be represented using FHIR-based models; imported from and exported to external repositories or applications; searched, queried, and validated using the platform's built-in semantic reasoner; and leveraged within other CKMS solutions, such as the CDS, eMeasures, and Patient Cohorts.

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PATIENT COHORTS

A patient cohort specification is the set of characteristics (inclusion and exclusion criteria) that define which patients are members of a class and which are not. Amongst other things, a cohort or class of patients can be used to identify who should receive a clinical decision support (CDS) intervention, be included in a quality measurement, be part of a population health registry, or participate in a research study. Smedy's Patient Cohort Solution allows an organization to:

- Create, validate, and share specifications of patient cohorts for use in other knowledge-based applications, such as CDS, electronic quality measurements, population health management systems, and research data repositories
- Specify patient cohorts with re-usable building blocks (resource queries) to make curation more efficient and to prevent unnecessary variation
- Investigate, resolve, and even prevent malfunctions caused by population cohorts with faulty or incomplete inclusion or exclusion criteria
- Implement a coordinated strategy for deploying cohort-related information system functionalities, such as eligibility criteria for CDS, order sets, protocols, pathways, registries, quality measurements, and research studies

IMPLEMENTATION

Smedy's CDS solution includes preconfigured and extensible models, extract/transform/load (ETL) pipelines for input and/or export, convenient authoring templates, configurable views, queries, and reports. Source content can be loaded from an external source, cloned and modified from existing content, or created de novo.

DEMONSTRATION

The demonstration includes how patient cohorts are defined, searched, queried, and validated; and how this solution seamlessly integrates with Smedy's CDS, eMeasures, metadata management, and synthetic health data solutions.

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CONTACT US

Interested in learning more about Semedy?
Please contact us at himss20@semedy.com



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