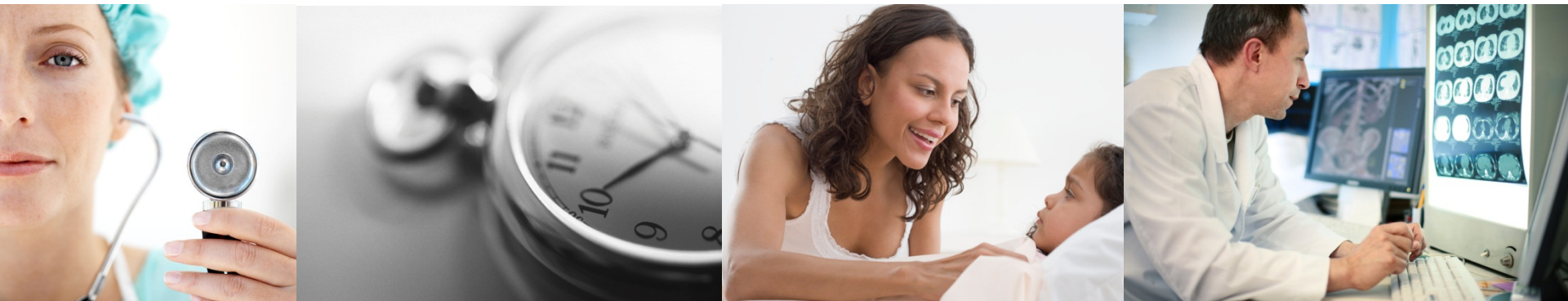


SNOMED CT® Implementation Roadmap



Delivering

SNOMED CT

The global
language of
healthcare

David Markwell, IHTSDO
Head of Implementation & Education

Implementation Roadmap - Overview

- Motivations for implementation
- Adoption, planning, development, deployment and use
- Prerequisites for effective implementation
- SNOMED CT in an EHR
- EHR design considerations
- Approaches to implementation
- Implementation examples
- Learning more about SNOMED CT implementation



**Motivations for
implementation**

SNOMED CT features that deliver benefits: Effective representation of clinical ideas

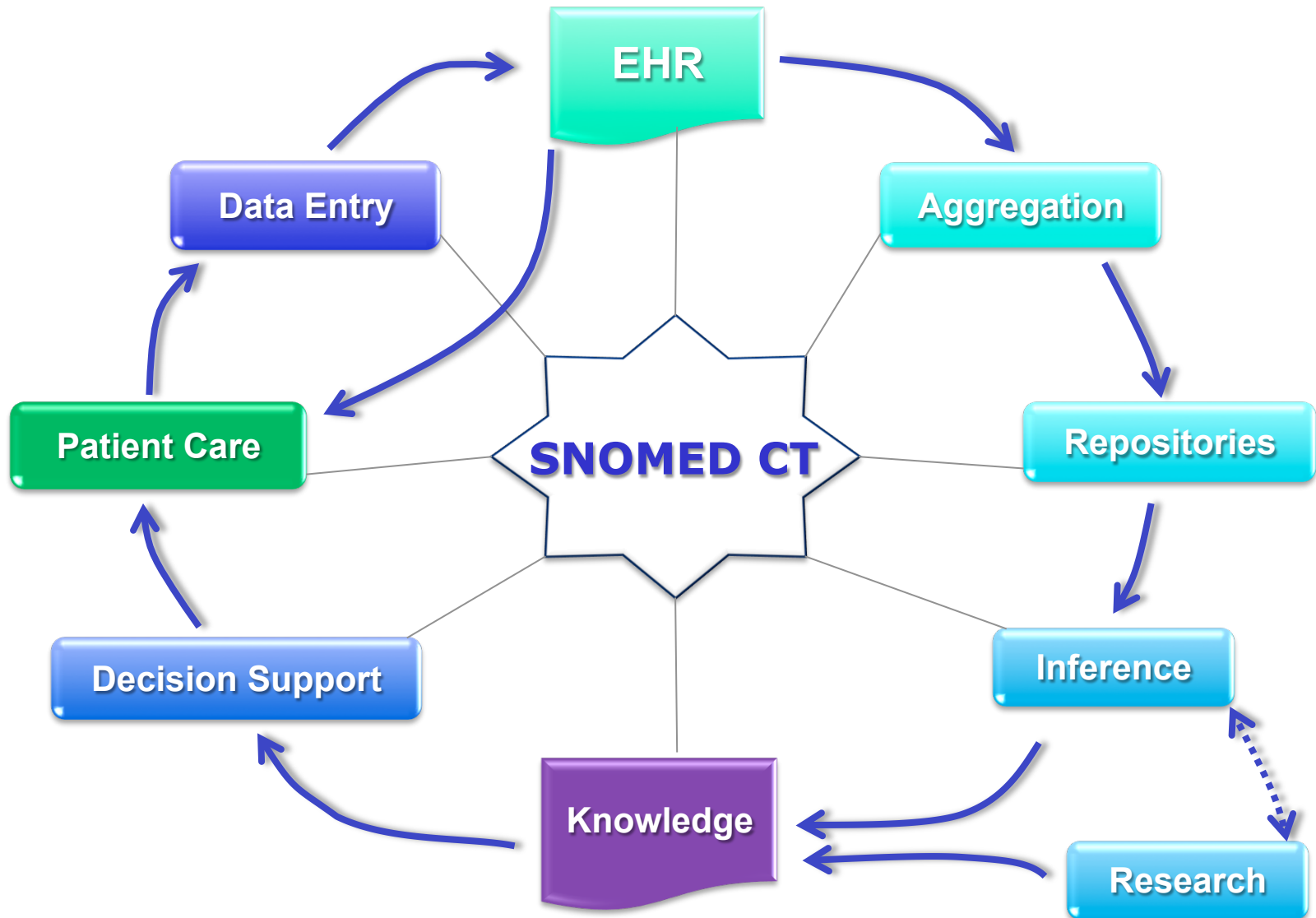
- Broad scope of clinical content
- Support for unlimited synonyms and translations
- Extensible design allows local content addition
- Postcoordination options to record additional detail
- Configuration options supported by Reference sets
 - Subsets of concepts or description
 - Ordered list to prioritize commonly used concepts
 - Alternative hierarchies to enable use-case specific access
- Formal logic-based definitions that support
 - Meaning based retrieval
- Stable coded representations supported by
 - Permanent identifiers (codes) which are never reused
 - Effective versioning with release of full terminology history

SNOMED CT supports Electronic Health Record retrieval to enhance delivery of individual patient care

- Selecting and displaying relevant clinical information from a patient record during a consultation
- Guidelines and decision support systems that check the patient record to provide real-time advice
- Communicating and sharing relevant information with other people involved in delivering care to the patient
- Retrospective searches for patterns of findings or treatments that require additional follow-up

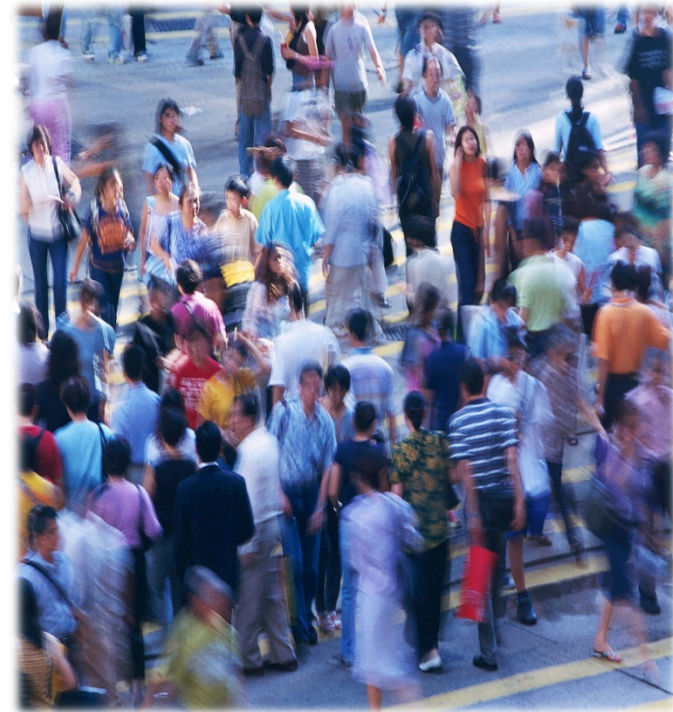


SNOMED CT acts as a common coordinate system for clinical knowledge

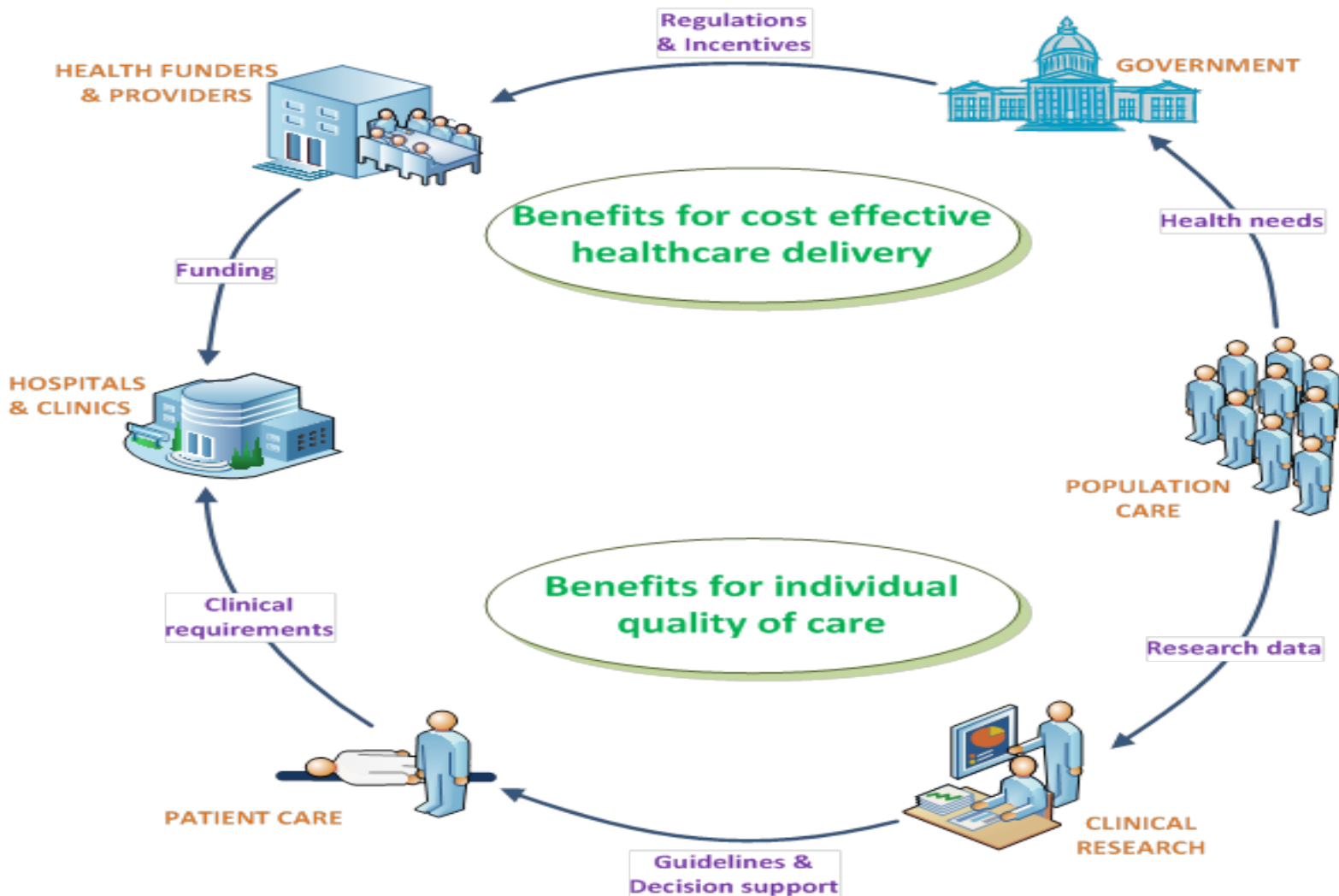


SNOMED CT supports Electronic Health Record retrieval to enhance healthcare delivery for populations

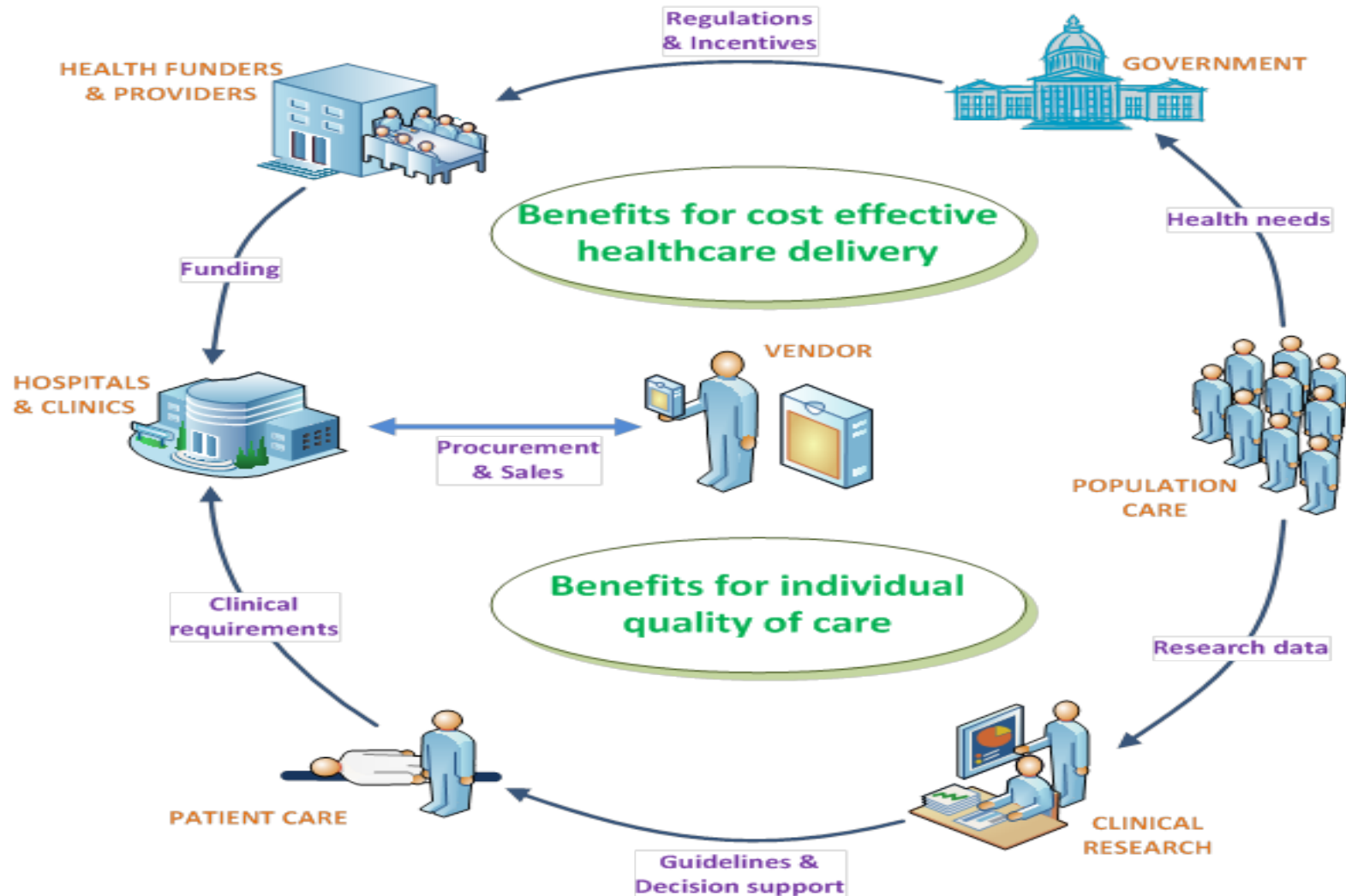
- Epidemiological monitoring and reporting
- Research into causes and management of diseases
- Planning service delivery based on emerging national and local health trends
- Supporting cost-effective care delivery
 - Available information reduces duplication of investigations and unnecessary interventions
 - Guidelines minimize risk of costly errors
- Enhanced audits of care delivery with options for detailed analysis of clinical records of outliers and exceptions



Motivators for adoption of SNOMED CT as part of health record standards



Motivators for implementation of SNOMED CT as part of EHR systems



Characteristics IHTSDO that add to SNOMED CT benefits:

Governance, cooperation and mapping

- SNOMED CT is a product of IHTSDO
 - Owned by Member countries
 - Fair and transparent approach to licensing
 - No charges for use in Member countries
 - Affordable use for institutions in other countries
- Collaborative approach
 - IHTSDO collaborates with many international bodies responsible for standards, classifications and code systems
 - ISO, WHO FIC, HL7, LOINC, GMDNA, ICN, WONCA
- Mapping support
 - Reference set representation of simple and rule based maps
 - Maps and/or links to other codes systems including:
 - ICD-10, ICD-9-CM, ICPC-2, LOINC, GMDN

Extending Benefits by Widespread Use

- Using SNOMED CT in one place is useful - but ...
- Additional benefits arise from widespread use
- Regional, National and International initiatives realize the real advantages of SNOMED CT as a common foundation for meaningful clinical information

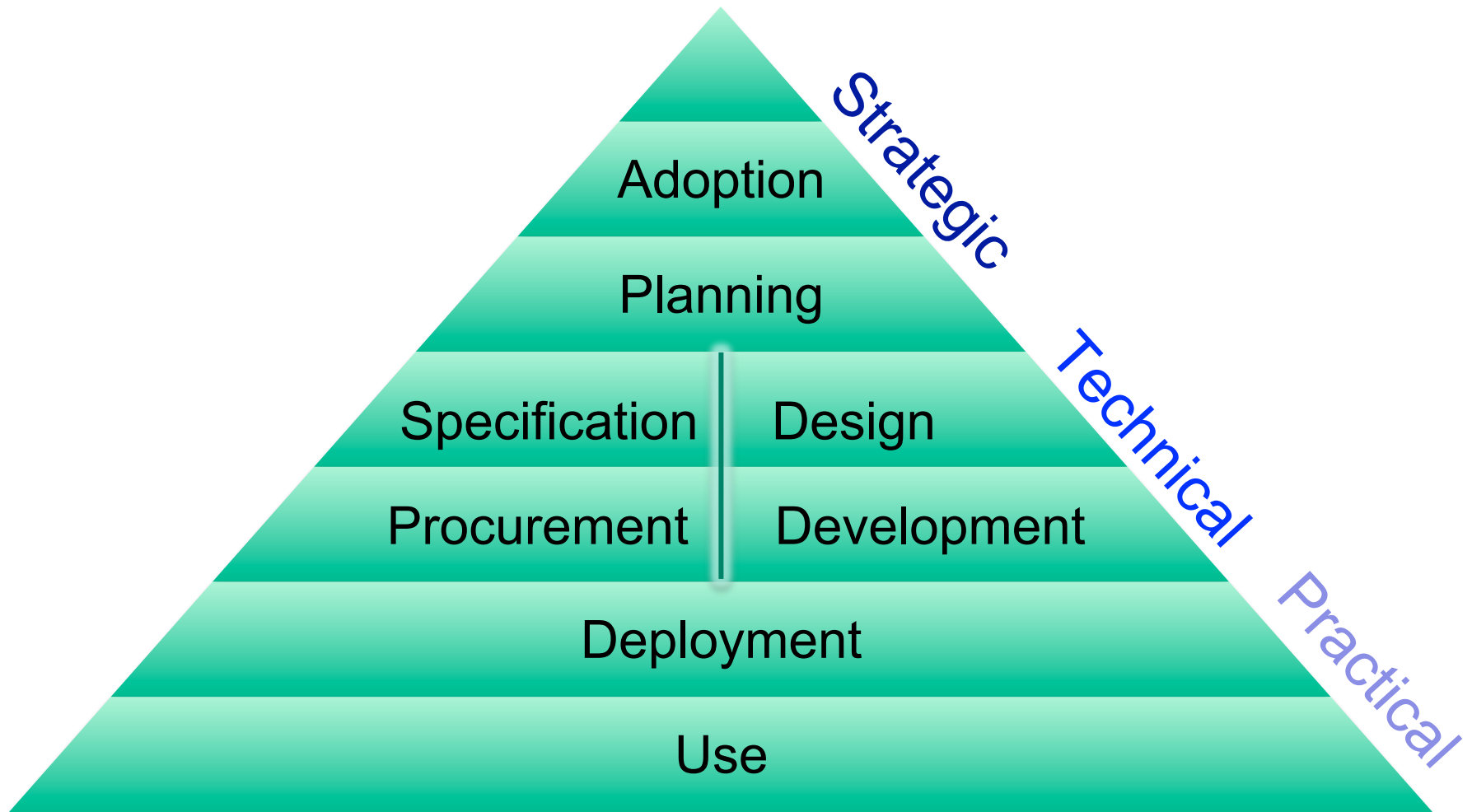


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- SNOMED CT
- EHR design
- Approach
- Implementation
- Learning more about

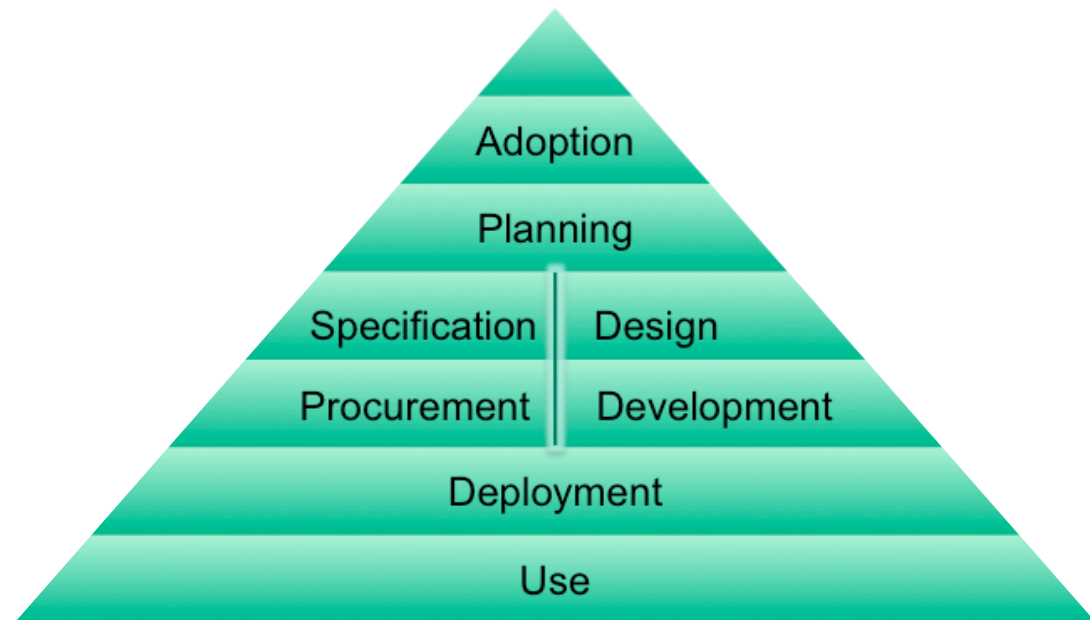
**Adoption, planning,
development,
deployment and use**

An inclusive view of SNOMED CT implementation



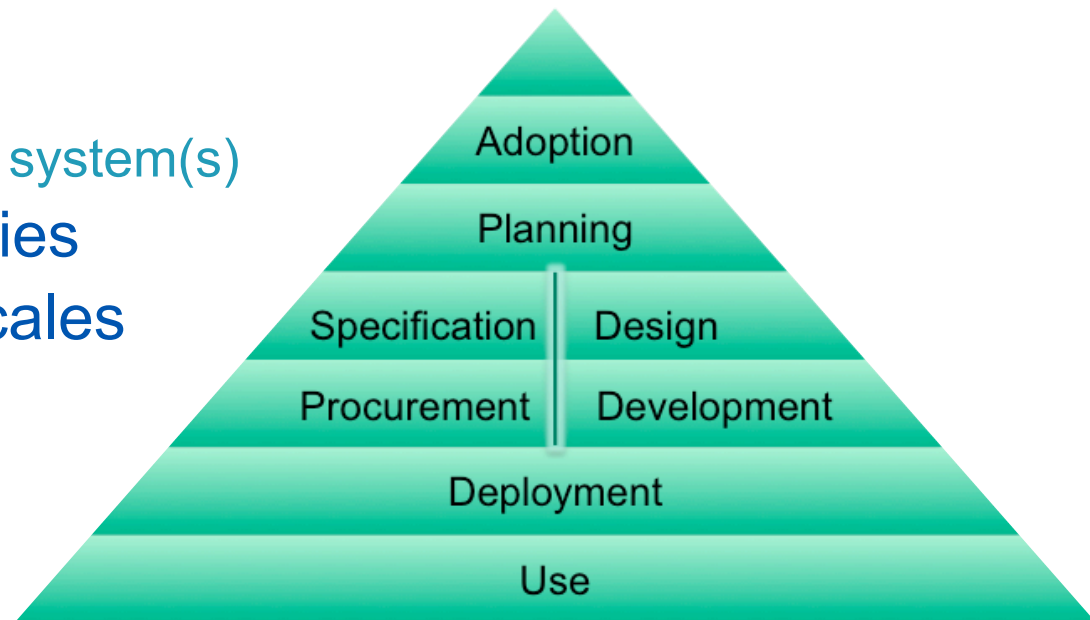
Adoption – many potential levels

- National adoption
- Organizational adoption
- Project adoption
- Adoption within standards
- Vendor adoption



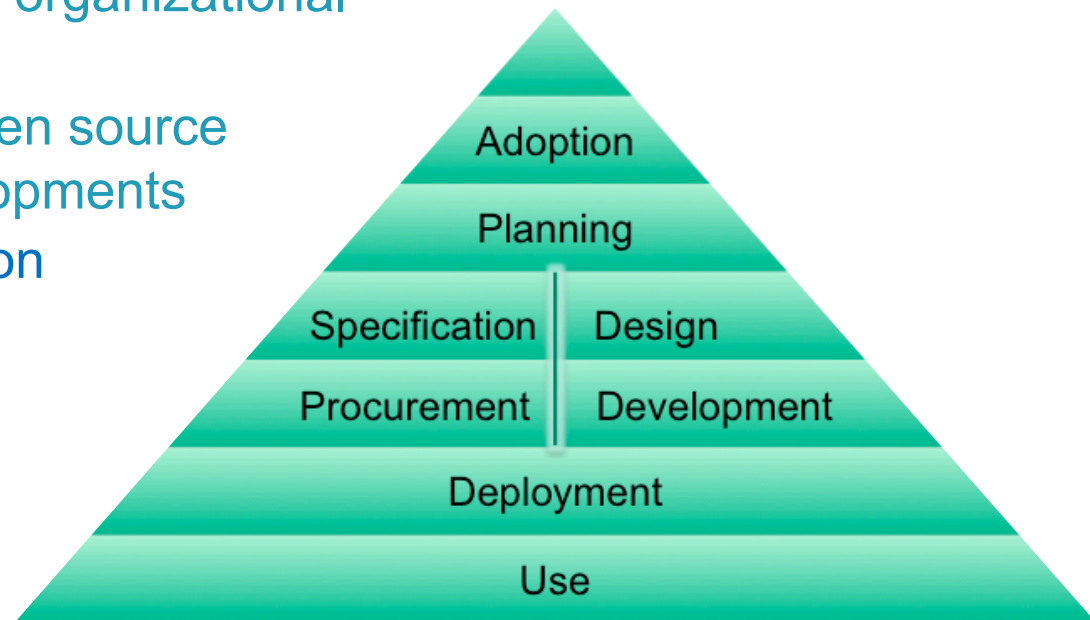
Planning

- Planning how SNOMED CT will be used
- Identifying types of systems required or affected
- Determining whether to
 - Design and develop
 - New system(s)
 - Modifications to existing system(s)
 - Specify and procure
 - New system(s)
 - Updates to existing system(s)
- Identifying dependencies
- Setting realistic timescales



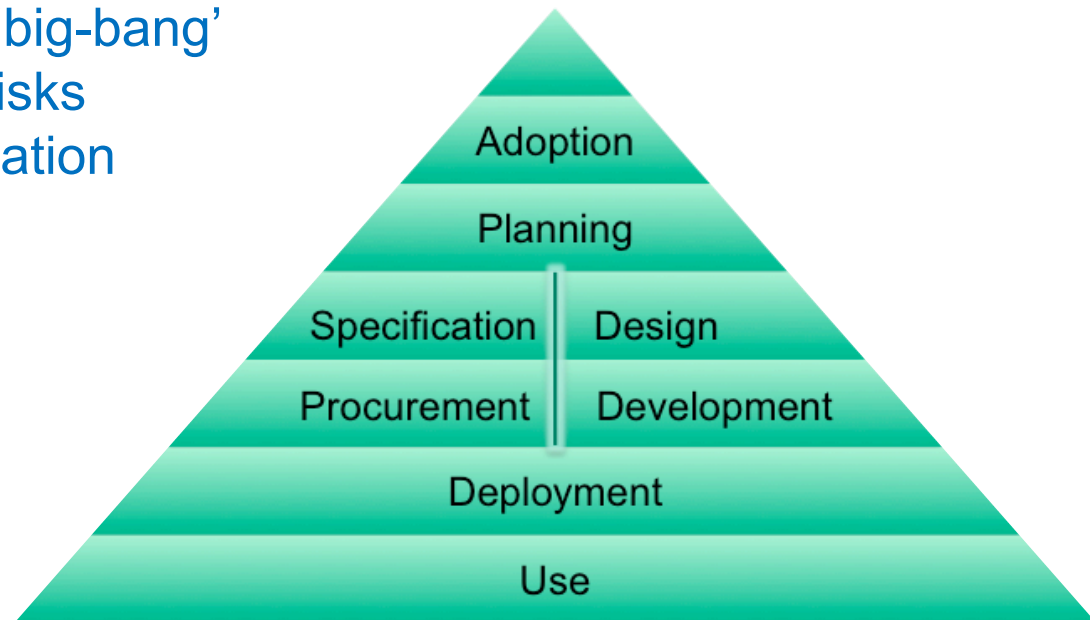
Design and development

- Design and development objectives
 - Commercial development of new or updated products
 - To address an identified market
 - To meet requirements arising from clients or potential clients
 - To conform to national or international standards
 - In house development of a bespoke system
 - To address specific organizational requirements
 - To participate in open source collaborative developments
 - Research and innovation development
 - Pre-commercial 'proof of concept'
 - Academic research



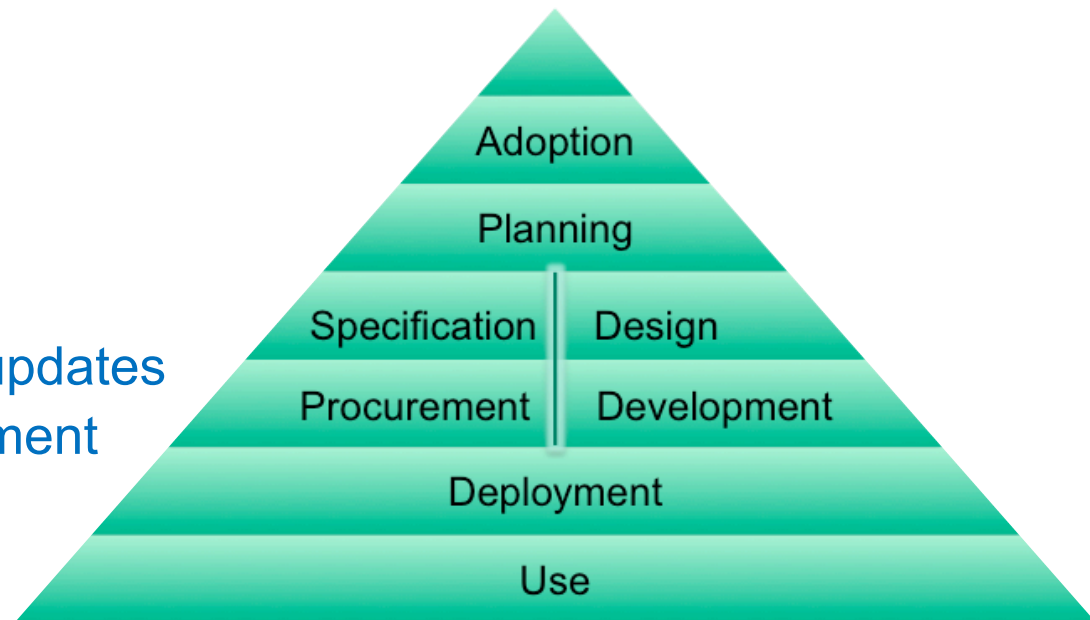
Specification and procurement

- It is not enough to say ‘implement SNOMED CT’ as part of a specification for procurement
- Understand ...
 - Different approaches to SNOMED CT implementation
 - Dependencies of benefits on implementation approaches
 - Impact of step-wise or ‘big-bang’ approaches on costs, risks expectations and realization



Deployment and use of SNOMED CT enabled systems

- **Delivery**
 - Installation
 - Configuration for specific uses
 - Resolution of dependencies and integration of systems
- **User training**
 - Clinical and operational leaders
 - Clinical users
 - Analytics professionals
 - System support staff
 - ... etc.
- **Maintenance**
 - SNOMED CT version updates
 - Configuration management
 - ... etc.



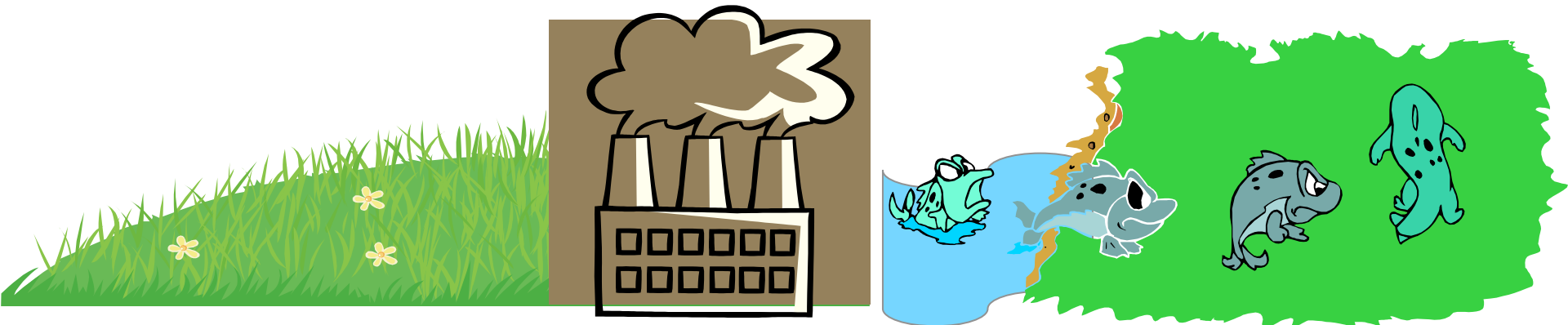
Implementation Roadmap - Overview

- Motivations for implementation
- Adoption, planning, development, deployment and use
- Prerequisites for effective implementation
- SNOMED CT in applications, products and services
- EHR designs
- Approaches
- Implementation
- Learning more about implementation

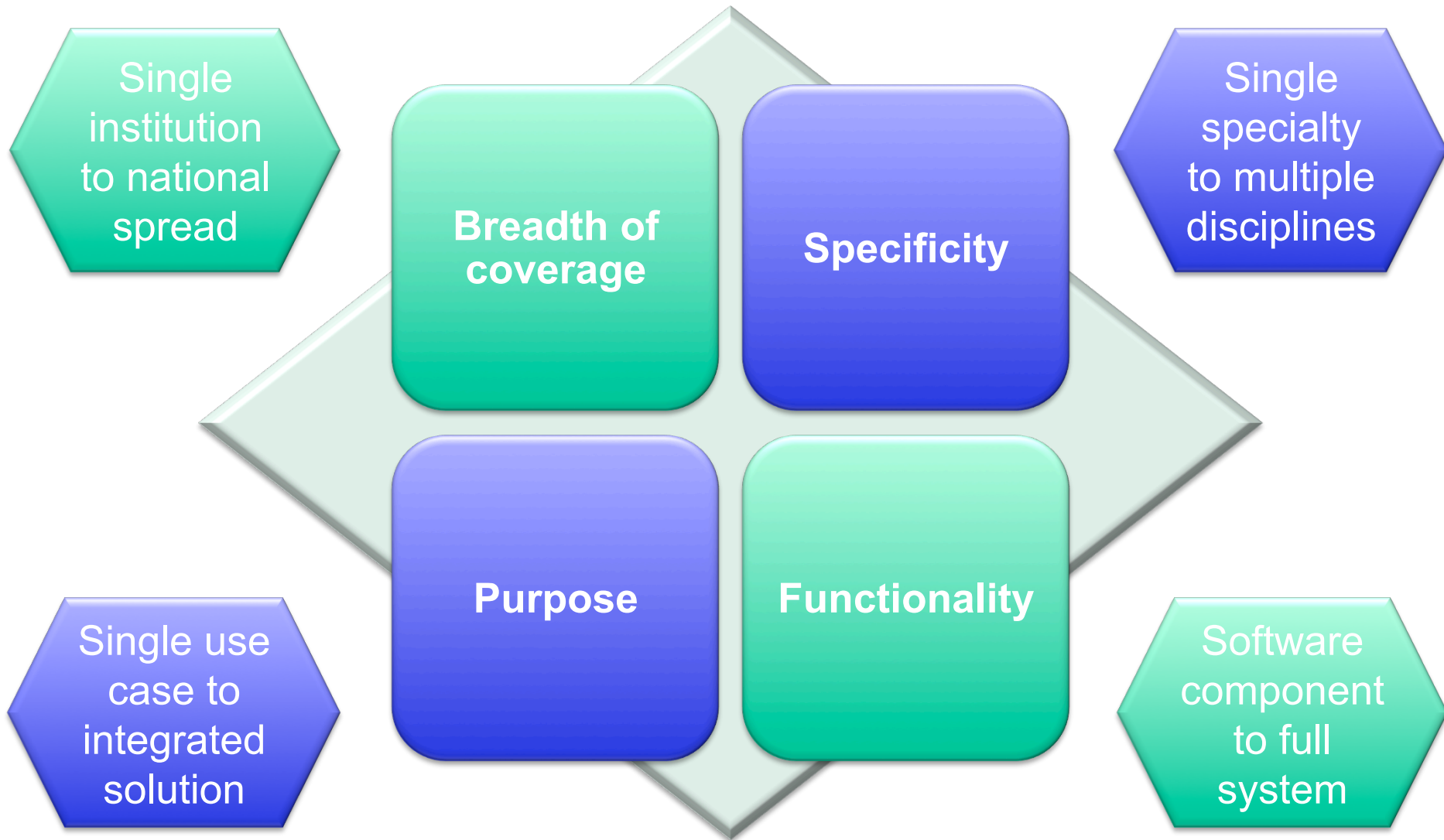
**Prerequisites for
effective implementation**

Understand where you are starting from

- A green field site
 - Addressing a new requirement with SNOMED CT as an integral part of a new solution
- A relic of an earlier generation
 - Replacing existing systems to extend to meet additional requirements using SNOMED CT
- An evolving system
 - Updating systems that are able to mutate to address new requirements by accommodating SNOMED CT



Scoping your implementation plans



Roles in implementation



EHR implementation is a team effort

- **Clinical input needed to design system**
 - Safe & fit for purpose for all specialties and environments
 - Compatible with clinical practice and local processes
- **Technical input to design architecture and functionality**
 - The system must be usable, reliable and efficient
 - Able to support data entry, storage, retrieval and communication
 - Compliant with relevant technical standards
- **Guidelines and decision support developers**
 - Enabling the EHR to apply and interact with relevant guidance
- **Management**
 - Compliance with requirements for activity reporting, etc.
- **Epidemiology and Clinical Research**
 - Ensure availability of required information for statistical reporting and other studies

Relevant levels of understanding of SNOMED CT and the ways which it can be used

Different members of the team need different types of knowledge and different levels of detailed understanding

- Basic knowledge about SNOMED CT
 - Starter Guide: <http://ihtsdo.org/starterguide.pdf>
- Technical specifications and guidance
 - Technical Implementation Guide: <http://ihtsdo.org/tig.pdf>
- Understanding the content of SNOMED CT
 - Explore the content at: <http://browser.ihtsdotools.org>
- Learn about the concept model
 - Editorial Guide: <http://ihtsdo.org/eg.pdf>
- Appropriated education and training
 - <http://ihtsdo.org/elearning>

Involvement of motivated users

- Involvement of Clinical Users on input and display design
 - In a well designed SNOMED CT enabled application the presence of SNOMED CT is felt rather than seen
- Data user awareness of SNOMED CT
 - An understanding of SNOMED CT logical definitions and the way these relate to clinical user perceptions is necessary to enable the power of SNOMED CT to be used effectively when analyzing data

Key Determinants of Success

- Careful planning and understanding key objectives
- Ease and effectiveness of data entry and display
 - Speed, search, navigate, scope, aggregate, highlight
- Consistent representation of stored clinical information
- Methods and approach to effective communication
- Optimisation of retrieval, analysis and reuse

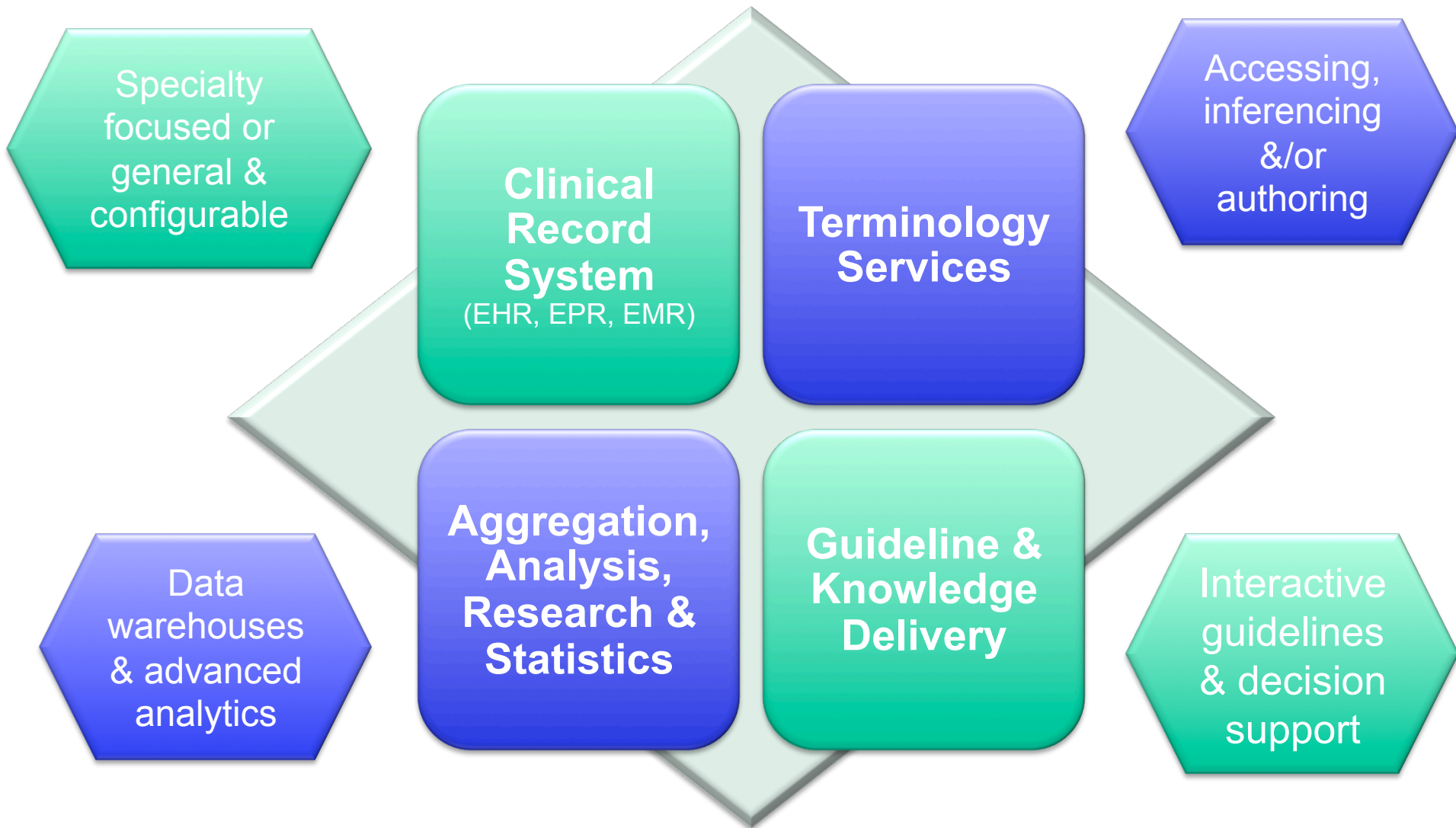


Implementation Roadmap - Overview

- Motivations for implementation
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- Prerequisites for effective implementation
- SNOMED CT in applications, products and services
- EHR development and SNOMED CT
- Approaches to implementation
- Implementation strategies
- Learning and training

**SNOMED CT in
applications products
and services**

Types of SNOMED CT enabled applications



SNOMED CT-enabled applications and services

- Types of application
 - Electronic Health Records
 - Knowledge linkage, guidelines and decision support
 - Data warehouse and large-scale analytics

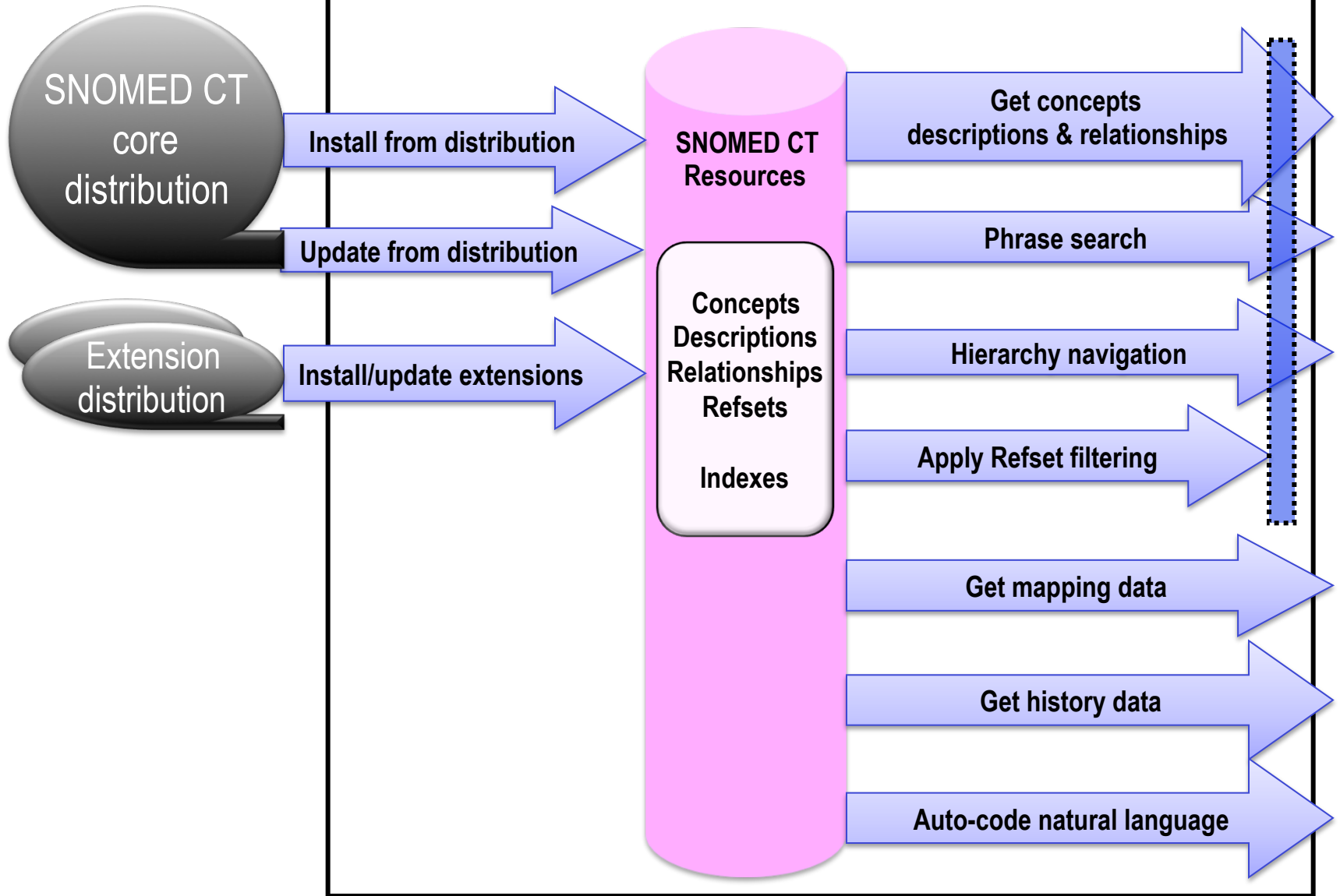
Supporting services

- Terminology services
 - Services that interact directly with terminology resources including SNOMED CT
 - Examples: search, display of search results, configuration of searches, subtype tests, inferences for data analysis, etc.
- Record services
 - Services that interact directly with application data such as patient records
 - Examples: data entry, communication, data storage, representation, retrieval and analysis, etc.

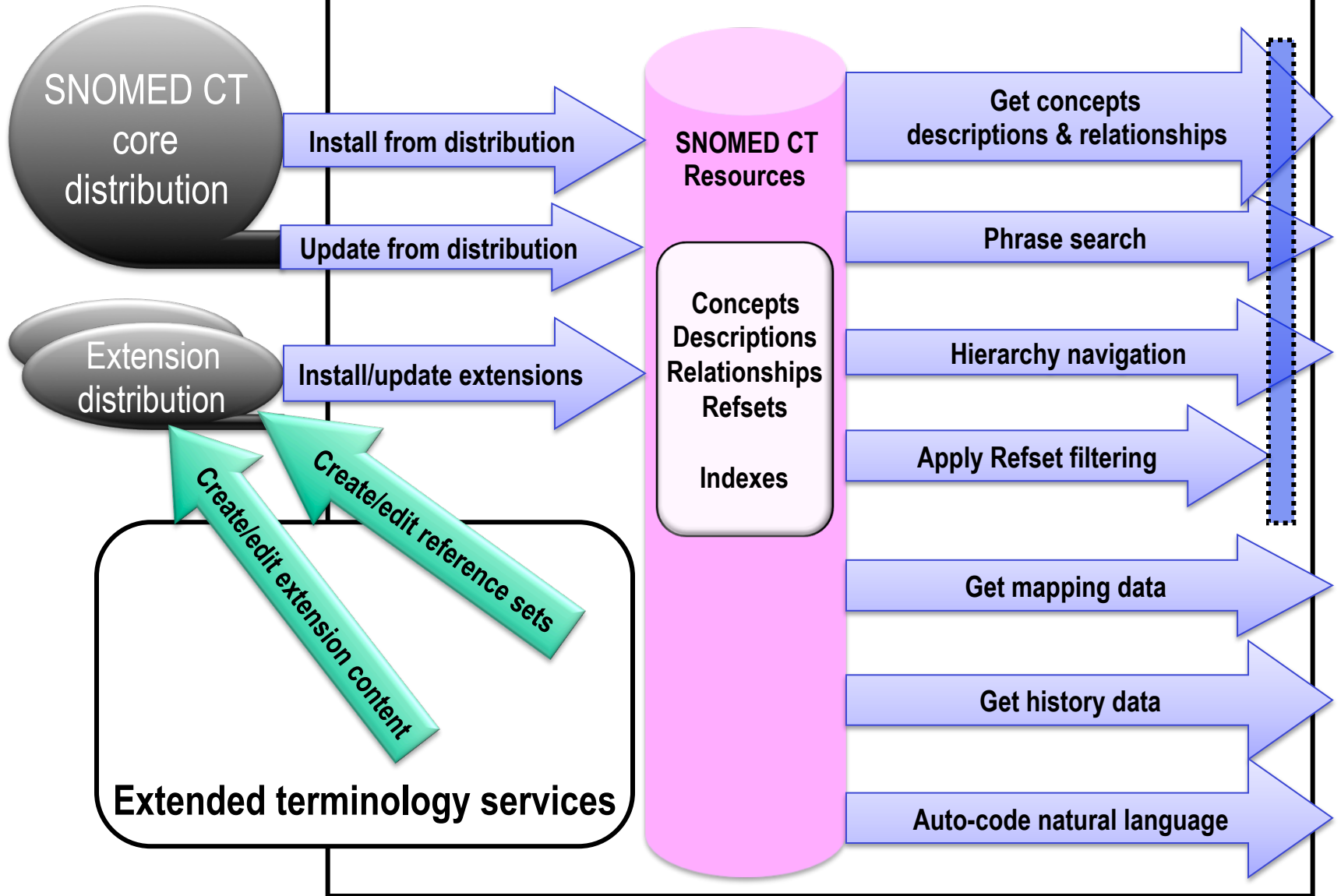
Terminology services and record services

- Terminology services can be logically separated from application data specific services
- Development options
 - Build the service as an integral part of you application
 - Build your own server with a clear API
 - Use a third party server

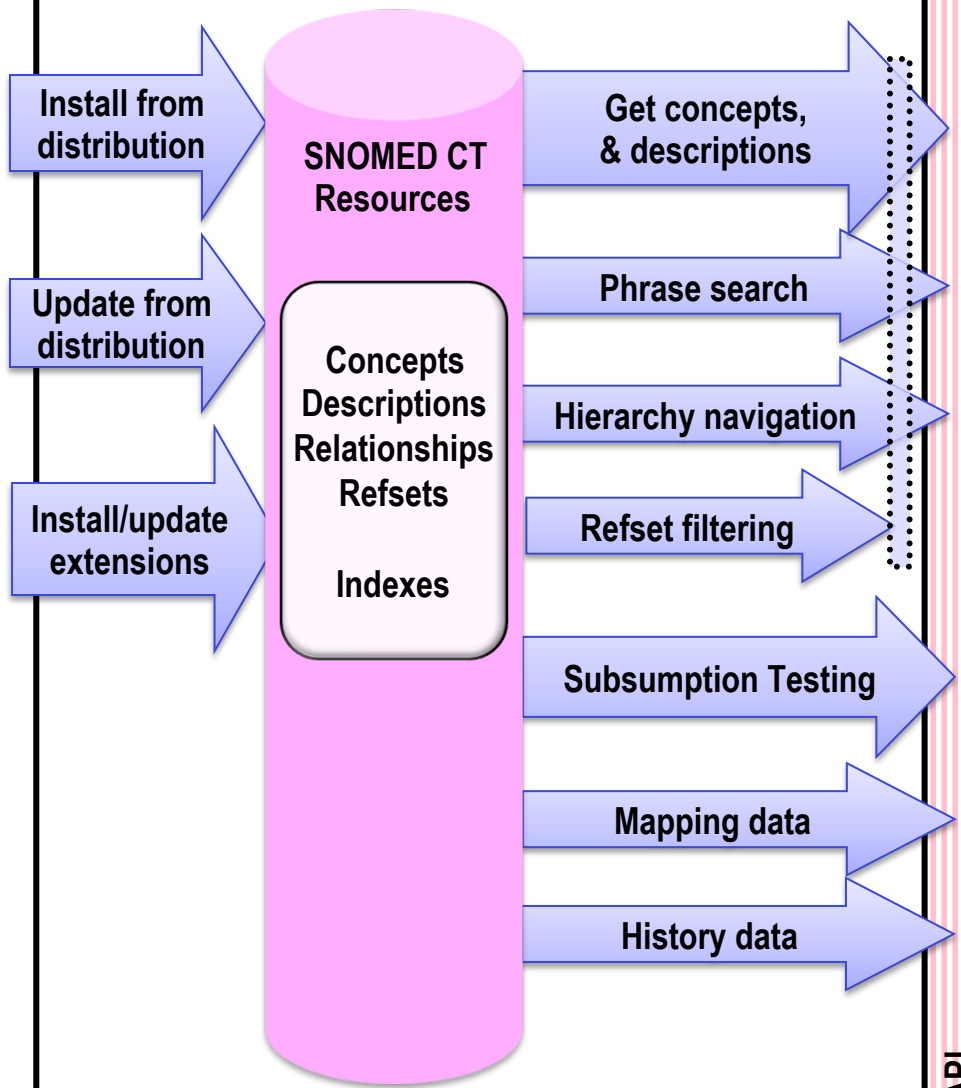
SNOMED CT Enabled Terminology Services



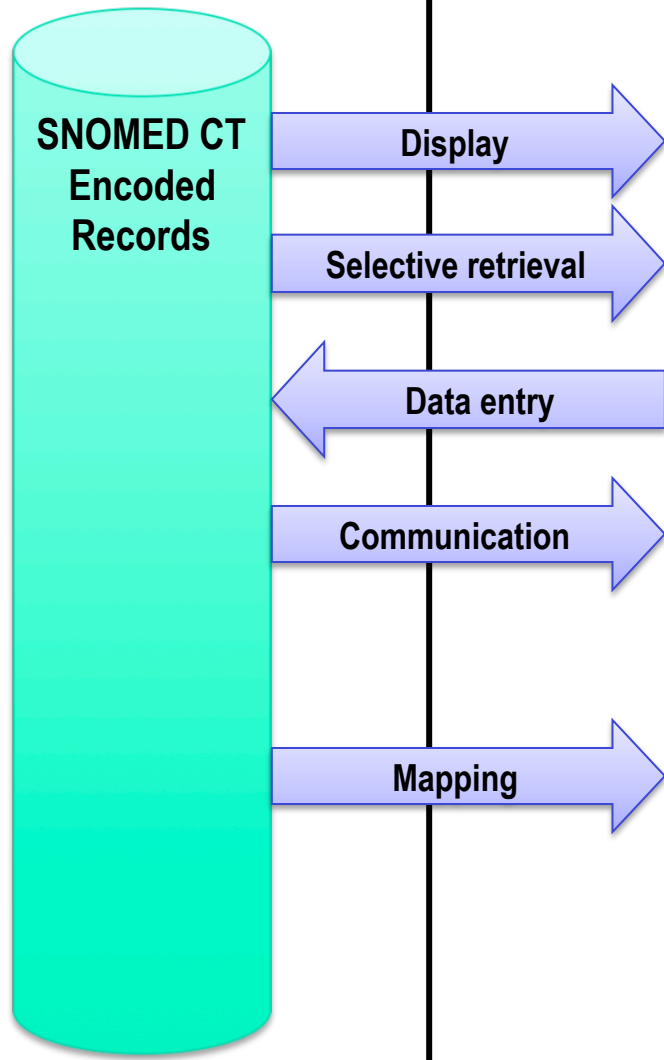
SNOMED CT Enabled Terminology Services



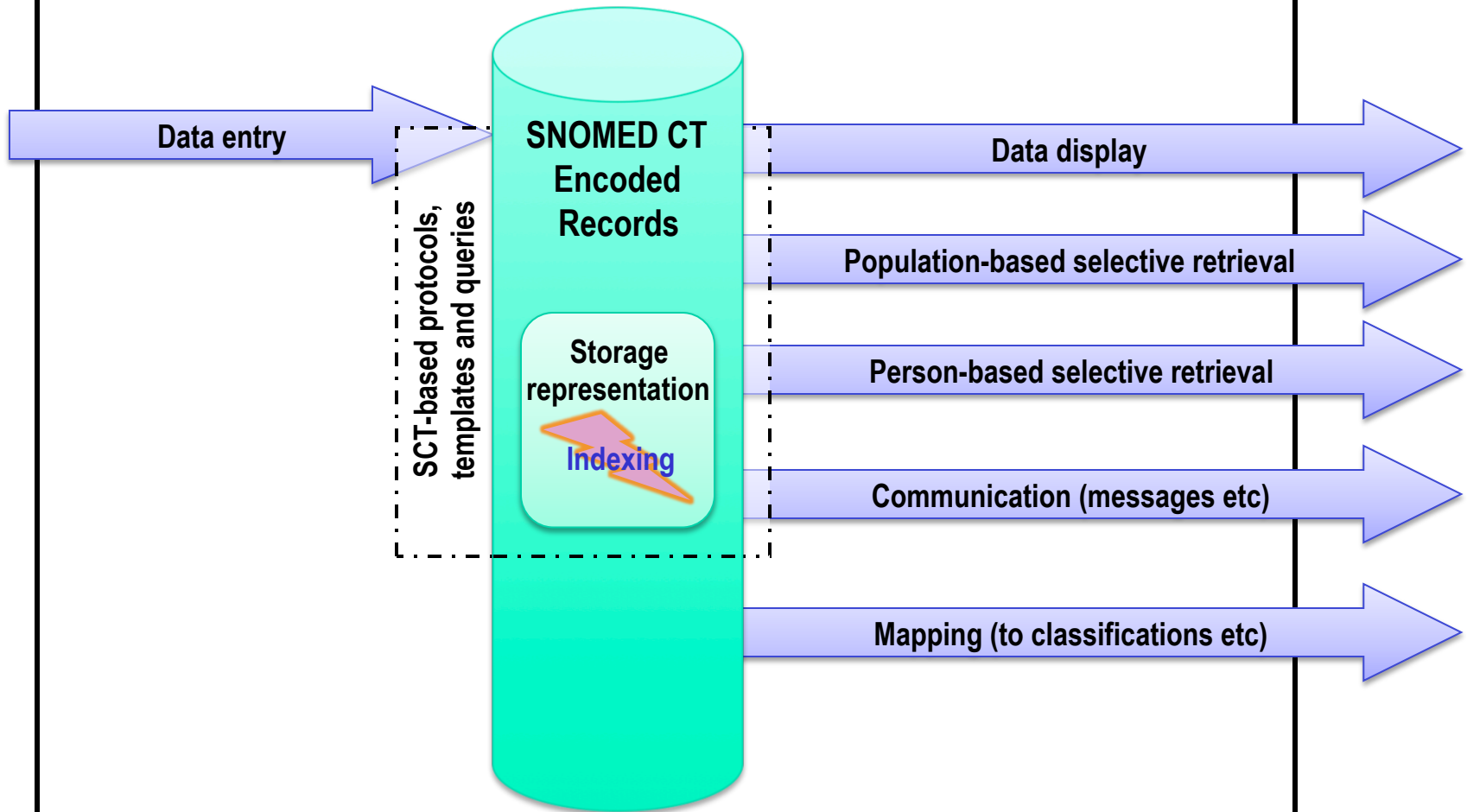
SNOMED CT Enabled *Terminology Reference Services*



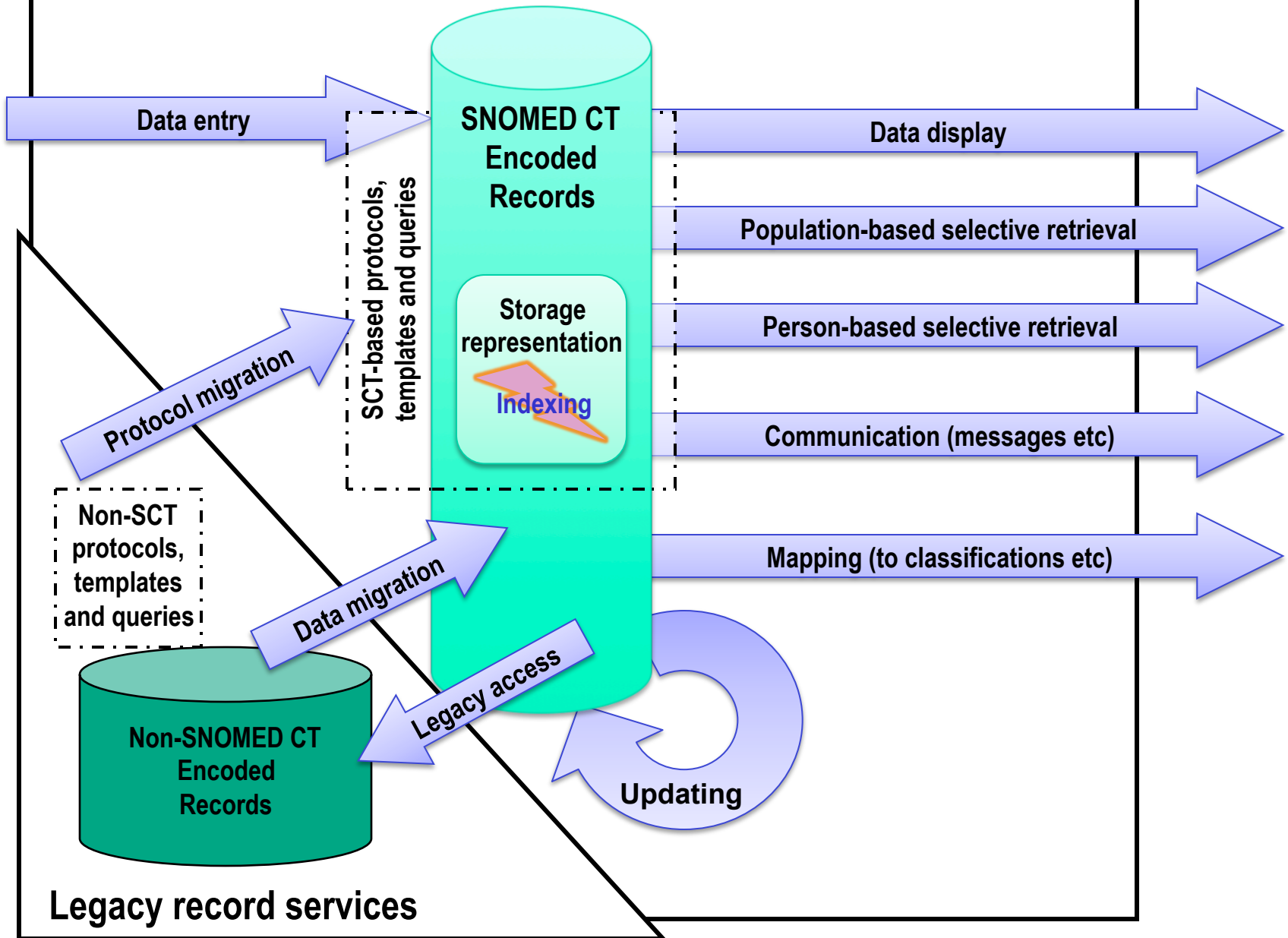
SNOMED CT Enabled *Record Services*



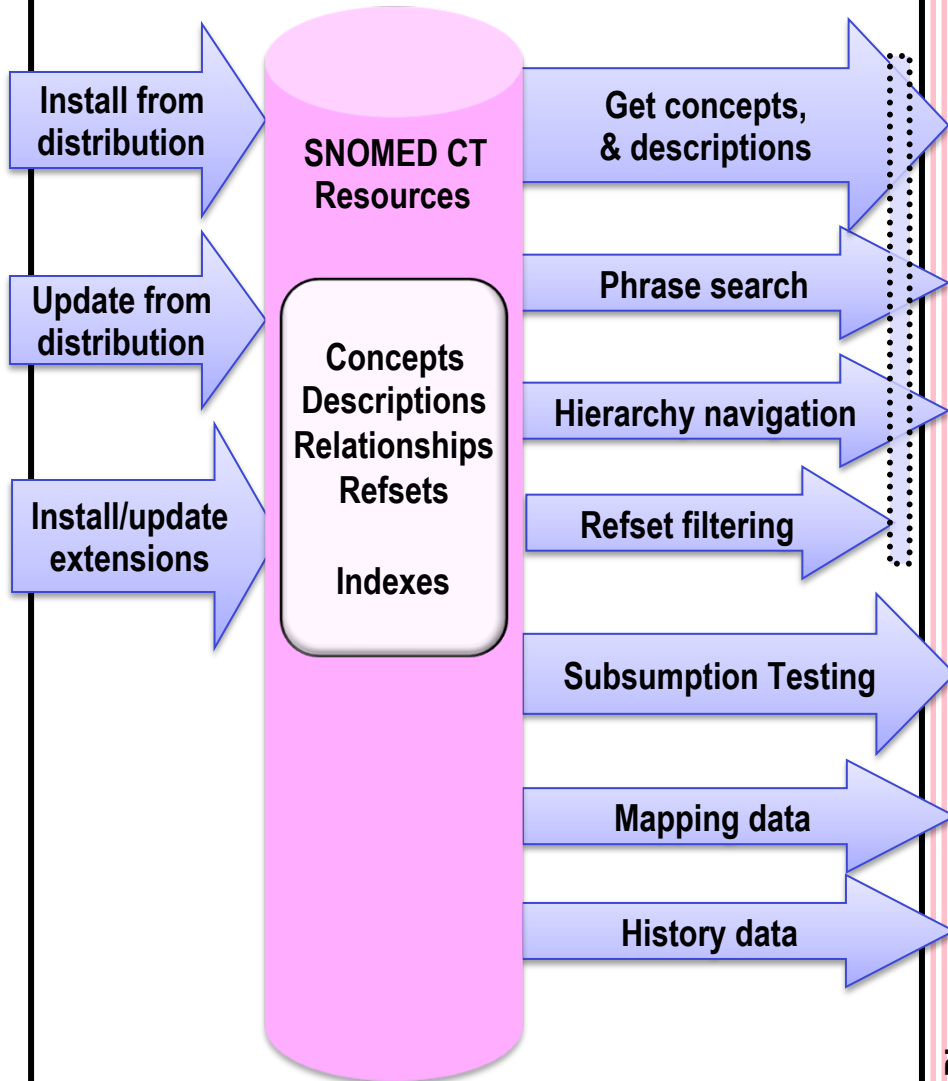
SNOMED CT Enabled Record Services



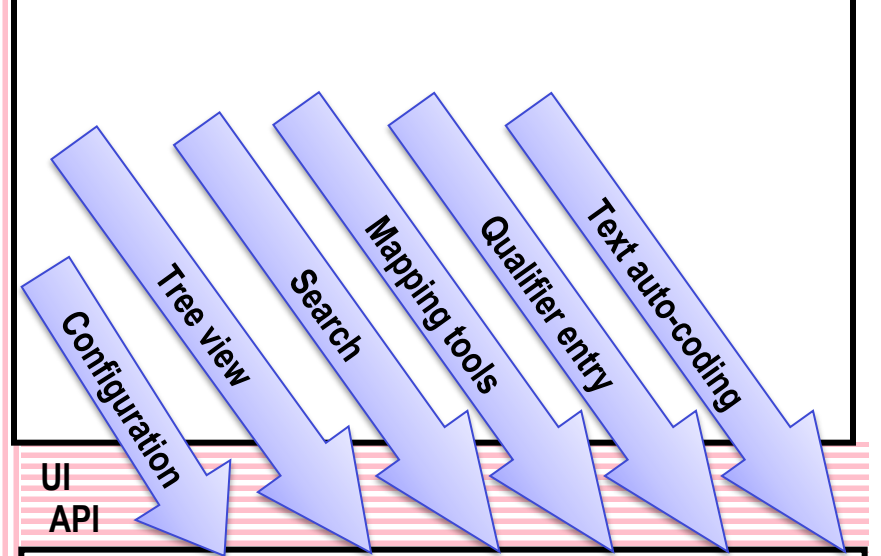
SNOMED CT Enabled Record Services



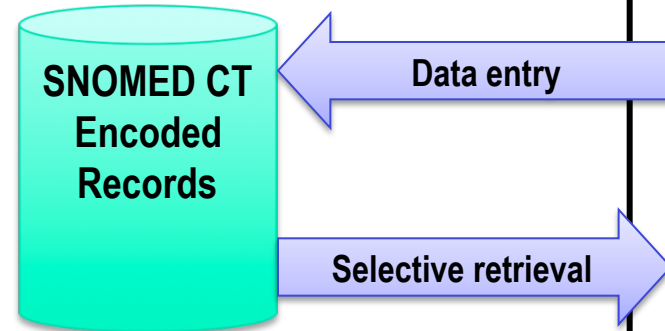
SNOMED CT Enabled Terminology Reference Services



SNOMED CT Enabled Terminology UI Services



SNOMED CT Enabled Client Application



Implementation Roadmap - Overview

- Motivations for i
- Adoption
- Prerequisites
- SNOMED CT mapping
- EHR designs and SNOMED CT integration
- Approaches to SNOMED CT implementation
- Implementation examples
- Learning more about SNOMED CT implementation



EHR designs and SNOMED CT integration

SNOMED CT as a component in an EHR

- SNOMED CT is a powerful modern clinical terminology
 - Comprehensive scope and support for detailed information
 - A code system providing standard representation of clinical meanings
 - A global reference terminology with multilingual term support
 - A polyhierarchy with ontological features that enable inference
- It is designed for use in electronic health records
- However, on its own SNOMED CT does nothing!
- SNOMED CT is a component ... like the gearbox of a car it depends on being integrated with other components

To drive somewhere do you need a gearbox or a car?

You need a car with a gearbox



On its own a gearbox will not get you anywhere

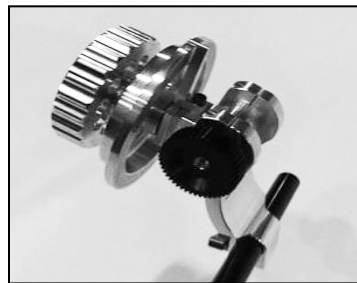


Without a gearbox a car will not get you anywhere

- A code system does nothing on its own
- However a code system is an essential part of an EHR system

Does the choice of gearbox matter?

The gearbox must be appropriate for the intended use



Too small



Just right



Too big

- The code system used must be fit for purpose
- SNOMED CT is designed to represent clinical information in an EHR

Is a car with the right gearbox enough?



Tying the gearbox to the roof will not help!

The gearbox must be connected to the engine and wheels

- SNOMED CT needs to be connected to EHR system data entry and retrieval in ways that apply the power of the terminology to meet user requirements

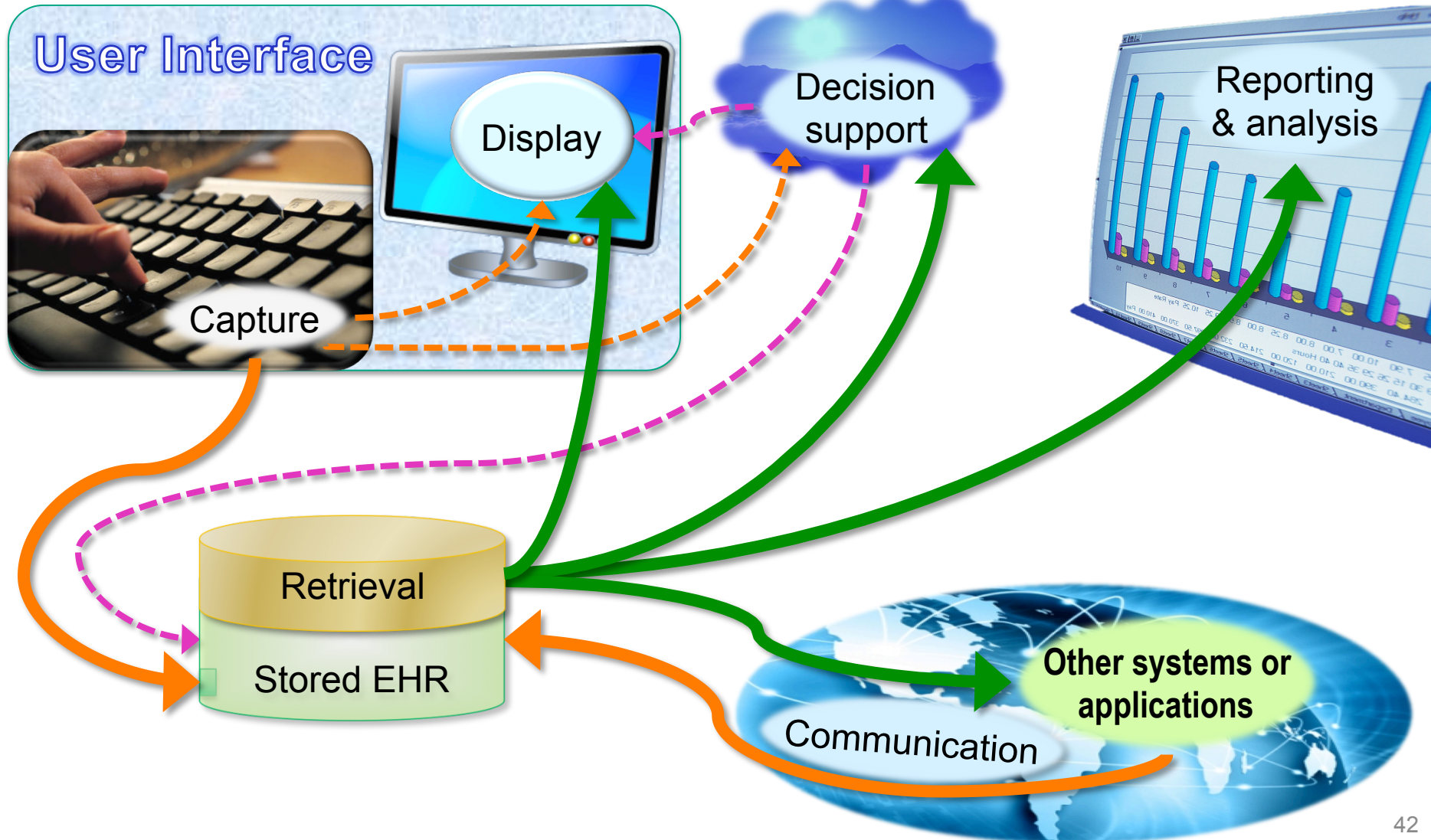
Does the choice of car matter?



Cars must be designed in ways that effectively integrate the gearbox

- The EHR system must be designed to integrate SNOMED CT in ways that enable the added value of the terminology to be realized

EHR System Design



Why meaningful records matter

- For health record information to be usable to support EHR functions such as decision support it must be computable in a meaningful way by a variety of different applications
- Reliable interpretation of the meaning of information depends on
 - The way information is structured
 - A common reference information model
 - The way clinical concepts are represented
 - A common clinical terminology
 - The way the terminology is used within the structure
 - A consistent approach to the interface between structural and terminological representations of information

Practical requirements for meaningful retrieval

- Meaningful retrieval should allow relevant questions to be answered:
 - **Accurately:** without false positives
 - **Completely:** without false negative
 - **Efficiently:** quickly and cheaply enough for each use case
- For example
 - To meet individual patient care requirements
 - What is the patient allergic to?
 - What medication is the patient taking?
 - Does the patient have any known problems with their liver?
 - To meet population care requirements
 - How many people did I see with asthma in the last month?
 - Which patients have I treated with digoxin in the last year?

EHR information begins with data capture

- Effective data capture is vitally important
 - It needs to be easy in terms both of
 - the time and effort required; and
 - the way it fits in with working practices
- The same information can be collected in different ways.
- For example a ‘family history of asthma’ can be captured
 - On a form labelled ‘Family history’ by
 - Clicking a checkbox labelled ‘asthma’
 - Choosing ‘asthma’ from a dropdown list
 - Searching for and choosing the term ‘asthma’
 - On a more general data entry page
 - Searching for and choosing ‘Family history of asthma’
 - Typing or dictating free text which is coded by natural language processing

The value of EHR data depends on retrieval

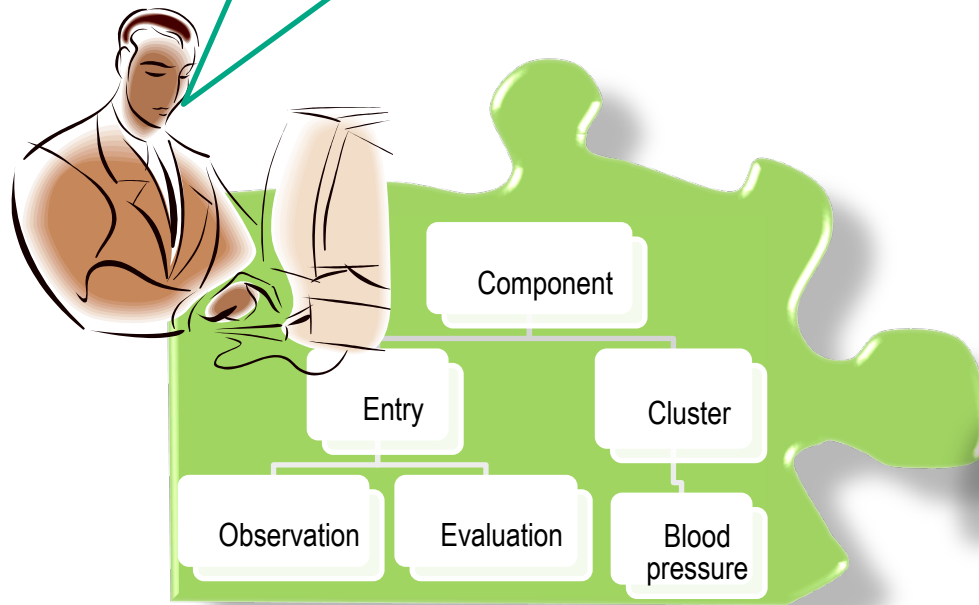
- To support effective reuse a health record must make it possible to answer **relevant** questions **accurately** and **efficiently**
- Meaning-based retrieval is required to enable this
 - If retrieval is based on the way data is entered, all possible ways to express the same meaning need to be considered
 - This is not just a question of using SNOMED CT but also how it is used as part of a structured record
- A family history of asthma is still a family history of asthma however it is entered

Approaches to health record structure

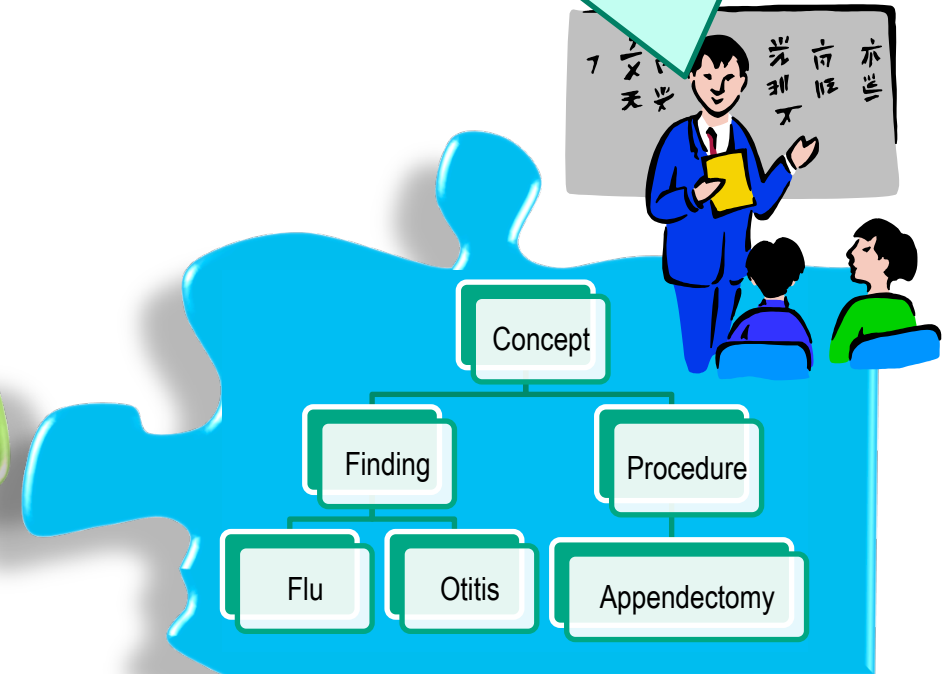
- Proprietary database designs
 - Many and varied
- Standards
 - HL7 Version 3 based models
 - Including – HL7 CDA and HL7 Clinical Statements
 - EN13606 based models
 - Including – openEHR

Historical misconceptions about terminology and structure

Our information model is terminology independent

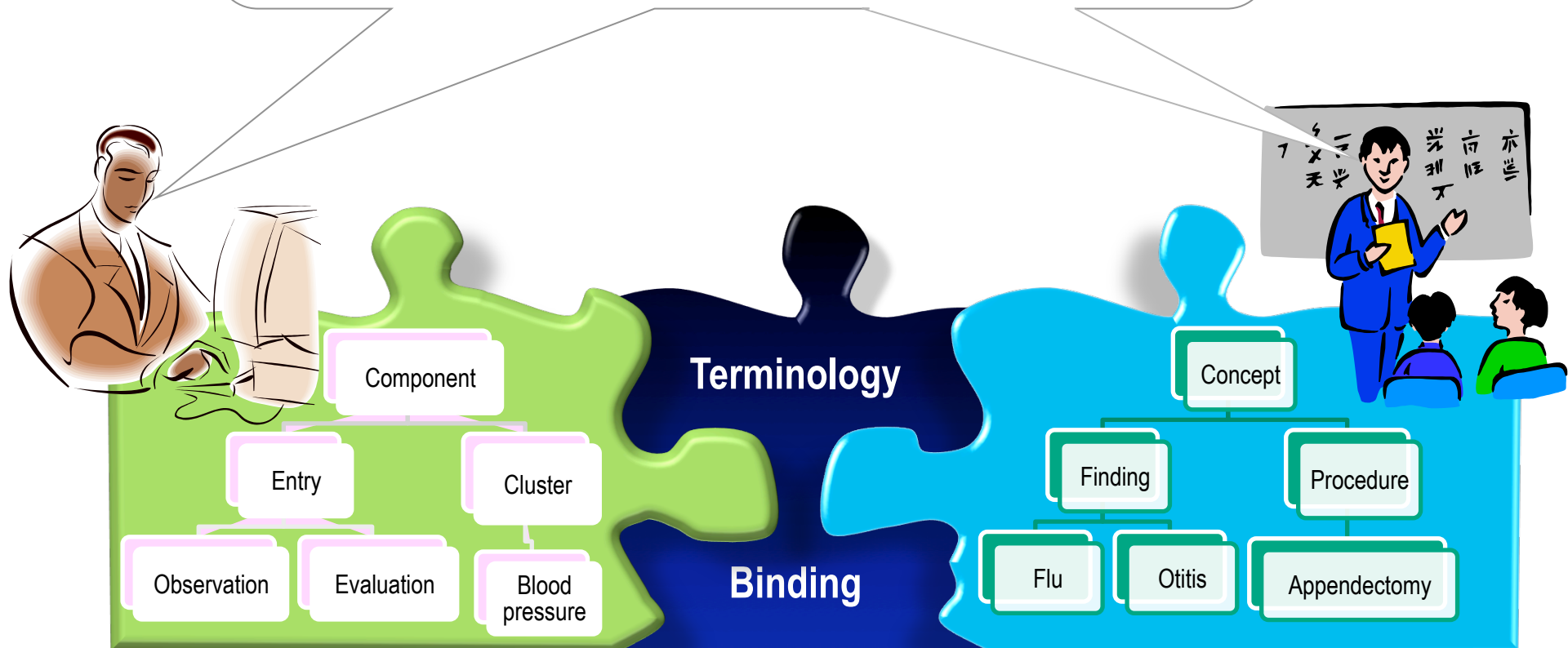


Our terminology can be used in any health record information model



Binding SNOMED CT with an information model view of the EHR

A meaningful Electronic Health Record requires the SNOMED CT terminology model to be appropriately bound to a consistently designed structural information model



Requirements for a common model of meaning

- A model of meaning into which data captured in different ways can be transformed
 - This supports consistent processing within an application that collects similar data in different ways
 - ‘Semantic operability’
- A common model of meaning in which data from different applications can be shared
 - This supports communications between applications which employ different internal models of meaning
 - ‘Semantic interoperability’

Alan Rector http://www.who.int/classifications/terminology/rector_models_of_use.pdf

What is Terminology Binding?

A link between an *information model* artefact and a *terminology artefact*

- Information model artefacts

- Data

A way to express the linkages between meaning represented in structural EHR models and terminology

- Terminology artefacts

- Codes
 - Sets of codes
 - Expressions
 - Sets of expressions

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Approaches to implementation

SNOMED CT implementation is not “All or Nothing”

- SNOMED CT can be used as a simple code system or a powerful terminological resource
 - The simpler uses have benefits
 - More complete use delivers more benefits
 - A stepwise approach is possible

EHR Implementation Approaches

SNOMED CT can be used as:

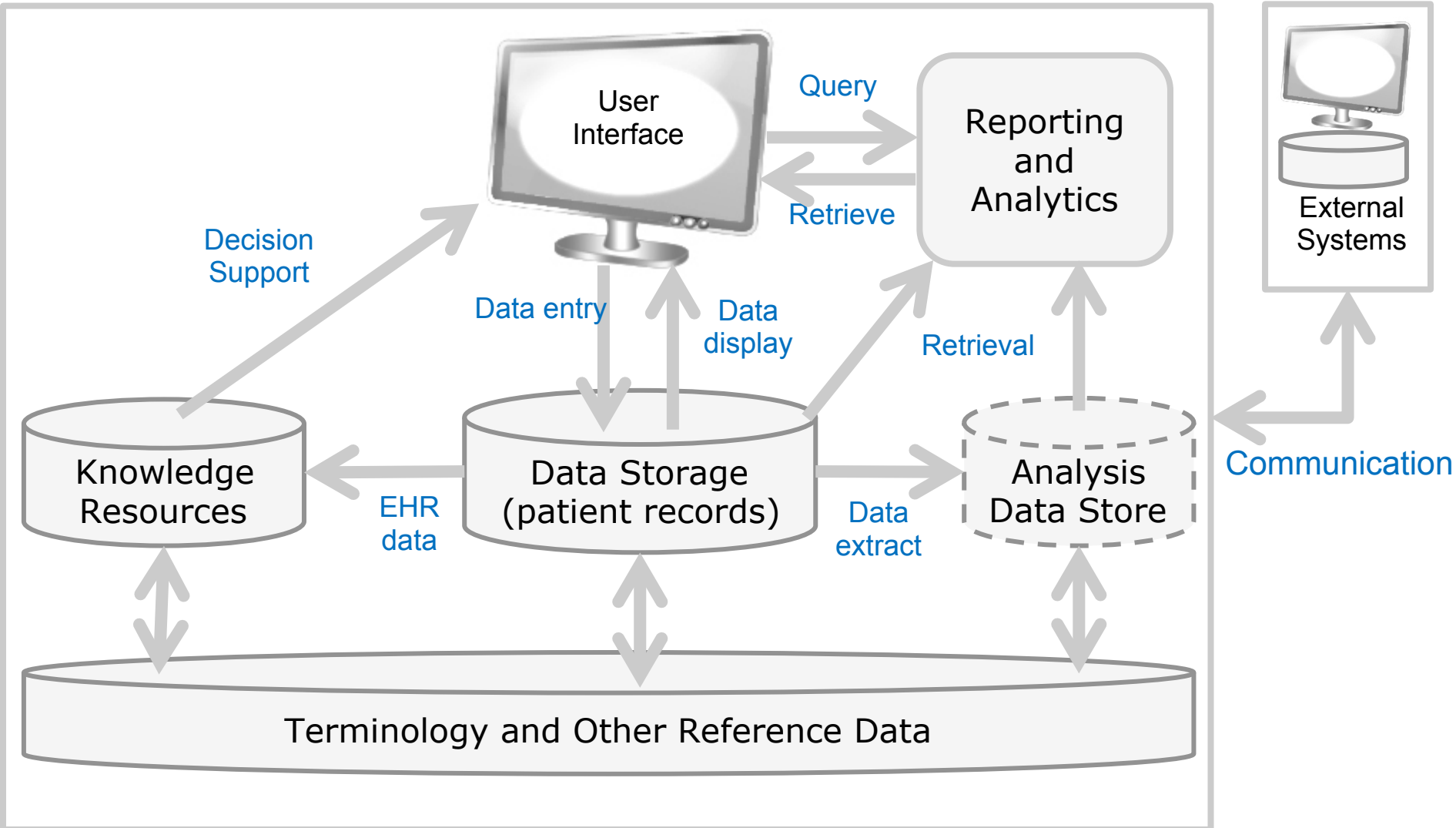
1. A reference terminology for communication
2. An indexing system for retrieval
3. A code system for clinical data in the EHR
4. An interface terminology for EHR data entry
5. A dictionary for analytics
6. A dictionary for analytics using description logic
7. A dictionary of rules for knowledge linkage
8. An extensible foundation for representing clinical data

Some
Benefit
Few
Features

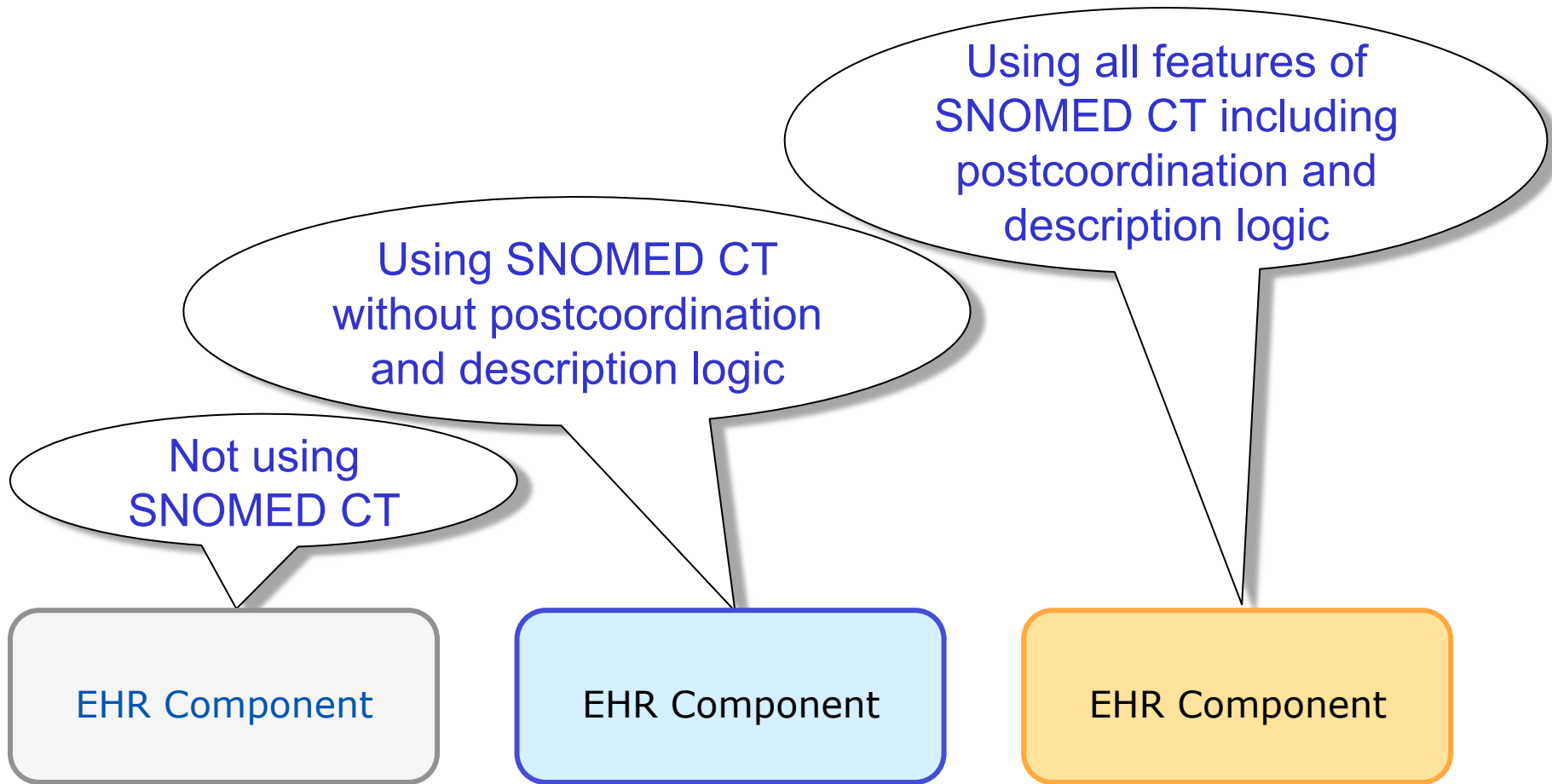


Greater
Benefit
More
Features

Abstract EHR System Design



Key to Implementation Approach Diagrams



SNOMED CT as a Reference Terminology for Communication

- No changes required to core clinical system
- Health records mapped to SNOMED CT for exchange

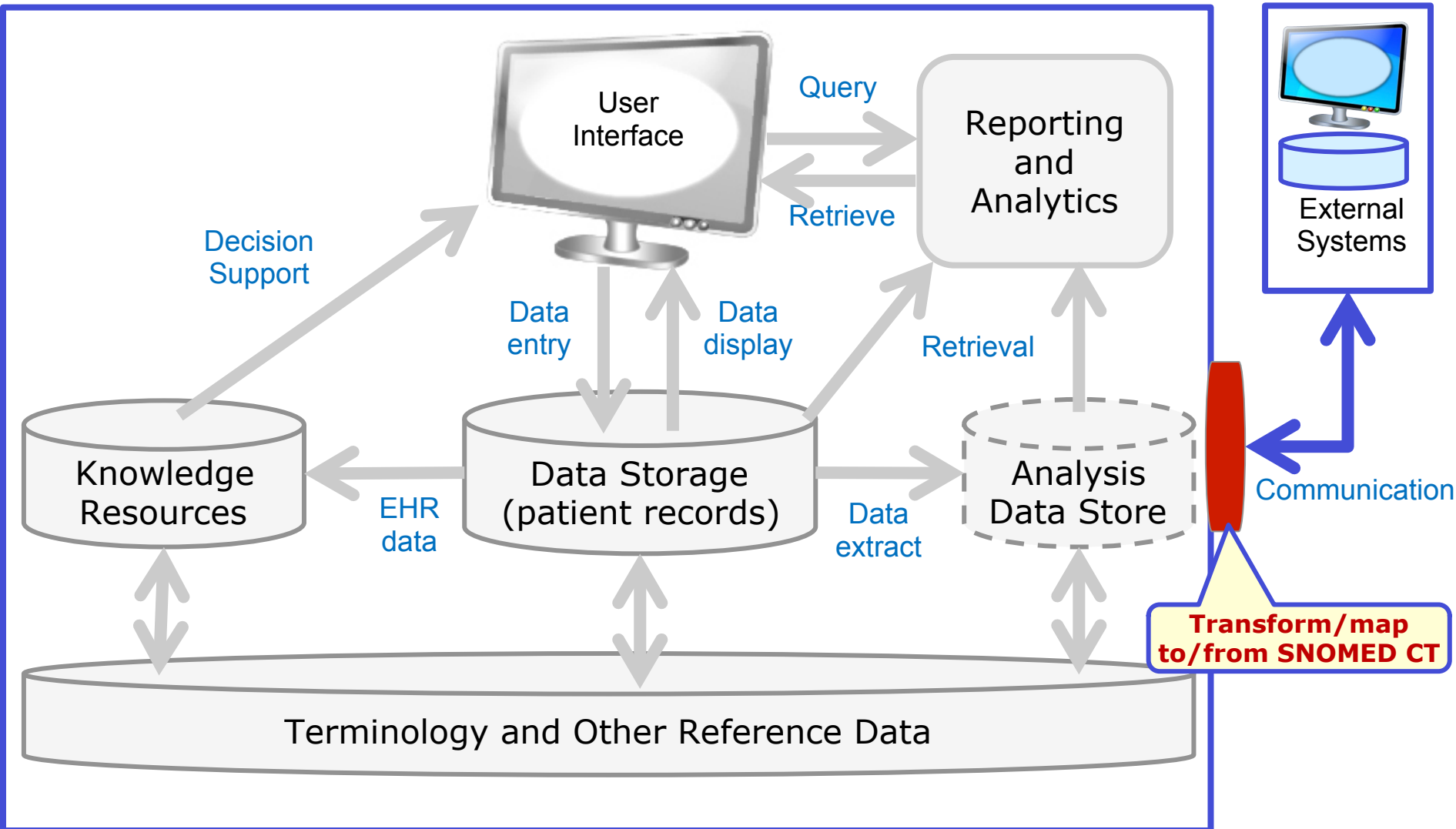
Features

- SNOMED CT Concept identifiers
- Reference Sets (Maps)

Benefits

- Supports communication using shared meaning
- Supports research and analysis in external systems

SNOMED CT as a Reference Terminology for Communication



SNOMED CT as an Indexing System for Retrieval

- Records stored as text and/or other code system
- Records indexed using SNOMED CT

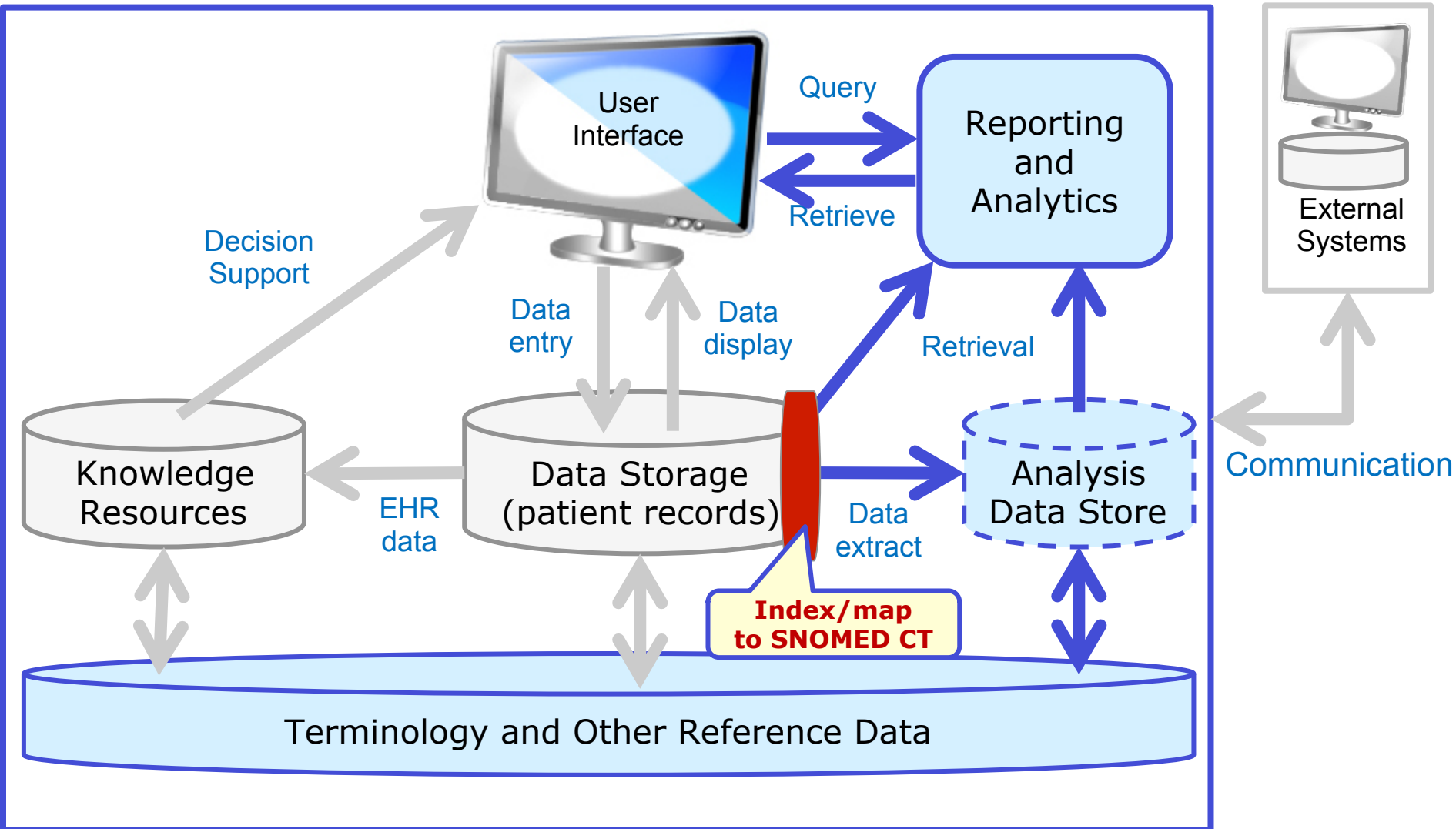
Features

- SNOMED CT Concepts & Relationships
- Reference Sets (Maps)

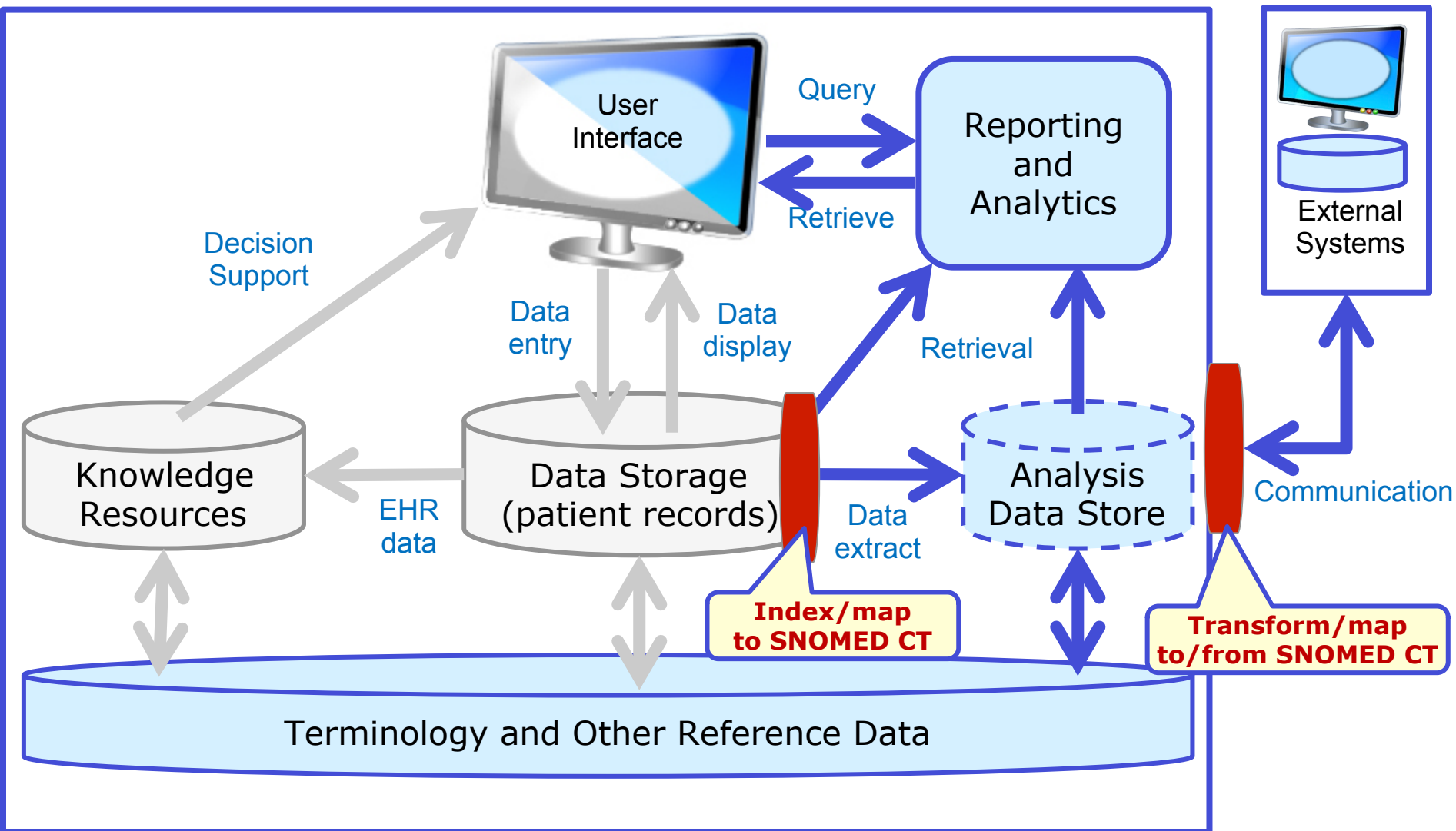
Benefits

- Supports research and analysis in local system or shared data warehouse solution

SNOMED CT as an Indexing System for Retrieval



SNOMED CT used for Communication and Retrieval



SNOMED CT as a Code System for Clinical Data in the EHR

- SNOMED CT used natively within application
- SNOMED CT used as simple code lists

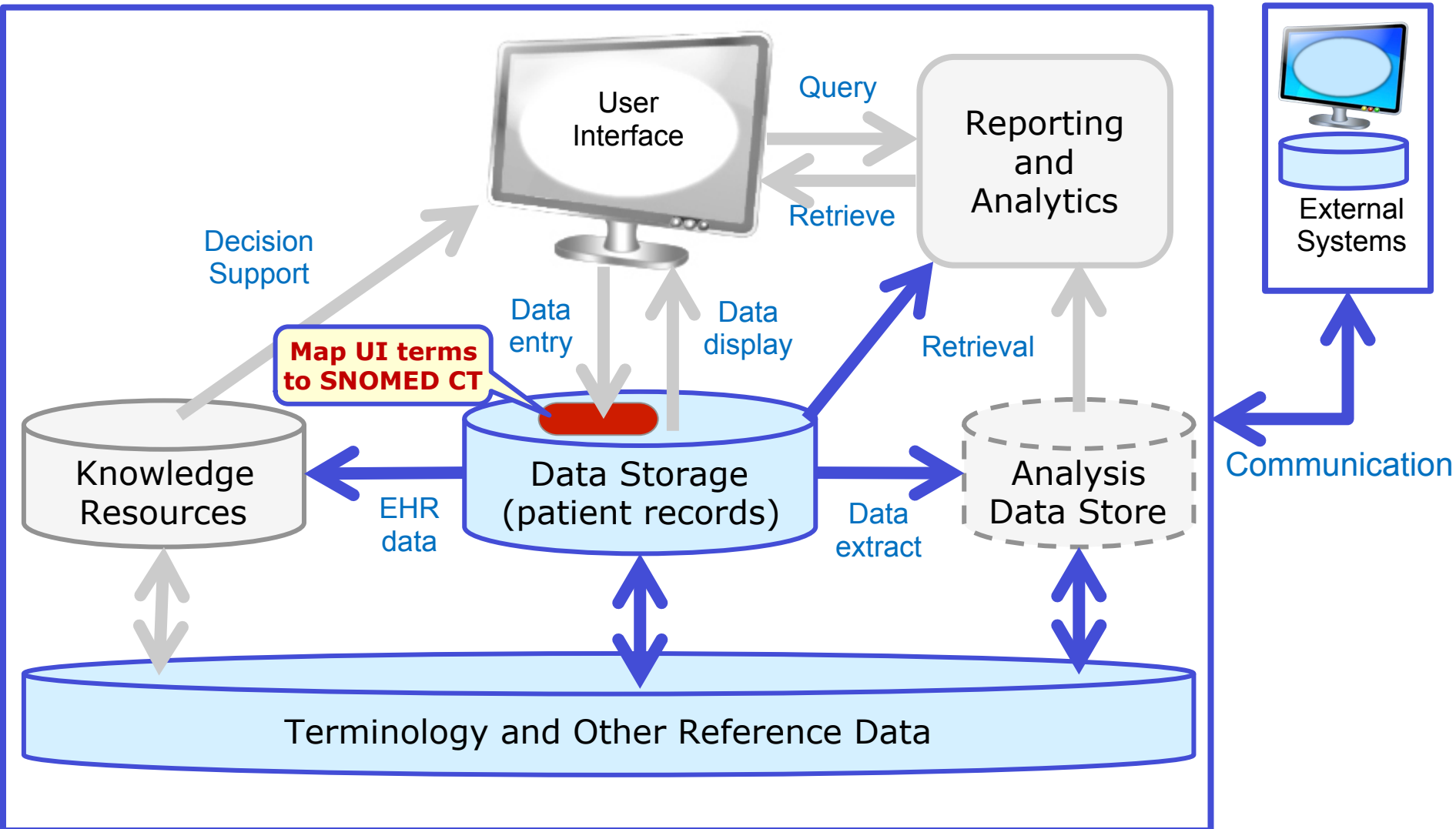
Features

- SNOMED CT Concepts
- Reference sets (Subsets and Maps)

Benefits

- Supports communication using shared meaning
- No need to map local codes to SNOMED CT
- Can utilise internationally developed mappings
- Supports run time benefits

SNOMED CT as the native Code System for Clinical Data in the EHR



SNOMED CT as an Interface Terminology for EHR Data Entry

- SNOMED CT used natively within application
- SNOMED CT used as lists of codes with descriptions

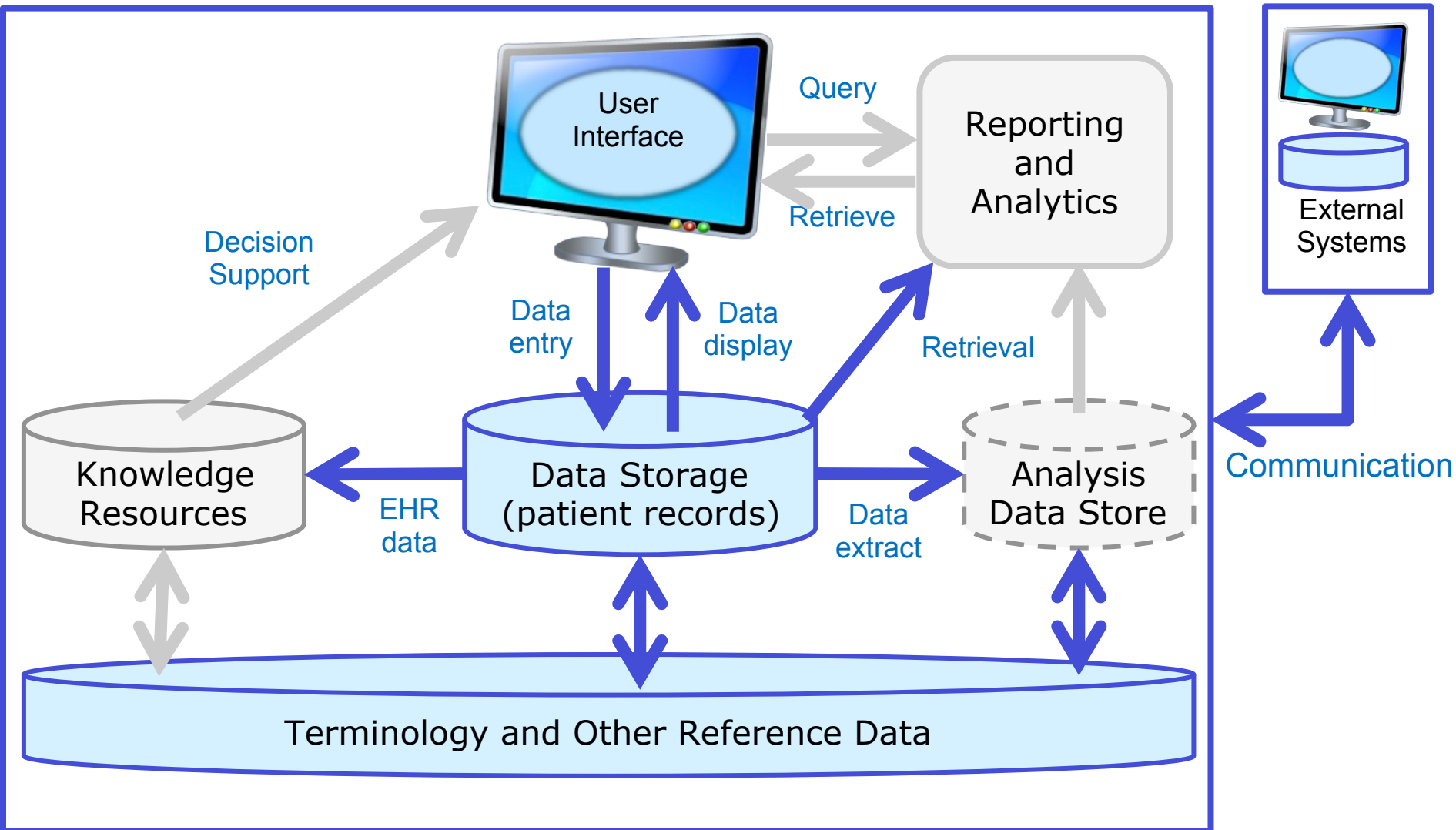
Features

- SNOMED CT Concepts & Descriptions
- Reference sets (Subsets and Maps)

Benefits

- Benefits of using SNOMED CT as a code system
- Enables standardised descriptions in user interface
- Supports data entry, search and display

SNOMED CT as an Interface Terminology for EHR Data Entry



SNOMED CT as a Dictionary for Simple Analysis and Aggregation

- Uses SNOMED CT's hierarchies & logic definitions
- Supports querying and aggregation over health records

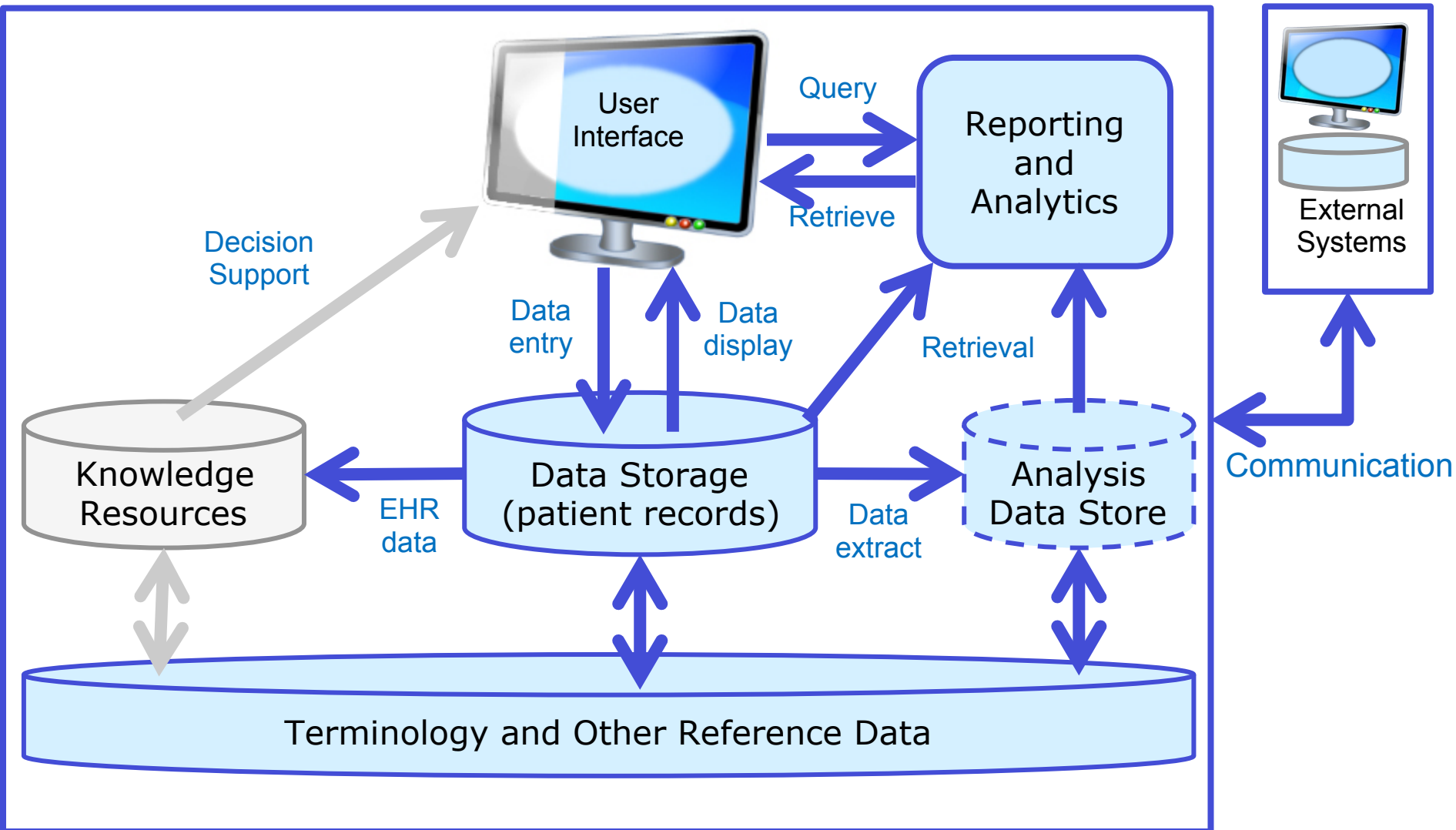
Features

- SNOMED CT Concepts & Subtype Relationships
- Reference sets (Subsets and Maps)
- SNOMED CT Languages (Query)

Benefits

- More advanced data entry, search & display
 - E.g. Aggregation, navigation hierarchies and data filtering
- Supports research and analysis

SNOMED CT as a Dictionary for Simple Analysis and Aggregation



SNOMED CT as a Dictionary for Analytics using Description Logic

- Uses SNOMED CT's hierarchies & logic definitions
- Supports querying and inferencing over health records

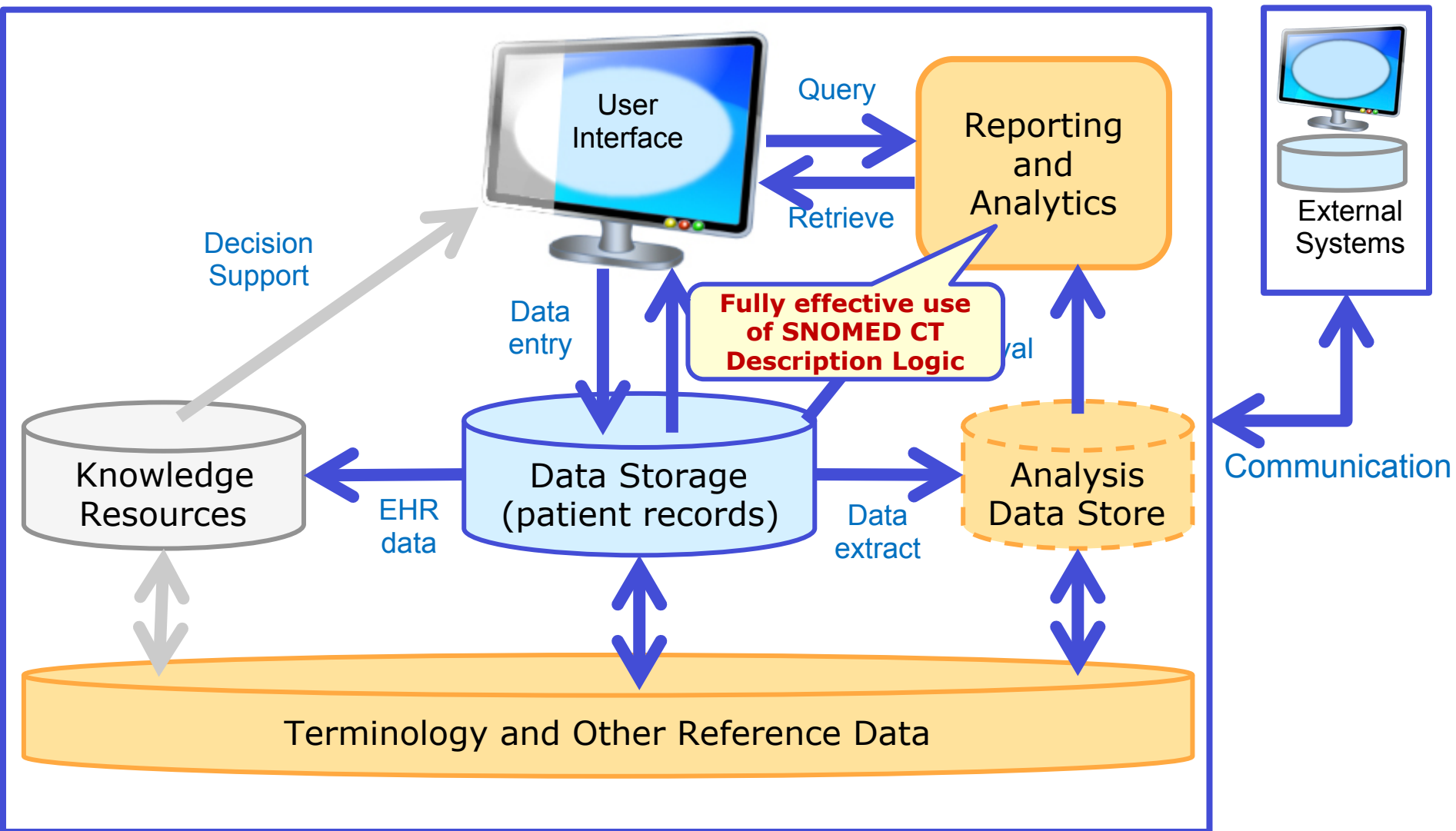
Features

- SNOMED CT Concepts & Relationships
- Reference sets (Subsets and Maps)
- SNOMED CT Languages (Query)
- Description Logic Classifier/Reasoner

Benefits

- More advanced data entry, search & display
 - E.g. Aggregation, navigation hierarchies and data filtering
- More detailed and flexible reporting and analysis

SNOMED CT as a Dictionary for Analytics using Description Logic



SNOMED CT as a Dictionary of Rules for Knowledge Linkage

- Uses SNOMED CT's hierarchies & logic definitions
- Supports integration of health records with decision support, guidelines and other knowledge base rules

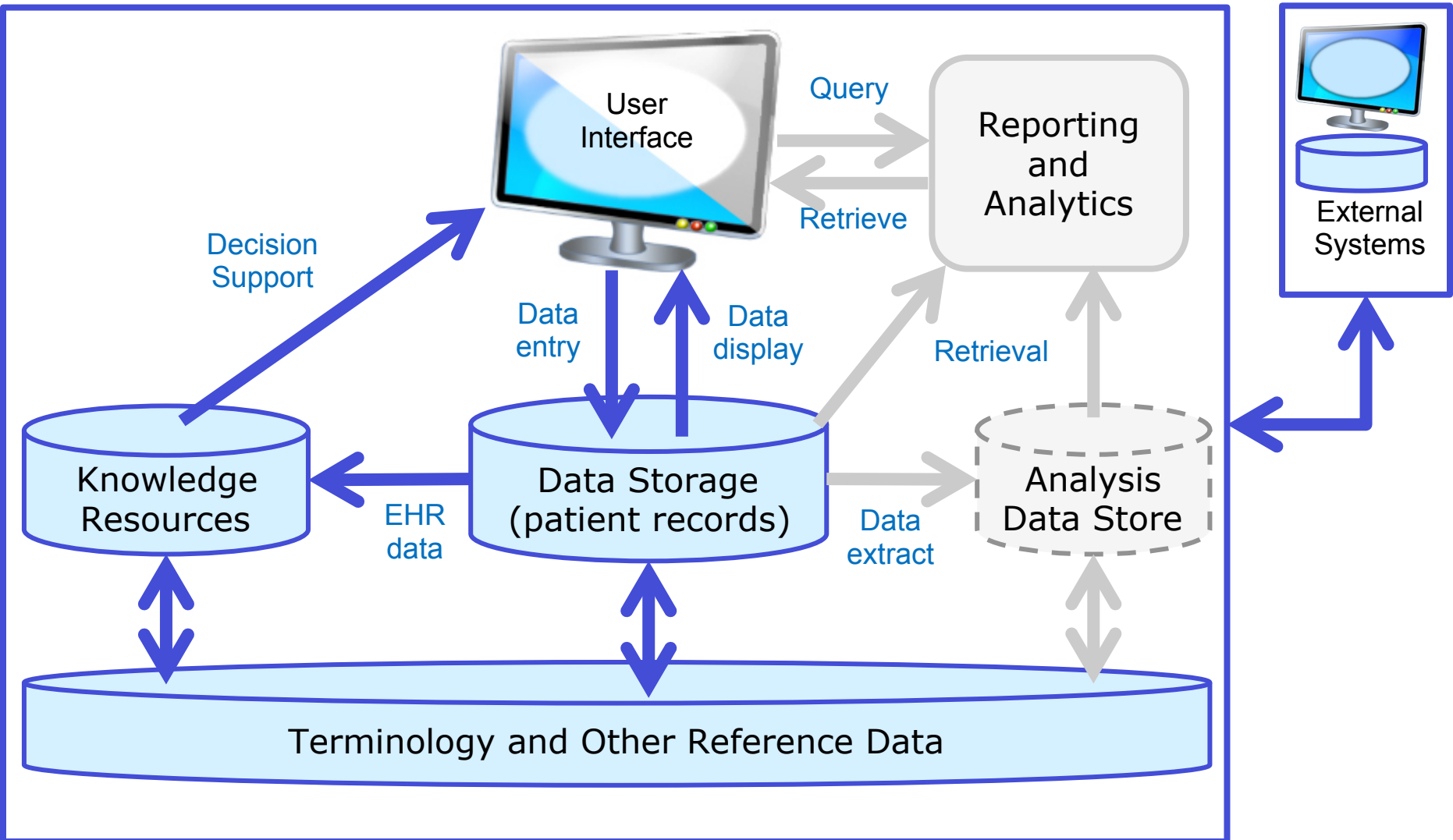
Features

- SNOMED CT Concepts & Relationships
- Reference sets (Subsets and Maps)
- SNOMED CT Languages (Query)

Benefits

- Enables integration of EHR with knowledge bases
- Rules can use aggregation and logic definitions
- Rules can be shared within communities

SNOMED CT as a Dictionary for Rules for Knowledge Linkage



SNOMED CT as an Extensible Foundation for Representing Clinical Data

- SNOMED CT with postcoordinated expressions

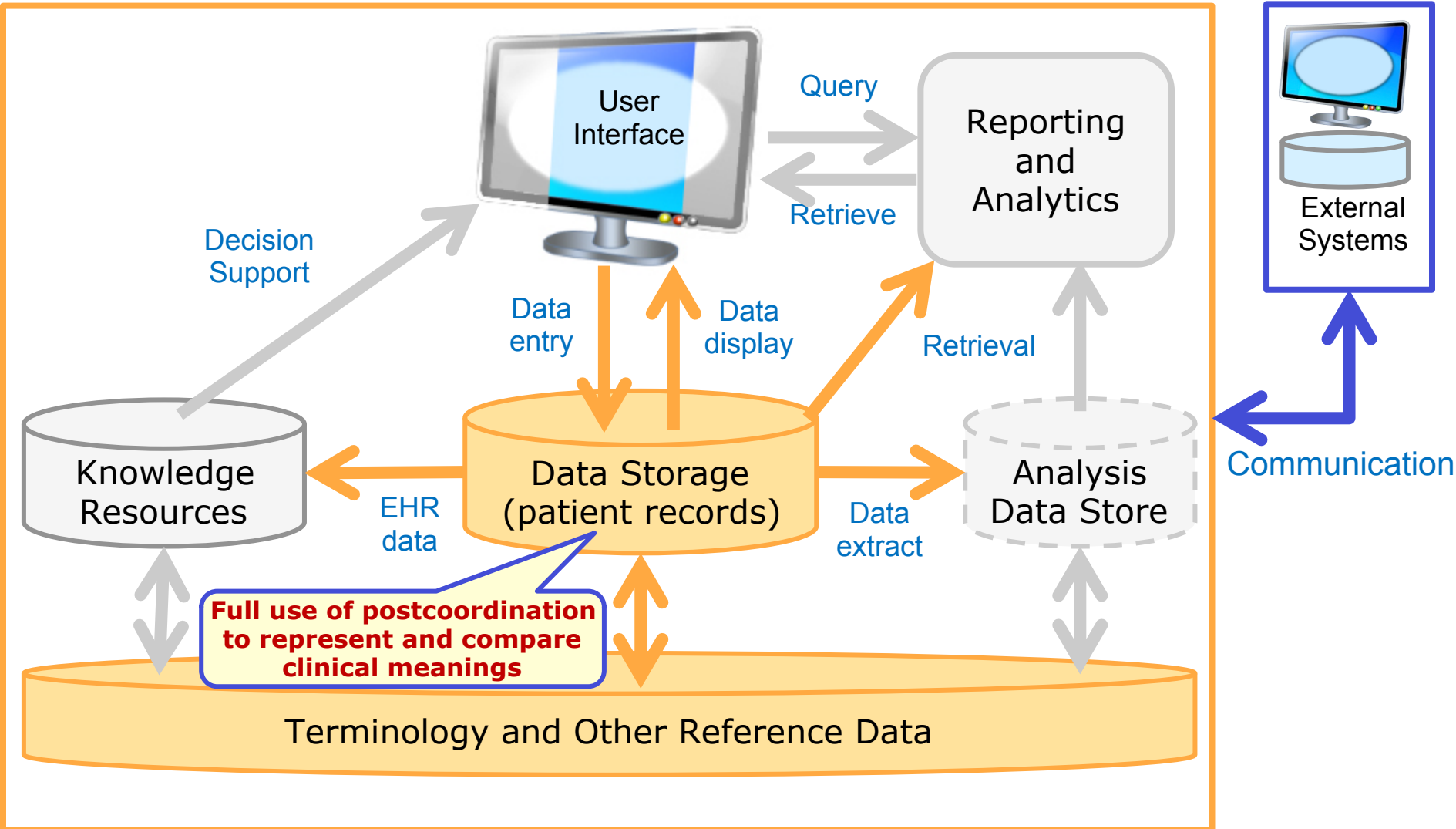
Features

- SNOMED CT Concepts, Descriptions & Relationships
- Reference sets (Subsets and Maps)
- SNOMED CT Concept Model
- SNOMED CT Languages (Query and Compositional Grammar)
- DL Reasoner and/or Expression Repository

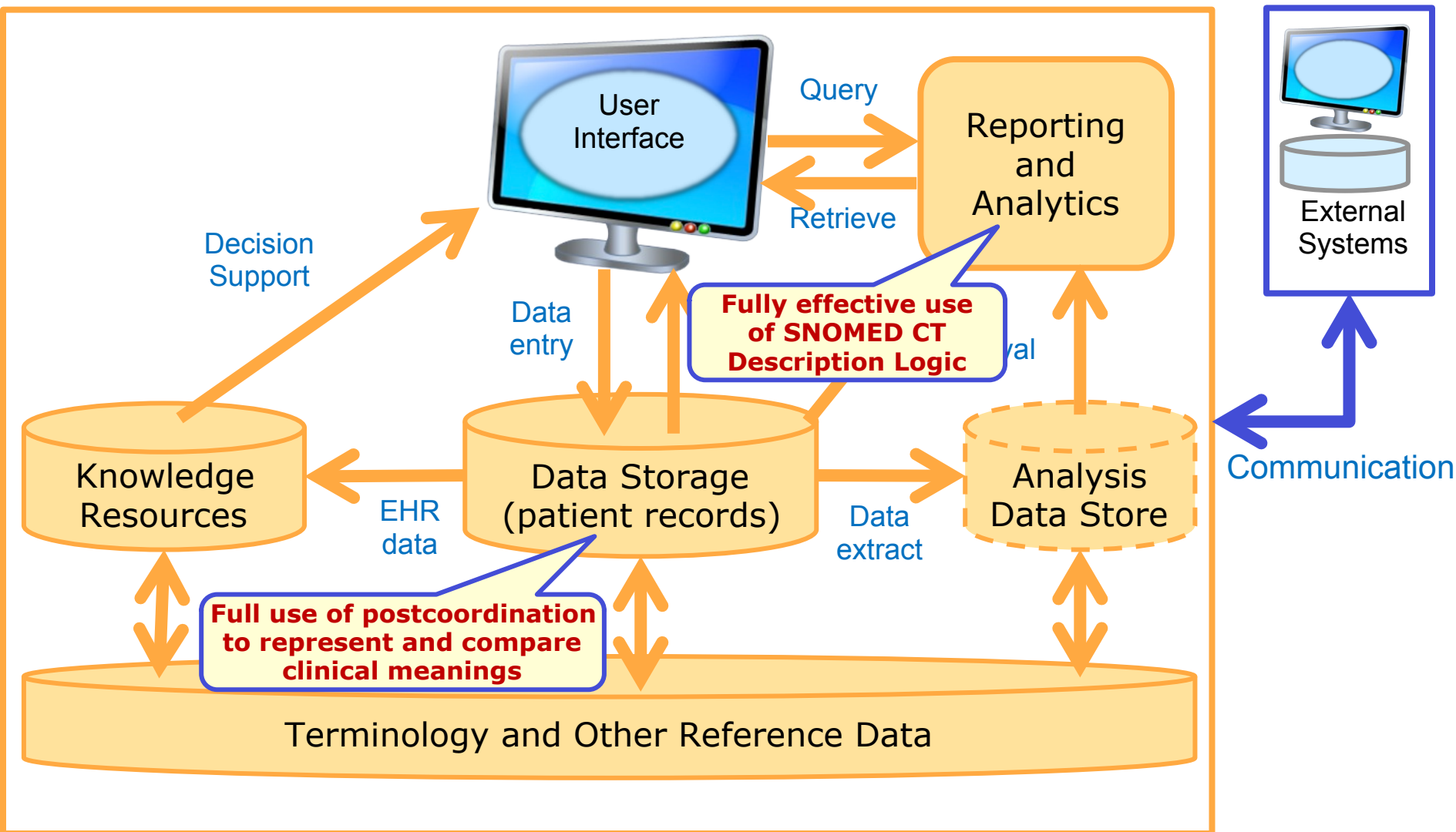
Benefits

- Benefits of previous approaches - PLUS
- Increases scope of supported clinical meanings

SNOMED CT as an Extensible Foundation for Representing Clinical Data



Full use of SNOMED CT to Deliver all its Powerful Features in an EHR



Implementation Roadmap - Overview

- Motivations for implementation
- Adoption, planning, development, deployment and use
- Prerequisites for implementation
- SNOMED CT implementation
- EHR design
- Approach to SNOMED CT implementation
- Implementation examples
- Learning more about SNOMED CT implementation



**Implementation
examples**

UK - Rotherham NHS Foundation Trust

- Rotherham NHS Foundation Trust decided to move to an electronic patient record system, while replacing their Patient Administration System (PAS). They worked closely with their chosen supplier to adapt the supplier product to utilise SNOMED CT throughout for procedure and diagnosis recording.
 - More details at: <http://systems.hscic.gov.uk/data/uktc/training/rthmcsstd.pdf>
- Scope:
 - Across all the hospital, all out-patient departments.
- Usage:
 - All diagnosis and procedures are captured by clinical staff as part of the patient encounter. These are then mapped to OPCS-4 (the UK procedure classification) for national reporting.
- Why SNOMED CT:
 - SNOMED CT is the clinical code system of choice of NHS in England
 - Locally, the Trust decided SNOMED CT was a good investment to:
 - Provide more useful information on outpatient activities
 - Deliver efficiency gains in the production of national reports

UK - University Hospitals of Morecambe Bay NHS Foundation Trust

- UHMBT is an early adopter for the use of Lorenzo. Its senior doctors and management recognize the importance of an Electronic Patient Record (EPR) using a structured terminology, as a key factor in delivering better patient care and enhancing operational efficiency.
 - See case study at <http://systems.hscic.gov.uk/data/uktc/training/mcmbaycs.pdf>
- Scope:
 - The EPR has been rolled out across all clinical specialities and all clinical users. An incremental approach was used to achieve this.
- Usage:
 - Lorenzo is a commercial product developed to make effective use of SNOMED CT. Many data items can be entered using SNOMED CT including diagnosis, procedures, family history, allergies etc.
- Why SNOMED CT:
 - SNOMED CT is the clinical code system of choice for NHS in England
 - Several national products require SNOMED CT for particular data items
 - Lorenzo was developed to meet these requirements and Morecambe Bay was one of the 'early adopters'

UK - Leeds Teaching Hospitals Emergency Department

- Use of SNOMED CT in the Emergency Department (ED) reduces duplication of data entry, ensures consistent recording, enables analysis and automates Commissioning Data Set (CDS) returns
 - See case study at <http://systems.hscic.gov.uk/data/uktc/training/ldscsstd.pdf>
- Scope:
 - Used by all clinical staff within the Emergency Department
- Usage:
 - Point of care recording of clinically meaningful diagnoses in ED
 - Supported by subset of SNOMED CT relevant for use in ED
 - Mapping to CDS codes to automate submissions
- Why SNOMED CT:
 - Clinical acceptance of SNOMED CT terms for use in patient records
 - Ability to map to classification codes required for CDS but which are not clinically acceptable in patient records

Australian Medicines Terminology (AMT)

- In Australia, SNOMED CT is used as a basis for the development of a national medicines terminology that identifies all medicines used in Australia. This approach delivers unambiguous, accurate and standardized naming conventions for both branded (trade) and generic (medicinal) products
- Scope:
 - All commonly used medicines in Australia that may be recorded / stored on a patient's medication record.
- Usage:
 - Currently the AMT resides as a stand-alone module based on the structure of SNOMED CT. It will be integrated as part of the SNOMED CT Australian extension linked to SNOMED CT substances, non proprietary medicinal product, etc.
- Why SNOMED CT:
 - SNOMED CT has been selected in Australia as the national clinical terminology

Canada – Panorama (Public Health Surveillance)

- Panorama is a Public Health Surveillance system for early detection and containment of possible outbreaks
- Scope:
 - Deployment of Panorama throughout BC and Yukon to replace the previous system (iPHIS)
 - Configuration of Panorama to match business and user needs
 - Integration of Panorama with other Public Health information systems in BC (e.g. Client and Provider Registries, PLIS, etc.)
- Usage:
 - SNOMED CT will be used to encode clinical information (e.g. diseases, agents, antigens, signs and symptoms, causative agents, etc.)
- Why SNOMED CT:
 - Conformance with Canadian mandates and specifications issued by Canada Health Infoway. These include use of:
 - SNOMED CT as the code system of choice for clinical information
 - HL7 message standards that require use of SNOMED CT

US – Intermountain Healthcare Common Problems Backbone Terminology

- To develop standardized problem lists that can be shared across different healthcare settings
- Scope:
 - Problem lists for use in all Electronic Medical Records
- Usage:
 - Local and specialty terminologies will be mapped to SNOMED CT diagnosis and findings to deliver a common approach to coded representation of problem lists for all specialties
- Why SNOMED CT:
 - SNOMED CT offers sufficiently fine granularity to represent appropriate levels of clinical detail
 - SNOMED CT is sufficiently comprehensive to cover the broad scope of requirements across all clinical specialties

US – Kaiser Permanente (KP)

- KP is the largest non-profit health plan in US. It has an integrated care delivery model, delivers care to 9.5 million members in six US states. It has a pan-organizational EHR system that uses SNOMED CT as the standard foundation for its clinical terminology
- Scope:
 - Used across all clinical specialties
- Usage:
 - Used directly by clinicians to encode problem lists and other clinical information
- Why SNOMED CT:
 - Use of description logic in SNOMED CT allows inferences to be made based on defining-relationships between concepts
 - KP contributed to development of SNOMED CT (and RT) as part of work on their Convergent Medical Terminology (CMT).
 - CMT includes additional user-interface terms linked to SNOMED CT
 - CMT was donated to IHTSDO and much of its content is integrated within SNOMED CT

US – Meaningful Use

- US Office of the National Coordinator for Health Information Technology (ONC) and Centers for Medicare & Medicaid Services (CMS) adopted SNOMED CT as a key vocabulary for Meaningful Use Stage 2, EHR certification, and health information exchange
- Scope:
 - Driven by incentives for E-Health progress at US federal level
- Usage:
 - SNOMED CT is specified for problem lists and quality measures
- Why SNOMED CT:
 - Comprehensive and detailed content meeting many of the information requirements
 - Maps to ICD-9-CM and ICD-10-CM (in development) enable SNOMED CT to minimize impact of classification migration
 - As a common global approach SNOMED CT assists with plans for international standardization of the EHR
 - E.g. US, EU and wider cooperation efforts

European Union – epSOS Project

- EU project piloting cross-border eHealth services from 2008-2014
- Scope:
 - Primary focus on a shared European Patient Summary and ePrescribing across the EU
- Usage:
 - To enable the exchange of clinical data the epSOS infrastructure established technical integration standards including specific terminology or code systems for various data elements
 - SNOMED CT was selected from many of the data elements
- Why SNOMED CT:
 - SNOMED CT was found to meet a wide range of requirements including the following:
 - Surgical procedures
 - Allergens, allergies and other adverse reactions
 - Vaccine information, Blood groups and Medical devices

Implementation Roadmap - Overview

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**Learning more about
SNOMED CT
implementation**

Release Documentation Tooling Documentation Public Draft Documentation Informal Papers and Guides

- **SNOMED CT Document Library www.snomed.org/doc**
 - Documents available on line and/or as PDF downloads
- **Documents currently available**
 - Starter Guide www.snomed.org/starterguide.pdf
 - Editorial Guide www.snomed.org/eg
 - Technical Implementation Guide www.snomed.org/tig
 - User Guide www.snomed.org/ug (current re-write in progress)
 - Frequently Asked Questions www.snomed.org/faq
 - Glossary www.snomed.org/gl
 - ICD-10 Mapping Guide
 - Search and Data Entry Guide (*Draft*)
- **Coming soon ...**
 - NRC Starter Guide – Initial Release in September 2014
 - Vendor Introductory Guide – Initial Release in October 2014

SNOMED CT E-Learning Center

www.snomed.org/elearning

SNOMED CT[®] E-Learning Center

Document Library | E-Learning Login

E-Learning | Showcase Presentations | Member Resources | Other Training

SNOMED CT E-Learning Tutorial provided by IHTSDO

^	Title	Description	Link
	Introducing SNOMED CT	A brief introduction to SNOMED CT the global clinical terminology (16 mins)	Start
	Why Clinical Terminology Matters	A summary need for a controlled clinical terminology in the context of a short history of practical experiences of recording clinical ideas in computer systems over the past forty years. This tutorial sets the context for the requirements for the development and adoption of SNOMED CT. (33 minutes)	Start
	The Building Blocks of SNOMED CT	An introduction for the SNOMED CT content components: Concepts, Descriptions and Relationships. (21 minutes)	Start
	SNOMED CT Challenge	An online test of your knowledge of SNOMED CT. This link currently refers to the pilot site developed last year. However, during 2014 the material on this site will be migrated into the SNOMED CT E-Learning Server environment and integrated with the tutorial offerings.	Download or View

For more information see the [SNOMED CT Document Library](#) and the IHTSDO website www.ihtsdo.org

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SNOMED® In Action

Find out where and how SNOMED® is being used around the world.

To learn more about SNOMED® enabled solutions and benefits, please visit the [IHTSDO web site](#).

To register your own SNOMED® deployment, please [go here](#).

For any other queries and feedback, please email sctinaction@ihtsdo.org

Updated 2014-06-05

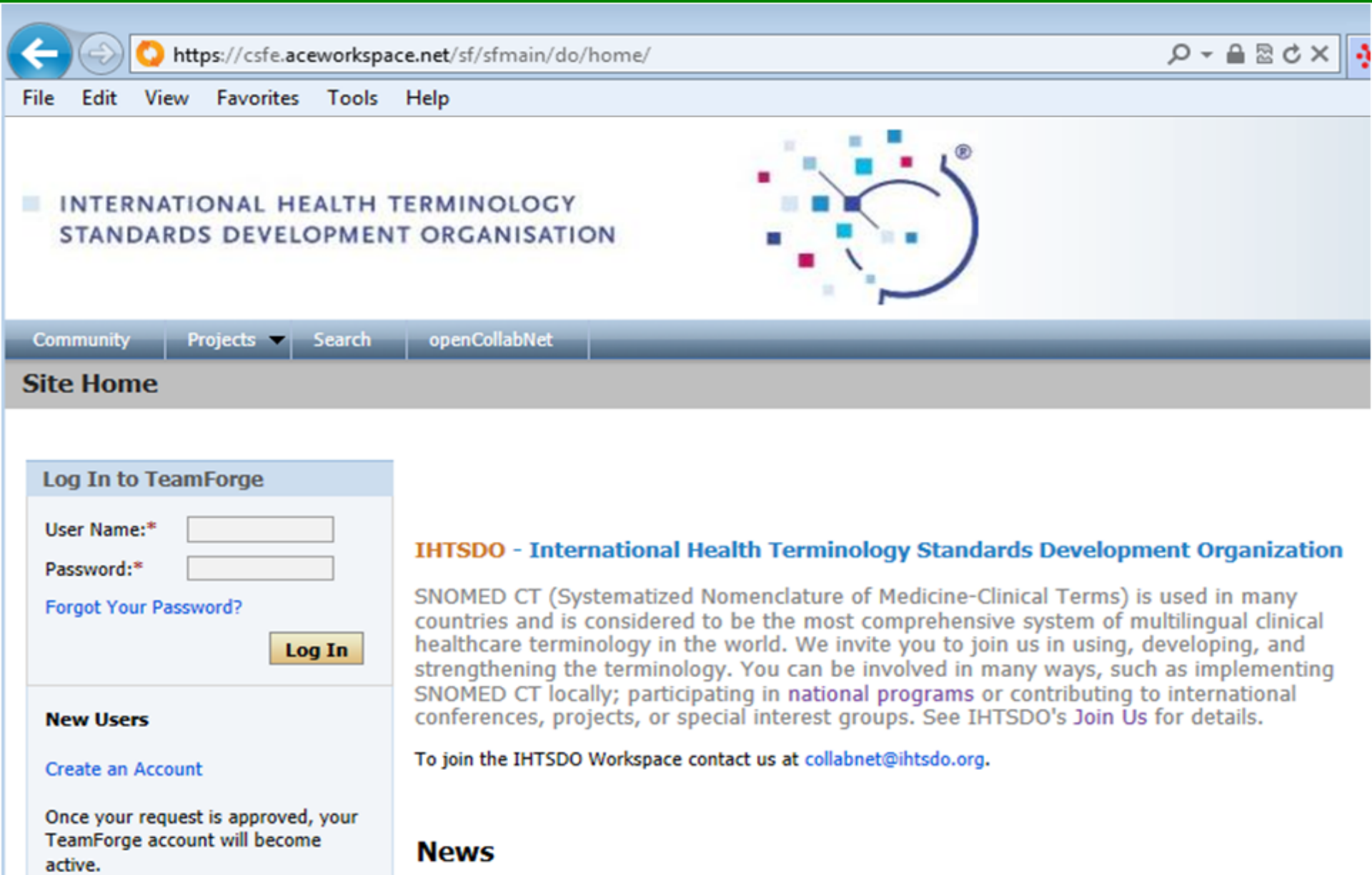
Domain	Initiative	Status	Location	Organization	
Clinical Documentation	Common Problems Backbone Terminology	In progress	United States of America	Intermountain Healthcare	Overview
Vocabulary Server	3M Healthcare Data Dictionary (HDD)	Implemented	United States of America	3M Health Information Systems	Overview
Terminology server	ITServer - Multilingual terminology server	Implemented & Live	Spain	Indizen Technologies	Overview
Out-patient clinics hospital wide	Implementing a hospital wide EHR (electronic health record) with SNOMED CT coding by clinical staff - out-patients was the first phase.	Implemented & Live	Rotherham, UK	Rotherham NHS Foundation Trust	Overview
Lab (Microbiology)	Ontario Microbiology Results Reporting using SNOMED CT Terminology	In progress with some sites	Ontario, Canada	eHealth Ontario	Overview

Where can you get help?

- IHTSDO Members
 - Check with the Member organization in your country
See <http://www.ihtsdo.org/members/>
- IHTSDO Support
 - <http://ihtsdo.freshdesk.com>
 - Email: support@ihtsdo.org
- IHTSDO Special Interest Groups (SIG)
 - Implementation SIG <http://ihtsdo.org/sig>
 - Other SIGs relevant to particular specialties and topics
Including ...
 - Anatomy
 - Dentistry
 - Anesthetics
 - Family Practice / General Practice
 - Mapping
 - Nursing
 - Observables and Investigations
 - Pathology (IPaLM SIG)
 - Pharmacy

Helping others and helping yourself

- The IHTSDO is a collaborative community
 - No one has all the answers to all the questions
 - Each implementation is a learning experience
 - Pass on what you have learnt to those who follow
 - Join and contribute to the Implementation SIG
- Implementation Special Interest Group (SIG)
 - Join the regular discussion meetings and add you experience
 - Submit a short paper summarizing
 - An issue you faced
 - Options you considered,
 - Chosen approach
 - Experience while applying that approach
 - Provide the solutions that worked for you as input to discussions
 - Volunteer to present your implementation to the group



To join the IHTSDO collaborative web site click “Create an account” at <http://ihtsdo.org/collabnet>

Thank you for your attention

Questions?

- Contact IHTSDO: info@ihtsdo.org
- Web site: www.ihtsdo.org

Delivering

SNOMED CT

The global
language of
healthcare