



## Content Development Process

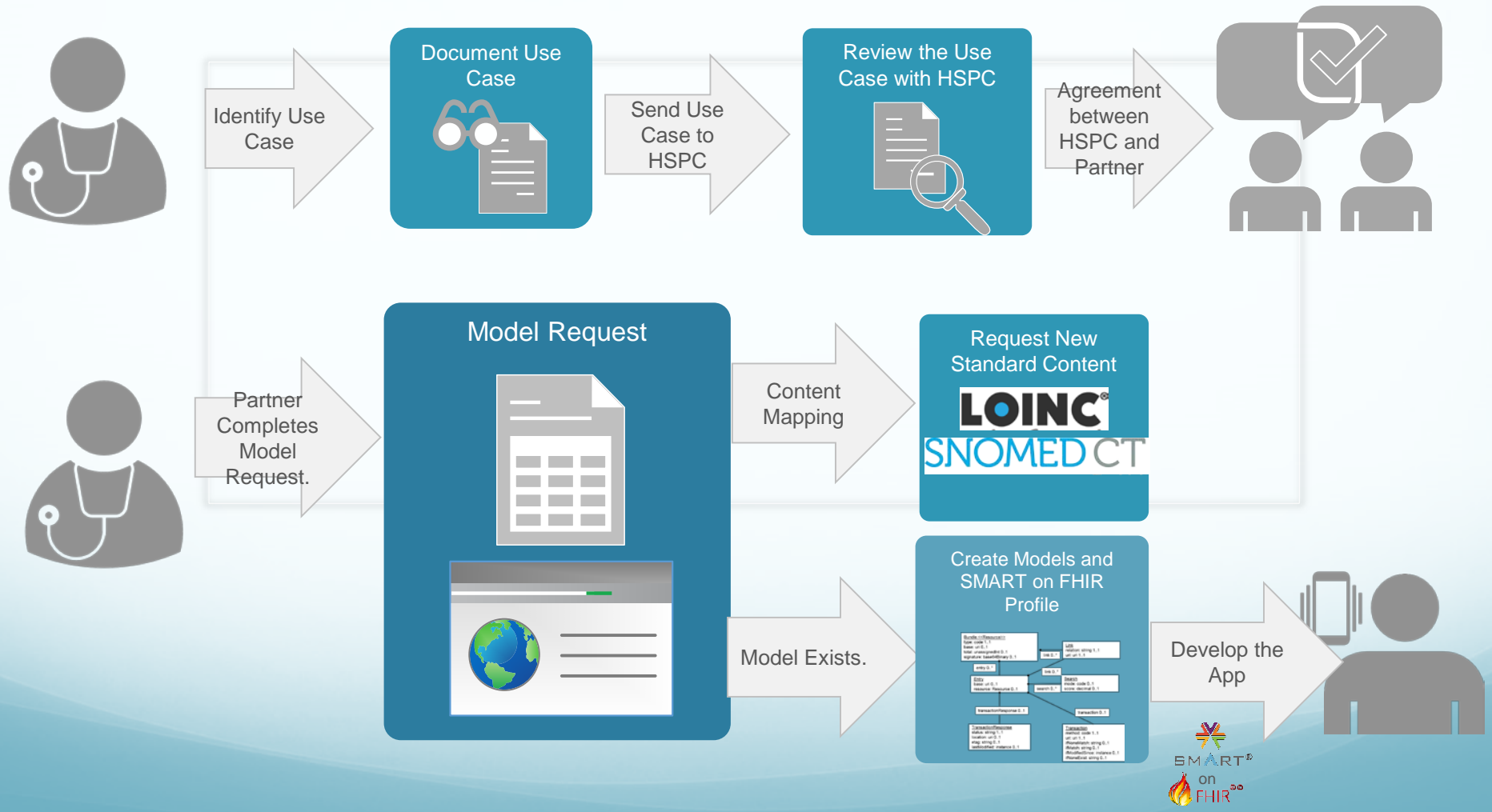
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# Objectives

- Define a process for developing logical clinical models, engaging both technical and clinical experts
- Define a process for transforming clinical element models (CEMs) written in CEM language (CEML), into Archetype Definition Language (ADL)-formatted Clinical Information Modeling Initiative (CIMI) models
- Define CIMI data element and value set binding using SOLOR
- Identify a repository for the models and SNOMED CT, LOINC, RxNorm (SOLOR)

# Model Request Workflow



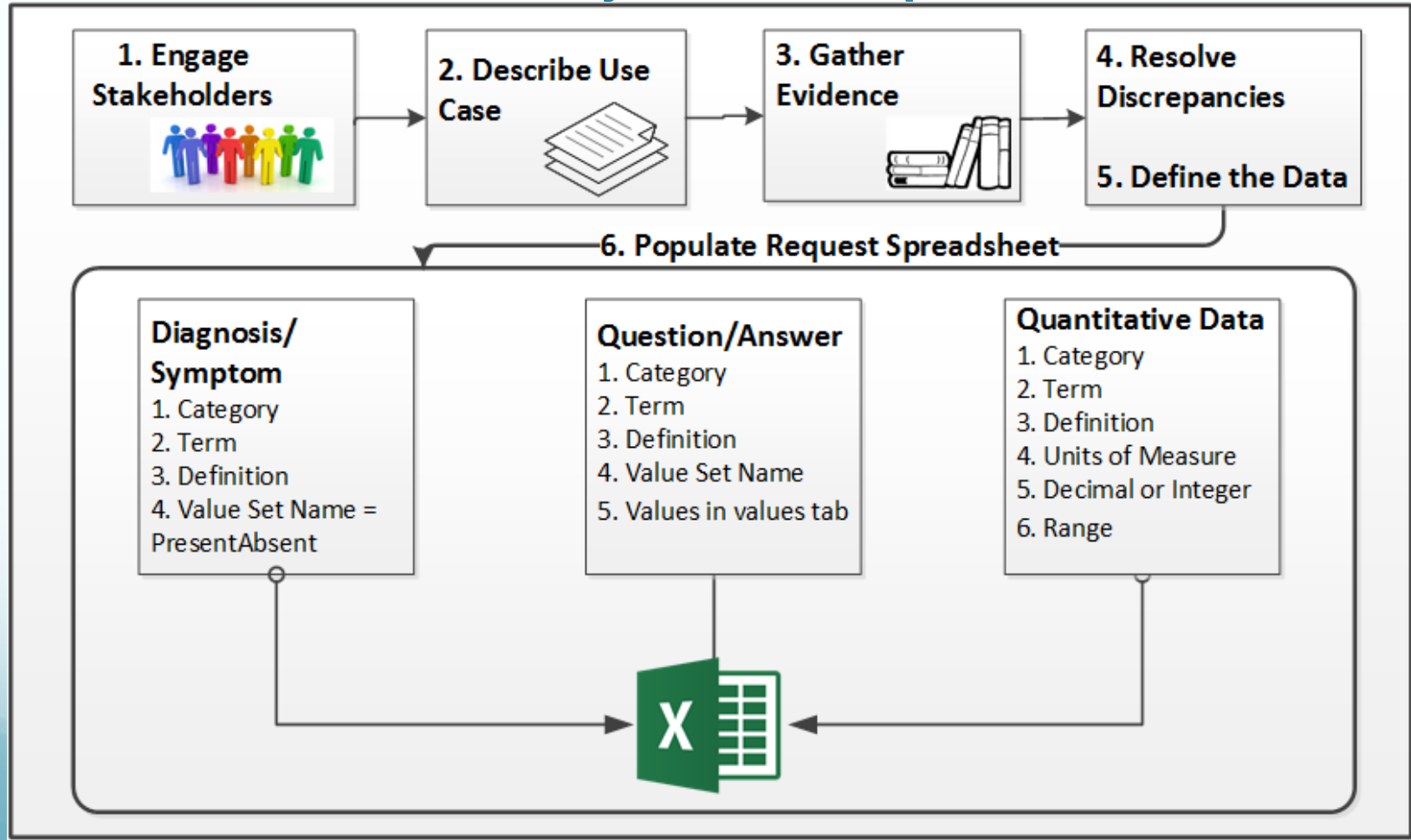
# Requesting Clinical Content for Developing CIMI Models

- Handbook describing how to gather and format clinical content for model development
- Version 1.00
- Process being tested by Registries on FHIR Project
- Request Spreadsheet



Microsoft Excel  
Worksheet

# Content Analysis/Request Process



# Data Collection & Analysis Workflow

## Collect

- Collect Clinical Data
- Collect Answers/Values for nominal question
- Group 'Like' Concepts

## Review

- Confirm all Required Data Included
- Confirm all Answers/Values Included
- Add Concept Definitions

## Analyze

- Evaluate Clinical Data: Unique & Non-ambiguous?
- Evaluate Values: Congruent with Concept?

# Data Collection & Analysis Workflow

## Refine

- Define Unique Concepts
- Realign Answers

## Code

- Assessment/Observation in LOINC?
- Answers/Values in SNOMED CT?

## Finalize

- Add Existing LOINC & SCT Codes
- Add Concept Details for Un-coded Items

# SOLOR terminology (overseen by Keith Campbell)

## Determined Terminology Editing Environment

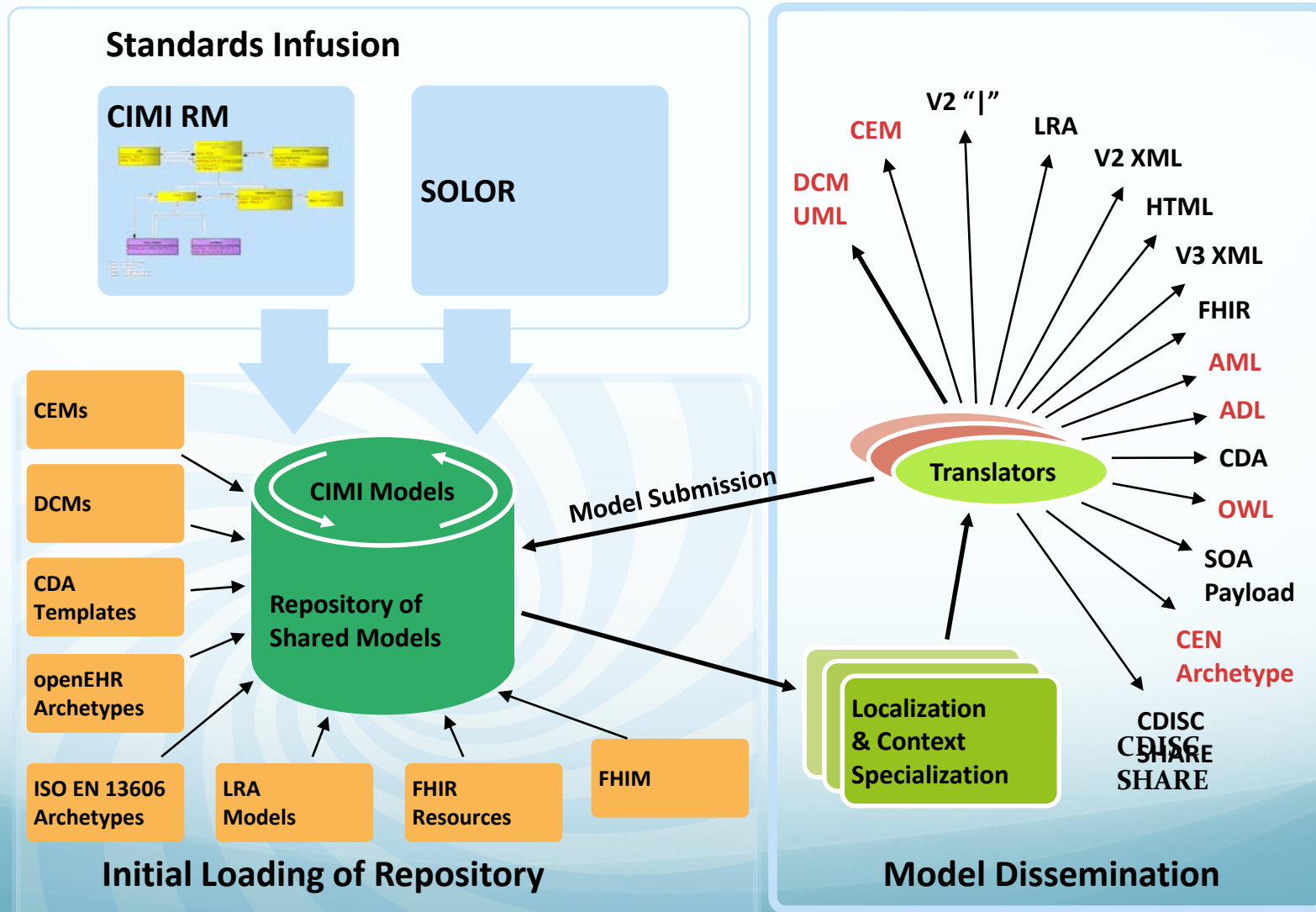
- Ontoserver\*
- Determine content vetted past domain experts
- Developing long term maintenance process

## Terminology Development Process

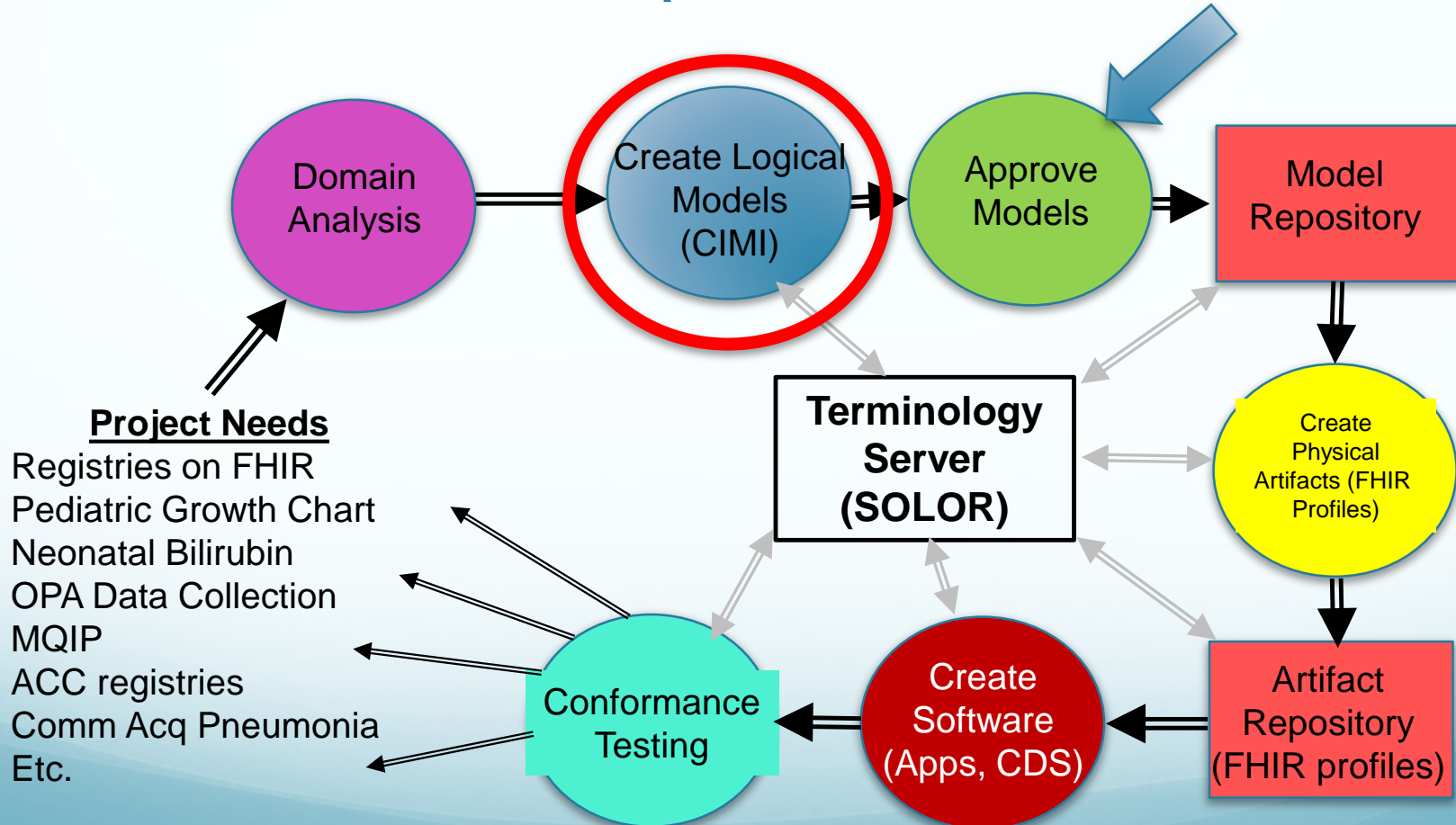
- Creating HSPC extension content in TermSpace\*
- Development terminology server (Ontoserver) selected and implemented
- Developing a long term maintenance process



# CIMI Model Development Lifecycle



# The Interoperable App Development Process



# Tasks Performed

- Ontoserver chosen as HSPC terminology server
- Project created in Jira\* to create value sets
- Value sets evaluated
- Editorial Guidelines Created for Reference Sets
- Simple Ref Sets Created in [TermSpace](#)
- HSPC Steward Created in VSAC

\*Jira is a general-purpose issue-tracking system (ITS)

# Terminology Binding

Type	Text	Terminology	Code	FSN
Question	Skin Moisture	LOINC SNOMED CT	39129-2 406128001	Moisture:Type:PT:Skin:Nom:: moistness of skin (observable entity)
ValueSet	Skin moisture reference set	SNOMED CT	410002051 02	Skin moisture reference set (foundation metadata concept)
Value	Diaphoretic	SNOMED CT	52613005	excessive sweating (finding)
Value	Moist	SNOMED CT	16514006	moist skin (finding)
Value	Clammy	SNOMED CT	102598000	clammy skin (finding)
Question	Skin Temperature	LOINC	44968-6 364537001	Temperature:Type:PT:Skin:Ord:Palp: temperature of skin (observable entity)
ValueSet	Skin temperature reference set	SNOMED CT	310002051 07	Skin temperature reference set (foundation metadata concept)
Value	Consistent With Body Temperature	SNOMED CT	297977002	Skin normal temperature (finding)
Value	Warm	SNOMED CT	102599008	warm skin (finding)
Value	Cool	SNOMED CT	427733005	cool skin (finding)

# Skin Wound Assessment Refsets

Refset/Value sets	Version	Date	Purpose
Wound trend refset	v .1	11142017	This refset provides values to document a measure of improvement or deterioration in wound healing.
Wound exudate appearance refset	v .1	11142017	This refset provides values to describe the consistency of exudate that is present in a wound. The values will be used for recording and retrieving the consistency of exudate.
Wound exudate appearance refset	v .1	11142017	This refset provides values to describe the consistency of exudate that is present in a wound. The values will be used for recording and retrieving the consistency of exudate.
Presence absence refset	v .1	11142017	This refset provides values for recording and retrieving information about the presence or absence of a clinical observation
Wound edge description refset	v .1	11142017	This refset provides values for recording and retrieving descriptions of a wound edge.

# Ref Set Editorial Guidelines

- All values requested need a text definition
- Refset metadata includes the observable entity it results
  - Used for import into VSAC
  - “This reference set contains values used to describe the periwound condition, referencing the LOINC concept Description of Periwound 72301-5”
- Values for 'color' reference sets (e.g. black, yellow, red) will be drawn from the SNOMED CT *Qualifier Value* hierarchy
- Use “Skin of XXX” for body locations for wound and skin assessments
  - Not the bone
- Qualitative content that references ordinal answers for commonly used questions (e.g. urine glucose = 1-4+, wound discharge = scant to large, etc.) should reference an authoritative source that provides unambiguous (e.g. quantitative) meanings for the content.

<https://healthservices.atlassian.net/wiki/spaces/SOLOR/pages/105346315/Reference+Set+Editorial+Guidelines>

## Next Steps

- Load RefSets into VSAC
- “Vet the Content”
- Develop process for adding extension namespace into Core

# Questions/Discussion

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**Thank You!!**