SNOMED CT for hospital medication workflow

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Agenda:

1. Our activities with SNOMED CT
2. Concepts for hospital medication workflow
3. Selection/translation method
4. Results

2 tightly bound organizations

PHAST

- Not-for-profit association

- Members: healthcare IT vendors

- Contributes to semantic interoperability standards for healthcare (LOINC, HL7 CTS2, HL7 FHIR, SNOMED CT, IHE …)

PHAST SERVICES

- Company: Production & Sales

- Customers: hospitals & clinics

- Builds services to deploy the standards in secondary care. One of them is **IOdc®: metathesaurus for hospital medication workflow**

What do we do with SOMED CT?

PHAST

- Affiliate license since 2016

- French translation agreement for the subset related to drug prescription, dispense and administration in secondary care settings

- **Translation Project Owner**

PHAST SERVICES

- Maintains the infrastructure where semantic resources are managed

- Builds the **metathesaurus IOdc**® for hospital medication workflows

- Provides the distribution services

- **Translation Service Provider**

Our project [2016-2017]

❑ Select and translate the SNOMED CT concepts relevant for medication workflow (*prescribe*, *dispense*, *administer*) in secondary care settings.

❑ Build the Phast extension of SNOMED CT, and provide open online browsing to this extension: core edition + added fr-FR synonyms + added concepts.

❑ Distribute this SNOMED CT content within the metathesaurus providing the full semantics for electronic messaging related to medication use.

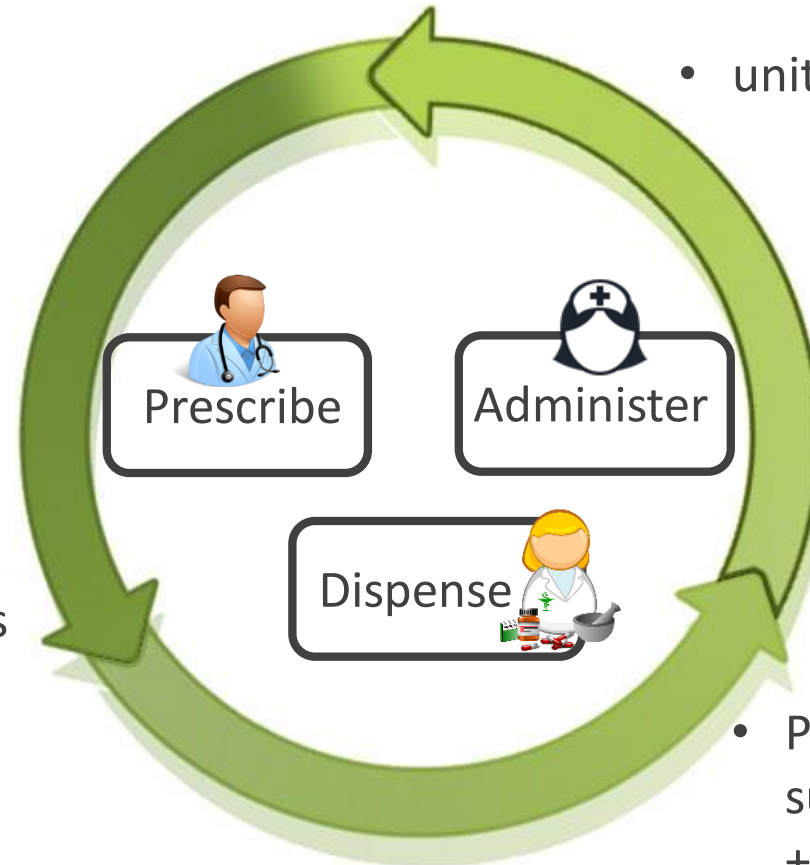# Concepts for hospital medication workflow

Patient status
- findings
- disorders
- situations
- observations

- drug substances

- products containing substances

- units of measure

- dose forms
- routes of administration

- Products containing substances with strengths + pharmaceutical dose form

« Médicament virtuel »

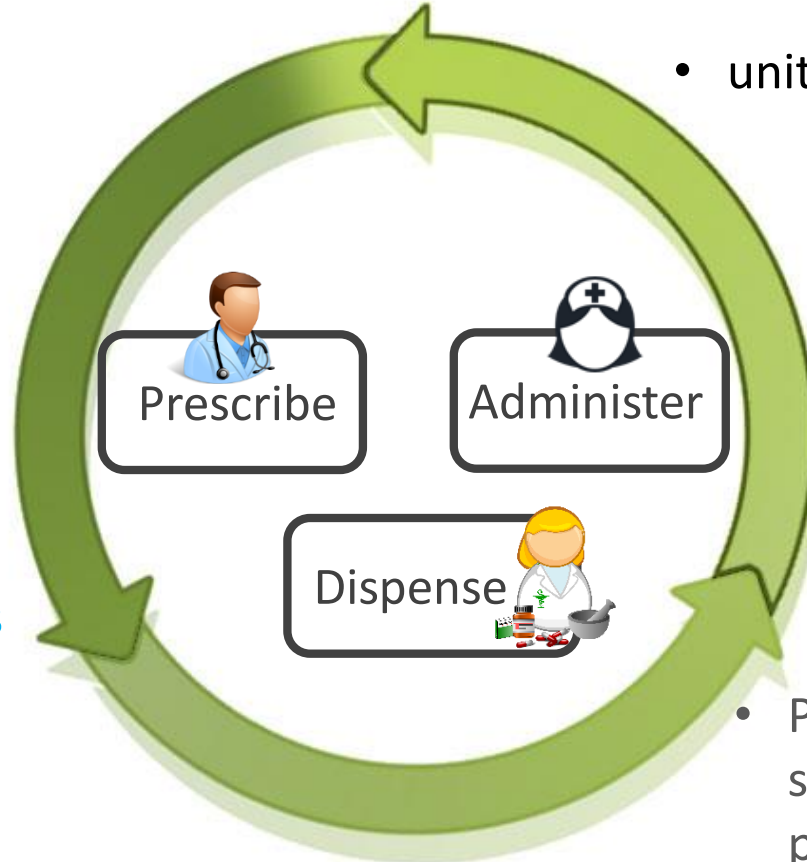# Concepts for hospital medication workflow

SNOMED CT

Patient status
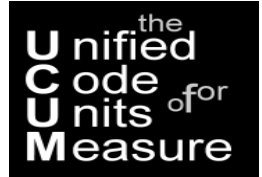- findings
- disorders
- situations
- observations

• units of measure

UCUM — the Unified Code of Units for Measure
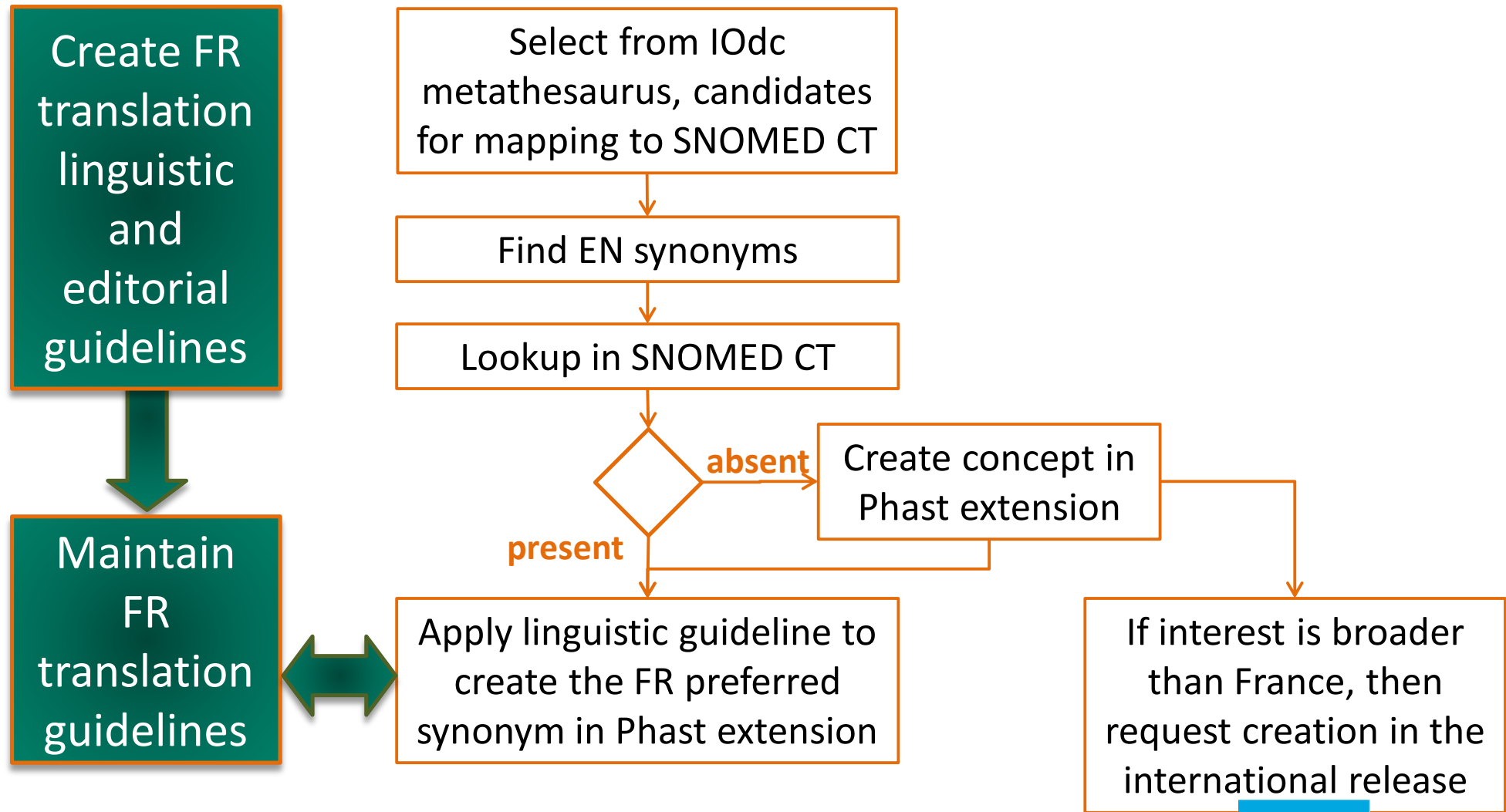
Prescribe

Administer

Dispense

- dose forms
- routes of administration

• drug substances

• Products containing substances with strengths and pharmaceutical dose forms

mapped to PhPID L4 (ISO IDMP) when identifiers become available

• products containing substances

mapped to PhPID L1 (ISO IDMP) when identifiers become available

LOINC® from Regenstrief

Method for concept selection/translation

Create FR translation linguistic and editorial guidelines

Maintain FR translation guidelines

Select from IOdc metathesaurus, candidates for mapping to SNOMED CT

Find EN synonyms

Lookup in SNOMED CT

absent → Create concept in Phast extension

present

Apply linguistic guideline to create the FR preferred synonym in Phast extension

If interest is broader than France, then request creation in the international release

SNOMED International

Tools and helpers

❑ **Find EN synonyms**

- Existing multilingual vocabularies
(examples: EDQM Standard Terms, INN, ginas)

- Additional English terminologies
(examples: UNII for substances, UMLS for various concepts)

- Complement with scientific literature

❑ **Lookup in SNOMED CT**

- Use the various synonyms available

- Once a concept is found, check its relationships
('is-a' and attributes)

Results

Content	#concepts in IOdc®	% covered by SNOMED CT	#concepts requested in SNOMED CT
Patient status (finding, disorder, situation)	> 16,000	~ 90% (estimate)	In progress
Substance for drug	2,735	84%	324
Product containing substance(s)	1,713	72%	In progress
Drug dose forms	194	70%	58
Routes of administration	52	85%	In progress

Supporting vocabularies

UNII, ginas, UMLS

INN

EDQM Standard Terms

Conclusions

❑ **This project has raised international synergies**

- Help from Canada NRC for setting up the fr-FR translation linguistic and editorial guidelines

- Contribution to the ongoing Drug project for the core edition

❑ **A valuable subset of SNOMED CT for the French market**

- Available to Phast's sub-licensees

- Prepares the semantic ground in secondary care, for more efficient interactions between drug usage and content of clinical records.

❑ **SNOMED CT browsable in France**

- with 5000 French terms, today

Questions?