MEDINFO23

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@nikiema_jn

Technical support services for drugs-related information and interoperability

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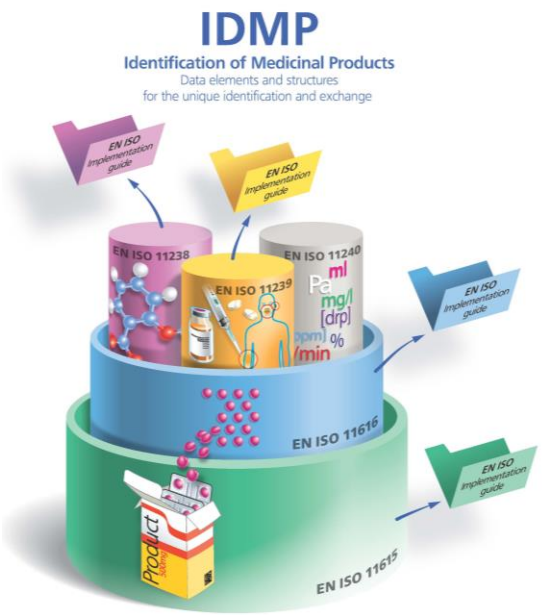
Context

- OCRx is the world's first Drug Ontology fully built in compliance with Identification of Medicinal Products (IDMP).

- IDMP is a set of ISO standards that provide specification for drug description.



http://isotc215-wg6.team/about-idmp/

Context

Médicament canadien

Active ontology × Entities × Individuals by class × DL Query ×

Annotation properties | Datatypes | Individuals

Classes | Object properties | Data properties

Class hierarchy: Médicament canadien

Asserted

- owl:Thing
  - Composant
  - Distinction
  - Dosage
  - Forme
  - Industriel
  - Médicament canadien
  - Médicament canadien ouvert à la prescription
  - Substance
  - Voie d'administration

Médicament canadien — http://www.ocrx.ca/OCRx/1000000000

Annotations | Usage

Annotations: Médicament canadien

Annotations

rdfs:label [language: fr]
Médicament canadien

rdfs:label [language: en]
Canadian clinical drug

rdfs:comment [language: fr]
médicaments identifiés sur la base de la dénomination commune internationale (DCI).Les élements definitionels de chaque MCOP sont :
- le nom du médicament;
- l'ingrédient actif;
- le dosage de chaque ingrédient actif; et
- La form du medicament.

Context

〉Médicament canadien 〉MÉDICAMENT À INGRÉDIENT UNIQUE 〉ABÉMACICLIB 100 MG COMPRIMÉ ORAL

Active ontology × Entities × Individuals by class × DL Query ×

Annotation properties | Datatypes | Individuals

Classes | Object properties | Data properties

Class hierarchy: ABÉMACICLIB 100 MG COMPRIMÉ ORAL

Asserted

- MÉDICAMENT À INGRÉDIENT UNIQUE
  - ABACAVIR (SULFATE D'ABACAVIR) 20 MG PAR ML SOLUTION
  - ABACAVIR (SULFATE D'ABACAVIR) 300 MG COMPRIMÉ ORAL
  - ABATACEPT 125 MG PAR 1 ML SOLUTION INJECTABLE SERIN
  - ABATACEPT 250 MG PAR FIOLE POUDRE POUR SOLUTION IN
  - ABOBOTULINUMTOXINEA 300 UNITÉ PAR FIOLE POUDRE POI
  - ABOBOTULINUMTOXINEA 500 UNITÉ PAR FIOLE POUDRE POI
  - ABÉMACICLIB 100 MG COMPRIMÉ ORAL
  - ABÉMACICLIB 150 MG COMPRIMÉ ORAL
  - ABÉMACICLIB 200 MG COMPRIMÉ ORAL
  - ABÉMACICLIB 50 MG COMPRIMÉ ORAL
  - ACALABRUTINIB 100 MG CAPSULE ORALE
  - ACAMPROSATE CALCIQUE 333 MG COMPRIMÉ GASTRORÉSIS
  - ACARBOSE 100 MG COMPRIMÉ ORAL
  - ACARBOSE 50 MG COMPRIMÉ ORAL
  - ACEPROMAZINE MALEATE 1.25 G/227 G AS POWDER IN ORAL
  - ACEPROMAZINE MALEATE 10 MG/ML AS SOLUTION IN INTRAI
  - ACEPROMAZINE MALEATE 25 MG/ML AS LIQUID IN INTRAMUS
  - ACEPROMAZINE MALEATE 25 MG/ML AS SOLUTION IN INTRAI
  - ACETAMINOPHEN 160 MG/5 ML AS ELIXIR IN ORAL
  - ACETAMINOPHEN 160 MG/5 ML AS SOLUTION IN ORAL
  - ACETAMINOPHEN 200 MG/ML AS SOLUTION IN ORAL
  - ACETAMINOPHEN 400 MG/ML AS SOLUTION IN ORAL

ABÉMACICLIB 100 MG COMPRIMÉ ORAL — http://www.ocrx.ca/OCRx/1000015041

Annotations | Usage

Annotations: ABÉMACICLIB 100 MG COMPRIMÉ ORAL

Annotations

rdfs:label [language: fr]
ABÉMACICLIB 100 MG COMPRIMÉ ORAL

rdfs:label [language: en]
ABEMACICLIB 100 MG AS TABLET IN ORAL

BrandedID
DIN02487101

XRef:CCDD [type: GENERIC]
9013994

XRef:RXNORM [type: SCD1]
1946838

Description: ABÉMACICLIB 100 MG COMPRIMÉ ORAL

Equivalent To

'MÉDICAMENT À INGRÉDIENT UNIQUE'
and ('est composé de' some 'ABEMACICLIB 100 MG')
and ('a pour forme pharmaceutique' some 'COMPRIMÉ PAR VOIE ORALE')
and ('est composé de' only 'ABEMACICLIB 100 MG')
and ('a pour forme pharmaceutique' only 'COMPRIMÉ PAR VOIE ORALE')

Context

- In practice, the complexity of biomedical ontologies can sometimes make their utilization challenging. Issues have been identified in the literature regarding the consequences of inappropriate usage of ontologies to encode health data

- Technical support tools are mandatory

THE LANCET
Digital Health

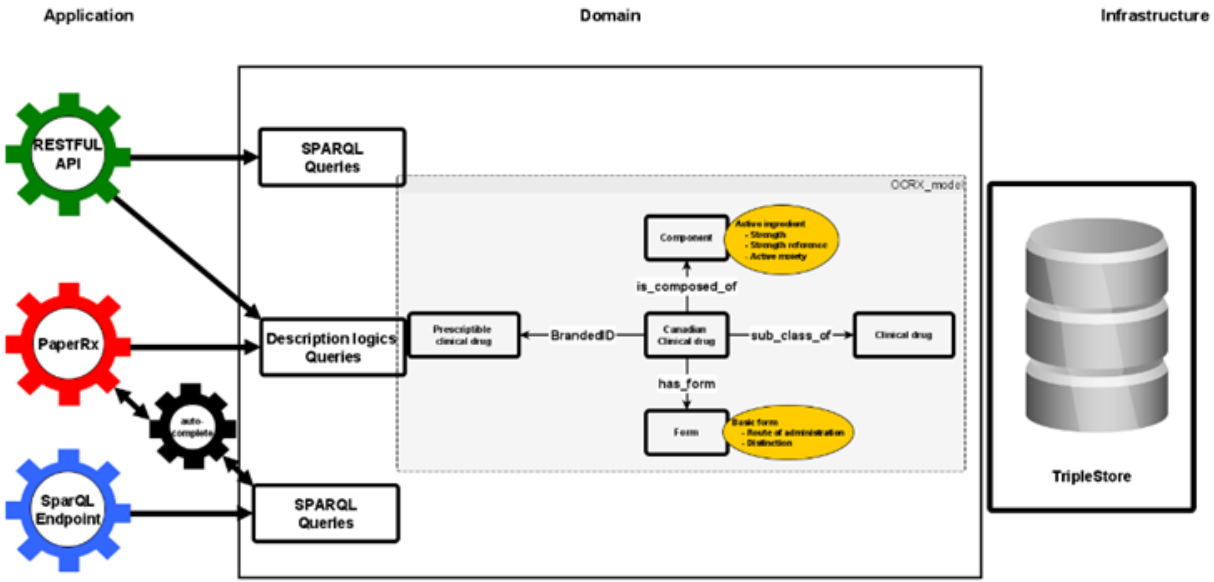
CORRESPONDENCE | VOLUME 2, ISSUE 11, E569, NOVEMBER 2020

Use of LOINC for interoperability between organisations poses a risk to safety

Alexis B Carter • Monica E de Baca • Hung S Luu • W Scott Campbell • Michelle N Stram

Open Access • Published: November, 2020 • DOI: https://doi.org/10.1016/S2589-7500(20)30244-2

Methods


Application
Domain
Infrastructure
RESTFUL API
PaperRx
auto-complete
SparQL Endpoint
SPARQL Queries
Description logics Queries
SPARQL Queries
OCRX_model
Component
Active ingredient
- Strength
- Strength reference
- Active moiety
is_composed_of
Prescriptible clinical drug
BrandedID
Canadian Clinical drug
sub_class_of
Clinical drug
has_form
Form
Basic form
- Route of administration
- Distinction
TripleStore

Results

OCRX.CA

Canadian Drug Ontology

An Ontology to Improve the Nationwide Interoperability of Drug Terminologies

What is OCRx?

OCRx (Canadian drug ontology, in French: Ontologie canadienne du médicament) is an interoperability tool created by LabTNS researchers

OCRx is developed through the integration of public drug data, such as:

1. The Drug Product Database (DPD), maintained by Health Canada
2. The Canadian Clinical Drug Data Set (CCDD) , maintained by Canada Health Infoway (available in French and English)

This first version of OCRx focuses on clinical drug description (i.e. substance, strength, route of administration, pharmaceutical form).

Definitionnal elements	Definition	Example
Substance	Chemical product playing a role of active ingredient, active moiety or reference for strength in clinical drugs	3000001547- "ATORVASTATIN"
Strength	Drug strength	S10018- "5 G/1 L"
Route of administration	Path by which a drug is designed to be taken	4100000004- "OPHTHALMIC"
Pharmaceutical form	Manufactured dose form defined using a basic dose form a route of administration and sometimes a distinction	4002225239- "PATCH (BHR EXTENDED RELEASE) IN TRANSDERMAL"

Canadian Drug Ontology

An Ontology to Improve the Nationwide Interoperability of Drug Terminologies

Please type at least a letter to trigger autocompletion

Substance
Example : Atorvastatin

Form
Example : Tablet

Route Of Administration
Example : Oral

This browser is powered by Fact++. Queries retrieve marketed drugs in Canada.

SUBMIT

You must have an OCRx account in order to access our REST API and our SPARQL endpoint.

Welcome

Log in to ocrxca to continue to OCRX Auth.

Email address

Password

Forgot password?

Continue

Don't have an account? Sign up

OR

Continue with Google

Get access to your API token

Fill out the following informations to obtain access to OCRx's REST API as well as its SPARQL playground.

First Name*

Last Name*

Email Address*

Institution/Company*

Reason/Purpose*

REQUEST ACCESS

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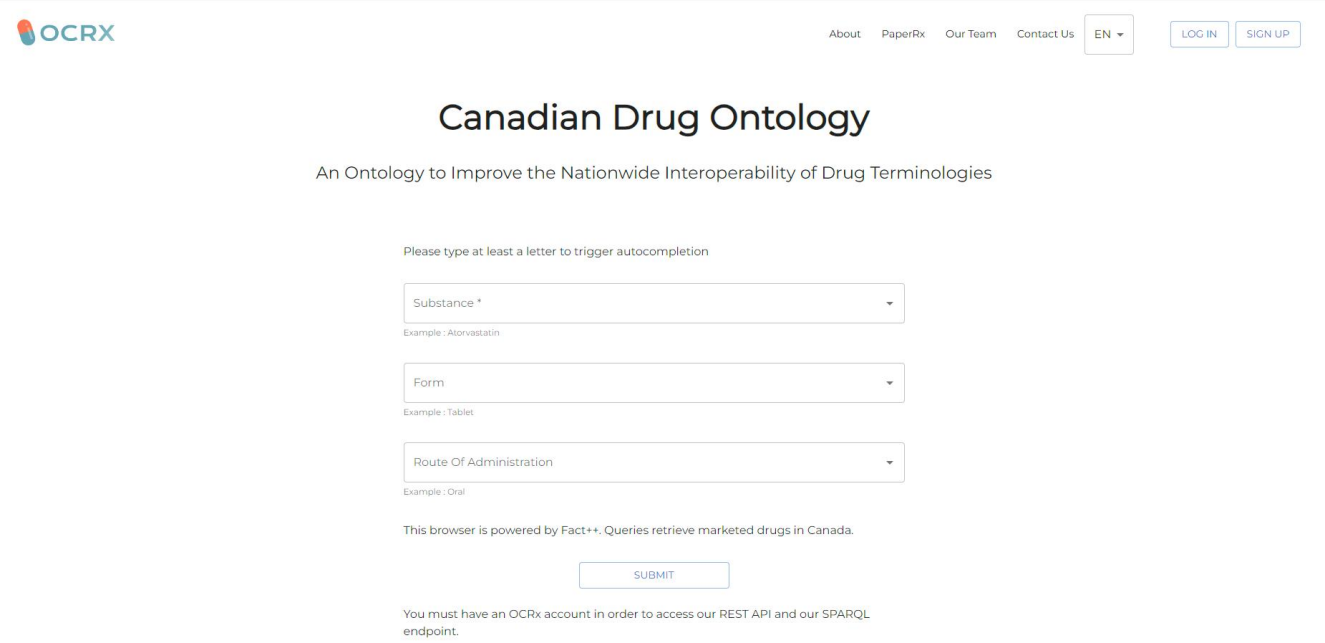
Results

- PaperRx



Results

- Additional drug information

About PaperRx Our Team Contact Us Request Access SPARQL

Add a Drug to OCRx

Fill out the following information to improve OCRx's database of drugs. We will get in contact shortly.

User Information

First Name *

Last Name *

Email Address *

Institution/Company *

Requested Drug Information

Active ingredients *

Basis of strength *

Strength *

Distinction *

Form *

Route Of Administration *

Reason/Purpose *

Results

- SPARQL endpoin

ocrx.umontreal.ca/sparql

OCRX

À propos | PaperRx | Notre équipe | Nous contacter | Demande d'accès | SPARQL | Profil | Ajouter un médicament | Documentation REST | FR | SE DÉCONNECTER

SPARQL Query Editor

Enter your SPARQL query here and click the RUN button to execute it. Queries are limited to 100 results and timeout after 5 seconds.

```
prefix ocrx: <http://www.ocrx.ca/OCRx/>
select ?RxID ?Rxlabel ?RxDIN where {
   ?RxID ocrx:BrandedID ?RxDIN .
  ?RxID rdfs:label ?Rxlabel.
} limit 10
```

RUN CODE

Response

RAW RESPONSE | TABLE

SPARQL Results

RxID	Rxlabel	RxDIN
http://www.ocrx.ca/OCRx/1000000002	DIPHTHERIA TOXOID 15 LF/0.5 ML | FILAMENTOUS HAEMAGGLUTININ 20 MCG/0.5 ML | FIMBRIAE 5 MCG/0.5 ML | INACTIVATED POLIOMYELITIS VACCINE (D.C.O.) TYPE 1 MAHONEY 40 UNIT/0.5 ML | INACTIVATED POLIOMYELITIS VACCINE (D.C.O.) TYPE 2 MEF1 8 UNIT/0.5 ML | INACTIVATED POLIOMYELITIS VACCINE (D.C.O.) TYPE 3 SAUKETT 32 UNIT/0.5 ML | PERTACTIN 3 MCG/0.5 ML | PERTUSSIS TOXOID 20 MCG/0.5 ML | TETANUS TOXOID 5 LF/0.5 ML AS SUSPENSION IN INTRAMUSCULAR	DIN02230946
http://www.ocrx.ca/OCRx/1000000004	CHLORHYDRATE DE VÉRAPAMIL 240 MG CAPSULE ORALE À LIBÉRATION PROLONGÉE	DIN02100495
http://www.ocrx.ca/OCRx/1000000004	VERAPAMIL HYDROCHLORIDE 240 MG AS CAPSULE (SUSTAINED RELEASE) IN ORAL	DIN02100495

Results

- REST API

OCRx REST API 1.0 OAS3

This REST API allows you to query the Canadian drug ontology.

Servers
https://rest.ocrx.umontreal.ca

Authorize

default

GET /rest/validOcrxId

GET /rest/typeFromOcrxId

GET /rest/findDinFromOcrxId

GET /rest/findOcrxIdFromDin

GET /rest/getExternalMapping

GET /rest/getAllExternalMappings

Conclusion

- Technical support tools are key factors in the usability of biomedical ontologies
- Those designed around OCRX guarantee optimal use of OCRx by both humans and machines.
- Additional updates are currently planned to address stakeholder concerns.