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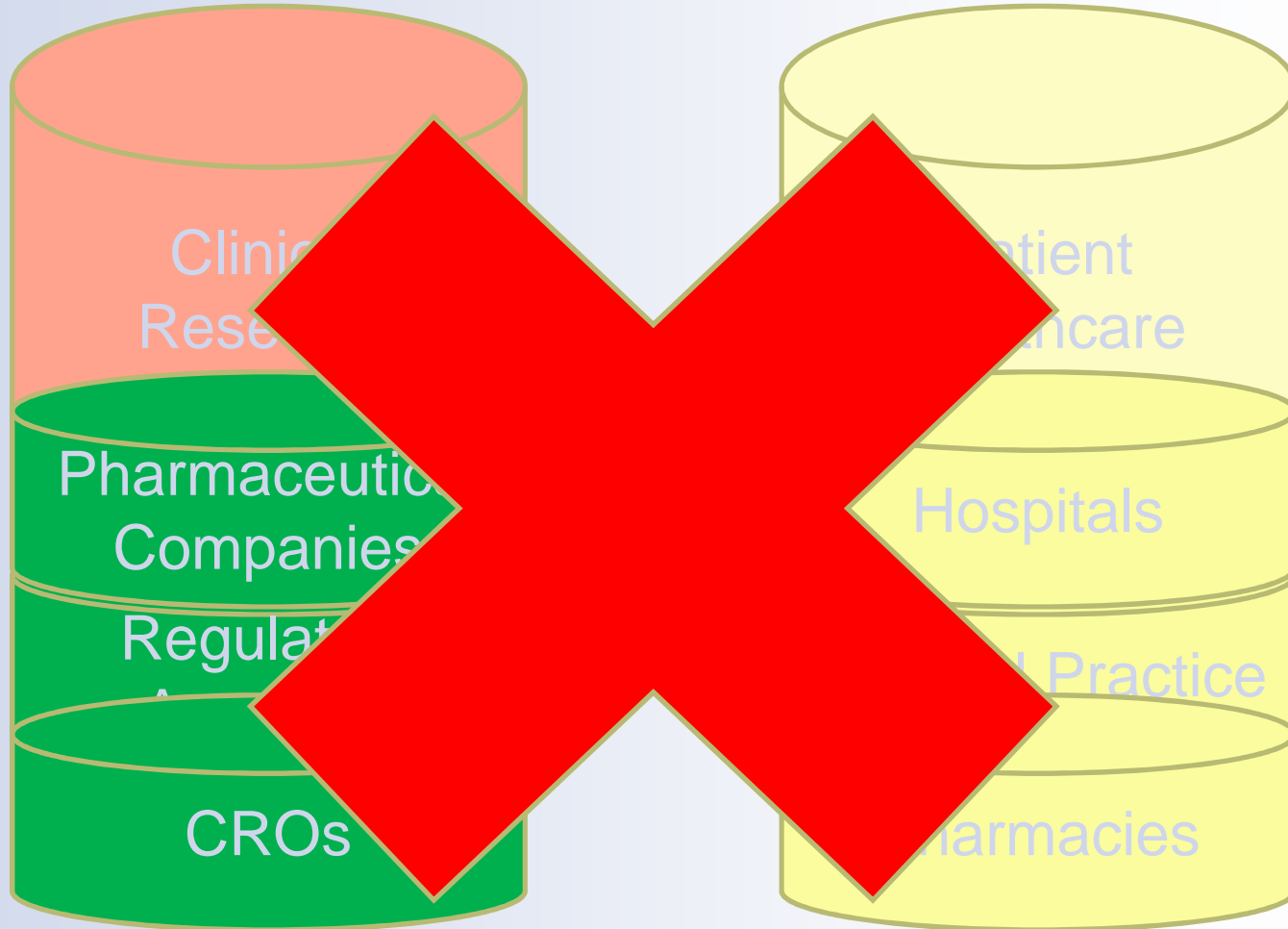
*openMedicine Final Expert Council  
Meeting  
9 November 2016*

**From Vision to Reality:**  
Regulatory agency information as source  
for Medicinal Product Terminology for  
ePrescribing: The story from Canada

**Julie James**

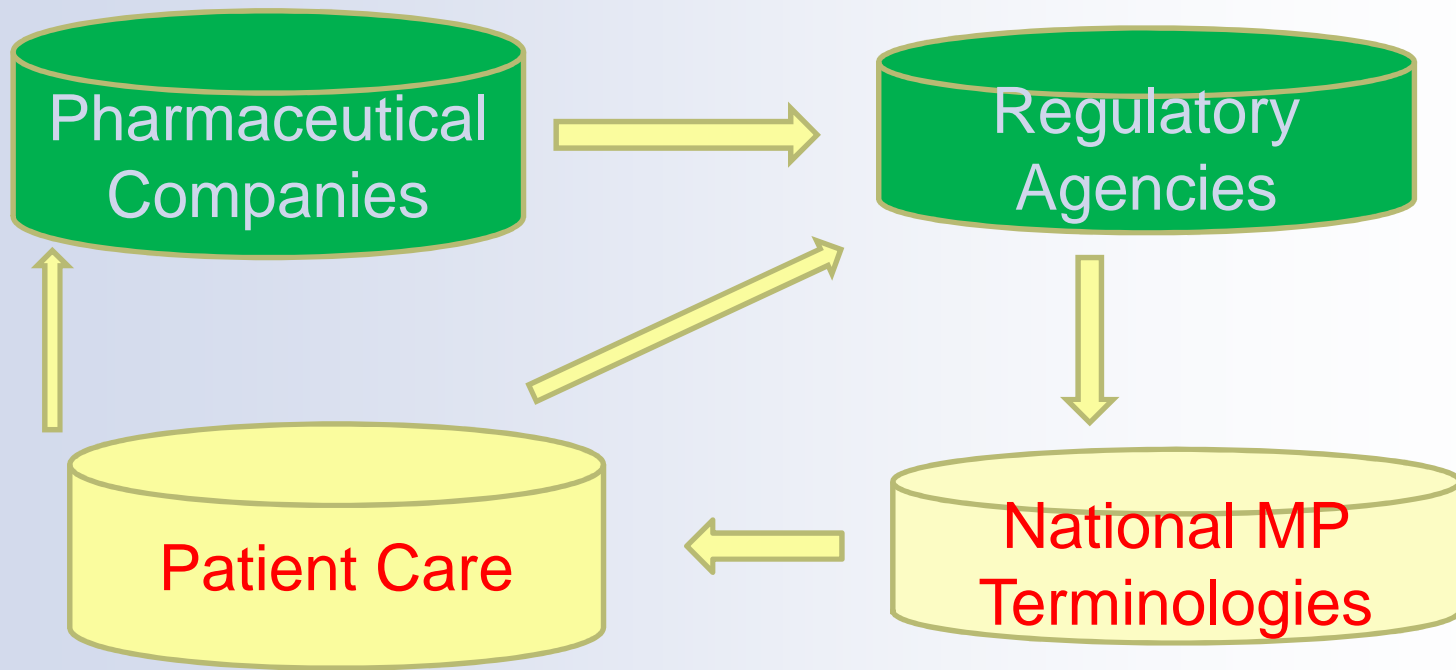
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# VISION: No more silos!



# Unique and unambiguous identification of medicinal products

- To allow information about medicinal products to flow WHEREVER it is needed



# Making the Vision a Reality: in Canada



Health Canada  
www.hc-sc.gc.ca

- Partnership between
  - **Health Canada**, Drugs and Health Products Department, part of the Health Products and Food Branch (the “regulatory agency”)and
  - **Canada Health Infoway**, an organisation responsible to the federal, provincial/territorial governments, whose mission is to “*help to improve the health of Canadians by working with partners to accelerate the development, adoption and effective use of digital health across Canada*”



Canada Inforoute  
Health Santé  
Infoway du Canada

- Currently, Canada has
  - Handwritten prescriptions
  - Printed/faxed prescriptions
  - Some provincial e-Prescribing systems
- **NEW: A national e-prescribing system**
  - Secure electronic creation and transmission of a prescription between an authorized prescriber and a patient's pharmacy of choice, using clinical Point of Service (POS) solution, in a manner which integrates clinical workflow and software
  - Benefits include:
    - Fewer medication-related errors; improved medication safety
    - Better security and privacy of medication information
    - Better use of professionals' time: time can be spent with patients, not on managing prescription transmission etc.



# Prescribe IT has a terminology problem:



A problem that many have encountered before....

The systems in its enterprise **don't identify medicines in the same way; they cannot easily understand each other**

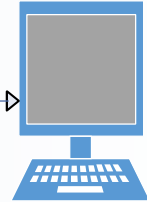
## Physician Offices



First Data Bank, Cerner, Multum, Vigilance Santé, Pepid



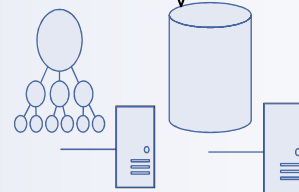
## Pharmacy



First Data Bank, Vigilance Santé

\*All systems currently support Health Canada DIN

First Data Bank, Vigilance Santé



# So....

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- Canada needs a “national medicinal product terminology” to support Prescribe IT
- Mostly as an “interchange terminology” (a *reference* terminology rather than an interface terminology)
  - Systems will continue to use their existing drug terminology and existing user interfaces
    - When they share information., e.g. in an electronic prescription, they will either share HC DIN or the new pan-Canadian **NTP – non-proprietary therapeutic product** code
    - The knowledge base systems will have a mapping between their (proprietary) codes and the NTP-Dataset, enabling the interchangeability of medicinal product concepts

# Use a subset of IDMP...

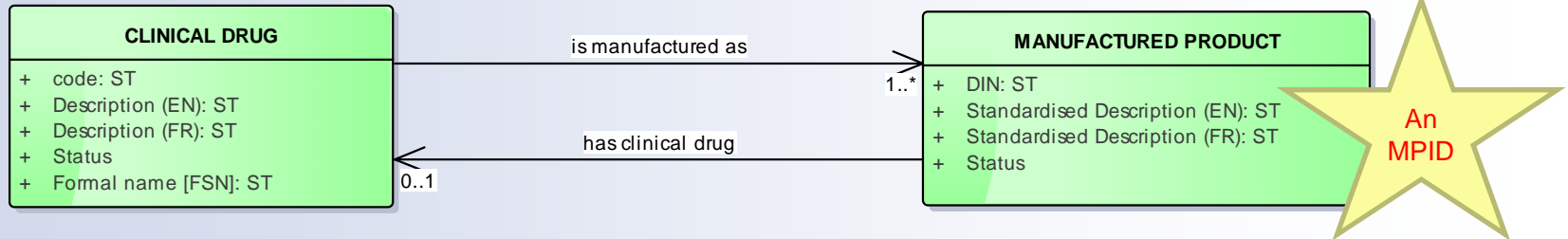
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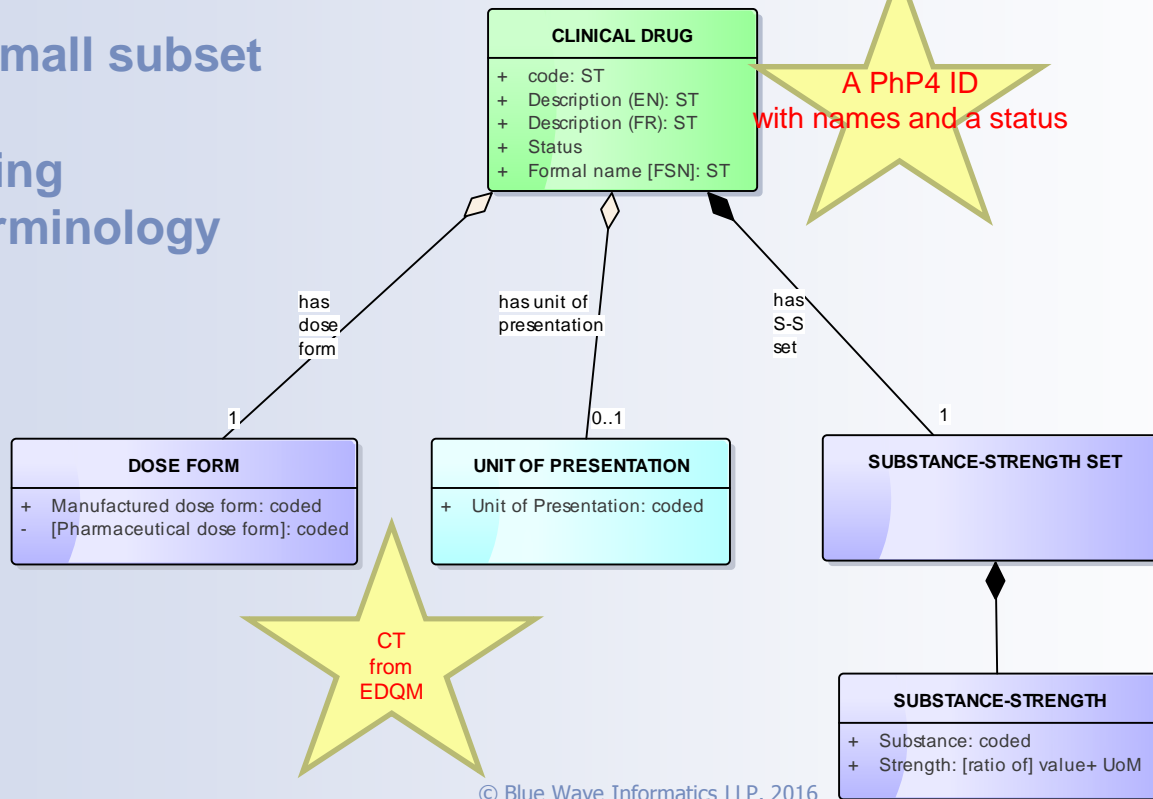
- Having gathered the requirements, the conclusion was that a small subset of the IDMP data elements, with a subset of the controlled terminology (*adapted for the Canadian healthcare culture*) would meet the needs of Prescribe IT
- And in the future, support
  - Medication Profile Management including
    - Medication Reconciliation
  - Medication Surveillance/Healthcare Analytics (pharmaco-epidemiology etc.)



# The NTP-CA Dataset "Model"



Basically, a small subset of 11615 plus supporting controlled terminology



# Creating the NTP-CA Dataset

- Health Canada, as part of their commitment to publically available information will
  - Use their existing content in the DPD (Drug Product Database)

List of returned drug products

Status	DIN	Company	Product	Class	PM	Schedule	#	A.I. name	Strength
Marketed	00885886	JAAPHARM CANADA INC.	AMOX 250 CAP 250MG	Human	No	Prescription	1	AMOXICILLIN (AMOXICILLIN)	250 MG
Marketed	00885894	JAAPHARM CANADA INC.	AMOX 500 CAP 500MG	Human	No	Prescription	1	AMOXICILLIN (AMOXICILLIN)	500 MG
Marketed	00885908	JAAPHARM CANADA INC.	AMOX S 125 SUS 125MG/5ML	Human	No	Prescription	1	AMOXICILLIN (AMOXICILLIN)	125 MG / 5 ML
Marketed	00885916	JAAPHARM CANADA INC.	AMOX S 250 SUS 250MG/5ML	Human	No	Prescription	1	AMOXICILLIN (AMOXICILLIN)	250 MG / 5 ML
Marketed	02326515	PRO DOC LIMITEE	AMOXI-CLAV	Human	Yes	Prescription	2	CLAVULANIC ACID (POTASSIUM CLAVULANATE)	125 MG
Marketed	02326523	PRO DOC LIMITEE	AMOXI-CLAV	Human	Yes	Prescription	2	CLAVULANIC ACID (POTASSIUM CLAVULANATE)	125 MG
Approved	02237154	BGP PHARMA ULC	AMOXICILLIN	Human	Yes	Prescription	1	AMOXICILLIN	500 MG / CAP
Marketed	02352710	SANIS HEALTH INC	AMOXICILLIN	Human	Yes	Prescription	1	AMOXICILLIN (AMOXICILLIN TRIHYDRATE)	250 MG
Marketed	02352729	SANIS HEALTH INC	AMOXICILLIN	Human	Yes	Prescription	1	AMOXICILLIN (AMOXICILLIN TRIHYDRATE)	500 MG
Cancelled Post Market	02352737	SANIS HEALTH INC	AMOXICILLIN	Human	Yes	Prescription	1	AMOXICILLIN (AMOXICILLIN TRIHYDRATE)	250 MG

- And apply rules-based transforms when needed to generate the data in the desired structure and conforming to the Editorial Policy from the Advisory Group
- Publish the Dataset at regular intervals for use in systems

# NTP Example (I):

code: 123456987  
Description (EN): Amoxicillin 250 mg capsule  
Description (FR): Amoxicillin 250 mg capsule  
Status: available  
Formal name: Amoxicillin 250mg oral capsule

## Dose Form

code: 33312345  
Manufactured dose form: oral capsule  
Pharmaceutical dose form: oral capsule

## Substance-Strength Set

code: 54512345

## Unit of presentation

code: 54509966  
Unit of presentation: capsule

## Substance-Strength

code: 54672345  
Substance: Amoxicillin trihydrate  
Strength: 250mg (per capsule)

# NTP Example (II):

code: 29473741  
Description (EN): amoxicillin 250 mg per 5 mL and clavulanic acid 125 mg per 5mL oral solution  
Description (FR): amoxicillin 250 mg per 5 mL and clavulanic acid 125 mg per 5mL solution orale  
Status: available  
Formal name: amoxicillin 250 mg per 5 mL and clavulanic acid 125 mg per 5mL oral solution

## Dose Form

code: 33674345  
Manufactured dose form: powder for oral solution  
Pharmaceutical dose form: oral solution

## Unit of presentation

code: 54098343  
Unit of presentation: 5mL spoonful

## Substance-Strength Set

code: 33578402

## Substance-Strength

code: 43998471  
Substance: Clavulanic acid  
Strength: 125mg / 5mL

## Substance-Strength

code: 37298371  
Substance: Amoxicillin trihydrate  
Strength: 250mg / 5mL

# Manufactured Product Examples:



Manufacturer = JAAPHARM CANADA INC.

DIN = 885886  
Desc.EN = AMOX 250 CAP 250MG  
(JAAPHARM CANADA INC.)  
Desc.FR =  
Availability status = Available

DIN = 2352710  
Desc.EN = AMOXICILLIN 250 CAP 250MG  
(SANIS HEALTH INC.)  
Desc.FR =  
Availability status = Available

Manufacturer = SANIS HEALTH INC.

# Example Relationship between Clinical Drug and Manufactured Product



Code = abc123abc  
Desc.EN = Amoxicillin 250 mg capsules  
Desc.FR = Amoxicillin 250 mg capsules  
Status = Available

DIN = 885886  
Desc.EN = AMOX 250 CAP 250MG  
(JAAPHARM CANADA INC.)  
Desc.FR =  
Status = Available

DIN = 2352710  
Desc.EN = AMOXICILLIN 250 CAP 250MG  
(SANIS HEALTH INC.)  
Desc.FR =  
Status = Available

*And lots more*

# Benefits: the win-win scenario 😊

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- National medicinal product terminology to support healthcare interoperability
  - Improved patient safety
  - Improved efficiency
- Information from the “official source” for all enterprises, including the knowledgebase vendors
  - High quality, consistent, timely
- Initial “introduction” to the practicalities of IDMP implementation for HC
- Consistent with goal of making information available to the public usefully
- Staged, pragmatic, realistic delivery, guided by an expert Advisory Group

*Any Questions?*

Thank you

