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

Julie James
Partner, Blue Wave Informatics LLP
Julie_James@BlueWaveInformatics.co.uk

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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

• 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”
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.

*All systems currently support Health Canada DIN*
• 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...

- 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 (pharmacoepidemiology etc.)
The NTP-CA Dataset “Model”

Basically, a small subset of 11615 plus supporting controlled terminology

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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)
  – 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

Substance-Strength Set
code: 33578402

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

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

Unit of presentation
code: 54098343
Unit of presentation: 5mL spoonful

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Manufactured Product Examples:

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

- **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 😊

- 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 😊