GS1 Standards Webinar

Classification and Nomenclature 101

Robert Bell, Director, Healthcare, GS1 Canada

November 28, 2019
Agenda

1. GS1 – Who We Are
2. What is Classification and Nomenclature?
3. Classification Examples
4. Nomenclature Examples
5. Questions
GS1 – Who We Are
1.5 million companies around the world use GS1 standards

Over 100 million products carry GS1 barcodes around the world

More than 6 billion GS1 barcodes are scanned around the world every day

114 Member Organizations Globally

We believe in the power of standards to transform the way we live and work
Neutral, not-for-profit association with +20,000 Subscribers that develops and maintains global standards for efficient business communication

Community Management: Collaborate with business leaders, sector boards, advisory councils and industry work groups

Education: Partnering with industry, we provide education and implementation support

Solutions Development: Directed by industry, we develop Industry Managed Solutions to address specific sector-wide, non-competitive business process issues, built on cost-recovery basis and focused on data integrity
What is Classification and Nomenclature?
## Identifying and Naming Things...

### Classification

<table>
<thead>
<tr>
<th>Taxon</th>
<th>Tiger</th>
<th>Lion</th>
<th>Gray Wolf</th>
<th>Domestic Cat</th>
<th>Mountain Lion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kingdom</td>
<td>Animalia</td>
<td>Animalia</td>
<td>Animalia</td>
<td>Animalia</td>
<td>Animalia</td>
</tr>
<tr>
<td>Phylum</td>
<td>Chordata</td>
<td>Chordata</td>
<td>Chordata</td>
<td>Chordata</td>
<td>Chordata</td>
</tr>
<tr>
<td>Class</td>
<td>Mammalia</td>
<td>Mammalia</td>
<td>Mammalia</td>
<td>Mammalia</td>
<td>Mammalia</td>
</tr>
<tr>
<td>Order</td>
<td>Carnivora</td>
<td>Carnivora</td>
<td>Carnivora</td>
<td>Carnivora</td>
<td>Carnivora</td>
</tr>
<tr>
<td>Family</td>
<td>Felidae</td>
<td>X</td>
<td>Canidae</td>
<td>Felidae</td>
<td>Felidae</td>
</tr>
<tr>
<td>Genus</td>
<td>Panthera</td>
<td>Panthera</td>
<td>Canis</td>
<td>Felis</td>
<td>Puma</td>
</tr>
<tr>
<td>Species</td>
<td>Panthera tigris</td>
<td>Panthera leo</td>
<td>Canis lupus</td>
<td>Felis catus</td>
<td>Puma concolor</td>
</tr>
</tbody>
</table>

**Felis Domesticus**
(Domestic cats)

*Source: slideshare.net/kareenmartin/chapter26-9977231*
## Classifications and Nomenclatures In Healthcare

<table>
<thead>
<tr>
<th>Classification/Standard</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>United Nations Standard Products and Services Code (UNSPSC)</td>
<td></td>
</tr>
<tr>
<td>Global Medical Device Nomenclature (GMDN)</td>
<td></td>
</tr>
<tr>
<td>Universal Medical Device Nomenclature System (UMDANS)</td>
<td></td>
</tr>
<tr>
<td>Global Product Classification (GPC)</td>
<td></td>
</tr>
<tr>
<td>Anatomical Therapeutic Chemical (ATC) Classification</td>
<td></td>
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<tr>
<td>American Hospital Formulary Service (AHFS)</td>
<td></td>
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<tr>
<td>Uniform System of Classification (USC)</td>
<td></td>
</tr>
<tr>
<td>Canadian Medical Device Regulations (CMDR)</td>
<td></td>
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<tr>
<td>eCl@ss Standardized Material and Service Classification and Dictionary</td>
<td></td>
</tr>
<tr>
<td>Classificazione Nazionale dei Dispositivi medici (CND)</td>
<td></td>
</tr>
<tr>
<td>Systematized Nomenclature of Medicine (SNOMED)</td>
<td></td>
</tr>
</tbody>
</table>
What is Classification?

Classification:

A form of cataloguing, or identifying, products and can be defined as a process for grouping products into categories based on an understanding of the essential properties and relationships between them.

Examples:

• United Nations Standard Products and Services Code (UNSPSC)
• Global Product Classification (GPC)
• Anatomical Therapeutic Chemical (ATC) Classification.
What is Nomenclature?

**Nomenclature:**

A system with rules to name individual items. A nomenclature system is used to provide common descriptions to products which have the same performance characteristics and thereby can be substituted for each another.

Example: two syringes, with differing product descriptions from two different manufacturers which are designed for the same purpose or use.
Classification and Nomenclature

Classification

A classification system is used to **group** like products such as Medical Devices, versus Pharmaceutical Drugs.

Nomenclature

A nomenclature system is used to **name / describe** like products (e.g. 10 ml syringe, 5 gauge)
Where Do I Find Classification and Nomenclature Data?

Organizations are obtaining classification and nomenclature information from a variety of sources including:

- Websites (e.g. www.unspsc.org)
- Organizations are self assigning / maintaining
- Manufacturers provide to customers (e.g. product catalogue, tendering and contracting)
- Regulatory Agency (e.g. US FDA GUDID)
- 3rd party supplied (e.g. solution provider, agency)
Manufacturers of healthcare products can publish classification and nomenclature information to healthcare providers using the Global Data Synchronization Network (GDSN)
Classification Benefits

Common benefits of using classification systems

- **Supports common business processes including:** Spend analysis, Procurement, Category management, Materials management, Importation/customs
- **Supports** alignment of item masters across multiple Enterprise Resource Planning (ERP) systems
- **Open Standard/Royalty-Free use** (UNSPSC, GPC)
- **Can be used in multiple industries** (e.g. medical device, pharmacy, foodservice)
- **Centrally maintained with regular updates**
- **User-driven (input)**
Nomenclature Benefits

Common benefits of using nomenclature systems

- **Communication and record keeping** between manufacturers and regulatory bodies;
- Collation of **post-market surveillance data**;
- **Inventory management analysis**.
- Health care authorities – Clinical engineering (e.g. MTPReg Sweden)
- **Supply chain management**
Classification Examples
What is the UNSPSC?

United Nations Standard Products and Services Code® (UNSPSC®) is a cross sector CLASSIFICATION system.

- A free and open standard
- A taxonomy of materials, products, and services
- A business tool
- Managed by GS1 US
UNSPSC Design

- Hierarchical 4-level tree structure:
  - Segment, Family, Class and Commodity
- Category titles are unambiguous and mutually exclusive
- Products appear in only one category; categories each have only one parent
- Products are grouped according to dominate usage in world market
UNSPSC Structure

Hierarchical 4-level tree structure

Segment
  Family
    Class
      Commodity

Code: 42291613
Description: Surgical scalpel
UNSPSC Example:

Purpose: to enable collaborative commerce

Segment 42000000

Family 42290000

Class 42291600

Commodity 42291613

Class 42291800

Commodity 42291802

Medical Equipment and Accessories and Supplies

Surgical products

Surgical cutting instruments and snares and related products

Surgical scalpels or knives or blades or trephines or accessories

Surgical clamps and forceps and surgical ligators and related instruments

Surgical clamps or clips or forceps or accessories

42291613  Surgical scalpel

42291802  Surgical clamp
Resource for UNSPSC

- **Administration:** UNSPSC custodian is GS1 US

- **Fees:**
  - No fees to access UNSPSC online
  - Membership fee for full access

- **Resources:**
  - UNSPSC website [www.unspsc.org](http://www.unspsc.org)
  - GS1 Canada – [www.gs1ca.org](http://www.gs1ca.org)
GPC (Global Product Classification)

Global Product Classification - A system that gives a common language for grouping products in the same way

GPC gives buyers and sellers a common language to group products the same way globally to ensure effective data synchronization in the Global Data Synchronization Network (GDSN). GPC enables the following processes:

- Item Registration
- Subscription
- Validation
- Search
- Publication/Subscription Match
- ...

The Global Language of Business
The business objectives of GPC are to:

- Provide a common language for category management, thus speeding up reaction to consumer needs
- Be a key enabler of the Global Data Synchronization Network
- To be a Pivotal classification system between the information exchange parties
GPC Structure

Segment
An industry sector

Family
A broad division of a segment

Class
A group of similar categories

Brick
A category of similar products

Food, beverages and tobacco

Milk, butter, cream, yoghurts, cheese, eggs and substitutes

Milk and milk substitutes

Milk (perishable)
Example: GPC

GPC Code Set and Descriptor

Please select a Language and a Publication in order to start your search.

- Family: 50140000 - Meat/Poultry/Other Animals
- Family: 50130000 - Milk/Butter/Cream/Yogurt/Cheese/Eggs/Substitutes
  - Class: 50131900 - Butter/Butter Substitutes
  - Class: 50131800 - Cheese/Cheese Substitutes
  - Class: 50132000 - Cream/Cream Substitutes
  - Class: 50132600 - Dairy Derivatives/By Products
  - Class: 50132200 - Eggs/Eggs Extracts [Industrial Process]
  - Class: 50132500 - Eggs/Eggs Substitutes
  - Class: 50132200 - Milk/Butter/Cream/Yogurt/Cheese/Eggs/Substitutes Variety Packs
  - Class: 50131700 - Milk/Milk Substitutes
    - Brick: 10000027 - Milk (Frozen)
    - Brick: 10000025 - Milk (Perishable)
    - Brick: 10000026 - Milk (Shelf Stable)
    - Brick: 10005969 - Milk Substitutes (Frozen)
    - Brick: 10005970 - Milk Substitutes (Perishable)
    - Brick: 10005971 - Milk Substitutes (Shelf Stable)
Resource for GPC

• **Administration:**
  - GPC developed and maintained by GS1
  - Multi sector classification system (healthcare limited / developing)

• **Fees:**
  - No fees to access GPC online

• **Resources:**
  - Online GPC Browser: [https://www.gs1.org/services/gpc-browser](https://www.gs1.org/services/gpc-browser)
Nomenclature Examples
The main purpose of the GMDN is to provide a naming system that will support patient safety.

GMDN used to:

• Support regulatory requirements
• Support purchasing, supply chain management, and inventory control in hospitals

The work was mandated by the European Commission in order to provide the necessary tool to carry out implementation of the Medical Device Directive.
Example: GMDN

Each GMDN Term consists of 3 parts:

• **Term Name**: General-purpose syringe, single-use

• **Definition**: “A sterile device consisting of a calibrated barrel (cylinder) with plunger intended to be used for injection/withdrawal of fluids/gas (e.g., medication) to/from a medical device or the body (i.e., capable of both)...”

• **Code**: 47017
## ACCESS GUDID Example

<table>
<thead>
<tr>
<th>GMDN Code</th>
<th>GMDN Preferred Term Name</th>
<th>GMDN Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>[Not provided in the GUDID]</td>
<td>General-purpose syringe, single-use</td>
<td>A sterile device consisting of a calibrated barrel (cylinder) with plunger intended to be used for injection/withdrawal of fluids/gas (e.g., medication) to/from a medical device or the body (i.e., capable of both); a needle is not included. It is intended for various medical applications and is not dedicated to medication administration. At the distal end of the barrel is a male connector (typically Luer-lock/slip type) for the attachment to a hypodermic needle or an administration set. It is typically made of plastic and silicone materials and may have anti-stick plunger allowing smooth plunger movement, either manually or by a syringe pump. This is a single-use device.</td>
</tr>
</tbody>
</table>

Notice: Improving access to medical devices information

May 22, 2018
Our reference number: 18-104326-657

Health Canada is adopting the Global Medical Device Nomenclature (GMDN)

Health Canada is initiating the transition from its current medical device categorization method to the Global Medical Device Nomenclature (GMDN), in order to improve the availability, access to, and the quality of information available on medical devices in Canada. Continuous and significant technological advancement in the field of medical devices makes it necessary for Health Canada to implement a nomenclature designed to keep pace with medical devices innovations.

Health Canada’s decision to use the GMDN is in line with the recommendation of the International Medical Device Regulators Forum (IMDRF) and supports the Federal Government’s Open Government initiative by improving the quality of medical devices data available to the public and leading to greater transparency.

Resource for GMDN

• **Administration:** GMDN Agency

• **Fees:**
  - No fees to access GMDN Term Name and Definition via Access GUDID
  - Membership fees may apply for manufacturers

• **Resources:**
  - GMDN Agency website: gmdnagency.org
SNOMED CT  
(The Systematized Nomenclature of Medicine Clinical Terms)

The Systematized Nomenclature of Medicine (SNOMED) CT®
(Systematized Nomenclature of Medicine- Clinical Terms – controlled coded clinical terminology for use in electronic health records)

- SNOMED CT contributes to the improvement of patient care by underpinning the development of Electronic Health Records that record clinical information in ways that enable meaning-based retrieval. This provides effective access to information required for decision support and consistent reporting and analysis. Patients benefit from the use of SNOMED CT because it improves the recording of EHR information and facilitates better communication, leading to improvements in the quality of care.
SNOMED CT Structure

- **Concepts**
  - Represents clinical meanings and their defining attributes
- **Descriptions**
  - Human readable terms or names assigned to concepts
- **Relationships**
  - Links concepts with terminology

All have:
- Unique code for every component
- Comprehensive history tracking
- Extensions (reference sets)
SNOMED CT In the Background

Request Pathology
- LFT – Liver function test
- FBC – Full Blood count
- HbA1c – Hemoglobin A1c level
- Fasting blood lipids

Sex
- Male
- Female

Risk Factors
- Impaired glucose tolerance
- Hypercholesterolemia
- Overweight
- High blood pressure
- Current smoker
- Heavy drinker
Resource for SNOMED

• **Administration:** SNOMED International, Canada Health Infoway for Canada

• **Fees:**
  - No fees to use in North America.  
    *Canada part of International Health Terminology Standards Development Organization (IHTSDO).*
  - Membership fees may apply for manufacturers

• **Resources:**
  - SNOMED International website: snomed.org
Contact Information

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Toronto, Ontario, M3B 3K4 Canada

T 416.510.8039
1.800.567.7084
E info@gs1ca.org

www.gs1ca.org
Join us for our Upcoming Webinars

Thursday January 30th, 2:00 PM EST – GS1 Standards Webinar

GS1 Standards Webinar – New Item Introduction & Item Management

Instructors: Rob Bell

https://hscn.org/event/gs1-webinar-jan-30-20/

Please take 1 minute to fill in the Evaluation for this session – it will arrive in your mailbox shortly. Your feedback is important to us!
Acknowledgements

- GS1 Canada Healthcare Provider Deployment Committee, Classification and Nomenclature Education, September 13, 2018
- Ivey Business School, Models for Global Medical Device Supply Chain Standards, May 2018
- AHRMM LUC, Device Categorization Work Group Report, September 2019
- SNOMED CT, SNOMED.org
- GMDN AGENCY, gmdnagency.org
- UNSPSC, unspsc.org
- GPC, gs1ca.org