All is about Medicinal Product Dictionary

Delphine Carli-Ghabarot\(^a\), Christian Hay\(^c\), Pascal Bonnabry\(^a,b\), Christian Lovis\(^c,e\)

\(^a\) Department of Pharmacy, Geneva University Hospitals, Geneva, Switzerland
\(^b\) School of Pharmaceutical Sciences, University of Geneva, University of Lausanne, Geneva, Switzerland
\(^c\) International Organization for Standardization Technical Committee 215, Working Group 6 (Pharmacy and Medicines Business)
\(^d\) GS1 Healthcare
\(^e\) Division of Medical Information Sciences, Geneva University Hospitals and University of Geneva, Switzerland

Introduction

There are thousands of medicinal products and each of them has numerous characteristics. Healthcare providers, institutions and companies use information systems in which information on medicinal products are stored, exchanged and used daily. These information systems require drug dictionaries to accurately and consistently identify medication concepts that fulfill specific local, regional or national needs. Within a global context of drug information flow, the development of an international standard is essential. The International Organization for Standardization is leading the definition of a new specification: the Medicinal Product Dictionary (MPD).

Objective of the MPD

Any MPD has to improve quality, efficiency and safety of care, support decision-support and increase consistency between different sources of information. The MPD aims to provide the foundations for other international standards, which help to support interoperability between health care information systems, organizations and regulations as well as between care settings and other users such as insurance or regulatory agencies.

Method: defining the MPD

The MPD contains information about licensed human medicinal products. The MPD is focused on the needs of health care professionals and contains the identification of medicinal products and their relationships, serving as a backbone for the connection to a knowledge database. It is leveraging the recent standardisation effort Identification of Medicinal Products (IDMP) made by regulatory agencies with the purpose to facilitate interoperable information exchanges between agencies as well as to enhance pharmacovigilance on a worldwide perspective. Data exchange will be based on the medicinal product identification according IDMP rather than on an attempt to match locally registered sub-sets of information about the products, sub-sets that would often differ between the systems due to their different contexts and purposes. As a result, MPD supports several processes in healthcare in which medication plays a role; the recent European Union call “Horizon 2020” includes the requirement to dispose of efficient and harmonised data structures for cross-border prescription / dispensing processes.

Results: MPD expected outcomes

The ISO specification will facilitate health professionals’ activities when related to drug utilisation. The MPD aims at a minimum set of use cases that a medicinal product dictionary must support, establishing a consistent representation of medication clinical terms and identifiers with meaningful relationships. MPD should be designed in a consistent and appropriate structure and with an appropriate level of detail to support the different use cases. Among others, the specification will supply the link between the virtual medicinal products prescribed and the corresponding group of trade products; it will require various items of clinical decision support (e.g., indication-based dose checking) facilitating decision-support processes. It will also be able to describe medicinal products in sufficient detail so that the dispenser can correctly select the actual product to dispense and to provide relationships between the current products that fit generic descriptions of medicines that may be used by a prescriber. Furthermore the MPD will support other use cases such as: i) ordering and supplying – here, the MPD will have to include machine readable bar code identifiers (ISO TS 16791) for drug traceability, from reception to administration, ii) clinical research; various strategies are now being developed to support recruitment, including clinical trial recruitment support systems for protocol feasibility studies and patient recruitment, iii) analytics / statistics around medicinal products; MPD will be able to reconcile medicinal product with standard system (e.g., ATC, DDD) to facilitate retrospective analysis.

Discussion: Expected benefits of MPD

Expected benefits of MPD would be: i) to facilitate accuracy and consistency of concepts and terms, enabling interoperability between MPDs, ii) to provide information and design to MPD developers and to be an efficient tool for decision support systems, which are important to underpin...
safe medication practice, iii) to reduce redundancy of data collection and possible lack of governance and iv) to reduce cost of developing and maintaining MPD.

Correspondence:
Delphine Carli-Ghabarou
Geneva University Hospitals
Department of Pharmacy
Rue Gabrielle-Perret-Gentil 4
CH-1211 Geneva 14
delphine.carli[at]hcuge.ch