EMA perspectives on ICH M4Q(R2) and digital regulatory assessment

CMC strategy forum, Brugge, 17-19 October 2022

Klara Tiitso, Pharmaceutical Quality Senior Specialist, European Medicines Agency
Presentation outline

➢ Introduction
➢ M4Q(R2) roadmap
➢ Concept paper
  ▪ Problem statement
  ▪ Issues to be resolved
  ▪ Objectives
➢ Structured Product Quality Submissions
➢ EU digitalisation overview
➢ What are the benefits?
What is ICH M4Q designed to do?

- Provides a harmonised structure and format for presenting quality information in the CTD
- M4Q(R1) was developed in 2002
- Major improvement over paper/local submission formats
Current ICH M4Q(R1)

Module 2

Summaries of information from Module 3

Module 3

Body of data pertaining to manufacturing, analytical methods, process development, specifications, reference standards, container closure system, and stability
ICH M4Q(R2) roadmap

- **Conception paper**: 2021
- **Draft guideline (Step 1+2)**: 2022
- **Public workshops**: 2023
- **Finalisation of guideline (Step 3+4)**: 2024

- **European Medicines Agency**
EU input to ICH M4Q(R2)

European Regulatory Network

- Biologics Working Party
- Inspectors Working Group
- Quality Working Party

EMA functions
(Pharmaceutical Quality, Inspections, Regulatory affairs)

EC, Europe
- Klaas Tilts
- Mr. Antonius (Ton) Johannes van der Stappen

EDA, Egypt
- Dr. Sara Shata

EFPIA
- Henrik Kim Nielsen

FDA, United States
- Dr. Ingrid Markovic
- Dr. Susan Rosencrance

Global Self-Care Federation
- Ms. Christelle Allens-Muller

Health Canada, Canada
- Dr. Hugo Hamel

IFPMA
- Ms. Shiota Inada

IGBA
- Mr. Javier Monvoisin

JPMA
- Mr. Hiroki Ito
- Ms. Tomoko Yamato

MFDS, Republic of Korea
- Dr. Naeoo Kang

MHLW/PMDA, Japan

NMPA, China

Disclaimer: Expert Working Groups members are appointed by their nominating ICH Member or Observer party and are responsible for representing the views of that party, which may not necessarily reflect their personal views. Working Group experts do not represent personally to external inquiries but are directed to forward any inquiries they receive to their nominating party or the ICH Secretariat for a response on behalf of either their ICH party or the ICH Association as appropriate. For questions to the ICH Secretariat, please use the contact form on the ICH website.
M4Q(R2) concept paper - what are the perceived problems?

- Need to further support and clarify global understanding of the CTD, enabling greater regulatory convergence and harmonisation
- Lack of alignment with recent quality guidelines (Q8-14)
- Need to better support multicomponent and/or complex products
- Need to facilitate leveraging advances in digital tools, data management and standardisation, and analytics to enhance efficiencies of regulatory submissions and assessments
M4Q(R2) concept paper – what are the issues to be resolved?

- Establishing the role of M4Q(R2) as the main source of the structure and location of regulatory quality information.
- Incorporating concepts and data expectations presented in ICH Quality guidelines and aligning with currently recognized international standards and guidelines.
- Enhancing the Quality Module 2 to facilitate the efficiency and effectiveness of regulatory submissions and assessments.
- Expanding the scope of M4Q(R1) guideline to include all pharmaceutical drug substances and products (both chemical and biological).
- Organizing product and manufacturing information in a suitable format for easy access, analysis, and knowledge management.
- Better capturing the pharmaceutical development and the proposed overall control strategy, which should be the backbone of the revised M4Q structure.
M4Q(R2) concept paper – what are the objectives?

M4Q(R2) guideline will improve submission and assessment efficiency, resulting in accelerated access to pharmaceuticals by (6Es):

1. **Encouraging global convergence** of science- and risk-based regulatory approaches in the preparation of dossiers.
2. **Explaining** and defining the **organization and positioning of information** for Modules 2 and 3.
3. **Enriching communication** between regulators and applicants and enhancing lifecycle and knowledge management.
4. **Embracing** product and process **innovation**.
5. **Enabling efficient use of digital tools** for submission and assessment.
6. **Elucidating regulatory expectations** and supporting efficient assessments and decision-making.
Structured product quality submissions

*Structured data is highly organised and formatted, making it searchable and easy to collect, process, and analyse*

- Implementation of structured data outside scope of M4Q(R2) – Structured product quality submissions (SPQS) agreed as separate ICH topic
- Stepwise approach: SPQS to start when M4Q(R2) reaches step 2
EU digitalisation → Moving to a Data-Centric Target Operating Model

1. Capture Data
   - Industry
   - Architecture enables interoperability and provides human and machine interface

2. Validate, assess & analyse Data
   - Structured data input
   - Data assessment during regulatory procedure

3. Store Data using agreed standards
   - Data stored & made available from key data hubs

Reusable Data
- One common messaging standard - FHIR/HL7 based
- A set of common medicinal product data elements across different messages - ISO IDMP compatible

Share Data
- EMA
- NCAs
- Industry
- Citizens

Deliver the operating model through a combination of different projects
- DADI, ePI, eCTD 4.0, PMS
- IRIS
- PMS, ePI, eCTD 4.0 repository
What are the benefits?

Improved access to data and information

Use of intelligent data analysis and risk assessment

Easy sharing of information

Effective knowledge management

Streamlined regulatory assessment

Improved product oversight

Increased consistency in regulatory decision making

Enhanced B/R decisions

Support regulatory convergence and reliance

Improved communication with industry
Any questions?

klara.tiitso@ema.europa.eu

Official address  Domenico Scarlattilaan 6  •  1083 HS Amsterdam  •  The Netherlands
Telephone  +31 (0)88 781 6000
Send us a question  Go to www.ema.europa.eu/contact

Follow us on  @EMA_News