04 Issue 4
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HMA Heads of Medicines Agencies

EMA EUROPEAN MEDICINES AGENCY

BIG DATA

HIGHLIGHTS

Quarterly update on implementation activities of the HMA-EMA Big Data Steering Group workplan

An agency of the European Union

INSIDE THIS ISSUE

Editorial

Patient experience data in medicines development and regulatory decision-making

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Patient experience data (PED) on medicines and their benefits and risks holds great promise to the EU Medicines Regulatory Network. PED can contribute to the evidence that supports regulatory approval and that medicines reach the patients who need them. Despite progress in recent years, PED are still not systematically included in all aspects of medicines development and regulation. To progress, EMA in collaboration with the regulatory network organised a multi-stakeholder workshop on 21st September 2022. The objectives of the workshop included to achieve a common understanding on what constitutes 'patient experience data'; to reflect on current methods and challenges for collecting and incorporating patient data (including real world healthcare data), and to agree on priorities.

The workshop allowed to clarify that the voice of patients and carers is critical during the whole lifecycle of a medicine, from early development to reporting of adverse drug reactions (ADRs) and risk minimisation

There was broad agreement on key concepts such as what is patient experience data. The main challenges faced by stakeholders were identified and next steps agreed.
EU regulators conveyed a clear message that they want patient experience data to be part of marketing authorisation applications. All stakeholders agreed that the digitalisation of patient generated data offers enormous opportunities to allow real time monitoring and participation in observational studies or clinical trials. Importantly, it was agreed to integrate PED with ongoing activities in the European Health Data Space and the Big Data work plan 2022-2025. A reflection paper on PED will be prepared to clarify EMA's position and support mechanisms to developers in the EU.

More detailed information is available here.

Featured topics

Big Data priority recommendations

DARWIN EU®

DARWIN EU® welcomes first data partners

EMA has selected the first set of data partners to collaborate with DARWIN EU®, the Data Analysis and Real-World Interrogation Network (see EMA announcement). The data available to these partners will be used for studies to generate real-world evidence that will support scientific evaluations and regulatory decision making.

The selected partners include both public and private institutions. The common feature is that they all have access to real-world healthcare data from one or more sources such as hospitals, primary care, health insurance, biobanks or disease-specific patient registries. The data partners will provide the DARWIN EU® Coordination Centre with results of analyses of these data.

With the onboarding of data partners, EMA has initiated the launch of the first three studies to be provided by DARWIN EU®. One study will focus on the epidemiology of rare blood cancers to inform on their prevalence in Europe. The second study is on drug use of valproate in pregnancy and the third is looking at the use of antibiotics to inform future work on anti-microbial resistance. EMA will report more details of these studies in due course, including the publication of protocols and reports in the EU PAS register.

The number of data partners will increase in the coming years. The target is to add at least ten new data partners every year. In 2023, a call for expressions of interest for potential new data partners will be launched.

Further information: DARWIN EU® webpage.

Data quality and representativeness

Quality of data is key to data-driven regulation

The European Medicines Regulatory Network has developed the first draft version of the Data Quality Framework which provides general considerations that can be applied to a wide range of data sources to characterise and assess data quality for decision making (see EMA announcement).

It also outlines what data quality actions and metrics can be put in place in different regulatory decision-making scenarios and introduces maturity models for the characterisation of data quality for regulatory purposes. The framework intends to provide an overarching framework to identify, define and further develop data quality assessment procedures and recommendations for current and novel data types.

The draft document was released for public consultation until 18 November 2022 and received contributions from various stakeholder groups. Comments received are being considered for the final version of the document which will be published in early 2023.

Data discoverability

First ever guide for the use of real-world metadata

The regulatory network has produced a draft good practice guide for the use of the EU metadata catalogue of real-world data sources. It is the first guide produced worldwide to focus on metadata to empower systematic integration of real-world evidence in medicines regulation.

The guide provides recommendations on how to use the catalogue of real-world metadata that is currently being built and will replace the existing catalogue of the European Network of Centres for Pharmacoepidemiology and Pharmacovigilance (ENCePP) in late 2023. The guide will help to identify suitable real-world data sources for studies and describes the metadata elements that will be used. The public consultation on this guide was open until 16 November 2022. Following the consultation, feedback received from stakeholders is being considered in the final version of the guide which intends to be published in early 2023.

Network capability to analyse

Clinical Trials Raw Data Pilot: first raw data submission received

The first regulatory procedure for the CHMP pilot (launched in September) to assess the place of individual patient data from clinical studies (raw data) in regulatory decision making has been selected and successfully submitted. EMA has received the initial marketing authorisation application for treatment of neurological disorder which contains raw data. Analysis and visualisation of 'raw data' will be conducted by the Danish Medicines Agency - contracted to EMA following a procurement procedure. The pilot is expected to include 10 regulatory procedures submitted to EMA from September 2022 over a period of two years. It is open to applicants or Marketing Authorisation Holders (MAHs) that are about to submit marketing authorisation applications or post-authorisation applications. Information on the pilot's scope, data protection related documents and guidance for Applicants and MAHs can be found on EMA's Big Data webpage.

Delivery of expert advice

Establishment of Methodology Working Party

A new Methodology Working Party (MWP) was established by the Committee for Medicinal Products for Human Use in order to bring together and optimise expertise from existing working parties in biostatistics, modelling & simulation, pharmacokinetics, and pharmacogenomics, and also to bring onboard additional expertise in real-world evidence and artificial intelligence. The MWP aims to leverage the cross-disciplinary expertise to support methodological innovation in global drug development and support advice and interpretation of complex methodology across drug development.

Professor Kit Roes, previously the chair of the Biostatistics Working Party was elected chair. Kristin Karlsson, previously the chair of the Modelling & Simulation Working Party was elected vice-chair. The MWP met for the first time in April and has been meeting twice monthly ever since. The first major task was the development of the workplan, building on the original workplans of the existing working parties, but also taking into account the wider strategic needs and priorities outlined for example in the European medicines agencies network strategy to 2025 and the Big Data Steering Group work plan 2022-2025. The MWP workplan 2022-2024 will be finalised and published on the EMA website by the end of this year.

More information can be found here.

International initiatives

Open consultation on ICH M11 guideline, clinical study protocol template and technical specifications

The purpose of this new draft Guideline is to introduce the clinical protocol template and the technical specification to ensure that protocols are prepared in a consistent fashion and provided in a harmonised data exchange format acceptable to the regulatory authorities.

The ICH M11 Clinical Electronic Structured Harmonised Protocol Template provides comprehensive clinical protocol organisation with standardised content with both required and optional components.

The Technical Specifications that are acceptable to all regulatory authorities of the ICH regions presents the conformance, cardinality, and other technical attributes that enable the interoperable electronic exchange of protocol content with a view to develop an open, non-proprietary standard to enable electronic exchange of clinical protocol information.

Further information can be found on the EMA and ICH M11 websites. The public consultation is open until 26 February 2023.

Veterinary recommendations

Advanced analytics to support animal and public health: 2nd Veterinary Big Data Stakeholder Forum

Since last year, awareness on Big Data in the veterinary domain has increased and a coalition of willing has been established with the adoption fo the EU Vet Big Data Strategy in May 2022. The second Veterinary Big Data Stakeholders Forum welcomed over 300 representatives from pharmaceutical industry, animal healthcare professionals, academia, regulatory authorities and other national and international government bodies to resume discussions on how new digital technologies can foster veterinary regulatory activities for the benefit of animal and public health.

The ambition of this event was to move the discussion *from vision to action* by scrutinising a set of concrete use cases in the areas of veterinary medicines availability, pharmacovigilance, disease monitoring and antimicrobials resistance and to examine benefits and priorities to respond to a fast-changing data-driven environment and get prepared for the challenges ahead.

There was broad agreement that whilst progressing on enriching and increasing data quality in the veterinary systems established under Veterinary Regulation (2019/06), an EU Veterinary Workplan should be derived to identify and prioritise digital use cases for the coming years. The main challenges shared by stakeholders relate to resources and timing, data ownership and accessibility and variability and heterogenicity of knowledge, data and technologies.

Among suggestions received from stakeholders to support the data driven transformation in the veterinary domain were:

- Identification and integration of suitable animal health data sources and metadata analysis is critical;
- To mobilise stakeholders and expertise, an agile multidisciplinary platform should be established to drive implementation of the workplan and advice on independent analytic methodologies integrating One Health collaboration;
- That a potential for an Animal Health Data Space interoperable with One Health spaces could be explored.

The forum concluded on the need to keep the momentum and consolidate cooperation with stakeholders to establish data-driven and evidence-based decision-making practices underpinning innovation in the Veterinary Medicines Regulation domain for animal and public health.

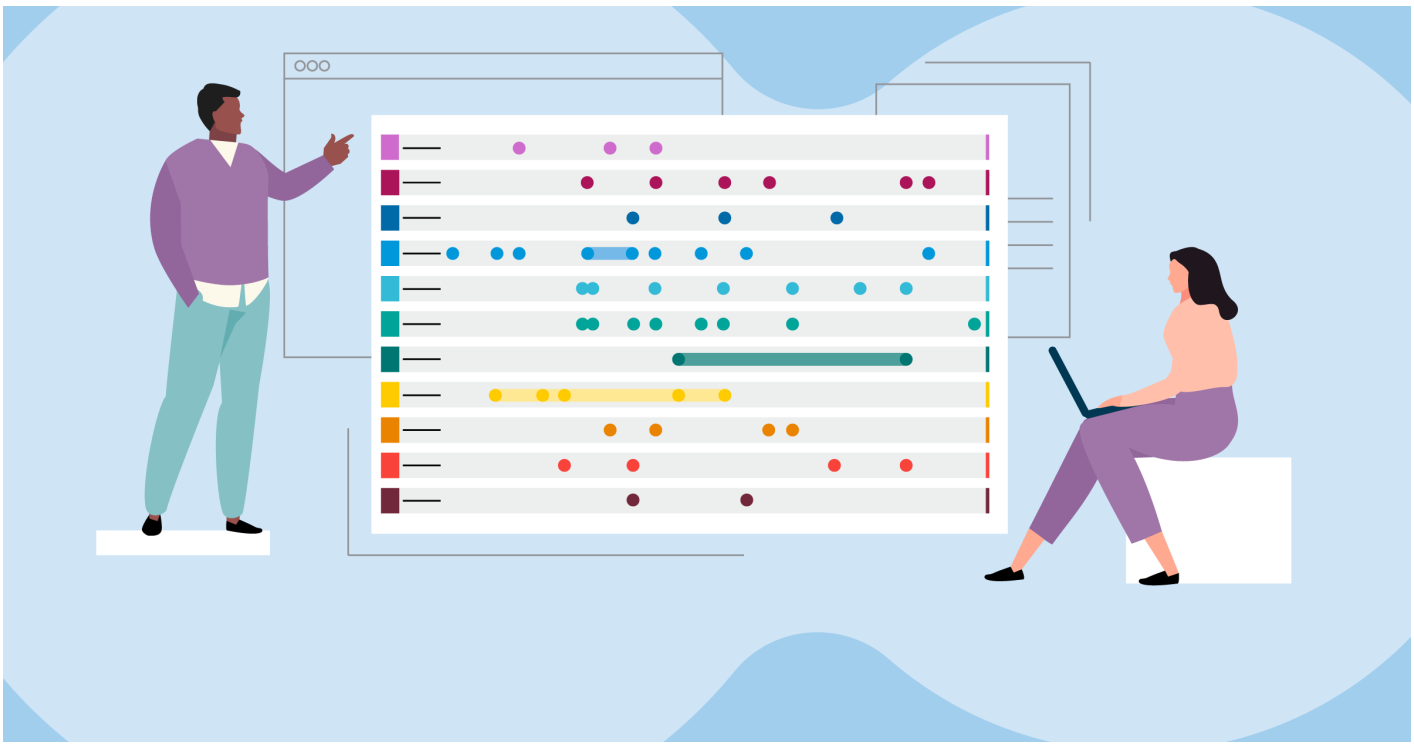
The meeting report, presentations and recordings will be available in due course on EMA website.

Key Big Data achievements in 2022

A summary below outlines key big data achievements and deliverables progressed this year towards achieving the vision set out by the Big Data Task Force in early 2020:

"By delivering the vision of a regulatory system able to integrate Big Data into its assessment and decision making, we can support the development of innovated medicines, deliver life-saving treatments to patients more quickly and optimise the safe and effective use of medicines through measurement of a products performance on the market."

DARWIN EU®	• Coordination Centre established • First data partners onboarded • First studies initiated • HTA/Payers workshop	• CHMP clinical trial raw data pilot launched: - Advisory group and industry focus group established - Q&A for industry - 1st product raw data submitted for analysis • Initiation of AI reflection paper • Principles agreed on Clusters of Excellence	NETWORK CABAPIBLITY TO ANALYSE
DATA QUALITY AND REPRESENTATIVENESS	• EMA/TEHDAS multi-stakeholder workshop • Consultation on data quality framework for medicines regulation	• Methodology Working Party (MWP) established • MWP: 1st work plan near final	DELIVERY OF EXPERT ADVICE
DATA DISCOVERABILITY	• Publication of EU metadata list for RWD data sources • Consultation on Good Practice Guide for the use of real-world metadata • Work started on catalogues of RWD sources and studies • Workshop on patient experience data	• Review of Network data governance – initiated • Participation into EHDS2 pilot • Contribution to Pharma Strategy	GOVERNANCE FRAMEWORK
EU NETWORK SKILLS	• Selection of training provider for Data Science curriculum • Selection of training provider for real-world evidence	• ICMRA statement on international collaboration on RWE • Consultation on ICH M11 clinical electronic structured harmonised protocol (CeSHarP)	INTERNATIONAL INITIATIVES
EU NETWORK PROCESSES	• RWE studies for COVID-19 • RWE studies: routine support to PRAC • RWE pilots with EMA Scientific committees: PDCO, COMP, SAWP, CAT, CHMP, CMDh	• Two bi-annual BDSG and industry meetings • Big data newsletters • Big Data multistakeholder forum	INTERNATIONAL INITIATIVES
BIG DATA PRIORITY RECOMMENDATIONS	• Veterinary Big Data strategy 2022-2027 • 2nd Veterinary Big Data stakeholder forum • Cooperation with International Regulators		VETERINARY RECOMMENDATIONS



Getting involved

Engagement opportunities in the pipeline for 2023

A wide range of stakeholder engagement opportunities is planned by the Big Data Steering Group in 2023. Watch this space for further details in subsequent issues of Big Data Highlights.

Workshops

- Qualification of Novel Methodologies
- Artificial intelligence
- Data quality
- Real-world metadata
- RWE/DARWIN EU benefits
- Clinical trial analytics workshop

Public consultations

- ICH M11 guideline on clinical electronic structured harmonised protocol (ongoing)
- Artificial intelligence

Stakeholder meetings

- Annual multi-stakeholder big data forum
- Veterinary big data stakeholder forum
- Bi-annual BDSG and industry stakeholders meetings

Recent events

EU Big Data Stakeholder Forum – 1 December 2022

Second Veterinary Big Data stakeholder forum – 23 November 2022

2nd bi-annual meeting of Big Data Steering Group and industry stakeholders – 3 November 2022

Webinar on the draft Data Quality Framework for EU medicines regulation – 18 October 2022

Multi-stakeholder workshop: Patient experience data in medicines development and regulatory decision-making – 21 September 2022

List of acronyms

AI: Artificial Intelligence
AMR: Antimicrobial Resistance
BDSG: Big Data Steering Group
CAT: Committee for Advanced Therapies
CMDh: Coordination Group for Mutual Recognition and Decentralised Procedures - Human
CHMP: Committee for Medicinal Products for Human Use
COMP: Committee for Orphan Medicinal Products
CT: Clinical Trials
EHDS: European Health Data Space
EMRN: European medicines regulatory network
HMA: Heads of Medicines Agencies
ICH: International Council for Harmonisation of Technical Requirements Registration Pharmaceuticals Human Use
ICMRA: International Coalition of Medicines Regulatory Authorities
OMOP CMD: Observational Medicinal Outcomes Partnership Common Data Model
PDCO: Paediatric Committee
RWD: Real-world data
RWE: Real-world evidence
SAWP: Scientific Advice Working Party
TEHDAS: Towards the European Health Data Space

Read the previous issue of the newsletter

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