Public consultation on EMA Regulatory Science to 2025

Fields marked with * are mandatory.

* Name

* Email

Introduction

The purpose of this public consultation is to seek views from EMA's stakeholders, partners and the general public on EMA's proposed strategy on Regulatory Science to 2025 and whether it meets stakeholders' needs. By highlighting where stakeholders see the need as greatest, you have the opportunity to jointly shape a vision for regulatory science that will in turn feed into the wider EU network strategy in the period 2020-25.

The views being sought on the proposed strategy refer both to the extent and nature of the broader strategic goals and core recommendations. We also seek your views on whether the specific underlying actions proposed are the most appropriate to achieve these goals.

The questionnaire will remain open until June 30, 2019. In case of any queries, please contact: RegulatoryScience2025@ema.europa.eu.

Completing the questionnaire

This questionnaire should be completed once you have read the draft strategy document. The survey is divided into two areas: proposals for human regulatory science and proposals for veterinary regulatory science. You are invited to complete the section which is most relevant to your area of interest or both areas as you prefer.

We thank you for taking the time to provide your input; your responses will help to shape and prioritise our future actions in the field of regulatory science.

Data Protection

By participating in this survey, your submission will be assessed by EMA. EMA collects and stores your personal data for the purpose of this survey and, in the interest of transparency, your submission will be made publicly available.
For more information about the processing of personal data by EMA, please read the privacy statement.

Questionnaire

Question 1: What stakeholder, partner or group do you represent:
- ○ Individual member of the public
- ○ Patient or Consumer Organisation
- ○ Healthcare professional organisation
- ○ Learned society
- ○ Farming and animal owner organisation
- ○ Academic researcher
- ○ Healthcare professional
- ○ Veterinarian
- ○ European research infrastructure
- ○ Research funder
- ● Other scientific organisation
- ○ EU Regulatory partner / EU Institution
- ○ Health technology assessment body
- ○ Payer
- ○ Pharmaceutical industry
- ○ Non-EU regulator / Non-EU regulatory body
- ○ Other

Name of organisation (if applicable):

Question 2: Which part of the proposed strategy document are you commenting upon:

- 🔘 Human
- ⚪ Veterinary
- ⚪ Both

Question 3 (human): What are your overall views about the strategy proposed in EMA's Regulatory Science to 2025?

Please note you will be asked to comment on the core recommendations and underlying actions in the subsequent questions.

The NBCD WG appreciates the proposed regulatory science strategy to 2025. We wish to comment on a number of topics related to the regulation of complex drugs, which we defined as non-biological complex drugs (NBCDs) and also include many nanomedicines. NBCDs are fully synthetic materials: they are medicinal products but not biological medicines, where the active substance is not a homo-molecular structure but consists of different (closely related and often nanoparticulate) structures that cannot be isolated and fully quantitated, characterized, and/or described by physicochemical analytical means. Like biologics, the composition, quality, and in vivo performance of NBCDs are highly dependent on the manufacturing processes of the active ingredient, as well as (in most cases) the formulation. We believe that currently unresolved scientific and regulatory challenges hamper much-needed progress in this important field. Our aim is therefore to ensure that appropriate and harmonized science-based approval and post-approval standards for NBCDs (including nanomedicines) are introduced globally, for patient safety and benefit.

Question 4 (human): Do you consider the strategic goals appropriate?

Strategic goal 1: Catalysing the integration of science and technology in medicines development (h)

- 🔘 Yes
- ⚪ No

Strategic goal 2: Driving collaborative evidence generation – improving the scientific quality of evaluations (h)

- 🔘 Yes
- ⚪ No

Strategic goal 3: Advancing patient-centred access to medicines in partnership with healthcare systems (h)

- 🔘 Yes
- ⚪ No

Strategic goal 4: Addressing emerging health threats and availability/therapeutic challenges (h)

- 🔘 Yes
- ⚪ No

Strategic goal 5: Enabling and leveraging research and innovation in regulatory science (h)

- ⦿ Yes
- ○ No

Question 5 (human): Please identify the top three core recommendations (in order of importance) that you believe will deliver the most significant change in the regulatory system over the next five years and why.

First choice(h)

> 6. Develop understanding of and regulatory response to nanotechnology and new materials' utilisation in pharmaceuticals

1st choice (h): please comment on your choice, the underlying actions proposed and identify any additional actions you think might be needed to effect these changes.

As highlighted by the EMA, nanomedicines pose a number of challenges for the regulatory system. We wish to comment on this topic, in particular regarding the challenges for developing follow-on products, in the context of nanomedicines sometimes referred to as 'nanosimilars'. Below we highlight a number of important topics that we believe need to be considered in order to ensure the quality, availability and uptake of equally safe and effective complex similars. Ensuring that generic/similar versions of NBCDs (including most nanomedicines) are therapeutically equivalent to the originator product presents a major challenge. This is because it is not possible to characterize fully the physico-chemical properties of NBCDs, and there is frequently a lack of detailed understanding of the impact on product performance made by small differences in manufacturing process. As the intrinsic differences between the product families pose different challenges when determining equivalence, one may consider simply labelling all these products as 'complex', but it is important to understand that there is no 'one size fits all' approach for the different product 'families'. The main challenge for a number of complex similars is to establish bioequivalence. For NBCD families, the additional difficulties involved in establishing PE add further complexity.

By far most important, in our view, is to address the challenges in determining the Critical Quality Attributes (CQAs) of complex products. At present, the CQAs for many (non-biological) complex drugs are unknown, and future identification of the CQAs may significantly catalyse the development of high quality, therapeutically similar versions. As such, priority should be given to validate scientific tools allowing for independent assessment of the relevant quality attributes. Subsequently, equivalence guidance including reference to established CQAs are needed to help generic developers to prepare marketing authorisation applications for complex similars. In line with our mission, we stimulate the dissemination of relevant data related to attempts of determining CQAs of products. Productive discussions can only take place when the relevant data is available for experts to review. Furthermore, understanding the in-vitro in-vivo correlations (IVIVCs) of product characteristics is crucial for the rational development of therapeutic similar products.

Finally, we believe that consideration should also be given to potential implications for clinical practice with regard to substitution and interchangeability of complex similars. A robust pharmacovigilance system for adequate safety monitoring is therefore critical to identify any product-specific safe issues in clinical practice. Clinical guidelines and education on complex similars for healthcare professionals can contribute to ensuring the safe use in routine clinical practice. In light of this, it is important to enable discrimination between brand and generic product in pharmacovigilance systems and routine healthcare practice to be able to attribute adverse drug reactions to the correct product.

We applaud EMA for raising awareness of new nanomedicines and generating appropriate guidance. We hope that this also leads to better dialogue to resolve the outstanding issues related to the approval process of high quality, therapeutically-equivalent similar NBCD products. Only such dialogues will ensure that all experts from academia, industry, regulatory bodies and health care organizations will consider the evolving regulatory statutes to be fit-for-purpose and to provide access to high quality similar versions of the wave of complex drug products -many of which will be nanomedicines- in the upcoming decade.

Second choice (h)

31. Disseminate and share knowledge, expertise and innovation across the regulatory network and to its stakeholders

2nd choice (h): please comment on your choice, the underlying actions proposed and identify any additional actions you think might be needed to effect these changes.

One of the major issues that we highlighted above in our comment on our 1st choice, is that the lack of appropriate regulatory pathway for NBCDs and nanomedicines, which may hamper or delay the authorization process of much needed follow-on products. The challenges for NBCDs (and nanomedicines) mentioned above can be addressed by the proposed actions by the EMA to develop guidance and regulatory pathways, which can ultimately reduce the time and uncertainty of drug development for both generic and branded drugs for the benefit of the patient. However, we would like to highlight one important aspect that needs to be considered by the EMA to realize the proposed actions: In order to allow maximum expertise in the regulatory evaluation of NBCDs (and nanomedicines) we propose to consider a mandatory centralized procedure, as for example applied to biotech products (and their biosimilars).

By creating a mandatory centralized procedure for NBCDs and nanomedicines, the combined competence of the large network of EMA experts is directly available. By using the collective intelligence from EU regulators, maximum regulatory expertise can be guaranteed to address the challenges for evaluation of NBCDs (and nanomedicines), similar to the challenges for biotech products.

Third choice (h)

30. Identify and enable access to the best expertise across Europe and internationally

3rd choice (h): please comment on your choice, the underlying actions proposed and identify any additional actions you think might be needed to effect these changes.

We believe that it is essential to create a robust and 'trusted' environment in which new knowledge and expertise can be shared across the regulatory networks. We believe that an open dialogue between stakeholders is needed to develop appropriate regulatory approval standards and guidelines for these complex products, in the best interest of the patient.

Therefore, we encourage the EMA to create a 'shared environment' in which novel insights and experiences are shared among all stakeholders, including innovator and generic (complex) drug manufacturers, regulatory bodies and academia. We believe that such a dialogue is needed to provide novel insights into the challenges from NBCDs and nanomedicines and identify open issues as they arise. Furthermore, we highlight the need to publish scientific findings in the public domain to further progress this field.

Question 6 (human): Are there any significant elements missing in this strategy. Please elaborate which ones (h)

No comment.

Question 7 (human): The following is to allow more detailed feedback on prioritisation, which will also help shape the future application of resources. Your further input is therefore highly appreciated. Please choose for each row the option which most closely reflects your opinion. For areas outside your interest or experience, please leave blank.

Should you wish to comment on any of the core recommendations (and their underlying actions) there is an option to do so.

Strategic goal 1: Catalysing the integration of science and technology in medicines development (h)

	Very important	Important	Moderately important	Less important	Not important
1. Support developments in precision medicine, biomarkers and 'omics'	◉	○	○	○	○
2. Support translation of Advanced Therapy Medicinal Products cell, genes and tissue-based products into patient treatments	◉	○	○	○	○
3. Promote and invest in the Priority Medicines scheme (PRIME)	◉	○	○	○	○
4. Facilitate the implementation of novel manufacturing technologies	◉	○	○	○	○
5. Create an integrated evaluation pathway for the assessment of medical devices, in vitro diagnostics and borderline products	◉	○	○	○	○
6. Develop understanding of and regulatory response to nanotechnology and new materials' utilisation in pharmaceuticals	◉	○	○	○	○

	Very important	Important	Moderately important	Less important	Not important
7. Diversify and integrate the provision of regulatory advice along the development continuum	●	○	○	○	○

Please feel free to comment on any of the above core recommendations or their underlying actions. **Kindly indicate the number of the recommendation** you are commenting on:

We consider everything 'very important', however we only provide detailed comments to the three prioritized core recommendations (see question 5).

Strategic goal 2: Driving collaborative evidence generation – improving the scientific quality of evaluations (h)

	Very important	Important	Moderately important	Less important	Not important
8. Leverage novel non-clinical models and 3Rs	●	○	○	○	○

Recommendation					
9. Foster innovation in clinical trials	●	○	○	○	○
10. Develop the regulatory framework for emerging digital clinical data generation	●	○	○	○	○
11. Expand benefit-risk assessment and communication	●	○	○	○	○
12. Invest in special populations initiatives	●	○	○	○	○
13. Optimise capabilities in modelling and simulation and extrapolation	●	○	○	○	○
14. Exploit digital technology and artificial intelligence in decision-making	●	○	○	○	○

Please feel free to comment on any of the above core recommendations or their underlying actions. **Kindly indicate the number of the recommendation you are commenting on**:

We consider everything 'very important', however we only provide detailed comments to the three prioritized core recommendations (see question 5).

Strategic goal 3: Advancing patient-centred access to medicines in partnership with healthcare systems (h)

	Very important	Important	Moderately important	Less important	Not important
15. Contribute to HTAs' preparedness and downstream decision-making for innovative medicines	◉	○	○	○	○
16. Bridge from evaluation to access through collaboration with Payers	◉	○	○	○	○
17. Reinforce patient relevance in evidence generation	◉	○	○	○	○
18. Promote use of high-quality real world data (RWD) in decision-making	◉	○	○	○	○
19. Develop network competence and specialist collaborations to engage with big data	◉	○	○	○	○
20. Deliver real-time electronic Product Information (ePI)	◉	○	○	○	○
21. Promote the availability and uptake of biosimilars in healthcare systems	◉	○	○	○	○
22. Further develop external communications to promote trust and confidence in the EU regulatory system	◉	○	○	○	○

Please feel free to comment on any of the above core recommendations or their underlying actions. **Kindly indicate the number of the recommendation you are commenting on**:

> We consider everything 'very important', however we only provide detailed comments to the three prioritized core recommendations (see question 5).

Strategic goal 4: Addressing emerging health threats and availability/therapeutic challenges (h)

	Very important	Important	Moderately important	Less important	Not important
23. Implement EMA's health threats plan, ring-fence resources and refine preparedness approaches	◉	○	○	○	○
24. Continue to support development of new antimicrobials and their alternatives	◉	○	○	○	○

25. Promote global cooperation to anticipate and address supply challenges	◉	○	○	○	○
26. Support innovative approaches to the development and post-authorisation monitoring of vaccines	◉	○	○	○	○
27. Support the development and implementation of a repurposing framework	◉	○	○	○	○

Please feel free to comment on any of the above core recommendations or their underlying actions. **Kindly indicate the number of the recommendation you are commenting on**:

We consider everything 'very important', however we only provide detailed comments to the three prioritized core recommendations (see question 5).

Strategic goal 5: Enabling and leveraging research and innovation in regulatory science (h)

	Very important	Important	Moderately important	Less important	Not important
28. Develop network-led partnerships with academia to undertake fundamental research in strategic areas of regulatory science	◉	○	○	○	○
29. Leverage collaborations between academia and network scientists to address rapidly emerging regulatory science research questions	◉	○	○	○	○
30. Identify and enable access to the best expertise across Europe and internationally	◉	○	○	○	○
31. Disseminate and share knowledge, expertise and innovation across the regulatory network and to its stakeholders	◉	○	○	○	○

Please feel free to comment on any of the above core recommendations or their underlying actions. **Kindly indicate the number of the recommendation you are commenting on**:

> We consider everything 'very important', however we only provide detailed comments to the three prioritized core recommendations (see question 5).

Thank you very much for completing the survey. We value your opinion and encourage you to inform others who you know would be interested.

Useful links

EMA website: Public consultation page (https://www.ema.europa.eu/en/regulatory-science-strategy-2025)

Background Documents

EMA Regulatory Science to 2025.pdf

Contact

RegulatoryScience2025@ema.europa.eu