EUROPEAN MEDICINES AGENCY
SCIENCE MEDICINES HEALTH

Regulatory Support to EU Research

OPEN INFO DAY Horizon 2020 'Health, demographic change and wellbeing'
Friday, 8 December 2017
Brussels

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Declaration of Interests

I am full staff member of the European Medicines Agency and I do not have interests that might pose a conflict with my duties.

Outline

Regulating medicines in EU

Framework of collaboration with Academia: why - what - how

'Health, demographic change and well-being' Work Programme 2018-2020

Conclusions

Q&A

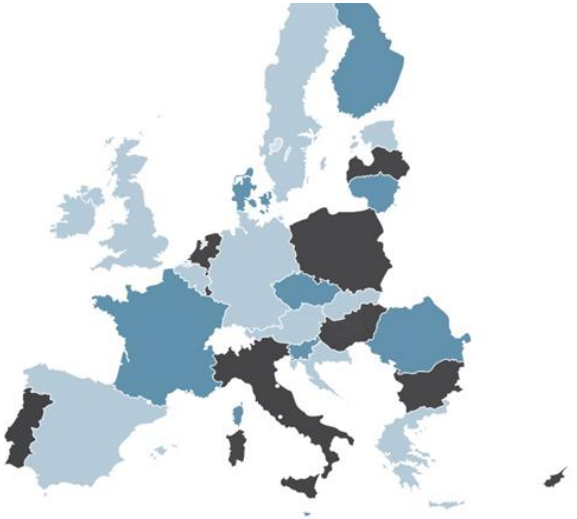
The European medicines regulatory network

Closely-coordinated regulatory network of national competent authorities (~50), European Medicines Agency (EMA) and the European Commission

Collaborative operational model within the EU and internationally

How are medicines approved?

Centralised procedure (via EMA)



National procedures (via NCAs)

Medicines approved through the EMA centralised procedure

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Centralised Procedure Mandatory for new medicines to treat:

- human immunodeficiency virus (HIV) or acquired immune deficiency syndrome (AIDS)
- cancer
- diabetes
- neurodegenerative diseases
- auto-immune and other immune dysfunctions
- viral diseases
- medicines derived from biotechnology processes, such as genetic engineering
- advanced-therapy medicines, such as gene-therapy, somatic cell-therapy or tissue-engineered medicines
- orphan medicines (medicines for rare diseases)
- veterinary medicines for use as growth or yield enhancers

It is **optional** for other medicines:

- containing new active substances for indications other than those stated above
- **that are a significant therapeutic, scientific or technical innovation**
- whose authorisation would be in the **interest of public or animal health at EU level**

H2020 3rd Health Programme

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Personalised medicine

- Microbiome
- Data driven-in silico models
- Mechanisms of co-morbidities
- Combinatorial therapies
- Collaboration with Canada on "human data"
- Pilots of implementation of personalised medicine
- Actions in support of ICPerMed
- Rare Diseases

Digital transformation in health and care

- In silico medicine
- Personal Health Record/Electronic Health Record
- Big data and Artificial Intelligence
- Univocal identification of medicines
- Cyber Security in health and care

Innovative health and care systems- Integration of care

- Patient centred approaches palliative care/EofL
- HTA research to support evidence-based healthcare

Innovative health and care industry

- Innovation platforms for ATMPs
- Regenerative medicine
- Strengthen regulatory science supporting advice

Infectious diseases

- New anti-infective agents for NID
- HIV/TB/HCV in collaboration with Russia
- Stratified hosted directed approaches
- EU clinical research network

Improving global health

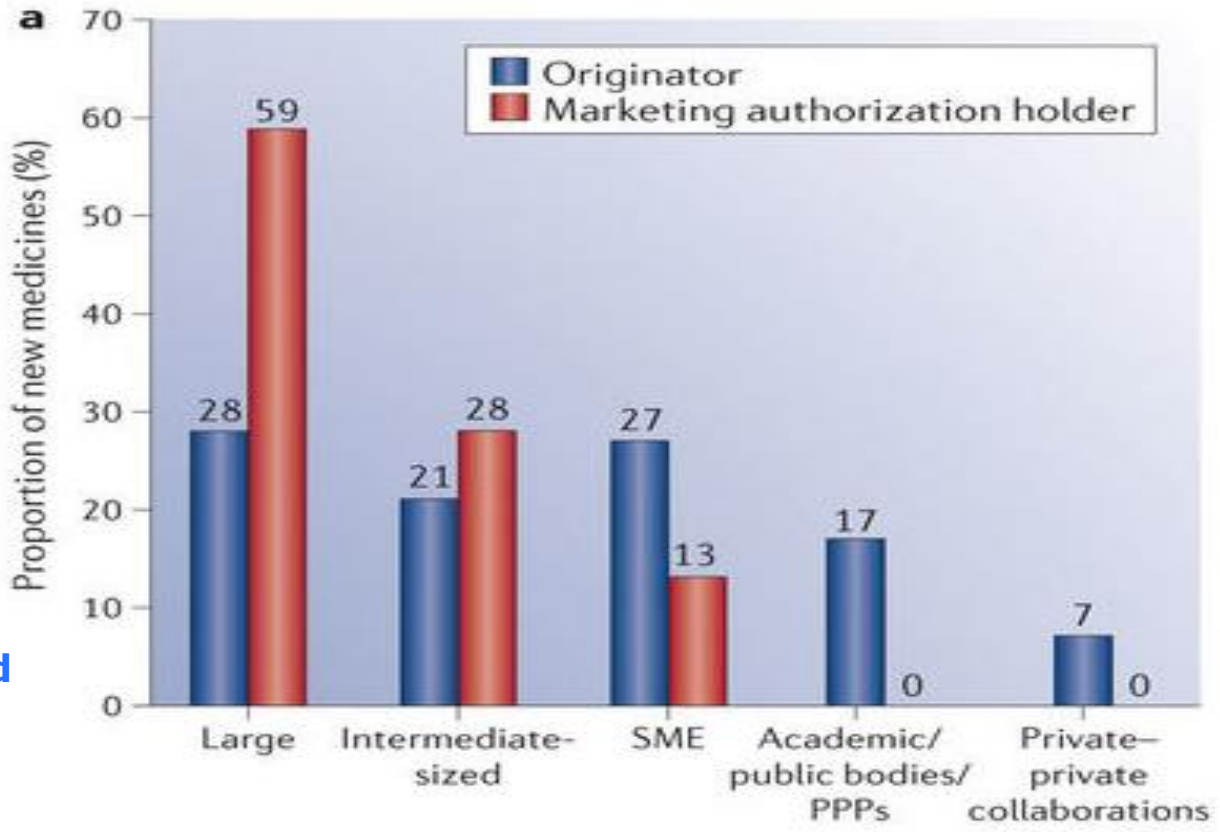
- Coordination of EU brain research
- Maternal and child health
- Strategic collaboration with China
- Prevention and management of hypertension and/or diabetes

Innovators in medicines

Regulatory watch: Where do new medicines originate from in the EU? Nature Reviews Drug Discovery Volume: 13, Pages: 92–93; Published online 31 January 2014

Innovation
EMA Regulatory Science Observatory (RSO) for Horizon Scanning
Launched 2016
(Science, technology and regulatory tools)

Originator and the marketing authorization holder for 94 approved products evaluated, divided according to organization type



EMA framework of collaboration with academia

Guido Rasi, EMA Executive Director

"EMA wants to move to a new level of collaboration with academia.

Academia play an important role in the EU medicines regulatory network.

Interaction with EU regulators can help academia translate their discoveries into patient-focused medicines.

Working more closely together will bring great benefits to public health".

Academia and EMA web pages: *facilitate communication*

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academia@ema.europa.eu

H2020 EMA new page available as of today

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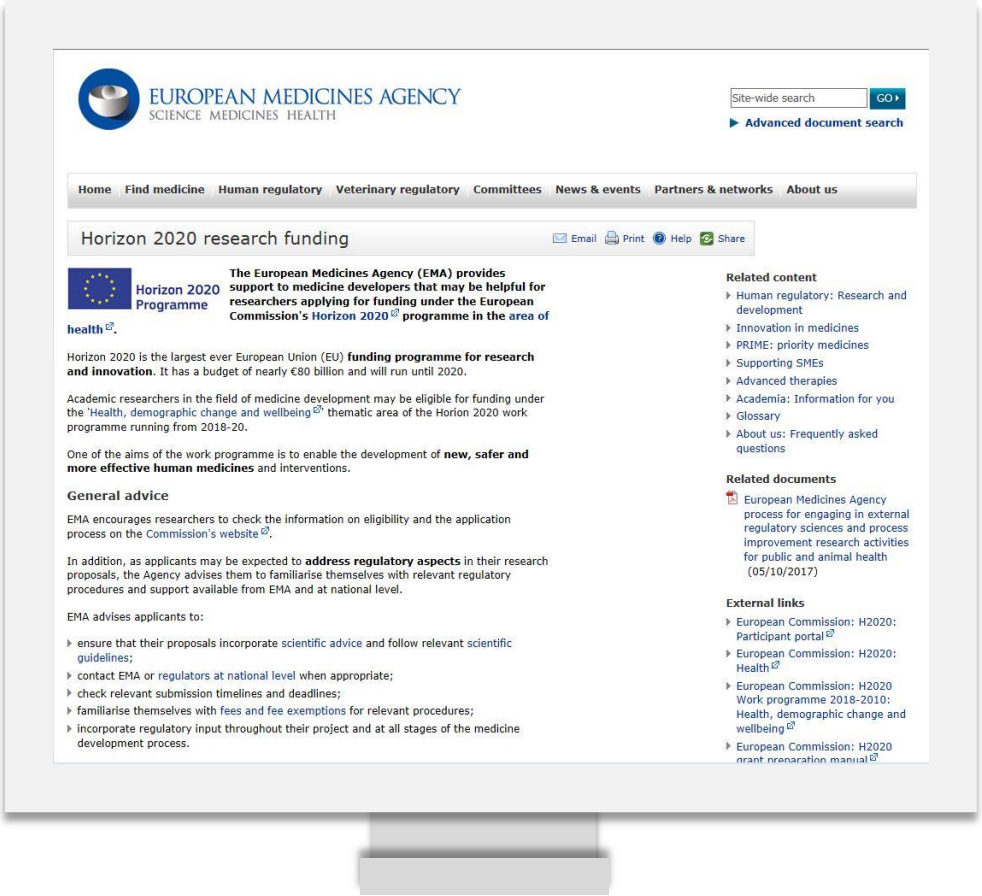

…including guidance and support for collaboration on regulatory science research and working together

Marketing authorisations by SMEs

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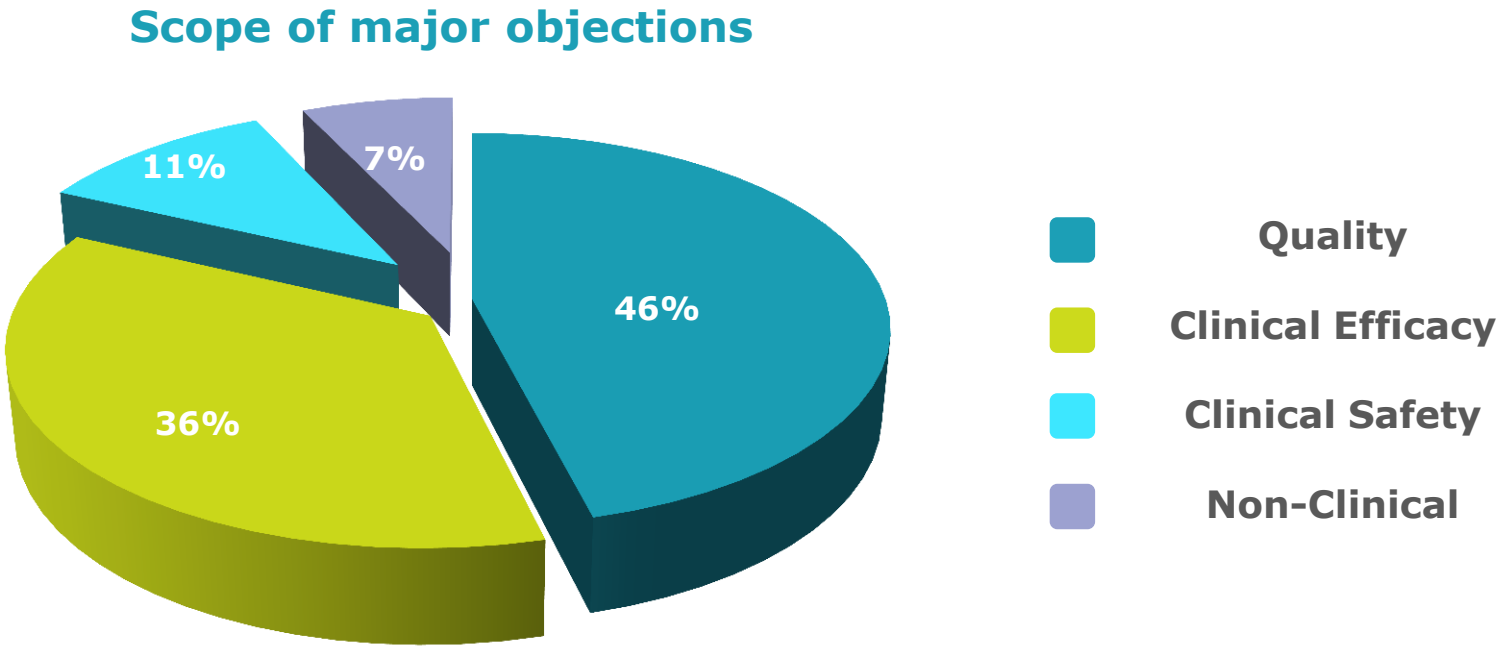
Most frequent major objections in SME applications – human medicines



Early development services at EU level

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- **SMEs office* regulatory and scientific support for protocol assistance, fee reductions, training, workshops etc.**
- **Innovation task force (ITF) safe harbour ***
- **Qualification of novel methodologies**
- **Scientific advice**

- Advanced therapy medicinal product classification *
- Paediatric investigation plan *
- Orphan medicine designation *
- **PRIME scheme** (PRIority Medicines) *
- **EU-Innovation Network** (EU-IN) (H) *

*** No fee**
*** fee reduction for academics**

Keep in mind: **time** and potential fees
(Note on fees payable to EMA and exemptions)

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EMA Innovation Task Force (ITF) *

Multidisciplinary platform

for **preparatory dialogue and orientation on innovative methods, technologies and medicines**

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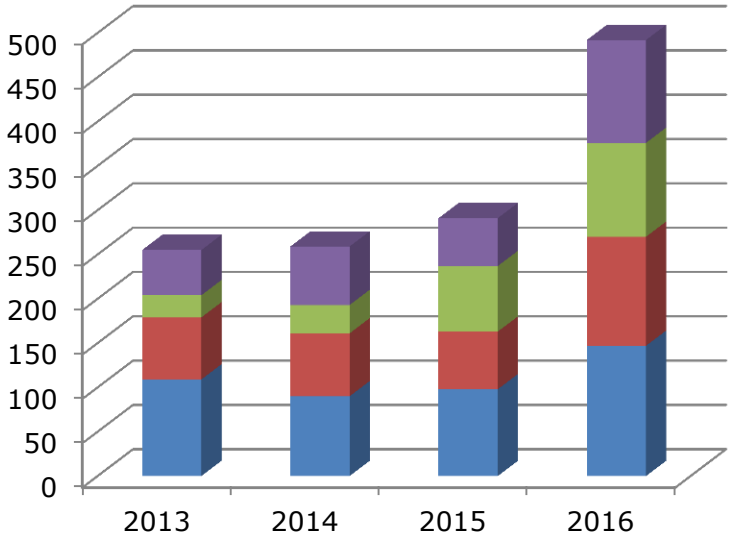
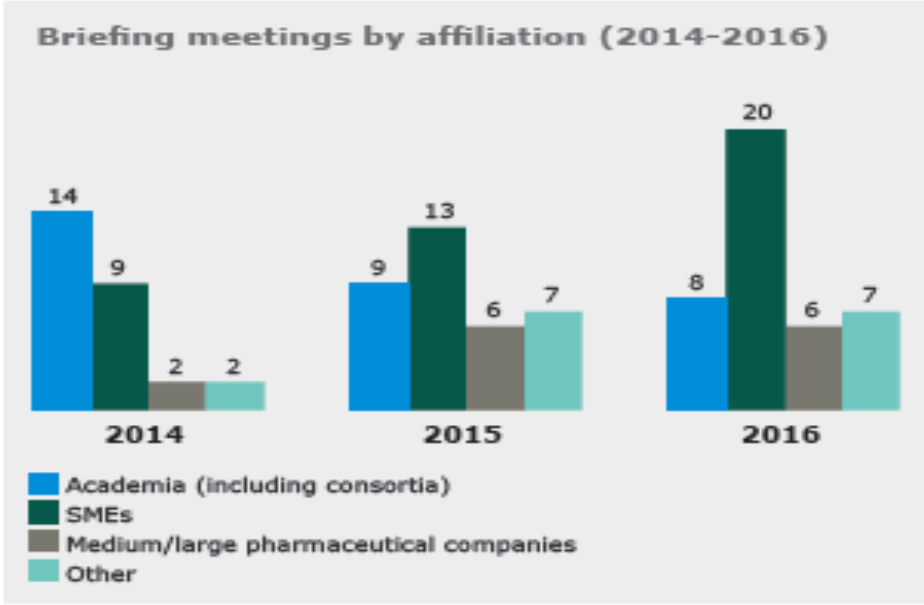
EMA ITF Briefing Meetings: advancing regulatory science





40% of the meetings were on innovative ATMPs and 25% related to a broad spectrum of innovative methods to support the development of medicines and early exploration of novel (statistical) approaches in clinical trials, modelling and simulation.

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EMA ITF support on innovators' further progress

92 ITF Briefing meetings organised between 2014 – 2016, of which **80% were requested by academia, SMEs and consortia** (ITF support focus)

- 15% are Advanced Therapies (Gene, Cell, Tissue engineered products)
- 14% consider seeking EU Orphan Drug designation (rare diseases)
- 20% consider interaction with the EMA Paediatric Committee (PDCO)
- 30% of applicants consider applying a formal scientific advice request
- 11% consider ***Qualification of methodology*** (e.g. Biomarker qualification)
- 10% consider Marketing Authorisation Application within foreseeable future

Qualification of Novel Methodologies

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- Regulatory validity and acceptability of a method in medicines life-cycle R&D context
- Scientific pathway for innovative methods and tools (e.g. biomarkers, in silico models, e-health)
- Joint qualification EMA/FDA can be requested
- Clear outcomes:
  - Letter of support, OR
  - Qualification Advice, OR
  - Qualification Opinion

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10 November 2014
EMA/CHMP/SAWP/72894/2008
Revision 1: January 2012[1]
Revision 2: January 2014[2]
Revision 3: November 2014[3]
Scientific Advice Working Party of CHMP

Qualification of novel methodologies for drug development: guidance to applicants

Agreed by SAWP	27 February 2008
Adoption by CHMP for release for consultation	24 April 2008
End of consultation (deadline for comments)	30 June 2008
Final Agreed by CHMP	22 January 2009

Essential considerations when preparing for scientific advice on new methodologies now published on the EMA H2020 web page

http://www.ema.europa.eu/ema/index.jsp?curl=pages/regulation/document_listing/document_listing_000319.jsp&mid=WC0b01ac0580022bb0#section3

Novel Methodologies

- Animal Models
- Biomarkers
- In silico-models
- Clinical Outcome Assessment (COA) (End-points, PRO, ClinRO, ObsRO)
- Imaging Markers
- Symptom Scales
- Statistical Methods

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13 November 2017
EMA/750178/2017

Essential considerations for successful qualification of novel methodologies

The European Medicines Agency (EMA) qualification of novel methodologies (e.g. biomarkers, clinical outcome assessments, imaging methods, new animal models, statistical methods, innovative trial methodologies, big data approaches) is a voluntary scientific pathway to establish the regulatory acceptability of a specific use of a methodology for the development of medicinal products.

The purpose of this document is to highlight important points to consider that have been identified as common major challenges and limitations which compromise successful qualification of innovative methods.

The following checklist does not provide comprehensive guidance. There is a wide variety of potential specific scientific and regulatory considerations which may best be addressed by requesting qualification advice offered by the EMA[1].

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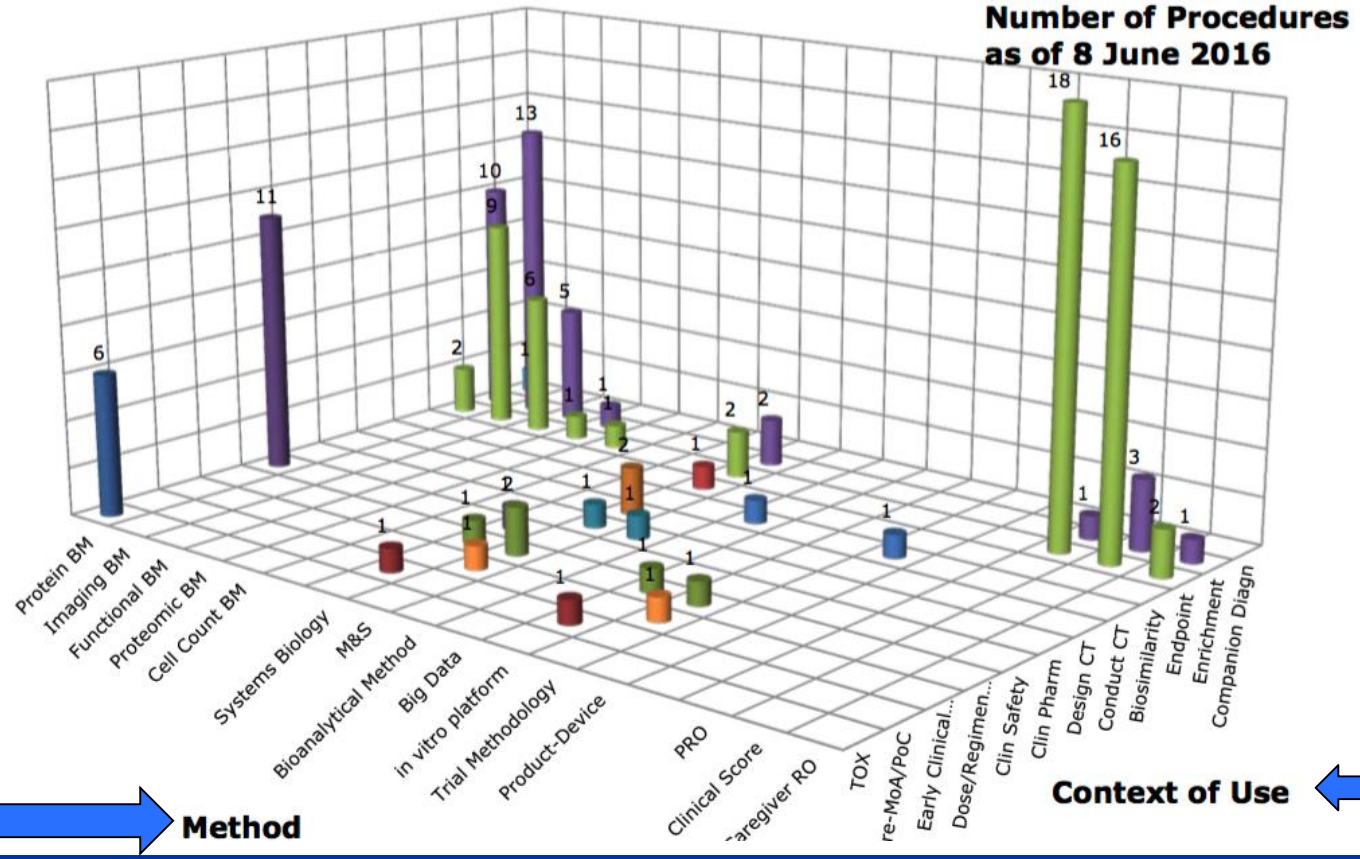
Qualification of Novel Methodologies: methods and context



EMA Scientific Advice and Protocol assistance

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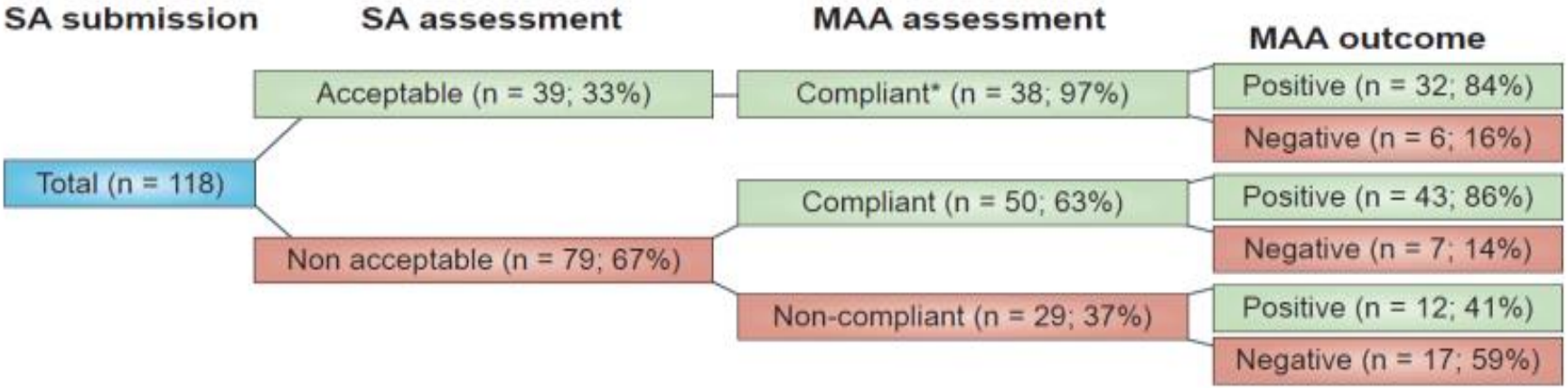
Outcome of the November 2017 CHMP meeting in relation to scientific advice procedures

Final scientific advice procedures

Substance	Intended indication(s)	Type of request				Topic			
		New		Follow-up		Pharma ceutical	Pre-clinical	Clinical	Significant Benefit
		SA	PA	SA	PA				
Biological	Treatment of Clostridium difficile infection.	x				x	x	x	
Chemical	Reduction of risk of cardiovascular death in chronic kidney disease.	x						x	
Biological	Treatment of Farber disease.				x		x		
Biological	Treatment of Farber disease.				x			x	
Biological	Weight management.	x					x	x	
Chemical	Treatment of enteral feeding intolerance.	x						x	

Scientific advice and Marketing Authorisations applications

(2008-12; N=118 MAAs)



	MAA procedure average days	Total MO* Quality/Pre-Clinical	Clin. Efficacy	Clin. Safety	Total
Compliance	367	1.64	2.66	0.86	5.16
Non-Compliance	428	4.25	3.91	1.42	9.58

- Regnstrom et al; Eur J Clin Pharmacol. 2010 Jan;66(1):39-48 Regulatory watch: Impact of scientific advice from the European Medicines Agency
- Matthias P. Hofer et al; Nature Reviews Drug Discovery(2015)doi:10.1038/nrd4621 Published online 17 April 2015

Support to medicines innovation at National level

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National Competent Authorities (NCAs) responsible for key tasks, including

- ***Authorisation and Good Manufacturing and Lab Practices***
- ***Clinical trial authorisation***
- ***ATMPs Hospital Exemption***
- ***Compassionate use***
- ***NCAs scientific advice (fees might apply)***
- ***NCA's Innovation Offices: specific schemes/services (fees might apply) including decision on applicable framework (e.g. device or medicine)***

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European Commission

Concerted Support Action (CSA)
Strengthen *Regulatory Sciences* and support for regulatory *Scientific Advice*

EU Innovation Network

Outreach opportunity 2018-2020

HORIZON 2020

In summary

- Scientific progress in knowledge, methods and technologies are key for development of safe and effective new therapies
- Regulatory awareness and considerations can tangibly enhance the translation and impact of your research programme in development tools and treatments for patients
- Platforms for dialogue, guidelines and scientific advice readily available for innovators both at national and EU level: speak at an early stage with us, plan ahead, consider investment of time and fees
- Make best use of the EMA Framework and webpages for collaboration with Academia (academia@ema.europa.eu) and of Regulators' outreach activities

Welcome in the European Regulatory Science eco-system

Thanks for your attention

Acknowledgments

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H2020 3rd Health Programme: Q&A

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