CDER's Office of New Drugs Rare Diseases Program

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Disclosures

- No Conflicts of Interest
- Nothing to Report
- Opinions expressed are personal and do not reflect those of the FDA

Rare Diseases Program

- The current team
  - Lucas Kempf
    - Associate Director (Acting)
  - Larry Bauer
    - Regulatory Scientist
  - Althea Cuff
    - Science Policy Analyst
  - Tracy Cutler
    - Science Policy Analyst
    - EMA cluster coordinator

Rare Diseases Program

- Rare disease have less that 200,000 people
- There are 7,000 known rare disease
- 1 in 10 people are affected by a rare disease

Challenges for Rare Disease Drug Development

- Rare diseases **natural history** is often poorly understood/characterized
- Diseases tend to be progressive, **serious**, life-limiting and life-threatening and lack **approved therapy**
- **Small populations** often restrict study design and replication
- **Phenotypic** diversity within a disorder adds to complexity, as do **genetic subsets**
- Well defined and validated **endpoints**, **outcome measures**/tools, and **biomarkers** are often lacking
- Lack of **precedent** for drug development
- **Ethical** considerations for children in clinical trials

CDER Rare Diseases Program

Mission Statement:

- Facilitate
- Support
- Accelerate

…the development of drug and biologic products for the treatment of patients with rare disorders

Rare Diseases Program Responsibilities

Coordinate development of CDER Policies and Procedures

- Guidance development
- Continuing involvement with Senior FDA staff re: Rare Diseases Program and its role

Assist in development of good science

- Database adjudication committee for NMEs
- Specific projects/peer reviewed publications
- Workshop development
  - Rare disease trial designs

Rare Diseases Program Responsibilities

Coordinate internal training in rare diseases

- 101 course for new reviewers
- 102 advanced training day for review staff

Assist in external training for the rare disease community

- Presentations at national and international meetings
- Workshop development
  - Rare disease trial designs workshop
- Panel Participant/Speaker at Patient Focused Drug Development Workshops
  - FDA
  - Externally Led

Rare Diseases Program Responsibilities

- Review Rare Pediatric PRV requests and
  Developed procedures for management
- FDA Rare Disease Council member
- NORD Registries Cooperative Agreement with FDA

Rare Diseases Program Projects

Work collaboratively with stakeholders

- NIH Collaborations
  - NIH/FDA Joint Task Force
  - Rare Disease Day Annual Meeting
  - CDER/TRND Drug Development Meetings
  - NCATS Natural History Studies Initiative

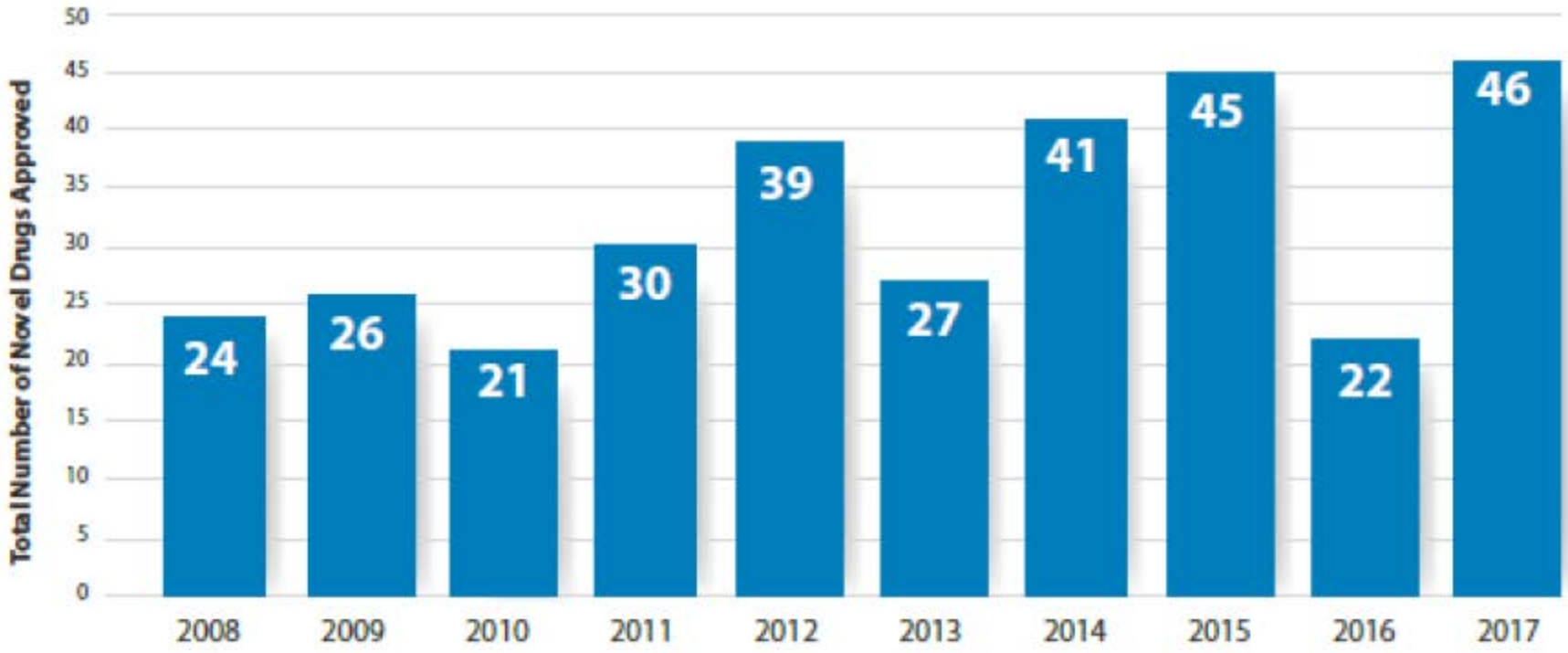
Rare Diseases Program Projects

Work collaboratively with stakeholders

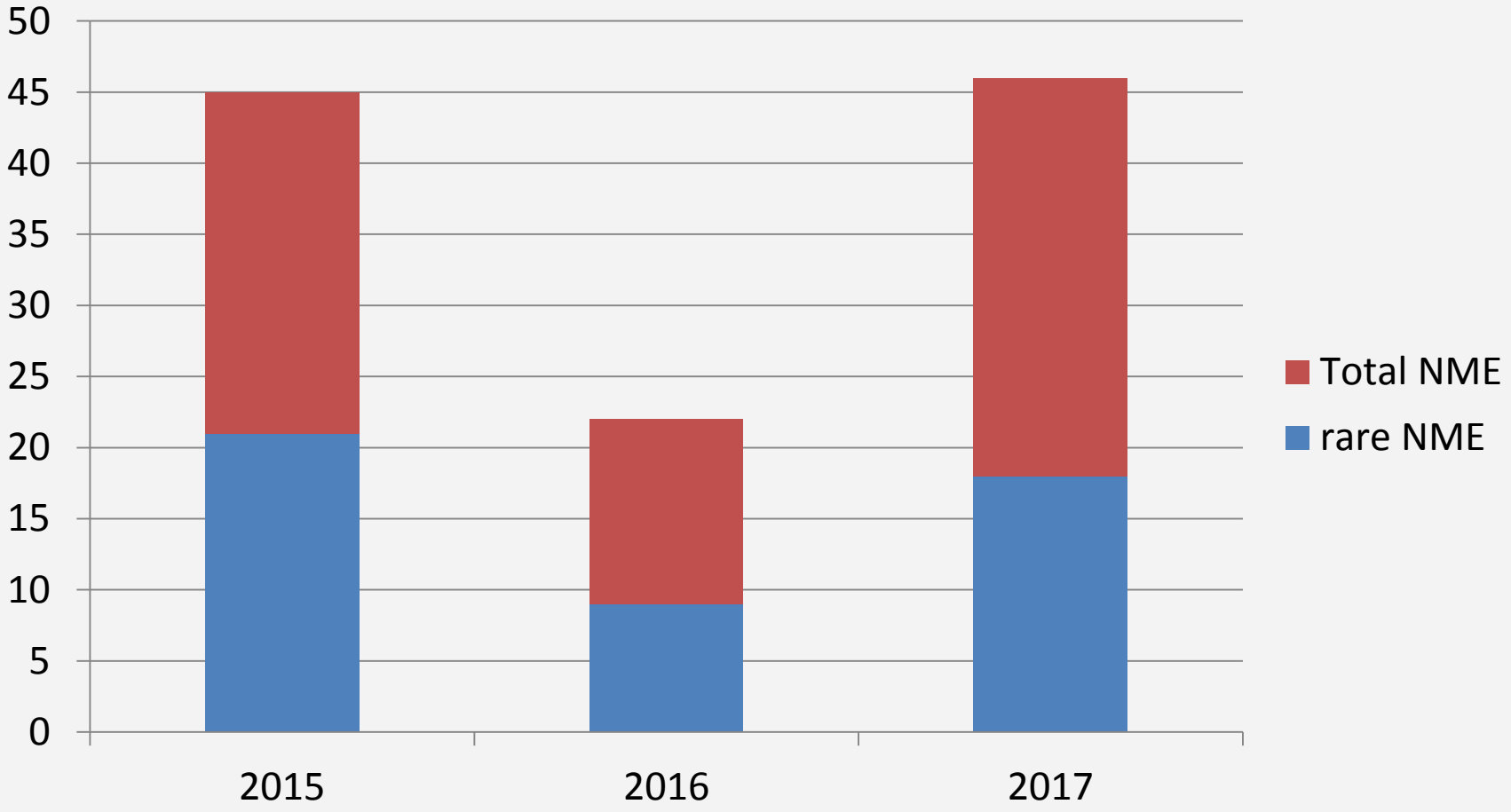
- Patient/Patient Organizations Meetings
  - Face to Face meetings with patient advocacy groups often in collaboration with PAS, PASE, and/or OHCA
  - Presentations to stakeholder groups
  - Planning Committee members for NORD Annual Summit

CDER's Annual Novel Drug Approvals: 2008 - 2017

In 2017, CDER approved 46 novel drugs. The ten-year graph below shows that from 2008 through 2016, CDER has averaged about 31 novel drug approvals per year.



CDER Novel *Orphan* New Drug Approvals First Approvals in the US – CY 2015 -2017



Expediting Rare Diseases Drug Development

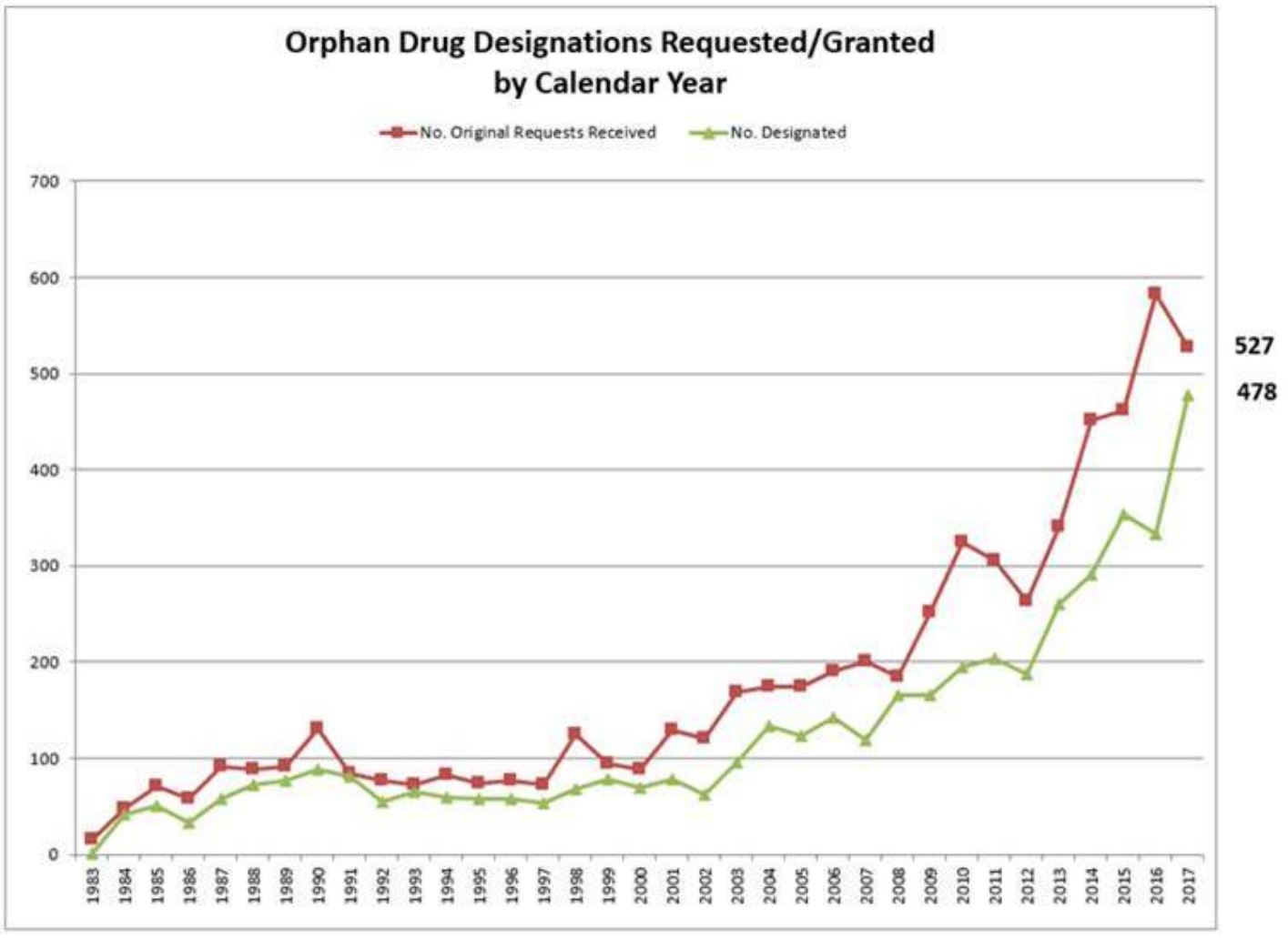
- Programs have been developed to target serious diseases with unmet medical needs when a new treatment could provide meaningful clinical benefit

Guidance for Industry Expedited Programs for Serious Conditions – Drugs and Biologics, May 2014

2017 Rare NME approvals

	Rare (#18)
First in class	56%
Fast track	44%
Breakthrough	44%
Priority	78%
Accelerated	22%
First in the US	72%

Statistics: Orphan Drug Designations

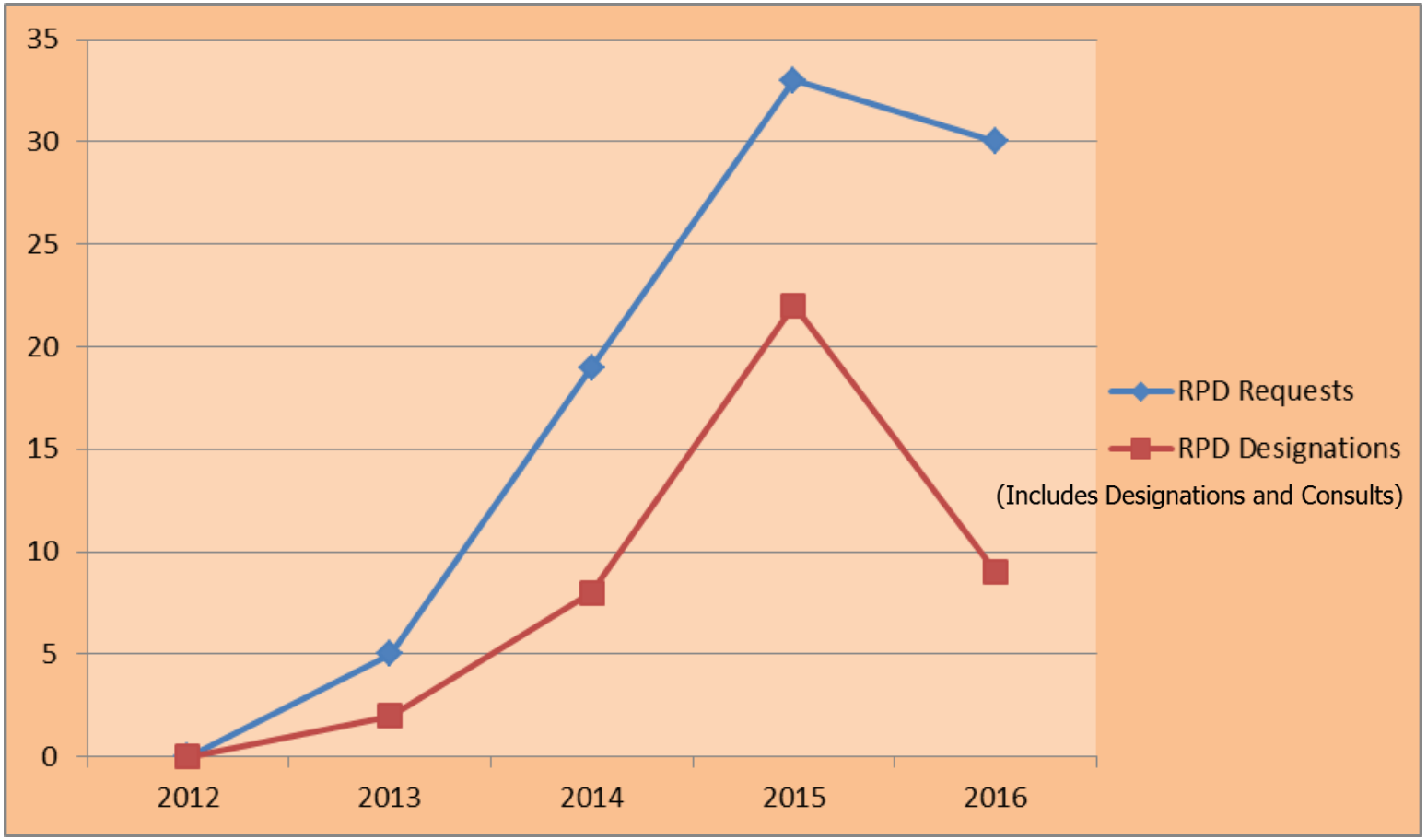


Rare Pediatric Disease (RPD) Priority Review Voucher Program: Background

- 2012 FDA Safety and Innovation Act (FDASIA) [Section 908]
  - Provides an incentive to encourage the development of drugs and biologics for rare pediatric diseases
- Upon approval, the sponsor may be issued a voucher redeemable for a priority review for a ***subsequent*** application that may not have otherwise qualified for a priority review
- The incentive offers a shorter review clock for marketing applications, 6 months compared with the 10 months standard review time

Rare Pediatric Disease Priority Review Vouchers, Guidance for Industry
http://www.fda.gov/downloads/RegulatoryInformation/Guidances/UCM423325.pdf

RPD Requests and Determinations



Data as of September 15, 2016

Rare Pediatric Disease Priority Review Voucher Program

- The OOPD reviews requests for Rare Pediatric Disease designation
  - 41 Designated/6 Denied/7 Under Review
- Voucher requests are managed by the OND RDP
  - 11 Voucher requests were submitted with an NDA or BLA
    - 6 Vouchers awarded, 3 denied and 2 pending review
  - Two PRV's have been redeemed
- Future (?)
  - Sunsets - 30 September 2016 although pending legislation may be extended to 31 December 2022 (for designation)/31 December 2027 (for redemption)

International Regulatory Communications: Development of an EMA/FDA Rare Disease Cluster

- Regularly scheduled teleconferences to exchange information and experiences
- Alternating Chairpersonship EMA/FDA
- Agendas circulated in advance of the teleconferences
- Core Members are joined by expert Reviewers

International Regulatory Communications Development of an EMA/FDA Rare Disease Cluster

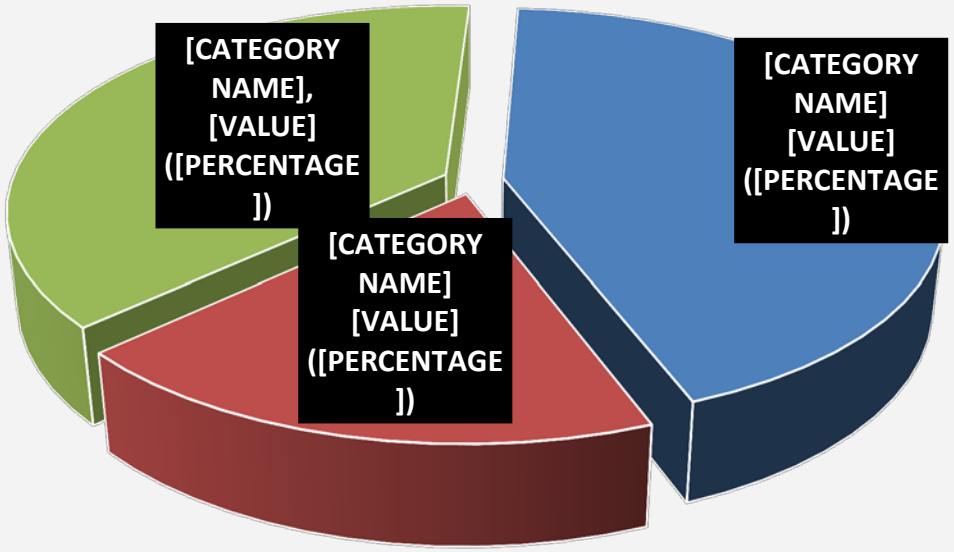
- To share scientific evaluation of various aspects of rare disease drug development
  - Identification of trial end points
  - Potential trial designs in small populations
  - Regulatory flexibility
  - Determination of the size of safety populations

EMA/FDA Rare Disease Cluster

- To share scientific evaluation of various aspects of rare disease drug development
  - Evaluation of pre-clinical data to support human trials
  - Design/conduct of post-marketing studies especially in the cases of breakthrough designation and accelerated approval (FDA) or PRIME designation and conditional/exceptional approval (EMA)

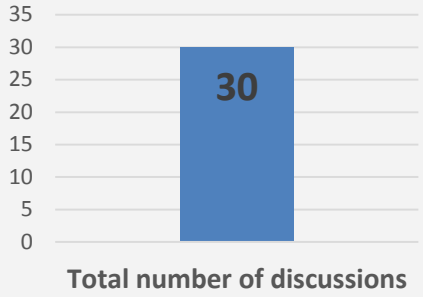
EMA/FDA Rare Disease Cluster

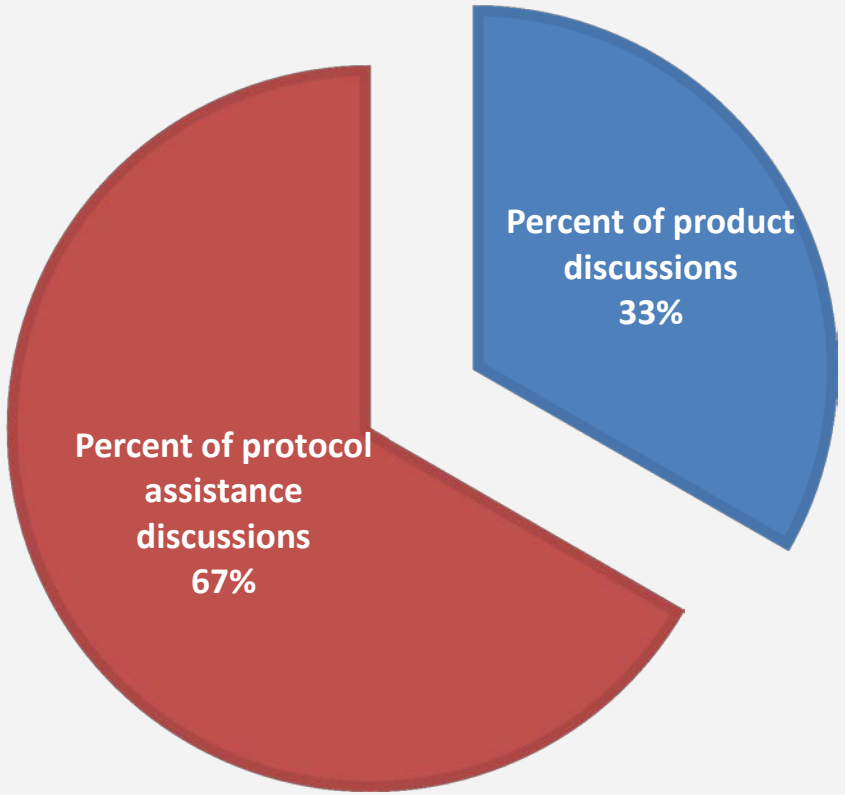
Overall, a total of fifty-three (53) agenda items were discussed between September 2016 – December 2017.



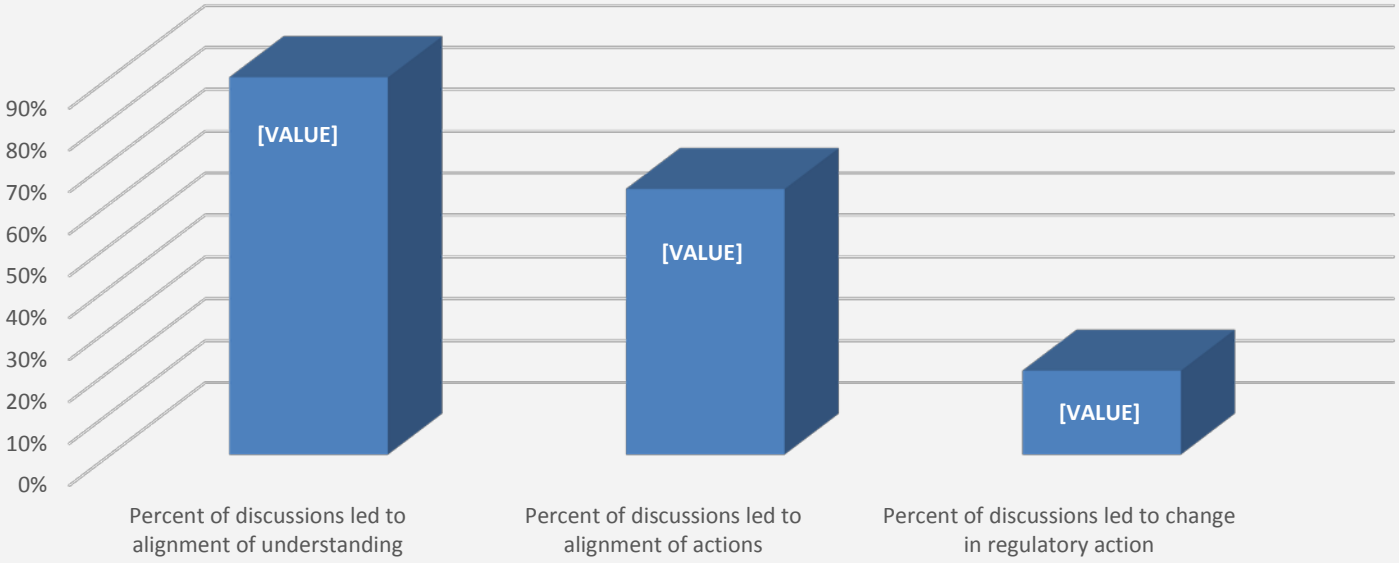
EMA/FDA Rare Disease Cluster

TOTAL DISCUSSIONS SINCE INCEPTION





Overall Impact of the Rare Diseases Cluster



Thank you very much for your attention

Send us a Question at:
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