

Tackling Rare Diseases in the United States

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Presentation Outline

- *Where We Were
- * What We Have Accomplished
- * Where We Are Going





Where We Were

- * Very little research into rare diseases
- * Minimal drug development
- * Many uninsured or underinsured





- * Expanded Rare Disease Research at the NIH
 - * Human Genome Project
 - * NIH FY 2017 funding for rare diseases: \$3.8 billion







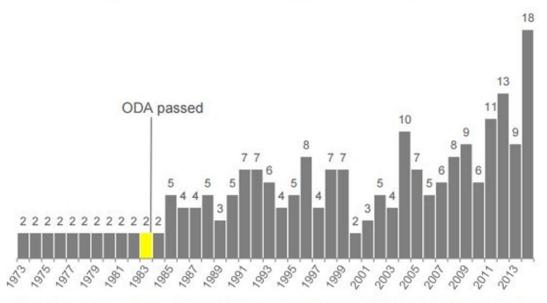
*Incentivized Drug Development in Rare Diseases:

- * Over 550 orphan therapies for about 375 rare diseases
- * 2015 Almost half of FDA approvals were for rare diseases





Figure 1. New orphan drugs before and after the ODA





Note: New orphan drugs are defined as NMEs or BLAs. Prior to the ODA, the graph shows the average annual number of approved drugs that would have been considered orphan drugs.

Source: Drug Approval Reports, Food and Drug Administration, various years; EY analysis.



*Incentivized Development in Rare Diseases:

- * Over 550 orphan therapies for about 375 rare diseases
- 2015 Almost half of FDA approvals were for rare diseases
- * Continued FDA flexible review

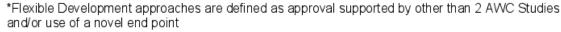




Application of Flexible Clinical Development Programs CDER NME approvals 1/1/2008 - 9/25/2015



Flexible Development Programs	Rare Approvals	Non-Rare Approvals
Use of ≥ 1 flexible development approaches*	81% N=73	36% N=64
Traditional development program**	19% N=17	64% N=113



^{**}Traditional Development defined as ≥2 AWC studies using endpoints with prior precedents



* Expanded Insurance Coverage*

- * Affordable Care Act:
 - Prohibited discrimination on pre-existing conditions
 - No annual or life-time limits
 - Expanded Medicaid
 - * Requires private insurance coverage
 - Many other important provisions





Where We Are Going*



NGO COMMITTEE FOR RARE DISEASES

- Continued expansion of genetic and genomic research
 - * Precision Medicine Initiative
 - * Cancer Moonshot
 - Gene editing technologies and gene therapies
 - Undiagnosed Diseases
 - * Translational Research



Where We Are Going*

- * Greater Patient Involvement in Drug Development
 - Patient-Focused Drug Development
 - Inclusion of patient-preference data
- Natural-history data registries
- Genetically-targeted therapies
- * Targeted Incentives for Rare Disease Drug Development







Where We Are Going*

- Defense of Insurance Coverage Expansion and Protections
 - * Defend the Affordable Care Act









Thank You!

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