MAPPING DRUG DEVELOPMENT: THE ROLE PATIENTS PLAY

When you, your family member, or your close friend is diagnosed with a rare disease, the most important thing becomes developing a treatment, and preferably a cure, that can be approved by regulatory agencies such as the U.S. Food and Drug Administration (FDA). At the Global Genes 2015 Rare Patient Advocacy Summit, Dr. Gayatri Rao, Director of the Office of Orphan Products Development at the FDA, discussed seven ways patients and their caregivers can maximize their role to ensure that every investment and every effort, no matter how early in the drug development process, is directed toward developing an FDA-approved product to treat their disease.

1. CREATE A ROBUST PATIENT REGISTRY

A registry can be used for several key purposes throughout the drug development process. Registries allow for standardized collection on the characteristics of rare diseases and patients, such as the prevalence of the disease, the age range of patients, as well as patient and family contact information. This can provide a strong foundation for a natural history study to learn about the typical course of the disease. A natural history study is a study that follows a group of people over time who have, or are at risk of developing, a specific medical condition or disease. They are key in order to demonstrate that the effects seen in a clinical trial are a result of the drug and not the natural course of the disease.

When conducting clinical trials, enrollment of enough patients to be able to demonstrate an effect of the drug is essential. A registry can help by providing contact information, so patients can be made aware of the availability of a clinical trial.

A registry also can provide a means to survey patients and their families or to contact them to encourage them to provide feedback to the FDA during the regulatory process.

Patient groups should keep the “long view” in mind when creating a registry and try to create a database that will allow extended future use, including using standardized language, specifying potential future uses in the informed consent process, and ensuring the potential for data sharing.

2. INVEST IN DEVELOPING FOUNDATIONAL SCIENCE

An effective trial that produces data that can be used by the FDA in regulatory decisions must be based in foundational science. The FDA must be able to answer whether an effect seen in a clinical trial is because of the drug, because of the natural course of the disease, or because of some unrelated factor. Understanding the foundational science will help to ensure the FDA can answer this question. Examples of foundational science include biomarker development, outcome assessment, or genomics of the disease. Resources are available through the FDA to guide the process, and agency representatives are willing and able to provide general guidance.

RESOURCES

Rare Diseases: Common Issues in Drug Development:  

Critical Path Innovation Meetings:  

Biomarker Qualification Program:  

Clinical Outcome Assessment Program:  
3. TIPS FOR FUNDING CLINICAL TRIALS

Along with finding an expert in the disease to serve as a principal investigator for a clinical trial, patient advocates should ensure that clinical trials they are involved in funding are run by researchers with knowledge of clinical trial regulations and of the FDA. Patient advocates should consider the “regulatory merit” as well as the scientific merit of a clinical trial they may fund. Adhering to clinical trial regulations allows the FDA to be confident in the reliability of the data they are reviewing. If regulations are not followed, the FDA may not consider the data to be reliable and usable.

The FDA also has a grant program that provides funding for conducting clinical trials. In awarding grants, the FDA considers both the scientific and the regulatory merit of the trial and the investigators. If patient advocates are working with investigators to receive funding from the FDA for clinical trials, it is important to be sure the investigators understand and follow clinical trial regulations.

The FDA is very willing to engage regarding the planning and design of clinical trials. Before engaging in a clinical trial, patient advocates should consider meeting with the FDA to discuss the trial plans.

RESOURCES


4. EDUCATE YOURSELF ABOUT THE FDA REGULATORY PROCESS

To work with the FDA in a meaningful way, patient advocacy groups must understand the basics of how the FDA works. Specifically, there are some common misunderstandings about the FDA that patient advocacy groups should keep in mind when participating in the drug development process.

First, the FDA does not conduct research – the agency cannot itself conduct clinical trials or basic biomedical research. FDA reviews studies conducted by other organizations.

Second, FDA is a regulatory agency and as such is required by law to review clinical trials. The FDA does not have the ability to waive review completely, and it cannot speed the process beyond avenues available through legislation. The FDA does, however, have discretion related to how much evidence is needed to approve a product.

Third, the FDA cannot discuss a sponsor application because this is considered company confidential information. The FDA is not allowed to meet with patient groups and share information related to ongoing clinical trials or applications for beginning clinical trials or for marketing approval.

Fourth, there are several incentives at FDA available to promote the development of rare disease products. Small companies may not be aware of all the available incentives, including orphan drug designation, which provides a tax credit, marketing exclusivity, grants for clinical trial testing expenses, and FDA fee waivers.

RESOURCES
Learn About Drug and Device Approvals: http://www.fda.gov/ForPatients/Approvals/default.htm

5. PARTNER WITH INDUSTRY

Many companies recognize the benefits of partnering with patient groups. Patient groups can inform the clinical trial design, identifying outcomes that are most important to patients and their caregivers. Industry can incorporate these outcomes into the clinical trial design and discuss the design with the FDA, highlighting the input from patients. Patient groups also can provide insight regarding the feasibility of the clinical trial design – whether the clinical trial requirements will be too difficult for patients to complete.
6. INFORMING THE FDA REVIEW PROCESS

Patients also can provide input to the FDA review process regarding how the disease affects them, what symptoms are most important to address, and what risks patients may be willing to accept. FDA has begun efforts to systematically collect patient views on disease treatments and experiences. As part of this effort, the FDA has initiated Disease Area Meetings through the Patient-Focused Drug Development initiative for about 20 different diseases, many of which are rare. Because of limited resources restricting the number of FDA-led Disease Area Meetings, the FDA encourages patients to conduct externally-led Disease Area Meetings. Patients are encouraged to engage the FDA before their meeting, and the FDA may be able to participate, if the meeting is held near the FDA headquarters or if the meeting is held virtually. The FDA suggests that deliverables, such as a summary meeting report, webcasts, or meeting transcripts, be submitted after the meeting, which can be used to inform the FDA’s regulatory decisions on treatments for that particular disease.

RESOURCES


7. PARTICIPATE IN FDA ADVISORY COMMITTEES

All applications are reviewed by Advisory Committees composed of external experts who review the submitted data and arrive at a determination of whether the drug should be approved or not. Patients or their caregivers can serve as a voting member of an advisory committee through the Patient Representative Program. This provides another direct means for patients and caregivers to share their voices with the FDA.

RESOURCES
Patient Representative Program: http://www.fda.gov/ForPatients/About/ucm412709.htm

CONCLUSION

The FDA continues to strive to incorporate patient and caregiver perspectives throughout the regulatory review process. As Dr. Rao emphasized, “It is important to remember that the people at the FDA care about what they do and want to make a difference,” and that “patients, especially rare disease patients and advocates, play a critical role in the drug development process.” If patients or patient advocates want to participate in any of these programs or are seeking advice on how to engage with the FDA, they should contact FDA representatives from the following offices.

CONTACTS

Office of Orphan Products Development: http://www.fda.gov/AboutFDA/CentersOffices/OfficeofMedicalProductsandTobacco/OfficeofScienceandHealthCoordination/ucm2018190.htm

Office of Health and Constituent Affairs/FDA Patient Network: http://www.fda.gov/ForPatients/About/ucm412428.htm

CDER Rare Disease Program: http://www.fda.gov/AboutFDA/CentersOffices/OfficeofMedicalProductsandTobacco/CDER/ucm221248.htm

CDER Professional Affairs and Stakeholder Engagement: http://www.fda.gov/AboutFDA/CentersOffices/OfficeofMedicalProductsandTobacco/CDER/ucm385522.htm
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Gayatri R. Rao, is the Director for the Office of Orphan Products Development (OOPD) at FDA. The Office's mission is to advance the development of promising products, including drugs, biologics, devices, and medical foods, for rare diseases. As Director, she oversees a number of programs created to promote the development of such products, including the Orphan Drug Designation Program, the Humanitarian Use Device Designation Program, the Orphan Products Grants Program, the Pediatric Device Consortia Grant Program, and the Rare Pediatric Disease Designation Program. In addition, she coordinates cross-Agency efforts on rare disease issues, is actively engaged in a number of internal and external collaborations to promote the development of products for rare diseases, and oversees the Office's extensive outreach efforts to patients, sponsors, and other stakeholders. Prior to joining OOPD, Dr. Rao worked in FDA's Office of the Chief Counsel where she provided advice on a wide range of issues related to medical devices, combination products, clinical trials, and human subject protection.

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Dr. McArthur-Hart has extensive experience analyzing public policy and organizations related to scientific research and the drug development process. Much of her work has focused on developing solutions to expand and strengthen biomedical and public health research and collaborations. She has worked on several large-scale policy projects, including developing program recommendations for translational research, conducting an evaluation of a major national clinical trials resource, and analyzing university-industry-patient advocacy group collaborations in biomedical research. Her work has included positions with Global Genes; the Commonwealth of Massachusetts; the Science and Technology Policy Institute; RAND; and the University of Kentucky. She received her Ph.D. in science and technology policy from George Washington University and her M.S. in science and technology studies from Virginia Tech.