Epilepsy Patient Perspectives on Generic Bioequivalance

Angela M. Ostrom, JD
Chief Legal Officer
Jenna Mathis, JD
Government Relations Manager

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FDA WHITE OAK CAMPUS
Our Mission

To lead the fight to overcome the challenges of living with epilepsy and to accelerate therapies to stop seizures, find cures, and save lives.
Challenges of Epilepsy

3,400,000 individuals living with epilepsy in the United States\textsuperscript{1}  
2,900,000 adults; 500,000 children

65,000,000 individuals living with epilepsy worldwide\textsuperscript{2}

1 in 26 individuals will develop epilepsy\textsuperscript{3}

Thousands of individuals die from SUDEP each year worldwide  
(3,000 in US, 75,000 worldwide)\textsuperscript{4}

\textsuperscript{1} Centers for Disease Control and Prevention  
\textsuperscript{2} International League Against Epilepsy (ILAE)  
\textsuperscript{3} Institute of Medicine Report 2012  
\textsuperscript{4} Orrin Devinsky, MD- NYU Medical Center
Understanding the Challenges

National Health Interview Survey data from 2010 and 2013 indicate that:

- Almost 60% of adults with epilepsy report having at least one or more seizures per year, and within this group, close to 40% have not been seen by a neurologist or epilepsy specialist within the past year (2).

- People with epilepsy are likely to have multiple chronic conditions, and live in households at the lowest income level.

- A significant number of PWE have co-morbidities, including autism, psychiatric, cognitive and psychosocial conditions that complicate treatment, care, education, work and quality of life.
First, seizure control can be an all-or-nothing proposition.
- Changes in the amount of medication received by a person with epilepsy can mean the difference between a fully controlled condition and breakthrough seizures.

Second, the consequences of a breakdown in a well-functioning seizure-control regimen can be catastrophic — consequences of a breakthrough seizure can be extreme:
- seizures increase the likelihood of serious bodily injury and death
- seizures often result in significant social, legal and developmental consequences
- seizures can impact an individual’s employment and access to community services and social opportunities due to loss of the patient’s driver’s license
- seizures can lead to loss of employment and loss of self-esteem.

Bioequivalence - why does it matter to epilepsy patients and families?
A SISTER’S PAIN
The Devastating Effects of Switching Medication
Bioequivalence - a growing concern

For most individuals and conditions, generic substitution has worked. Many patients have switched from name-brand to generic medications to control high cholesterol or blood pressure, for instance, with little or no problems—and at significant cost savings.

The Foundation saw a growing volume of evidence, concern from patients, and questions from clinicians suggesting that, for at least some individuals, the same has not been true for anti-epileptic drugs (AEDs).

The scientific literature contained:
- clinical confirmation that switching between “equivalent” formulations of the same AED, whose differing effects in the body are not considered “significant” by the FDA, caused serious adverse consequences in patients,
- case studies affirmatively establishing that switching between “equivalent” AEDs can lead to breakthrough seizures, and
- case studies documenting that epilepsy patients on the brand name and generic versions of “equivalent” AED medications had different levels of therapeutic medication in their blood, and
- population data revealing that epilepsy patients have “switch[ed] back” to brand-name medication at significantly higher rates than patients who have switched to generic drugs to treat other long-term conditions.
In Their Own Words:

Epilepsy Patients’ Experiences
Changing The Formulation of
The Drugs They Use to Prevent Seizures

FINDINGS FROM THE EPILEPSY FOUNDATION’S
SURVEY OF PATIENT EXPERIENCES
November 2006 – March 2009
Calling on Community to Get Engaged

Medication Substitution

**Advocacy**

Speak Up, Speak Out

Advocacy Priorities

Federal Funding for Epilepsy

Access to Care

Medicaid

Medicare

**Think Twice Before Switching Medications**

While most patients can safely switch their medications among different formulations of the same antiepileptic medication, the Epilepsy Foundation recommends that consent must be obtained from the individual with epilepsy and their physician before any such substitutions are made – to avoid potentially life-threatening seizures.
Data & Studies

Advocacy

Speak Up, Speak Out

Advocacy Priorities

Federal Funding for Epilepsy

Access to Care

Medicaid

Medicare

Affordable Care Act

Medication Switching

There have been multiple studies intended to determine the odds of antiepilepsy drug (AED) substitution among patients requiring emergency care. Two studies, in particular, one published in the journal ‘Epilepsia’ (Zachry, et al) and another published in Pharmacotherapy (Rascati and colleagues), looked at patients who had experienced an epilepsy-related event for the first time in six months and found that 80-81% had recently been subjected to an AED substitution.

In addition, the journal ‘Neurology’ published a study (Labiner, et al.), which, in evaluating five common AEDs in the U.S., found that patients who were subjected to generic substitution also required significantly greater use of medical resources and were exposed to an increased risk of epilepsy-related medical events, compared to those who received only brand medication.

(The latest Neurology published an article titled...
The Epilepsy Foundation led efforts to call attention to concerns from the patient and provider community.

• Called upon FDA leadership to meet and discuss bioequivalence and AEDs.
• In conjunction with leading clinicians and AES, called upon NIH and FDA to consider research.
• Educated congressional leadership to support funding and research.
Generic-Brand Antiepileptic Drug Equivalence: From Anecdotes to Evidence

Epilepsy Grand Rounds Seminar Series

Michael Privitera, M.D.
University of Cincinnati
Generic-Brand Antiepileptic Drug Equivalence: From Anecdotes to Evidence
Original Release: February 2, 2016
Termination Date: February 2, 2019

Accreditation

The George Washington University School of Medicine and Health Sciences is accredited by the Accreditation Council for Continuing Medical Education (ACCME) to provide continuing medical education for physicians.
Generic Antiepileptic Drugs - Results of FDA Research

Epilepsy.com Editor-In-Chief Dr. Joseph Sirven interviews Tricia Ting MD, Associate Professor of Neurology and Director of Investigational Drug Trials in Epilepsy at the University of Maryland Medical Center about the results of FDA research about generic antiepileptic drugs.
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2. People with epilepsy are likely to have multiple chronic conditions, and live in households at the lowest income level.

3. A significant number of PWE have co-morbidities, including autism, psychiatric, cognitive and psychosocial conditions that complicate treatment, care, education, work and quality of life.
Confidence in generic products and FDA is important and can benefit patients economically, helping to lower costs.

We cannot ignore the cost burdens and barriers that are being placed on physician directed care.

- Patients are now facing many “fail first” 5 times policies where access to even generic products are restricted.
- Therapeutic substitution, while distinct from generic substitution, is expanding—plans are making physician decisions for patients.

It is important for health policy community to understand that bioequivalence standards and the research completed thus far does not mean that all AEDs are interchangeable.
Goals for Epilepsy Foundation

Share the research and promising news on generic substation studies

Continue to advocate for access to physician directed care without unreasonable limitation or financial burden

Support continuing funding for additional research through FDA
Research Recommendations

FDA should continue to support further research

- areas in studies where questions remain or patient populations where sensitivity or “brittle patient” status may exist
- medications where key leaders or patient reports indicate a need for research on substitution by FDA
- XR formulations
Patient Recommendations

FDA communications to consumers should be realistic and not completely dismiss any possible individual patient problems

- patients should be advised to understand medication substitution and talk with their pharmacist and physician
- patients should be advised that not all substitutions are generic substitutions
- FDA should advise the broader community that generic substitution only includes the bioequivalent generic; i.e. not XR versions, not therapeutic substitutions