Generic Drug Products
Moving Forward in a Global Environment

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Overview

• Highlight the current generic drug market

• Global accomplishments

• Current challenges

• Current status of global involvement
Generic drugs play an essential role in health care by increasing the accessibility and affordability of modern day pharmaceuticals domestically and globally.
Generic versus Reference Drug Products

- Must be pharmaceutically equivalent
- Must be bioequivalent
- Must meet the same quality standards
- Governed by regulatory standards
Significance of Generic Drug Products in the United States

Prescriptions

> 80% of the drugs prescribed

Savings & Cost

• $1.2 trillion dollars saved in the last decade

• Average cost 80-85% less
Global Market of Generic Drug Products
Prescriptions Filled

Canada

Brand < 40%
Generic > 60%

Source: Canadian Generic Pharmaceutical Association

European Union

Brand 50%
Generic 50%

Source: European Generic Medicines Association

Japan

Brand > 70%
Generic < 30%

Source: Generics and Biosimilars Initiative Online
Global Market of Generic Drug Products

Revenue - Drug Sales

2012 Reached $269 billion

2018 Estimated $518.5 billion

Source: BCC Research
Leading the Way
Global Accomplishments

2003 President’s Emergency Plan for AIDS Relief (PEPFAR)

• Initiative to save lives of those suffering from HIV/AIDS

• Largest commitment by any nation

• Bilateral and regional programs in 65 countries worldwide

Source: http://www.pepfar.gov/press/93498.htm7
Approval Process of Antiretroviral Drug Products

Associated with the PEPFAR program

- Sponsors worldwide submit U.S. marketing applications

- Expedited review process

- Same regulatory standards

- “Tentative” or “Fully” Approval (brand and generic)

- USAID allows purchase of any product (“tentative” or “full”)

- Focused countries and American public are offered the same products
Approved Antiretroviral Drug Products
Associated with the PEPFAR Program

- 170 total approvals*

   - 66 NDAs (39%)
   - 104 ANDAs (61%)

* As of 03/18/2014

NDA = New Drug Application  
ANDA = Abbreviated New Drug Application (generic)
Global Contributions & Collaborations

Life-saving treatment for 6.7 million men, women, and children worldwide
Generic Drug Development
Office of Generic Drugs (OGD)

- Over 40 product specific bioequivalence (BE) guidances for antiretrovirals
  - Study design
  - Study conduct
  - Subject population
  - BE acceptance criteria
  - Dissolution method

http://www.fda.gov/Drugs/GuidanceComplianceRegulatoryInformation/Guidances/ucm075207.htm
Challenges

DOMESTIC GLOBAL
OGD Global Involvement

- Global engagement is challenging
  - Limited resources
  - Competing priorities

- Largest Priority

Generic Drug User Fee Amendments (GDUFA) of 2012
Global Challenges for Generics

International regulatory gaps between jurisdictions and organizations

- Legal framework
- Technical BE requirements
- Assessment timelines
- Sharing information
- Common Technical Documents
- Patent/Exclusivity
Global Challenges for Generics

• Differences in active pharmaceutical ingredients

• Differences in finished products

• Differences in reference products

• Differences in bioequivalence requirements
Moving Forward......

Working Together

Seeking the Future

.......Current Collaborative Efforts
Monthly Call-In Meetings
OGD/USFDA and Health Canada

- Started – 2011
- Discuss Scientific & Policy Issues
- Participants
  - OGD
    - Dale P. Conner, Ethan Stier & Hoainhon Caramenico
      Division of Bioequivalence I & II Directors and Deputy Director
    - Science Team & Division of Chemistry (as needed)
  - Health Canada
    - Bureau of Pharmaceutical Sciences & Bureau of Policy, Science and International Programs
International Generic Drug Regulators Pilot (IGDRP) Project

To promote collaboration and convergence of generic drug regulators in order to address challenges posed by increasing workloads, globalization and complexity of scientific issues.
IGDRP

Participating Jurisdictions and Organizations

- **Australia** (Therapeutics Goods Administration, TGA)
- **Brazil** (National Agency for Sanitary Monitoring, ANVISA)
- **Canada** (Health Canada, HC)
- **China** (China Food and Drug Administration, CFDA)
- **The European Union** (the European Medicines Agency, EMA)
- **Japan** (National Institutes of Health Sciences, NIHS & Pharmaceuticals and Medical Devices Agency, PMDA)
- **Korea** (Ministry of Food and Drug Safety, MFDS)
- **Mexico** (Secretaria de Salud)
- **New Zealand** (Medsafe)
- **Russia** (Federal Service on Surveillance in Healthcare)
- **Singapore** (Health Sciences Authority, HSA)
- **South Africa** (Medicines Control Council, MCC)
- **Switzerland** (Swissmedic)
- **Taiwan** (Taiwan Food and Drug Administration, TFDA)
- **United States** (US Food and Drug Administration, USFDA)
- **European Directorate for the Quality of Medicines and Healthcare** (EDQM) - observer
- **United Nations** (World Health Organization, WHO) - observer
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<th>Steering Committee</th>
<th>Makes decisions on behalf of IGDRP</th>
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| **Active Substance Master File/Drug Master File Working Group** | Objective: Establish a framework and mechanism for the sharing and use of Master File assessments and the potential mutual reliance on such assessments.  
Scope: Active pharmaceutical ingredient for human uses  
Chair: TGA, Co-Chair: WHO |
| **Biopharmaceutics Classification System Working Group** | Objective: Establish a common set of conditions for granting biowaivers and expanded application of waivers.  
Scope: BCS I then BCS III  
Chair: HC, Co-Chair: WHO |
| **Work-Sharing Working Group** | Objective: Explore various work-sharing models with a review to piloting an appropriate model(s) for the premarket review of generic drugs.  
Scope: Include the European decentralized procedure as a possible model.  
Mainly work remotely, through telephone or web conferences |
# Recent IGDRP Updates

Updates provided at the 6th Meeting held in Chinese Taipei, May 2014

| Active Substance Master File/Drug Master File Working Group | • Development of common quality assessment report (QAR) guide and template review guide; means of identify common DMFs  
• Gap analysis led by Japan |
| --- | --- |
| Biopharmaceutics Classification System Working Group | • Draft template for review of BCS led by South Africa  
• Gap analysis led by WHO and HC  
  - Summary of analysis  
  - Create a common list of BCS classified drugs |
| Work-Sharing Working Group | Still need to develop mandate and work plan with deliverables |
| Information Sharing | • The EU has offered to pilot is Decentralized Procedure (DCP) as a model for sharing information with IGDRP regulatory agencies (non-EU) |

7th meeting, Singapore, November 2014
IGDRP

International Pharmaceutical Regulators Forum (IPRF)

Mutual Sharing of Information

International Coalition of Medical Regulatory Authorities (ICMRA)

- Strengthen and align work plans
- Couple of projects directly related to generics
OGD Involvement in IGDRP

- 2011 exploratory committee to discuss collaboration among regulatory authorities
- 2012 official launch of the IGDRP project
  - OGD/USFDA co-chaired with Health Canada
  - Meeting in Washington, D.C.
- 3 year pilot program
OGD Involvement in IGDRP
Current Representatives OGD/USFDA

• Dr. Kathleen “Cook” Uhl (Acting Office Director)

• Dr. April C. Braddy
  − General Liaison/Representative to IGDRP on behalf of OGD/USFDA

  − BCS Working Group participant
Survey of International BE Recommendations

DOI: 10.1208/s12248-013-9499-x

Review Article
Theme: Human and Veterinary Therapeutics: Interspecies Extrapolations and Shared Challenges
Guest Editor: Marilyn Martinez

International Guidelines for Bioequivalence of Systemically Available Orally Administered Generic Drug Products: A Survey of Similarities and Differences

Barbara Davit,1,3 April C. Braddy,2 Dale P. Conner,2 and Lawrence X. Yu2

Received 29 November 2012; accepted 23 May 2013; published online 3 July 2013

We observed there were MORE SIMILARITIES than differences in bioequivalence approaches among the regulatory authorities surveyed.

KEY WORDS: bioequivalence; biopharmaceutics classification system; biowaivers; generic drugs; regulatory authority.
Summary

• Demand for generics continue to increase worldwide

• The PEPFAR program continues to help meet the global drug need for HIV/AIDS relief

• OGD/USFDA recognizes the importance of international collaboration and convergence

• OGD/USFDA will continue involvement as resources allow
One of the Many Benefits of Generics!

“The generic version is the same as the brand name, but cheaper. You might find that highly addictive.”
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