Where are the Biosimilars: The Balance between Affordable Drugs and New Research

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Abstract

Generic drugs play an important role in reducing health care costs. Historically, Congress has attempted to maintain a balance between providing affordable medicine in the form of generics, while protecting the income of pharmaceutical companies who spend millions of dollars and years of research to launch a new drug. If too much emphasis is placed on producing generic drugs, investors lack incentives to fund new research. In short, there will be no drug for the generic to imitate. In the field of biologics, biological based medicine, the United States was without a legal option to produce generics. Recently, the President signed into law a provision to allow biosimilars.

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The American public has a vital interest in assuring new medical research remains vital and strong. If medicines become too costly, only a select few have access. If medicine becomes too cheap, research and development for new medicines suffer. Where do we set the parameters between profitability and access? With traditional pharmaceutical drugs, procedures and laws are in place to assure pharmaceutical companies recoup research and development costs, while allowing generics to thrive in the marketplace. The situation is different with a class of drugs called biologics.

Biologics, a relatively new type of drug, offers enormous promise. Biologics are drugs created from living cells or organisms. Because biologics treat cancer, immune disorders and many diseases, they are sometimes called miracle drugs. The Food and Drug Administration takes a different stance on biologics, and requires a different approval process than traditional pharmaceuticals. Because of this one legal snafu, generic biologics, called biosimilars, are not available in the United States.(Dinh, 2007).

History and Legislative Intent

A brief history of the laws of pharmaceutical drug approval is necessary. With traditional drugs, a patent application is made, and then clinical trials are done. Ultimately, the goal is to get FDA approval via the NDA (new drug approval) process. Once the drug is approved as safe and effective, the innovated pharmaceutical company has approximately twelve years of exclusive sales, without competition. (Grabowski & Vernon).

Once the patent(s) on the original drug has expired, generic companies may wish to develop and sell their version of the drug. Generic companies must get FDA approval. Normally, to get FDA approval, a company must complete years of clinical trials. This cumbersome task seems

duplicative for a drug that is the bioequivalent of the original drug. Likewise, if the generic manufacturer must complete the same clinical trials as the original manufacturer, the cost savings would be non-existent.

The Hatch-Waxman Act was enacted to solve this problem. Rather than go through the NDA process, the Act allowed generic companies to apply for FDA approval via ANDA, which is an abbreviated new drug application. If the generic manufacturer proved its drug was bioequivalent to the original, then it could be expedited. This process saved enormous costs and allowed the consumer to get quality medication at affordable prices. The less expensive generic was allowed on the market, but not before the brand company enjoyed approximately twelve years of monopoly sales. This type of system assures proper financial incentives for research and development via exclusivity, while eventually bringing down the cost of medicine for the consumer from the competitive influence of generic drugs. (Mossinghoff, 1999)

Because biologics are different from traditional medicines, the FDA does not accept applications for approval via the NDA process. Biologics are approved pursuant to the Biologics Licensing Application (BLA), not the NDA. Under the BLA, Hax-Waxmann does not apply; therefore, there is no ANDA, or expedited process for proven bioequivalent drugs to bypass clinical trials. (Dinh, 2007) Historically, generic manufacturers of biosimilars would not get the benefit of ANDA; rather they must redundantly go through the rigorous and costly NDA process.

Just like other drugs, the public needs affordable generic biologics. Without changes in the law, the high cost of biologic medicine could escalate indefinitely. This unique legal situation caught the attention of lawmakers and the pharmaceutical industry.

PhRMA (Pharmaceutical Research and Manufacturers of America), is a trade group representing U.S. biotechnical companies and pharmaceutical research. Billy Tauzin, a former

congressional representative, is the CEO of PhRMA. Mr. Tauzin touts biologics as the cutting edge medicine that offers our brightest hope for new treatments. He states the cure for cancer will come from biologics.

Even before legislation was issued regarding biologics, Mr. Tauzin argued that drug companies need protection from congress to provide incentives for pharmaceutical companies to continue to research and develop life-saving drugs. In his agency's web-site publication, he called for a twelve-year reprieve, which would allow pharmaceutical companies that develop biologic drugs a twelve-year monopoly on the product before generic companies may compete. (Tauzin, 2009).

Mr. Tauzin's wisely looked into the future to take a proactive stance for his organization. In 2006, biologic sales reached $40.3 billion, which is fifteen percent of all U.S. prescription drug sales. The biologics market is the fasting growing market, with twenty percent growth, compared just eight percent growth for all pharmacy sales. (Frank, 2007) Biologics are expensive, not only because of the cost to manufacture, but because of the lack of generic biosimilars on the market.

H.R. 3590

Because no method to approve biosimilars existed, congress sought a solution. With the cost of biologics skyrocketing, a generic approval process for biosimilars was needed to reduce health care spending. (Kelly, Jd, David, & Jd, 2009)

Provision for allowing biosimilars were included within H.R. 3590, entitled the Patient Protection and Affordable Care Act. By a vote of 416 to 0, the house passed the Bill. On December 24, 2009, by a vote of 60 to 39, voting strictly down party lines, the Senate approved the Bill. On March 22, 2010, the 111th Congress presented the Bill to President Barack Obama

who signed the bill into law the following day. ("H.R. 3590 - Patient Protection and Affordable Care Act,")

Summary of Act

Under the new law, the Secretary of HHS is required to license a biological product that is shown to be biosimilar to or interchangeable with a licensed biological product (the *referenced* product). The manufacturer of the original (i.e. referenced) product has an exclusive right to sell the biologic for twelve years from the date the reference product originally was approved. If FDA approves a generic product on the grounds that it is interchangeable to a reference product, HHS cannot make a determination that a second or subsequent biological product is interchangeable to that same reference product until 1 year after the first commercial marketing of the first interchangeable product. ("Biologics Price Competition and Innovation Act of 2009," 2009)

HHS may issue guidance for licensure of biological products with regard to patent infringement concerns such as the exchange of information, good faith negotiations, and initiation infringement actions. ("Biologics Price Competition and Innovation Act of 2009," 2009)

This Act is expected to produce significant savings for the government. The Federal savings anticipated by this act will be used to reduce the deficit. ("Biologics Price Competition and Innovation Act of 2009," 2009)

Approval Process

As mentioned previously, the *Biologics Price Competition and Innovation Act* provides a pathway for generic biologics, while preserving the balance needed to keep the pharmaceutical companies profitable. The approval process is as follows:

1. Submission of a biological license application (BLA)
2. Applicant must demonstrate that biosimilar or interchangeable exhibits no discernable differences in purity and potency.
3. Biosimilar may be approved as an interchangeable. An interchangeable may be substituted for the brand product (referenced product) without physician approval, because it is, for practical purposes, identical to the brand product.
4. Accelerated patent litigation processes.
5. Information exchanges are required between brand manufacturers and biosimilar manufacturers.
6. Brand manufacturers are provided 12 years exclusivity from the approval date of the product. The first biosimilar product to demonstrate interchangeability will receive one year of exclusivity.

("Biologics Price Competition and Innovation Act of 2009," 2009)

With the passage of this Act, expensive biologics will go down in price, due to the influx of generic biosimilars. Just as the Hax-Waxman act allowed generics for small molecule pharmaceuticals, this Act will do the same for complicated biologics.

Conclusion

With the cost of health care at the heart of the current discussion, the pharmaceutical industry has been wise to secure a proactive role in attempting to propose regulations. As the reader should note, it secured the twelve years of exclusivity it desired.

This issue is too complicated to address fully within the sound bites of modern persuasion. We must hope that consumer advocates and elected officials stand up for the citizens

and continue to create a balance that will encourage continued investment into pharmaceutical research and development, while allowing the sale of cost-saving biosimilars.

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