



Indian Health Service
National Pharmacy and Therapeutics Committee
Formulary Brief: Biosimilars
-November 2016-



Background:

Biologic medications represent a vast array of clinically potent products.¹ The definition of a 'biological product' includes viruses, therapeutic serums, toxins, antitoxins, vaccines, blood, blood components or derivatives, allergenic products, or proteins applicable to the prevention, treatment, or cure of a disease or condition of human beings.¹ Products differ dramatically from traditional small molecule drugs in a variety of ways including: immunogenicity, methods of production, characterization, shelf life, and storage conditions.^{2,3} Many biologic medications formed the basis of continued treatment success in various autoimmune, carcinogenic, and other conditions.^{2,3} As a result of recent legislation, many of these biologic medications will soon see competition from biosimilar medications. The intent of this presentation was to inform the IHS National Pharmacy & Therapeutic Committee (NPTC) of the current emerging market of biosimilar medications. As a result of this clinical and pharmacoeconomic review, **the NPTC made no modifications to the IHS National Core Formulary.**

Discussion:

The Hatch-Waxman Act of 1984 provided the basis of the current 'generic' drug approval process.⁴ The intent of this legislation was, in part, to encourage access to medication through cost competition for medications of similar safety and efficacy.⁴ However, many biologic medications were not on the market at this time, which prevented them from being included in this legislation. In 2009, the Biologic Price Competition and Innovation (BPCI) Act was passed that enable an FDA approval pathway for biosimilar medications.^{2,3} Again, the intent of this legislation was to enhance competition through increasing access and lowering cost.^{2,3}

The current approval process is governed under section 351(k) of the Public Health Service Act and in general, companies must prove the biosimilar: is similar in safety and efficacy to the original reference product, has the same mechanism of action; conditions of use; route of administration; dosage form; and strength as the reference product, and the biosimilar will be manufactured under Good Manufacturing Practice.^{2,3} In general, these products could be considered 'interchangeable' with the reference product at any point in the patient's treatment course without intervention of the prescriber by meeting specific requirements, however final guidance on 'interchangeability' is expected to be released in 2017.⁵⁻⁷ In general, these biosimilar medications can differ in inactive ingredients and the number of indications but are limited to the indications of the reference product (although biosimilar manufacturers do not have to seek approval for all indications).⁵⁻⁷

Due to the potential for many biosimilar medications to be released for one reference drug, the Food and Drug Administration (FDA) created an informational tool for determining which biosimilar may be appropriate in relation to the current reference product.⁸ The Purple Book is similar to the FDA Orange Book in that it helps define which products are biosimilar and/or interchangeable with the reference product.⁸ This resource can be found at:
<http://www.fda.gov/Drugs/DevelopmentApprovalProcess/HowDrugsareDevelopedandApproved/ApprovalApplications/TherapeuticBiologicApplications/Biosimilars/ucm411418.htm>.

The FDA also commented that the naming of biosimilars should contain some special conventions.⁹ The reasoning for this decision is due in part to allow for enhanced

pharmacovigilance.⁹ The original naming convention for the first biosimilar approved was the “Core Name + Four Letter suffix” (manufacturer code).⁹ The first biosimilar product was registered as Zarxio[®] (filgrastim-sndz). However, the FDA has since indicated that biosimilar products should be named as follows: “Core Name + Random Four Letter suffix”. For instance, the infliximab biosimilar is named Inflectra[®] (infliximab-dyyb).⁹

At this time, there are four biosimilar products that have received approval from the FDA including Zarxio[®] (filgrastim-sndz), Inflectra[®] (infliximab-dyyb), Erelzi[®] (etanercept-szss) and Amjevita[®] (adalimumab-atto).⁸

Findings:

Biosimilar products represent a great opportunity to expand the availability of highly efficacious medications to more patients in the IHS through increased access and decreased cost. The biosimilar approval process within the U.S. is still new and further process changes are expected as additional products are approved and lingering issues are addressed (e.g., interchangeability guidance, product naming). Pharmacy Benefits Managers (PBMs) are expected to prefer biosimilar products as cost savings begins to become more transparent.¹⁰ Recently, two major PBMs plan to prefer Zarxio[®] (filgrastim-sndz) on their upcoming formularies.¹⁰ The Department of Veterans Affairs recently removed Neupogen[®] (filgrastim) from its National Formulary and replaced it with Zarxio[®] (filgrastim-sndz).¹¹ As more biosimilars enter the market, it is anticipated that price reductions of 20% or greater may be realized.

If you have any questions regarding this document, please contact the NPTC at IHSNPTC1@ihs.gov. For more information about the NPTC, please visit the [NPTC website](#).

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