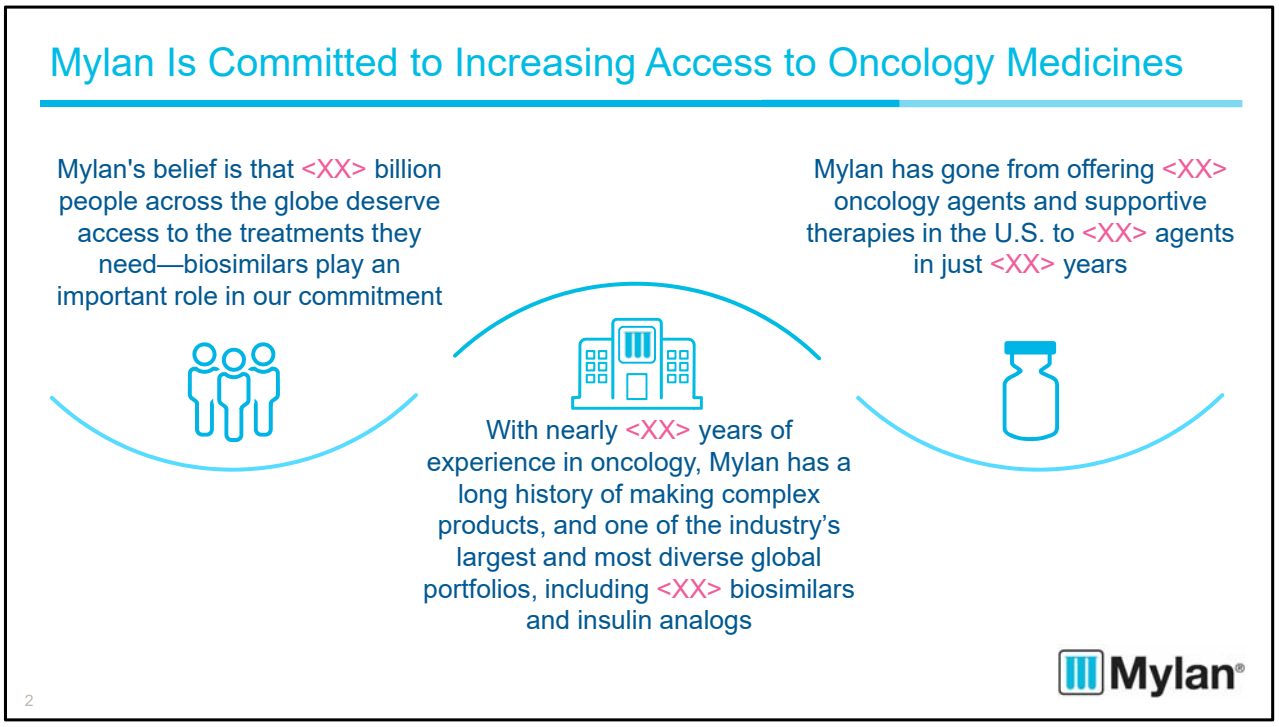
Good morning/afternoon. I am [name, position, etc].

Before I get into discussing any particular product. I'd like to take a few moments to discuss Mylan and its commitment to increasing access to biosimilars.

First, I'd like to say thank you for the opportunity to speak to you. I want to discuss some information about Mylan and what we are doing to make oncology and related supportive care biological therapies more accessible to patients through development of biosimilars. I have a short presentation to share with you today, and please feel free to ask questions as I go through the slides.

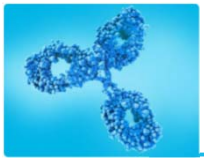


At Mylan, our mission is to set new standards in health care, working together around the world to provide <XX> billion people access to high-quality medicine. As one part of this broader purpose, we are working to make biologics, including oncology biologics, more accessible.

Through innovation, we are committed to doing what's right, not what's easy. Mylan has a long history—nearly <XX> years in oncology—of making difficult-to-manufacture, complex products. We also have one of the industry's largest and most diverse global product portfolios, one that includes <XX> biosimilars and insulin analogs.

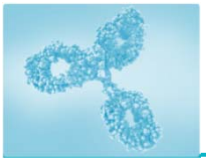
Nowhere is Mylan's commitment to increasing access more evident than in oncology and supportive care. In just <XX> years, we have increased the number of our oncology agents and supportive therapies in the US from <XX> to more than <XX>.

Biosimilar: No Clinically Meaningful Differences[1]



Biosimilarity

- The biological product is **highly similar** to the reference product notwithstanding minor differences in clinically inactive components
- There are **no clinically meaningful differences** between the biological product and the reference product in terms of safety, purity, and potency



Reference product

- The single, already licensed biological product against which a biological product is evaluated

1. FDA. Scientific considerations in demonstrating biosimilarity to a reference product: guidance for industry. https://www.fda.gov/drugs/biosimilars/biosimilar-and-interchangeable-products#biosimilar. Accessed January 17, 2020.

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You are probably pretty familiar with biologic therapies, as they have become standard of care for many conditions in recent years. But you may not be as familiar with the term "biosimilar." As the term implies, a biosimilar is a biological product that is highly similar to a reference biological product, which is a biologic that has already been licensed (that is, approved for use).[1]

What does "highly similar" mean? The US Food and Drug Administration notes that although a biosimilar can have minor differences in clinically inactive components compared with the reference product, "highly similar" means there can be no clinically meaningful differences between the 2 products in terms of safety, purity, and potency.[1]

References

1. US Food and Drug Administration. Scientific considerations in demonstrating biosimilarity to a reference product: guidance for industry. https://www.fda.gov/media/82647/download. Accessed January 17, 2020.

Biosimilars Are Not Generics[1,2]

Oncology Biologics		Small Molecule Drugs
Protein based	**Composition**	Chemically based
Large	**Size**	Small
Complex and difficult to fully characterize	**Structure and characterization**	Simple and easy to fully characterize
Complex	**Degradation mechanism**	Precise and known
Heterogeneous product	**Variability**	Single, defined structure
Unique bank of living cells and production process developed by manufacturer	**Manufacture**	Predictable chemical and reagent reactions
Difficult; biosimilars are **similar—but not identical—**to the reference product	**Ease of reproduction**	Can be reliably reproduced to yield **identical** copies (ie, generics)

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4 **1.** Zelenetz AD, et al. *J Natl Compr Canc Netw*. 2011;9(suppl 4):S1-S22. **2.** Camacho LH, et al. *Cancer Med*. 2014;3(4):889-899.

A biosimilar of a biological product is not the same as a generic of a drug. To understand the differences between biosimilars and generics, let's review what distinguishes biological agents from other drugs.[1,2]

Small molecule drugs are chemically based, with simple, single, and defined chemical structures. They are easy to fully characterize and have precise and known mechanisms of degradation. Because their manufacture involves predictable chemical and reagent reactions, they can be reliably reproduced to yield identical copies—what we call generics.[1,2]

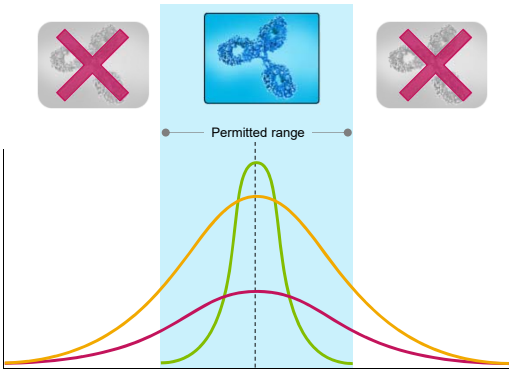
In contrast, biologics are protein-based, large, complex, heterogeneous products that are difficult to fully characterize. Their creation involves unique cell lines and production processes that are developed by the manufacturer. As a result, it is unlikely that a biosimilar manufacturer will be able to produce an identical copy of a reference biological product. Therefore, biosimilars are not generics because they are similar—but not identical—to the reference product.[1,2]

References

1. Zelenetz AD, Ahmed I, Braud EL, et al. NCCN Biosimilars White Paper: regulatory, scientific, and patient safety perspectives. *J Natl Compr Canc Netw*. 2011;9(suppl 4):S1-S22.
2. Camacho LH, Frost CP, Abella E, Morrow PK, Whittaker S. Biosimilars 101: considerations for U.S. oncologists in clinical practice. *Cancer Med*. 2014;3(4):889-899.

Biologics Are Inherently Variable[1]

- According to regulatory authorities, there are no clinically meaningful differences between a biosimilar and its reference product in terms of safety and efficacy
- While variations in all biologics, including reference products, are normal and expected, they must remain within a permitted range for the drug to be approved



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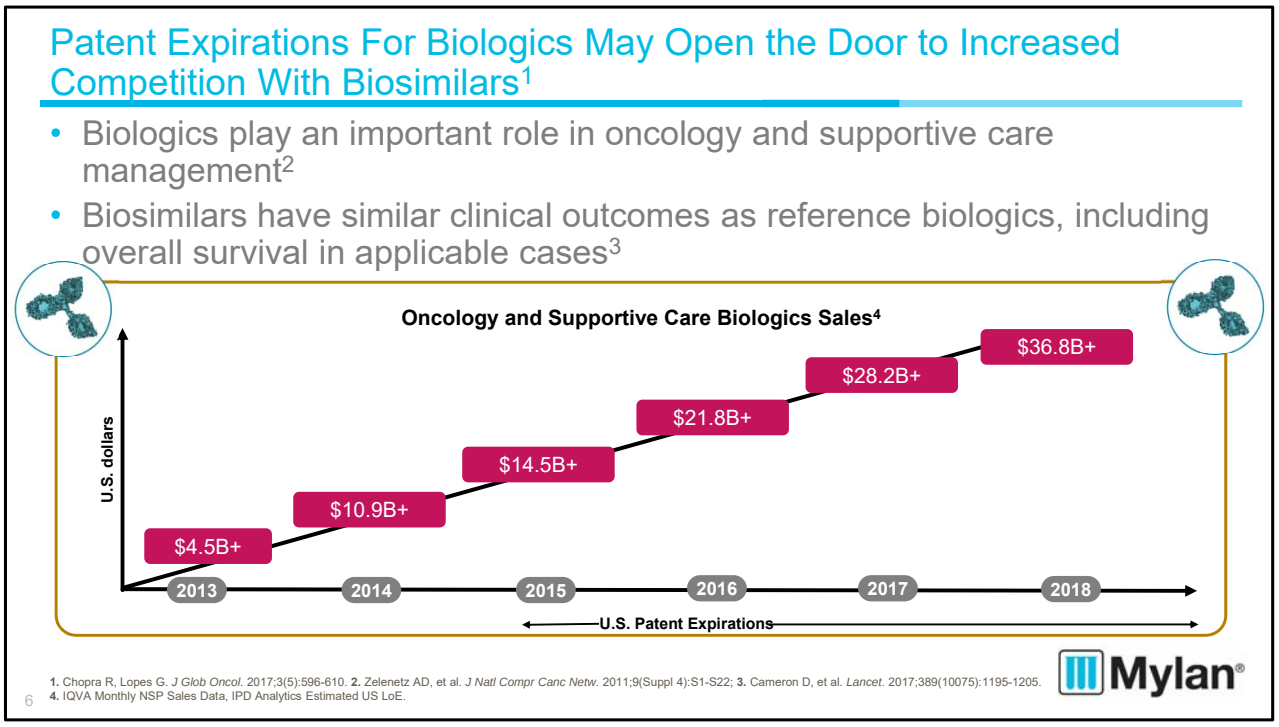
5 1. FDA. Scientific considerations in demonstrating biosimilarity to a reference product: guidance for industry. https://www.fda.gov/media/82647/download. Accessed January 17, 2020.

Because they are comprised of complex protein products, biologics are inherently variable.[1] According to regulatory authorities, there are no clinically meaningful differences between a biosimilar and its reference product in terms of safety and efficacy.[1] While variations in all biologics are normal and expected, they must remain within a permitted range for the drug to be approved.[1]

Reference

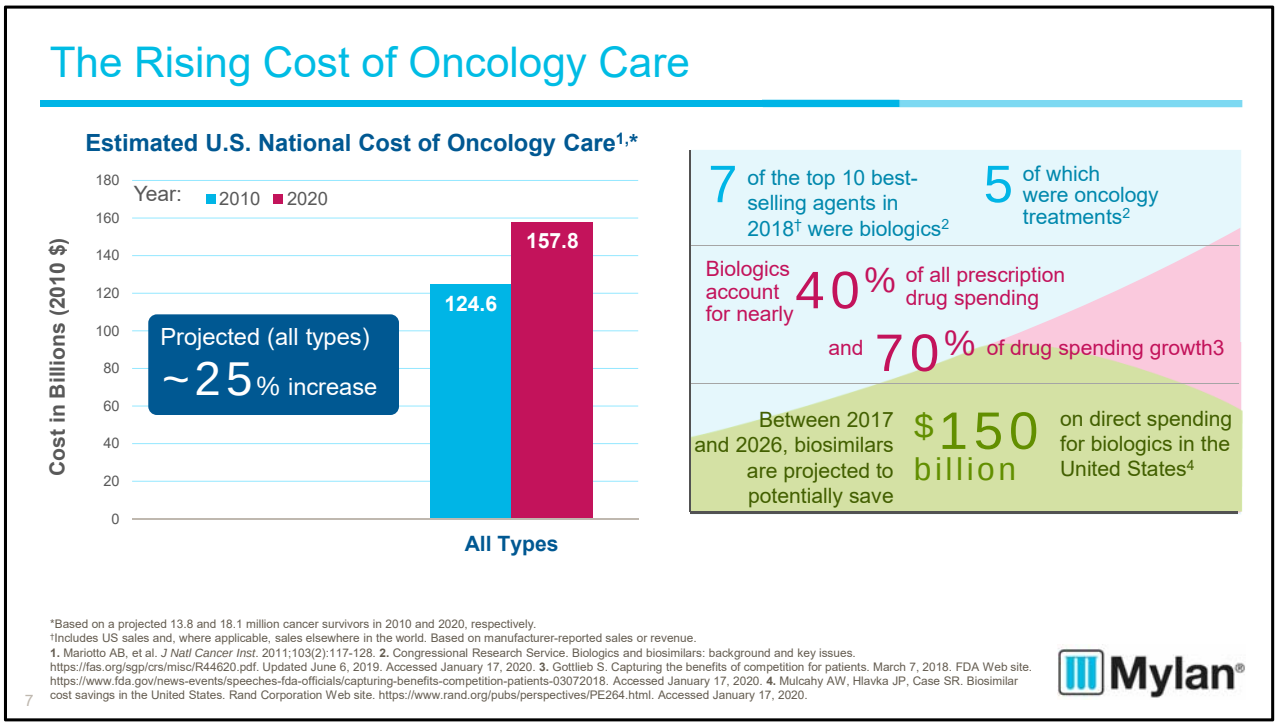
1. US Food and Drug Administration. Scientific considerations in demonstrating biosimilarity to a reference product: guidance for industry. https://www.fda.gov/media/82647/download. Accessed January 17, 2020.



Biologics play an important role in oncology and supportive care management, improving clinical outcomes for patients. Biosimilars have similar outcomes as references biologics, including overall survival in applicable cases.[1,2] Several key biologic oncology and supportive care treatments, which were first licensed in the United States in the late 1990s or early 2000s, have already lost or will soon lose their market exclusivity. This has opened the door for the development of biosimilars to increase market competition.[3]

References

1. Zelenetz AD, Ahmed I, Braud EL, et al. NCCN Biosimilars White Paper: regulatory, scientific, and patient safety perspectives. *J Natl Compr Canc Netw*. 2011;9(Suppl 4):S1-S22.
2. Cameron D, Piccart-Gebhart MJ, Gelber RD, et al. Herceptin Adjuvant (HERA) Trial Study Team. 11 years' follow-up of trastuzumab after adjuvant chemotherapy in HER2-positive early breast cancer: final analysis of the HERceptin Adjuvant (HERA) trial. *Lancet*. 2017;389(10075):1195-1205.
3. Chopra R, Lopes G. Improving access to cancer treatments: the role of biosimilars. *J Glob Oncol*. 2017;3(5):596-610.
4. IQVA Monthly NSP Sales Data, IPD Analytics Estimated US LoE.



Cancer is one of the fastest-growing areas of health care cost in the United States. Over the current decade, expenditures for oncology care overall are expected to have increased 25%, from about $125 billion to more than $150 billion annually.[1] Although they have revolutionized treatment, biologics are helping to drive this high cost of care. Of the top 10 best-selling medicines in 2018, 7 of them were biologics and, of those, 5 were cancer therapies.[2-7] Biologics account for nearly 40% of all prescription drug spending and 70% of drug spending growth.[8]

Biosimilars can offer health care providers additional therapeutic options to important—but often expensive—biological reference products. In fact, in the United States, biosimilars are estimated to potentially save up to $150 billion in spending for biological therapies over the next few years.[9]

References

1. Mariotto AB, Yabroff KR, Shao Y, Feuer EJ, Brown ML. Projections of the cost of cancer care in the United States: 2010-2020. *J Natl Cancer Inst*. 2011;103(2):117-128.
2. Congressional Research Service. Biologics and iosimilars: background and key issues. https://fas.org/sgp/crs/misc/R44620.pdf. Accessed January 17, 2020.
3. Gottlieb S. Capturing the benefits of competition for patients. March 7, 2018. US Food and Drug Administration Web site. https://www.fda.gov/news-events/speeches-fda-officials/capturing-benefits-competition-patients-03072018. Accessed January 17, 2020.
4. Mulcahy AW, Hlavka JP, Case SR. Biosimilar cost savings in the United States: Initial experience and future perspectives. Rand Health Q. 2018;7:3.

The Biologics Price Competition and Innovation Act (BPCIA)

- Established an abbreviated approval process to[1,2]:

Support development of more treatment options

Increase access to medications

Help speed potentially lower-cost agents to market

> *At the FDA, we recognize…the importance of robust and timely competition to enhance patient access and reduce cost burdens on patients and our health care system.*
>
> – FDA's Biosimilars Action Plan, 2018[2]

1. FDA. Biosimilars. https://www.fda.gov/drugs/therapeutic-biologics-applications-bla/biosimilars. Accessed January 17, 2020; **2.** FDA. Biosimilars Action Plan: balancing innovation and competition. July 2018. https://www.fda.gov/media/114574/download. Accessed January 17, 2020.

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The biosimilar pathway to licensure was established by the Biologics Price Competition and Innovation Act, or BPCIA.[1,2] This act was intended to provide an abbreviated biosimilar approval process to support the development of more treatment options and help speed potentially lower-cost agents to market.[3,4]

References

1. US Food and Drug Administration. Scientific considerations in demonstrating biosimilarity to a reference product: guidance for industry. https://www.fda.gov/media/82647/download. Accessed January 17, 2020.
2. Congressional Research Service. Biologics and biosimilars: background and key issues. https://fas.org/sgp/crs/misc/R44620.pdf. Accessed January 17, 2020.
3. Food and Drug Administration. Biosimilars. https://www.fda.gov/drugs/therapeutic-biologics-applications-bla/biosimilars. Accessed January 17, 2020.
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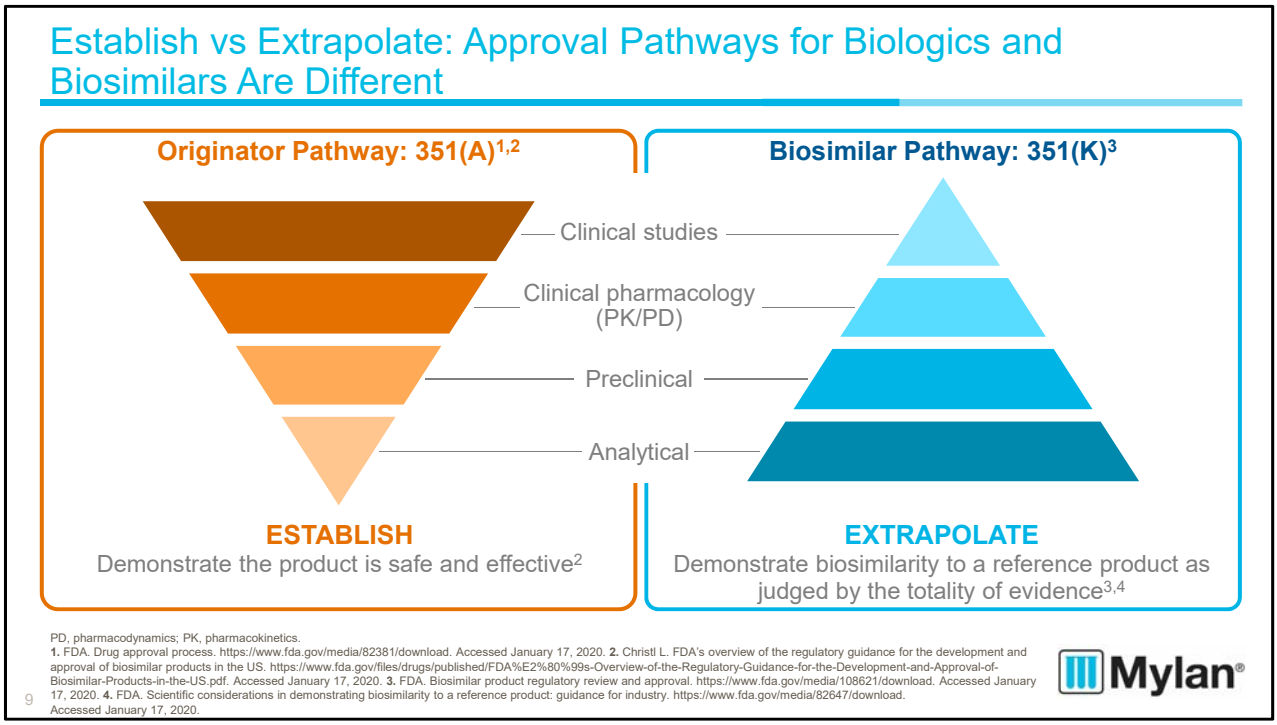

To achieve a balance between innovation and increasing competition in the biologics marketplace, BPCIA established a biosimilar development pathway that allows manufacturers to leverage the FDA's finding of safety and efficacy for the originator reference product.[1] Because they have no currently licensed reference products, the approval pathway for originator biologics emphasizes clinical trials to establish the product's safety and efficacy.[2] Although it also includes clinical trials, the biosimilar approval pathway emphasizes the "totality of the evidence" of analytical and preclinical studies to establish biosimilarity. Rather than requiring a biosimilar developer to conduct a "pivotal" trial or trials to reestablish safety and efficacy, which have already been demonstrated for the reference biological product, the FDA evaluates biosimilarity using the totality of the evidence generated from each step in the pathway.[3,4]

References

1. US Food and Drug Administration. Biosimilars Action Plan: balancing innovation and competition. https://www.fda.gov/media/114574/download. Accessed January 17, 2020.
2. Christl L. FDA's overview of the regulatory guidance for the development and approval of biosimilar products in the US. https://www.fda.gov/files/drugs/published/FDA%E2%80%99s-Overview-of-the-Regulatory-Guidance-for-the-Development-and-Approval-of-Biosimilar-Products-in-the-US.pdf. Accessed January 17, 2020.
3. US Food and Drug Administration. Biosimilar product regulatory review and approval. https://www.fda.gov/media/108621/download. Accessed July 9, 2019.
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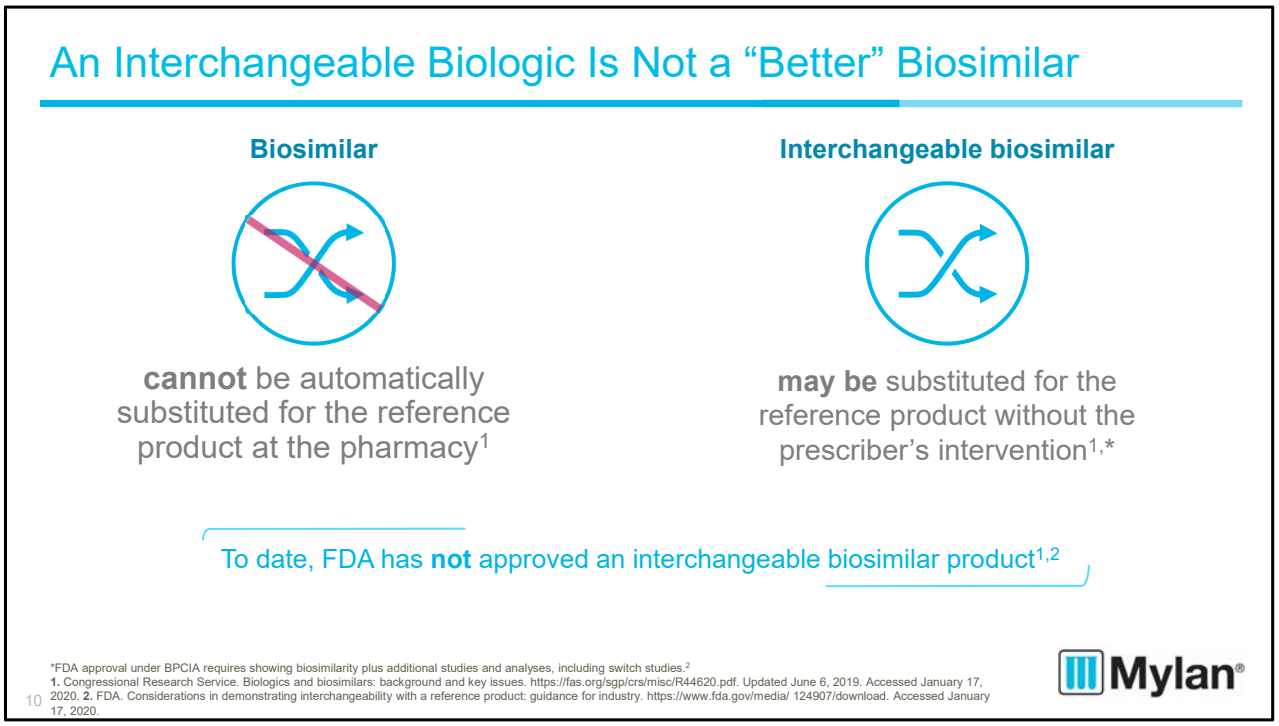
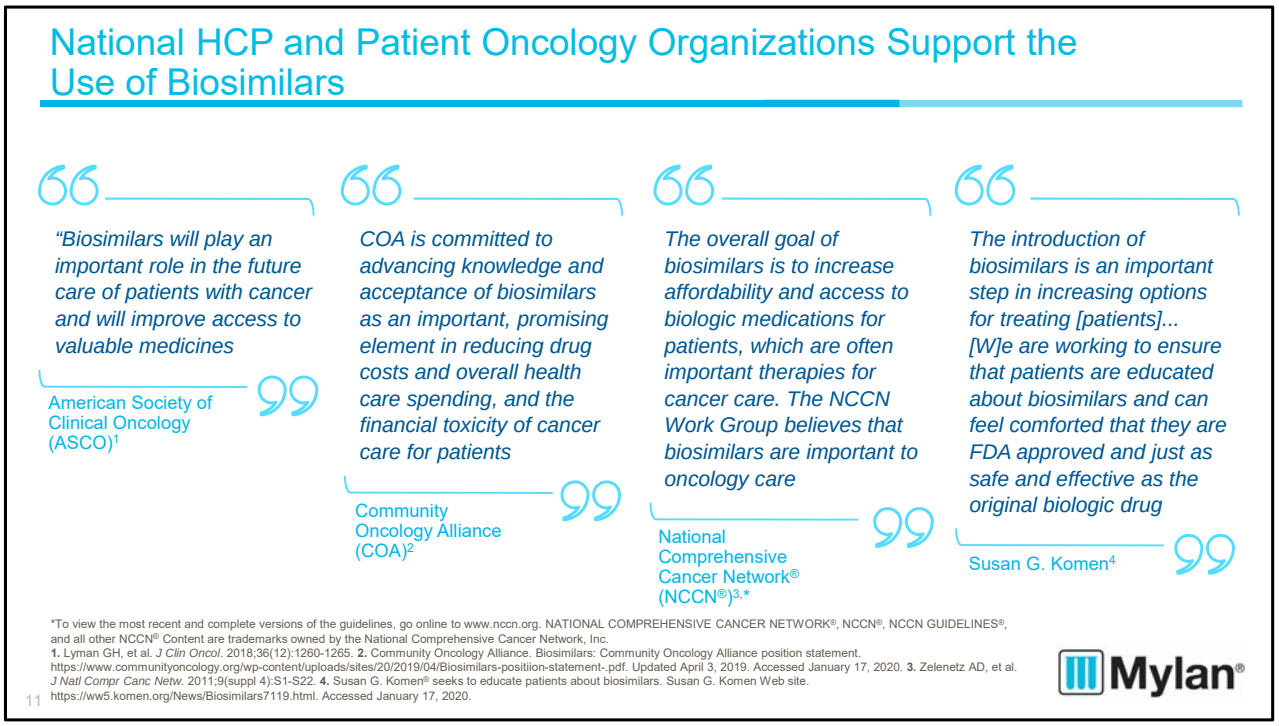


In addition to outlining the approval pathway for biosimilars, BPCIA also includes guidance concerning interchangeability.[1] Because it is similar—but not identical—to the reference biologic, a biosimilar product cannot be automatically substituted for the reference product at the pharmacy.[2] However, a biosimilar developer may apply for approval under the separate licensing category of "interchangeable."

This pathway involves establishing biosimilarity plus conducting additional studies and analyses, including switch studies in patients. A biosimilar that has been licensed as interchangeable may be substituted for the reference product without the prescriber's intervention.[1] However, to date, none of the FDA-licensed biosimilars have been approved as interchangeable.[2] Therefore, no current biosimilar can be automatically substituted for a reference product at the pharmacy.

References

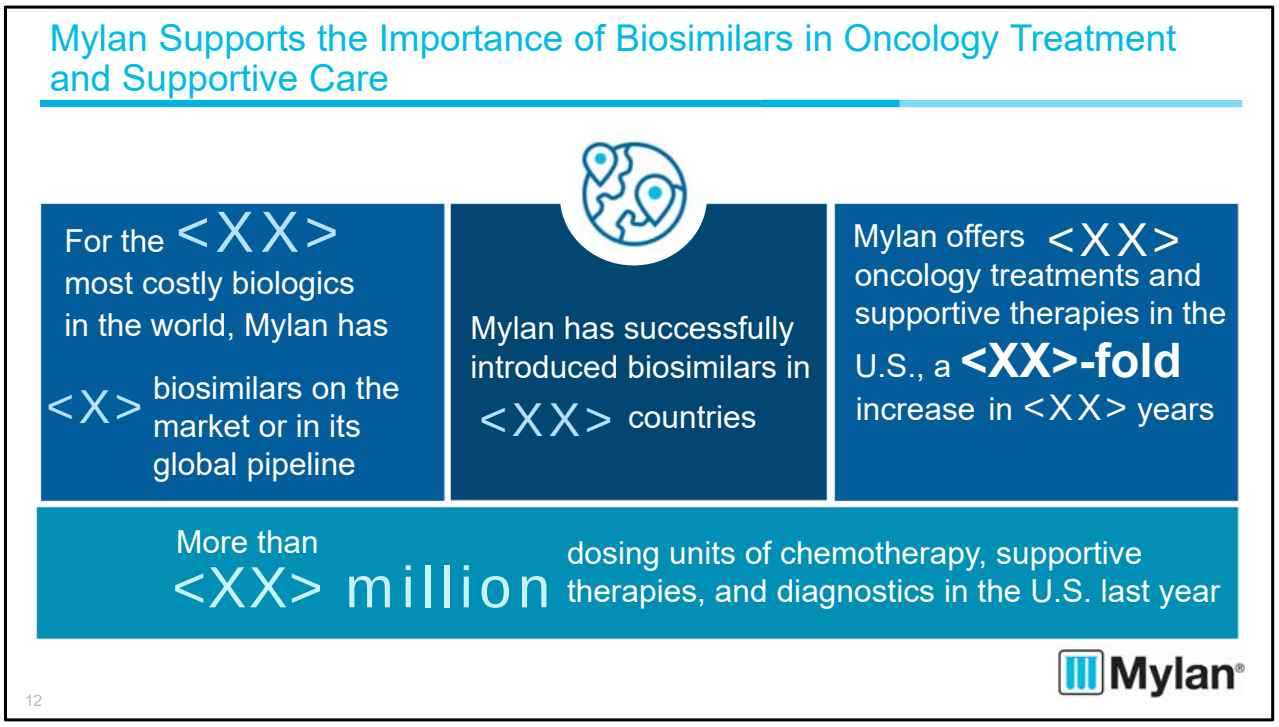
1. US Food and Drug Administration. Considerations in demonstrating interchangeability with a reference product guidance for industry. https://www.fda.gov/media/124907/download. Accessed January 17, 2020.
2. Congressional Research Service. Biologics and biosimilars: background and key issues. https://fas.org/sgp/crs/misc/R44620.pdf. Accessed January 17, 2020.



Several national organizations and societies, including ASCO and NCCN, have issued statements supporting the importance of biosimilars in oncology treatment—emphasizing their role in increasing access to important medications and potential of reducing costs for patients and the health care system overall.[1-3] Patient organizations such as Susan G. Komen are also supportive of the use of biosimilars and are committed to education for patients.[4]

<u>References</u>

1. Lyman GH, Balaban E, Diaz M, et al. American Society of Clinical Oncology statement: biosimilars in oncology. *J Clin Oncol*. 2018;36(12):1260-1265.
2. Community Oncology Alliance. Biosimilars. Community Oncology Alliance position statement. https://www.communityoncology.org/wp-content/uploads/sites/20/2019/04/Biosimilars-positiion-statement-.pdf. Accessed January 17, 2020.
3. Zelenetz AD, Ahmed I, Braud EL, et al. NCCN Biosimilars White Paper: regulatory, scientific, and patient safety perspectives. *J Natl Compr Canc Netw*. 2011;9(suppl 4):S1-S22.
4. Susan G. Komen® seeks to educate patients about biosimilars. Susan G. Komen Web site. https://ww5.komen.org/News/Biosimilars7119.html. Accessed January 17, 2020.



Mylan also supports the importance of biosimilars in increasing patient access and reducing the cost of care. For the <XX< most costly biologics in the world, Mylan has <XX> biosimilars either on the market or under development in its global pipeline. We have also successfully introduced biosimilars in <XX> countries.

In the oncology space, Mylan has increased its product offerings in the U.S. by <XX>-fold in <XX> years. In <XXXX>, we manufactured more than <XX> million dosing units of chemotherapy, supportive therapies, and diagnostics in the U.S. for treating and managing patients.

Biosimilar Development Utilizes Robust Technologies and Validated Processes

- Both reference products and biosimilar medicines are made under carefully controlled conditions, known as Good Manufacturing Practices, to ensure that they are consistently produced to the required quality
- Mylan has made medicines for nearly 60 years and has a long history of manufacturing complex products
- Of our nearly 50 manufacturing sites around the world, 10 focus on product technology development, including biosimilars

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Both reference products and biosimilar medicines are made under carefully controlled conditions, known as Good Manufacturing Practices, to ensure that they are consistently produced to the required quality. Mylan has made medicines for nearly 60 years and has a long history of manufacturing complex products. Of our nearly 50 manufacturing sites around the world, 10 focus on product technology development, including biosimilars.

Mylan's Biosimilar Pipeline

- Mylan has one of the industry's largest and most diverse global portfolios, including 20 biosimilars and insulin analogs
- Our portfolio includes many of the top biologics globally and focuses on the areas of oncology, immunology, endocrinology, ophthalmology, and dermatology


Oncology


Diabetes and Metabolics


Immunology


Ophthalmology


Dermatology

Mylan

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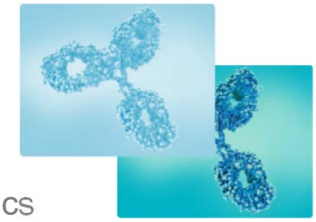
Summary



- A biosimilar has no clinically meaningful differences in terms of safety and efficacy compared with the reference biologic
- Biosimilars are held to a rigorous approval process that includes the same quality standards for reference biologics
- The BPCIA established this approval process for biosimilars to support development of more treatment options, increase competition, and help speed potentially lower-cost therapies to market
- Biosimilars hold tremendous promise to increase patient access and may help lower the cost burden of biologics
  - Through its biosimilar development program, Mylan is committed to realizing this promise for oncology and supportive care biologic therapies

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In summary, biosimilar manufacturers must demonstrate that there are no clinically meaningful differences between a biosimilar and the reference biologic. This means that patients and health care providers can rely upon the safety and efficacy of a biosimilar product for its approved indications, just as they would for its reference product. Biosimilars are held to a rigorous approval process by the FDA that includes the same robust quality standards as reference biologics. The BPCIA established the biosimilar approval process to strike a balance between encouraging innovation and supporting a competitive marketplace. Competition from biosimilars is crucial to improve patient access to more treatment options and may help lower the health care cost burden. Through its biosimilar development program, Mylan is committed to increasing patient access to and lowering the cost of oncology and supportive care biologic therapies.

Thank you for your time, and please let me know if you have any questions.