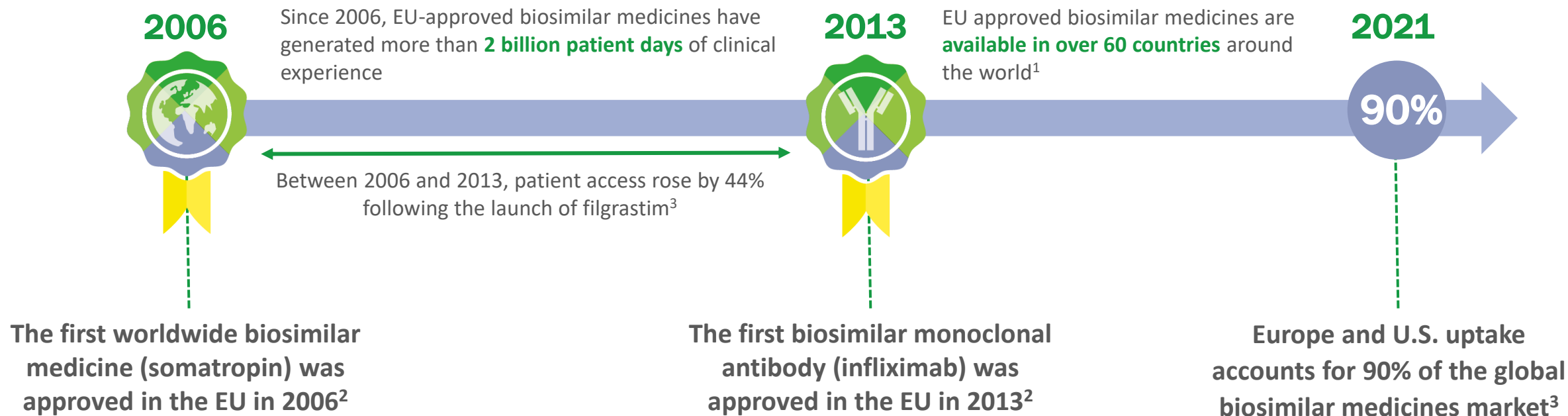


## Chapter 5

# The benefits of biosimilar medicines

Biosimilar medicines have demonstrated similarity with reference biologicals in terms of structure, function, safety and efficacy, but what are their benefits?

# Europe was the pioneer of biosimilar medicines and has the largest clinical experience



There is over 15 years worth of real-world evidence demonstrating the benefits that biosimilar medicines offer to patients and healthcare systems<sup>1</sup>

**References:** **1.** MIDAS MAT Q2 2020 data; rituximab and trastuzumab DDDs calculated via IQVIA Real World Data, Oncology Dynamics physician surveys on average cycles; pre-2009 analysis includes extrapolated treatment days for biosimilars launched between 2005 – 2008; country cohort includes 30 countries within Europe Economic Area. <https://www.medicinesforeurope.com/wp-content/uploads/2020/12/BIOS5.pdf> Accessed Aug 2021; **2.** EMA. European public access reports; **3.** IQVIA MIDAS MAT Q1 2021; Rx-only. Figures are in Thousands of USD at Constant Exchange Rate.

# Biosimilar medicines offer benefits to patients, healthcare professionals, and payers<sup>1</sup>



## Patients<sup>1,2</sup>

- More patients gain access to biologic treatments, and at earlier stages of the therapy cycle
- Improved access drives better outcomes for patients



## Healthcare professionals<sup>1,2</sup>

- Access to a wider spectrum of treatment options and opportunities for treatment pathways evolution
- Development of value-added services for patients via benefit-sharing models
- Reduced pressure on the prescribers' budget



## Payers<sup>1,3</sup>

- Creation of a more competitive market with a broader range of cost-effective treatment options
- Generation of savings across healthcare systems, supporting their sustainability
- Creation of opportunities for re-investment into workforce, other medicines or healthcare services

Biosimilar medicines increase the available treatment options available to patients, healthcare professionals, and payers<sup>1</sup>



# Availability of biosimilar medicines increases patient access to biologic therapies



- According to WHO, biosimilar medicines provide a good opportunity to **expand access** and to become a **game-changer** for access to medicines for certain complex conditions<sup>1</sup>
- In countries with low initial usage or availability of biological products, the launch of biosimilar medicines appears to **lead to increased access**<sup>2\*</sup>

Product/Country	Treatment days per capita (Year before biosimilar entrance)	Volume change of treatment days following introduction of biosimilar
<b>HGH</b>		
Romania	0.02	152%
Czech Rep	0.08	68%
Poland	0.04	82%
<b>G-CSF</b>		
Romania	0.02	2542%
Bulgaria	0.02	581%
Slovakia	0.05	509%
<b>Anti-TNF</b>		
Bulgaria	0.10	190%
Czech Rep	0.24	59%
Slovakia	0.49	93%

Biosimilar medicines allow access to highly innovative treatments

**Abbreviations:** G-CSF, granulocyte-colony stimulating factor; HGH, human growth hormone; TNF, tissue necrosis factor; WHO, World Health Organisation.

**Reference:** 1. WHO. [WHO to begin pilot prequalification of biosimilars for cancer treatment](#).. Accessed March 2020; 2. QuintilesIMS. [The impact of biosimilar competition on price, volume and market share - update 2017](#). Accessed March 2020.



# Swedish launch of biosimilar filgrastim led to improved patient access

Initiation of treatment with filgrastim reference medicine required the formal approval of **three physicians**



**Launch of filgrastim biosimilar**

**Following the launch of biosimilar filgrastim:**

- Treatment costs for granulocyte colony-stimulating factor (G-CSF) treatment of febrile neutropenia were reduced
- Regional authorities relaxed restrictions on the prescribing of G-CSF treatments
- Prescriptions do not need additional authorization

Driven by the use of biosimilar filgrastim, clinical use of G-CSF increased five fold in the Southern Healthcare region

**x5**

Biosimilar medicines allow access for more patients, and at earlier stages in the treatment cycle



# Biosimilar medicines make biotherapeutics a cost-effective option, broadening treatment choice

- Biosimilar medicines are often able to reach an acceptable incremental cost-effectiveness ratio (ICER) in situations where reference products are not<sup>1</sup>
- In the UK, biosimilar medicines have introduced new treatment options for ankylosing spondylitis, and for treatment-induced anaemia in patients with cancer<sup>1,2</sup>

## Ankylosing spondylitis



According to 2008 UK National Institute for Health and Clinical Excellence (NICE) guidelines, **infliximab (originator) should not be used at all**

2015 NICE guidance **recommends use of infliximab biosimilar medicines** in adults with non-radiographic axial spondyloarthritis

## Cancer-treatment-induced anemia



According to 2008 NICE guidelines, **epoetin** is clinically effective for cancer treatment-induced anaemia, but **is not cost-effective**

According to 2014 NICE guidelines, **epoetin is both clinically effective and cost-effective**

Biosimilar medicines empower physicians, providing cost-effective treatment options<sup>1</sup>

**Abbreviations:** NICE, The National Institute for Health and Care Excellence.

**References:** 1. Simon-Kucher & Partners. [Payers' price & market access policies supporting a sustainable biosimilar medicines market](#). Accessed March 2020; 2. [NICE](#). Accessed March 2020.



# Biosimilar medicines make biotherapeutics a cost-effective option, broadening treatment choice

- In the UK, the National Institute of Health and Clinical Excellence (NICE) has partially revised their guidelines and expanded the use of biologic therapies to a broader range of patients further to biosimilar competition and its positive impact on treatment cost efficiency
- **Around 25,000 people with moderate rheumatoid arthritis** – who haven't responded to conventional therapies – will benefit from the recommendations<sup>1</sup>

## Rheumatoid arthritis



According to 2016 UK National Institute for Health and Clinical Excellence (NICE) guidelines, anti-TNF medicines should be used only for **severe rheumatoid arthritis**

2021 NICE partially revised guidance now recommends use of **adalimumab\***, **etanercept\***, **infliximab\***, certolizumab pegol, golimumab, tocilizumab and abatacept **for moderate rheumatoid arthritis** after conventional DMARDs only have failed

Biosimilar medicines empower physicians and healthcare systems to treat more patients, often earlier in the disease course<sup>1</sup>

. \*Available biosimilar medicines

References: 1. UK NICE <https://www.nice.org.uk/news/article/nice-recommends-several-treatment-options-to-help-thousands-with-moderate-rheumatoid-arthritis> 2. UK NICE Guideline 2016 <https://www.nice.org.uk/guidance/ta375>



# Biosimilar medicines make biotherapeutics a cost-effective option, broadening treatment choice

- The availability of **biosimilar trastuzumab options** on the UK market trigger competition and positively impacted the overall cost-effectiveness of a combination therapy involving 2 biologic medicines.

## Breast Cancer



According to 2019 NICE guidance, **Pertuzumab**, with intravenous trastuzumab and chemotherapy, is **recommended** for the adjuvant treatment of human epidermal growth factor receptor 2 (HER2)-positive early stage breast cancer in adults.

Prior to that recommendation, the combination (pertuzumab + trastuzumab + chemotherapy) was **not considered cost-effective**

Biosimilar medicines empower physicians and healthcare systems to treat more patients with innovative therapies when used in combination with a biosimilar medicine<sup>1</sup>





# Biosimilar medicines allow freeing up re-investment in better care thanks to benefit-sharing

- In Cardiff, rituximab intravenous formulation biosimilar medicines were predicted to save one hospital £300,000 - 335,000 a year over the subcutaneous reference biologic
- An additional consideration related to getting the treatment i.e. lymphoma chemotherapy and subcutaneous biologic therapy

## Lymphoma



REINVEST TO IMPROVE CANCER CARE: Creating Off-site nurse clinics

In concertation with patients, feedback underlined:

- The shorter administration time of the sub cutaneous administration would be a benefit
- However, the overall travel times across town through large urban areas to reach the infusion centres would outset the time gains from administration

To ensure **shared benefits** for both patients and the healthcare budget, decision was made to **re-invest the financial savings from intravenous rituximab biosimilar utilisation** to **develop** jointly with patients and advocates, and **staff new** infusion clinics closer to patients' homes in the city outskirts.

Biosimilar medicines empower healthcare communities to deliver more care: more patient accessing medicines and beyond, answering specific patient needs along their treatment pathway



# Globally, biosimilar medicines have the potential to offer healthcare systems huge savings for the same outcomes

## Canada - \$94 million CAD

Combined savings from use of etanercept, filgrastim, infliximab and insulin glargine biosimilars in 2018<sup>5</sup>

## Europe - 15 billion EUR

between 2016 and 2020

based on a 30% price reduction across eight key reference products, driven by biosimilar competition<sup>1</sup>

## U.S.A - 12,6 billion USD

Biosimilars 10-year system savings: 12,6 billion USD in 2021  
Biosimilars projected system savings by 2025: 133 billion USD<sup>4</sup>

## Japan - 46 billion JPY

between 2017 and 2019 with CAGR 61%<sup>2</sup>

## South Africa - 6.4 million USD

(84.5 million Rand) per annum

A 50% price reduction following the introduction of the biosimilar trastuzumab would translate into 670 more patients being treated (2016)<sup>3</sup>

Biosimilar medicines represent a cost-effective alternative to the reference products

# Sharing the benefits of clinical use of biosimilar medicines

- In Germany, the medical association KV Westfalen-Lippe, and the statutory health insurance provider Barmer GEK, agreed a contract geared towards **improving care of patients** with inflammatory bowel disease
- Under the contract, patients with ulcerative colitis or Crohn's disease will be primarily treated with **infliximab biosimilars**
- **Absolute savings** generated from prescribing infliximab biosimilar were equally split between the treating physician and Barmer GEK

Benefit sharing models help physicians to see the tangible benefits from generated savings due to more cost-effective prescribing, leading to increased biosimilar medicine uptake and patient care

# Summary: The benefits of biosimilar medicines



The use of biosimilar medicines has been **successfully implemented** within Europe since 2006<sup>1</sup>



**Benefit sharing models** involve all stakeholders and help to **demonstrate the cost benefits** associated with biosimilar medicine adoption<sup>3</sup>

Biosimilar medicines improve the treatment options available to:<sup>2-4</sup>



## Patients

Biosimilar medicines allow access for more patients, and at earlier stages in the treatment cycle where medically appropriate



## Healthcare professionals

Biosimilar medicines empower physicians, providing cost-effective treatment options



## Payers

Globally, biosimilar medicines introduce competition by representing a cost-effective alternative to reference biologicals, and generate savings

Biosimilar medicine policies are necessary to drive uptake and provide the benefits of biosimilar use