

Introduction

Since the introduction of the first biosimilar medicine in the EU in 2006, the total clinical experience with biosimilar medicines exceeds 2 billion patient treatment days in Europe alone and the cumulative patient treatment days have doubled every 1.5 yearsⁱ. Over the past 15 years, biosimilar medicines have contributed to the sustainability of healthcare budgets by decreasing the overall cost of biologics expenditure by almost a third (where biosimilar competition has been enabled), contributing to 5% of savings on the total European pharmaceutical budgetⁱⁱ. Nevertheless, the future opportunity is even greater with more than 30 biological medicines losing market protection over the next 10-15 years in existing and new therapy areas. It is estimated that close to 50% of future savings opportunities on pharmaceuticals in Europe will come from biosimilar medicines useⁱⁱⁱ.

The uptake of biosimilar medicines tends to be considerably lower in the retail setting than in the hospital setting^{iv}. Specific challenges arise for biological medicines that are dispensed predominantly in a retail setting, that can be self-injected by patients and fall outside the scope of a hospital tendering framework (chart 1). Therefore, promoting the uptake of biosimilar medicines in the retail setting represents an opportunity for the biosimilar medicines market to harness more competition and contribute to the improvement of patient access, healthcare budget sustainability and the reduction of equity gaps across Europe.

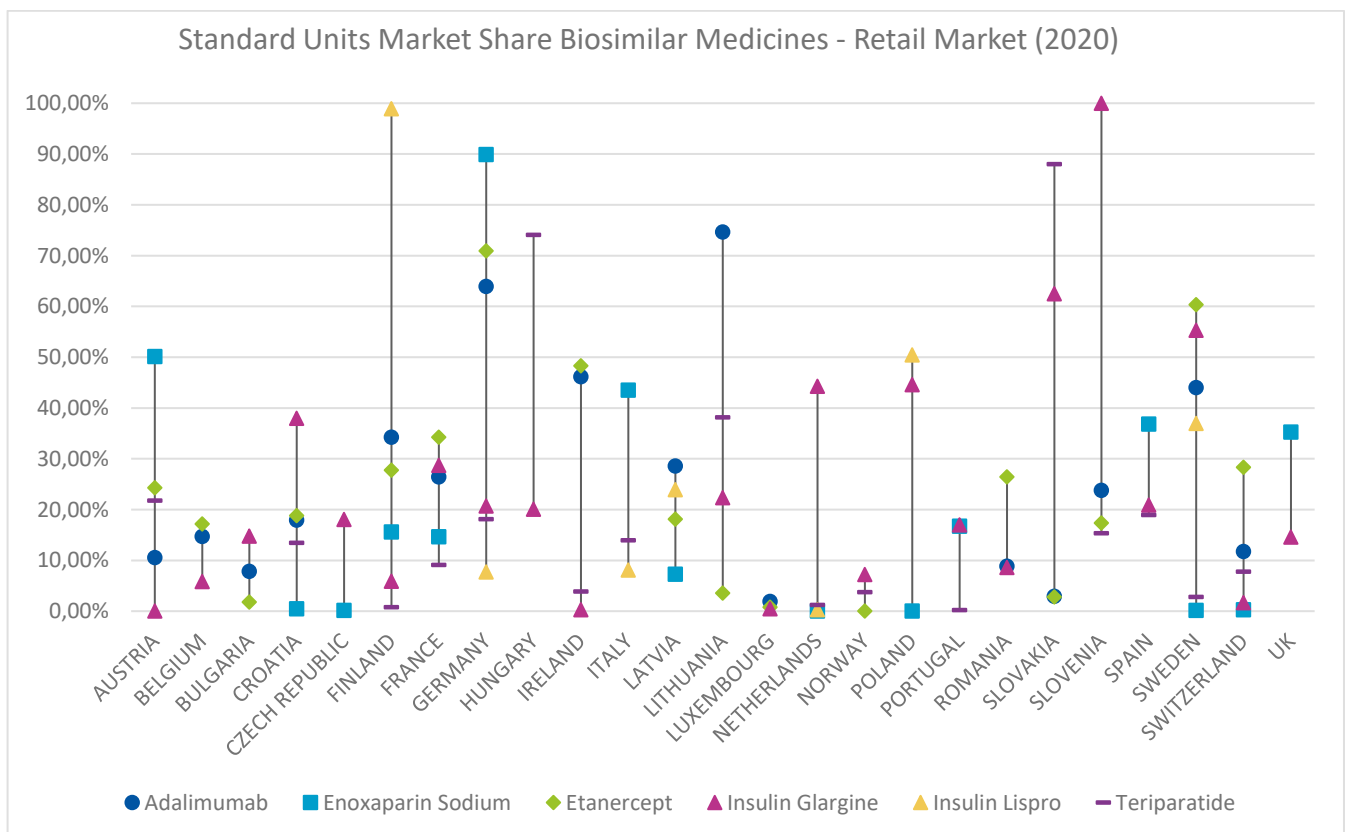


Chart 1 – Market Share (standard units) of biosimilar medicines in the retail market in 2020 based on the IQVIA MIDAS MAT Q4 2020. The market share of the biosimilar medicine in the retail market is displayed if the product is predominantly dispensed in the retail market in the respective country. Additional information on the scope is highlighted in the annex.

Opportunity for healthcare systems and patients to benefit from biosimilar medicines

Even though the benefits that biosimilar medicines bring are considerable, not all European countries make the most of them, leading to a missed opportunity for savings in the country's healthcare system and for patients. In some cases, high uptake has been achieved as a result of clear payer-driven purchasing with volume guarantees and recommendations or strong preference for prescribing biosimilar products, including mechanisms to support the switch to biosimilar medicines. However, in many cases there is still a significant opportunity to increase the use of biosimilar medicines. If European countries had achieved a target biosimilar uptake level of 80% in 2020 in the retail market, at least an additional 340 million Euro would have been available to reinvest in healthcare systems^v. Therefore, policies are needed to increase the uptake of biosimilar medicines thereby creating additional savings.

Tailor-made policies to facilitate biosimilar uptake in the retail setting

Considering that the biosimilar medicines in the retail market can be self-injected, patient engagement is high as they interact with various healthcare providers, including secondary care specialists, primary care physicians and pharmacists to ensure proper use of the medication. In many cases these medicines can be initiated in the hospital setting and then managed in the community setting. Therefore, a variety of policies involving the various healthcare professionals and patients are needed to support the uptake of biosimilar medicines in the retail market.

Benefit-sharing models

Benefit-sharing models, where part of the savings from the use of biosimilar medicines is shared and reinvested for the benefit of the different stakeholders involved (e.g. patients, physicians, and payers), have demonstrated to be one of the most successful policies to increase the use of biosimilar medicines in the hospital setting. These are collaborative processes set up between stakeholders – the healthcare commissioners and providers – that support the use of affordable medicines. With benefit sharing, part of the realised cost savings is directly distributed back to the healthcare teams/clinical departments and groups involved. As a result, the savings can be reinvested in patient care, for example in improved healthcare services or better access to treatment^{vi,vii}.

- ✓ In the UK (University Hospital Southampton, NHS Foundation Trust) a managed switch programme with the involvement of patients allowed for the generated savings to be reinvested in the expansion of the clinical team, meaning that not only more patients were able to be treated but also improved patient care was realised.
- ✓ In France, a pilot project to encourage biosimilar prescriptions for adalimumab, etanercept and insulin was put in place where a part of the savings generated by hospitals (30%) was shared with the care units. This applied to biosimilar medicine dispensed in the retail setting and preliminary results show an increase in biosimilar use in the hospitals concerned.
- ✓ In Germany, benefit-sharing models have been established in selective contracting settings, for example the 'Biolike' initiative (agreement between several KVs and sick fund Barmer). This initiative has led to an increased use of anti-TNF biosimilar medicines, allowing the realised savings to be shared between groups of prescribers and the insurance companies. These initiatives are gradually being eliminated in favour of other models that are not sustainable.

Incentives for physicians

A **target agreement** is an agreement made between a payer and a prescriber (or another stakeholder such as a physician organisation). The agreement includes a certain threshold of biosimilar prescribing in return for a reward, that should be reinvested into patient care. The reward can be financial, but there is no obligation for the physician to prescribe the biosimilar or the most cost-effective therapy. Whereas a target agreement is more of a shared responsibility between payer and prescriber, the establishment of **quotas** can be a government-set aspirational percentage figure or is more of an enforcement tool as it enables the payer to set penalties when a threshold of cost-efficient prescribing is not met. Quotas are often put in place as a policy when the establishment of target agreements did not provide optimal results^{viii}. The success of quotas and target agreements is highly dependent on the effectiveness of the communication strategies to inform prescribers, on the incentives that are used and on the effectiveness of the mechanisms put in place to monitor adherence to these quotas and target agreements.

- ✓ In Ireland, the National Health Service put in place a ‘*Best Value*’ Adalimumab programme where biosimilar medicines were placed on the high-tech HUB with a recommendation for a preferred product. In addition, the HSE implemented a benefit-sharing monetary incentive per switch for the consultant lead teams.
- ✓ In France, measures introduced since 2016 encourage physicians to increase prescriptions of retail products such as etanercept, adalimumab and insulin glargine biosimilar in ambulatory care.
- ✓ In several regions in Germany, for example in Westfalen-Lippe, physicians and insurers developed “best in class” target agreements and quota regulations for biosimilar prescription, resulting in an increase of biosimilar use. This was achieved by clear and transparent information for physicians regarding safety and efficacy of biosimilar medicine and regular communication to physicians regarding biosimilar availability.

Education and incentives for patients

Even though the first biosimilar medicine was approved over 15 years ago, not all patients are familiar with biosimilar medicines. As such valuable resources from authorities, like the European Commission’s Consensus Information Document^{ix}, should be employed and widely distributed to guarantee **patient education and information** about these medicines. In addition, local initiatives to build patient trust in biosimilar medicines can also have a dramatic effect on biosimilar acceptance.

- ✓ Through a letter that was signed by every member of the multidisciplinary team at Guy’s and St Thomas’ Foundation Trust in the UK, education and information was shared with patients to support a switch to an etanercept biosimilar as part of a shared decision-making process.

In many countries¹, patient out-of-pocket payments are part of the price to be paid for a medicine^{x,xi}. While it is arguable that patient co-payment is a barrier to patient access to medicines, it has already been shown that a lower co-payment for generic medicines led to a better adherence to treatment^{xii}.

In countries where co-payment for biological medicines, including biosimilar medicines, is in place, **the level of co-payment for the biosimilar medicines should be lower** in order to incentivise the patient and prescriber to

¹ Co-payment for biological medicines, including biosimilar medicines is applied in: Austria, Belgium, Bulgaria, Estonia, Finland, Germany, Hungary, Lithuania, Poland, Romania, Portugal, Spain, Sweden and Switzerland

switch to the most cost-efficient medicine. In the cases where the co-payment is equal between the reference product and the biosimilar medicine, the payer (public and/or private) could (partially) reimburse the co-payment of the biosimilar to create a patient preference and as such stimulate competition.

- ✓ In Poland, medicines in the retail market are part of reimbursement groups. Within these groups, the reimbursement level is set by the least costly product. Therefore, the patient co-payment differs among medicines in the group and patients pay a lower co-payment for the less expensive medicines than for the more expensive alternatives.
- ✓ In Slovakia, there is no co-payment for the biosimilar insulins, while the originators are only partially reimbursed. This has helped drive the uptake of biosimilar insulins in Slovakia.

In addition to a differentiated co-payment that encourages the use of biosimilar medicines, negative patient incentives that support the use of originators should be removed (e.g. when the patient co-pays less for an overall more expensive originator).

- ✗ In Romania, the reimbursement system allows a premium of 20% for referenced product over the biosimilar price which artificially limits the incentives for payers or physicians to consider switching to the biosimilar.

Encouraging biosimilar prescription

While financial incentives to prescribe biosimilar medicines are capable of increasing biosimilar use in a relatively short period, non-financial incentive policies can be as successful in encouraging biosimilar uptake as well as in increasing awareness for the benefits of prescribing biosimilar medicines. Several actions can be taken to increase the prescribing of biosimilar medicines.

Biosimilar education and switching guidance can support physicians in engaging with patients to start treatment with or switch the patient to a biosimilar medicine. The European Medicines Agency has published an information guide for healthcare professionals to provide reference information on both the science and regulation underpinning the use of biosimilars.^{xiii} Ensuring all stakeholders have confidence in and understanding of biosimilar medicines is critical for patient and physician acceptance. Statements from health authorities supporting that it is appropriate to switch to biosimilar medicines can instil confidence in the use of these medicines.

- ✓ In Ireland, the HPRA published a statement in 2020 which stated that once a biosimilar has been approved, it can be considered appropriate to switch, should a prescribing physician wish to do^{xiv}.
- ✓ The Portugal National Therapeutic Formulary Commission stated in 2018 that sufficient evidence existed that a switch from the reference biological medicine to the respective biosimilar medicine would not cause loss of efficacy or increase adverse effects^{xv}.
- ✓ In the UK, the MHRA guidance on the licensing of biosimilar products considers biosimilar medicines to be interchangeable. As a result, switching patients to the biosimilar medicine is allowed under the supervision of the prescriber and in consultation with the patient^{xvi}.

Another tool to encourage biosimilar prescription involves the request of a **medical justification** if the prescriber does not choose the biosimilar medicine over the typically more expensive originator product or does not follow the recommendations in the guidance.

- ✓ In Italy, physicians must prescribe a preferred product (first 3 classified in the multi-winner tender). If the physician does not prescribe a preferred product, a medical justification can be requested.
- ✓ In Denmark, physicians are only allowed to prescribe medicines other than the tender winner if they provide a medical justification for that choice.

In addition, **electronic prescribing systems** could be used to encourage the prescription of biosimilar medicines. For example, they can provide additional information on savings generated by the physician or benefits gained by the healthcare system and patients due to the prescribing of biosimilar medicines. Furthermore, these systems can be used to monitor the evolution of prescribers towards reaching biosimilar prescription targets and to continuously assess biosimilar penetration levels, similarly to what is done already in some countries for generic medicines.

- ✓ In the UK, the Medicines Optimisation Dashboard was set up to look at the value that medicines deliver, making sure that they are clinically effective and cost-effective. This dashboard brings together a range of data related to the variation in medicines use and prescribing to inform the strategic medicines optimisation plans^{xvii}.

Updating clinical and prescribing guidelines

The experience to date shows that biosimilar medicines bring competition, leading to a significant increase in patient access to high quality treatments and greater healthcare sustainability. Not only can more patients become eligible for treatment, but the medicines can also be used earlier in the treatment course, therefore enabling patients to live with better life quality standards^{xviii}.

- ✓ This occurred in 2006 with the introduction of the biosimilar Filgrastim, which is used for neutropenia to support the immune system of patients under chemotherapy treatment. Between 2006 and 2016, the biosimilar Filgrastim ensured that 63% more patients obtained access to this medicine in the EU^{xix}.
- ✓ For erythropoietin (EPO) or growth hormones, access increased considerably upon biosimilar competition and some countries were able to address unmet clinical needs^{xx}.
- ✓ In Germany, the defined daily doses of adalimumab increased by 5 million (+29%), while real SHI costs decreased by more than 100 million euros after loss of exclusivity^{xxi}.
- ✓ The same positive trend was seen with the entry of the first biosimilar monoclonal antibodies Infliximab and Etanercept. Biosimilar infliximab increased the number of treatment days in Europe by 28% between its launch and 2016, whereas biosimilar etanercept brought an increase of 17% in treatment days in less than one year from its launch. There was an average increase of 26% in the number of treatment days in 2016 when compared with the year before the launch of the biosimilar medicine^{xxii}.
- ✓ The availability of biosimilar medicines for adalimumab, etanercept and infliximab has lowered the overall treatment cost of rheumatoid arthritis, allowing NICE to expand access to biological treatments for people with moderate rheumatoid arthritis that have not responded to conventional therapies. The disease affects a total of around 400,000 people in the UK, with over 150,000 having moderate rheumatoid arthritis. This means over 15% of those people with moderate rheumatoid arthritis are set to benefit from this recommendation^{xxiii}.

As such, the updating of clinical / prescribing guidelines with the entry of biosimilar medicines can increase the prescribing options (or undo limitations) for the prescribing physicians. The update of clinical guidelines should always be accompanied by a communication campaign towards the prescribers to ensure the maximum effect.

Looking ahead, unbiased medical education and updated prescriber guidelines, based on solid medical evidence, are still needed.

- ✓ NICE is reviewing the evaluation methods and processes for health technology evaluation. The aim is to support the NHS in providing high quality care that offers good value to patients and to the NHS. For example, NICE is proposing to develop a process that allows the rapid review of guidance where loss of market exclusivity and the subsequent price decrease of an originator could result in the biosimilar product being more cost-effective.
- ✓ In Italy, a study highlighted the undertreatment of around 10%-12% of rheumatoid arthritis patients who were considered eligible according to the EULAR recommendations but did not receive any biological treatment^{xxiv}.
- ✓ In Poland, most biological medicines are only available to patients via drug programmes that are highly restrictive for prescribing physicians thus, limiting the access to biological treatments for patients. Upon biosimilar introduction the status could be reviewed to allow more prescription freedom and more patients receiving treatment.

Role of the pharmacist

Biosimilar medicines are developed to be highly similar to the respective reference products and are approved as having no clinically meaningful differences. As a consequence, a biosimilar medicine can be switched with its reference product under the supervision of a physician^{xxv}. During the treatment, the consideration of individual patient factors is essential. Therefore, the role of the clinical decision maker is imperative throughout treatment with biological medicines, as these patient factors can be understood best by a physician. Biologic pharmacy substitution without the involvement of the physician is likely to adversely affect the central role of prescribers and patients (and their relationship)^{xxvi}. For more details, please consult the [Medicines for Europe](#) positioning statements on physician-led switching for biosimilar medicines.

Nonetheless, for self-administered products, it is critical that all stakeholders (patient, physician, pharmacist, nurse etc.) are aligned. In the retail market, the pharmacist plays a key role in dispensing the prescribed biosimilar medicines and has a pivotal role in educating the patient and increasing the patient's confidence to use their medication.

Conclusion

The uptake of biosimilar medicines tends to be considerably lower in the retail setting compared to the hospital setting. Therefore, promoting the use of biosimilar medicines in the retail setting with a variety of policies involving the healthcare professionals and patients can contribute positively to patient access and healthcare budget sustainability:

- Unbiased educational resources by authorities should be employed and widely distributed.
- Up-to-date prescribing and switching guidance should be available.
- Benefit-sharing models should be implemented in the retail setting, where the savings are reinvested in improving patient care.
- Target agreements or prescribing quotas should be implemented.
- The level of co-payment should encourage the use of the most cost-efficient medicine.

Annex

Scope of the paper

The scope of the policy paper was determined based on the following categories:

Biological molecule	Often predominantly dispensed via retail channels	Falls outside the scope of the hospital tendering framework in some European countries	Can be self-injected by patients	Competing originator in retail markets in most countries	Included in the paper?
Adalimumab	✓	✓	✓	✓	Yes
Bevacizumab	✗				No
Enoxaparin Sodium ¹	✓	✓	✓	✓	Yes
Epoetin Alfa	✗				No
Epoetin Zeta	✗				No
Etanercept	✓	✓	✓	✓	Yes
Filgrastim	✓	✓	✓	✗	No
Follitropin Alfa	✗				No
Infliximab	✗				No
Insulin Glargine	✓	✓	✓	✓	Yes
Insulin Lispro	✓	✓	✓	✓	Yes
Pegfilgrastim	✗				No
Rituximab	✗				No
Somatropin	✗				No
Teriparatide ¹	✓	✓	✓	✓	Yes
Trastuzumab	✗				No

¹Factors concerning specificities in the manufacturing process and the regulatory classifications impact the market share of the biosimilar 'Enoxaparin sodium' and 'Teriparatide'.

Methodology missed opportunity savings

The calculations were based on the sales value (average price per standard unit - ex manufacturing price) and sales volume (standard units) in 2020 in the retail market. This calculation was made in US Dollars and converted to Euro based on the 2020 exchange rate of the European Central Bank. The molecules in the scope of the paper were included: Adalimumab, Enoxaparin Sodium, Etanercept, Insulin Glargine, Insulin Lispro, Teriparatide. Countries included: AU, BE, BU, HR, CZ, EE, FI, FR, DE, DR, HU, IE, IT, LV, LT, LU, NL, NO, PL, PT, RO, SK, SL, ES, SE, CH, UK.

References

- ⁱ 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
- ⁱⁱ IQVIA, The impact of biosimilar competition in Europe (2020). Available from: <https://www.iqvia.com/library/white-papers/the-impact-of-biosimilar-competition-in-europe>
- ⁱⁱⁱ IQVIA European Thought Leadership; IQVIA MIDAS Q1 2020; IQVIA Forecast Link May 2020; IQVIA Ark Patent Intelligence; Rx-only
- ^{iv} IQVIA Institute (2018) - Advancing Biosimilar Sustainability in Europe - <https://www.iqvia.com/institute/reports/advancing-biosimilar-sustainability-in-europe>
- ^v IQVIA SMART - Global MIDAS Edition 2020
- ^{vi} NHS England. Principles for sharing the benefits associated with more efficient use of medicines not reimbursed through national prices. Created: 2014. Available from: <https://www.england.nhs.uk/wp-content/uploads/2014/01/princ-shar-benefits.pdf>
- ^{vii} Read C. Specialist nurses support cost effective drugs for treatment. HSJ, 2017. Available from: <https://www.hsj.co.uk/nursing/specialist-nurses-support-cost-effective-drugs-for-treatment/7015632.article>
- ^{viii} Evelien Moorkens et al. Policies for biosimilar uptake in Europe: An overview. PLoS One. 2017 Dec 28;12(12):e0190147 Available from: <https://doi.org/10.1371/journal.pone.0190147>
- ^{ix} European Commission – Information for patients: What I need to know about biosimilar medicines. Available from: <https://ec.europa.eu/docsroom/documents/26643>
- ^x HOPE (2015) - Out-of-pocket payments In healthcare systems in the European Union. Available from: http://www.hope.be/wp-content/uploads/2015/11/99_2015_HOPE-REPORT_Out-of-pocket-payments-in-healthcare-systems-in-the-European-Union.pdf
- ^{xi} Medicines for Europe – Biosimilar market review. Available from: <https://www.medicinesforeurope.com/wp-content/uploads/2021/03/Biosimilar%20Market%20Review-Final.pdf>
- ^{xii} IGES Study (2015) Value of Generic Medicines. Available from: <https://www.medicinesforeurope.com/2015/10/05/iges-report-value-of-generic-medicines-health-economics-study-berlin-5-october-2015/>
- ^{xiii} European Medicines Agency, European Commission. Biosimilars in the EU - Information guide for healthcare professionals. 2019;1–40. Available from: https://www.ema.europa.eu/en/documents/leaflet/biosimilars-eu-information-guide-healthcare-professionals_en.pdf
- ^{xiv} Health Products Regulatory Authority. Guide to Biosimilars for Healthcare Professionals. 2020. Available from: <https://www.hpra.ie/docs/default-source/publications-forms/guidance-documents/guide-to-biosimilars-for-healthcare-professionals-v3.pdf?sfvrsn=22>
- ^{xv} Medicines for Europe - Biosimilars overview of positions on physician-led switching <https://www.medicinesforeurope.com/docs/M-Biosimilars-Overview-of-positions-on-physician-led-switching.pdf>
- ^{xvi} MHRA guidance on the licensing of biosimilar products <https://www.gov.uk/government/consultations/mhra-draft-guidance-on-the-licensing-of-biosimilar-products/consultation-document-mhra-guidance-on-the-licensing-of-biosimilar-products>
- ^{xvii} <https://www.nhs.uk/epact2/dashboards-and-specifications/medicines-optimisation-dashboard>

-
- ^{xviii} ProBiosimilars preliminary results of the PHARAO study - https://probiosimilars.de/img_upload/2020/09/Folien-KV-Bayerns_DocCheck_AG-Symposium_website.pdf
- ^{xix} IMS Health Care Informatics – October 2014
- ^{xx} IMS Health (2017). The impact of biosimilar competition - https://ec.europa.eu/growth/content/impact-biosimilar-competition-price-volume-and-market-share-update-2017-0_en
- ^{xxi} <https://probiosimilars.de/publikationen/verlaesslich-bezahlbar-gerecht-das-leisten-biosimilars-fuer-die-versorgung/>
- ^{xxii} IQVIA database (2017) – Generics and Biosimilars report
- ^{xxiii} <https://www.nice.org.uk/news/article/nice-recommends-several-treatment-options-to-help-thousands-with-moderate-rheumatoid-arthritis>
- ^{xxiv} Degli Esposti, L., Perrone, V., Sangiorgi, D., & Sinigaglia, L. (2019). Assessment of Patients Affected By Rheumatoid Arthritis Eligible for Biologic Agents. Value in Health, 22(1), S433–S434.
- ^{xxv} Medicines for Europe - The biosimilar medicines group position on physician-led switching <https://www.medicinesforeurope.com/wp-content/uploads/2015/07/position-on-physician-led-switching-of-biosimilar-medicines.pdf>
- ^{xxvi} Medicines for Europe - The biosimilar medicines group position on biologic pharmacy substitution <https://medicinesforeurope.com/docs/2020-biologic%20pharma%20substitution-position-FINAL.pdf>