Nordic Health Report

Regional Usage of Respiratory Biologic Agents

Q2 2022

Biologic Respiratory Agents Were First Introduced in 2005 and Made Available for Patients With Severe Diseases

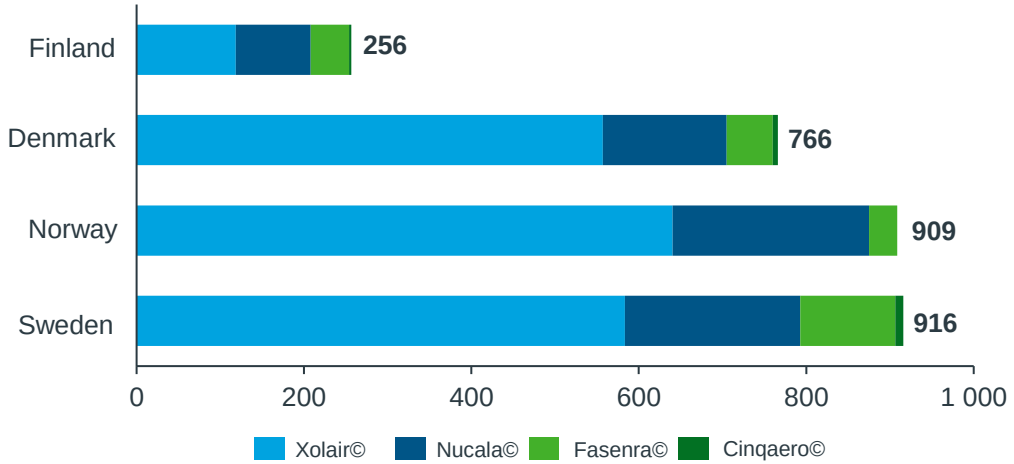
Prevalence and Treatment of Respiratory Diseases in the Nordics

- In 2019, **asthma affected on average 8% of the Nordic population,** from which up to 10% can suffer from severe forms of asthma. Numerous patients have uncontrolled asthma despite adherence to therapy and proper use of inhalers[1 2], which imposes a heavy burden on patients, care givers and the healthcare system.
- **Biologics** are used as **add-on therapies for severe forms of asthma**, with the initiation of biologic treatment being advised as a last step in the International Treatment Guidelines[3].
- In this report, **respiratory biologic agents** are defined as biologic agents within the ATC-class R03DX. In the Nordics, **four** respiratory agents (in R03DX) have been included*.

Sub-class	Product	Active Substance[4]	Therapeutic indication[4]	
Anti-IgE	Xolair©	Omalizumab	Allergic Asthma	CRSwNP, Chronic Spontaneous Urticaria
Anti-IL5	Cinqaero©	Reslizumab	Severe Eosinophilic Asthma	-
	Nucala©	Mepolizumab	Severe Eosinophilic Asthma	CRSwNP, EGPA, HES
Anti IL5R	Fasenra©	Benralizumab	Severe Eosinophilic Asthma	-

*Note: Dupixent© is also a biologic drug used for treatment of severe asthma amongst others, but it is not included in the R03DX-class, so it was not incorporated in our primary analysis. However, Dupixent© Danish sales are addressed in slide 4.

Overall Usage of Respiratory Biologic Agents
(Total DDD in thousands, 2021)[5 6]



Sources: [5]IQVIA sales data Sweden, Finland, Norway (2021), [6]Sundhedsdatastyrelsen. DDD as per WHO definition.

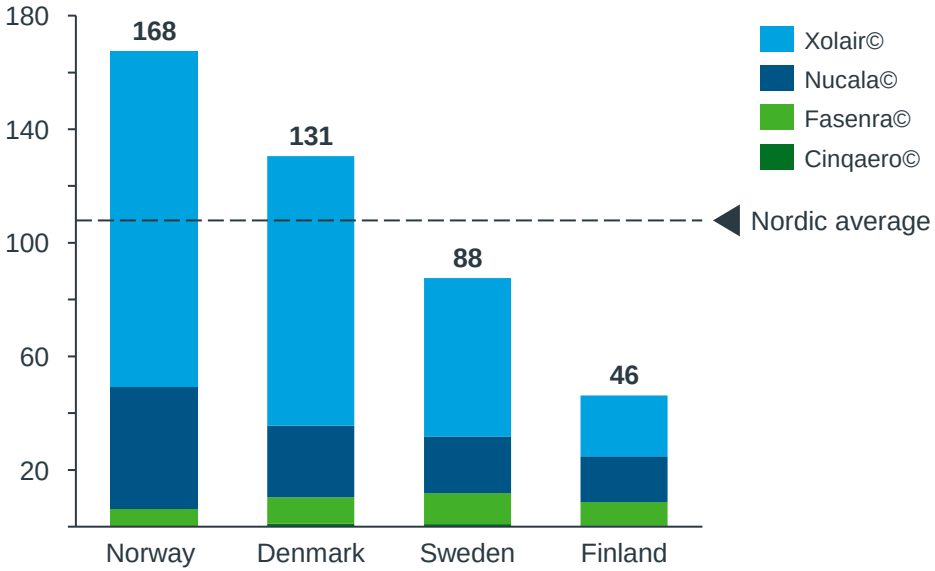
- Across the Nordics, **Xolair© is the most used biologic**, followed by Nucala ©, while the usage of Cinqaero© is relatively low.
- Drug usage patterns can vary between countries due to different incidence/prevalence rates, different treatment practices and many other factors. This study does not aim to investigate the exact reasons for the observed differences, but solely focus on describing overall usage statistics of the selected respiratory biologic agents.

The Usage of Biologics Is Substantially Higher in Norway Versus the Other Nordic Countries

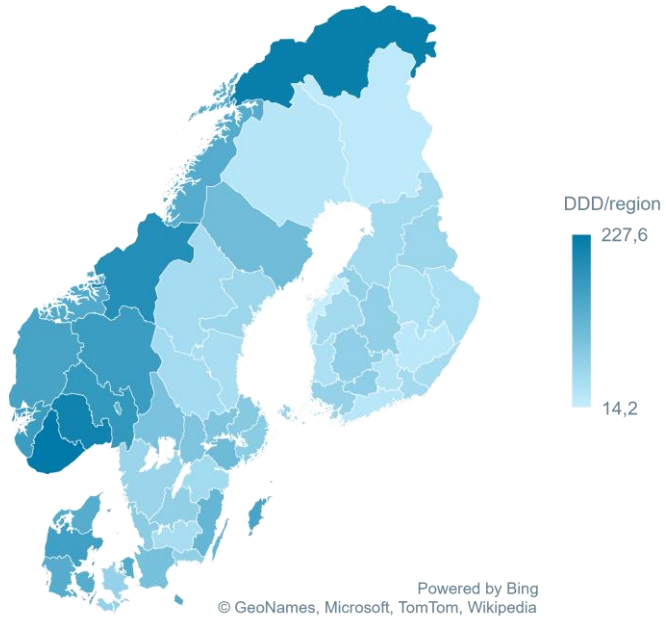
Regional Differences in Biologics Usage in the Nordics

- Considering the size of the population, consumption data shows that the usage of the selected biologic treatments differs greatly across countries.
- **Norway and Denmark have a higher usage of included biologics than the Nordic average**, while usage in Finland and Sweden is noticeably lower.
- Usage of studied **biologic agents** is more limited Sweden and particularly Finland, to a large extent driven by Xolair ©. Please note that based on overall usage statistics the usage per indication cannot be assessed.

DDD Usage of Biologics per 1000 Inhabitants (2021)[5 6 7]



DDD Usage of Biologics by Region per 1000 Inhabitants (2021)[5 6 7]



Sources: [5]IQVIA sales data Sweden, Finland, Norway (2021), [6]Sundhedsdatastyrelsen, [7]See appendix for sources. DDD as per WHO definition.

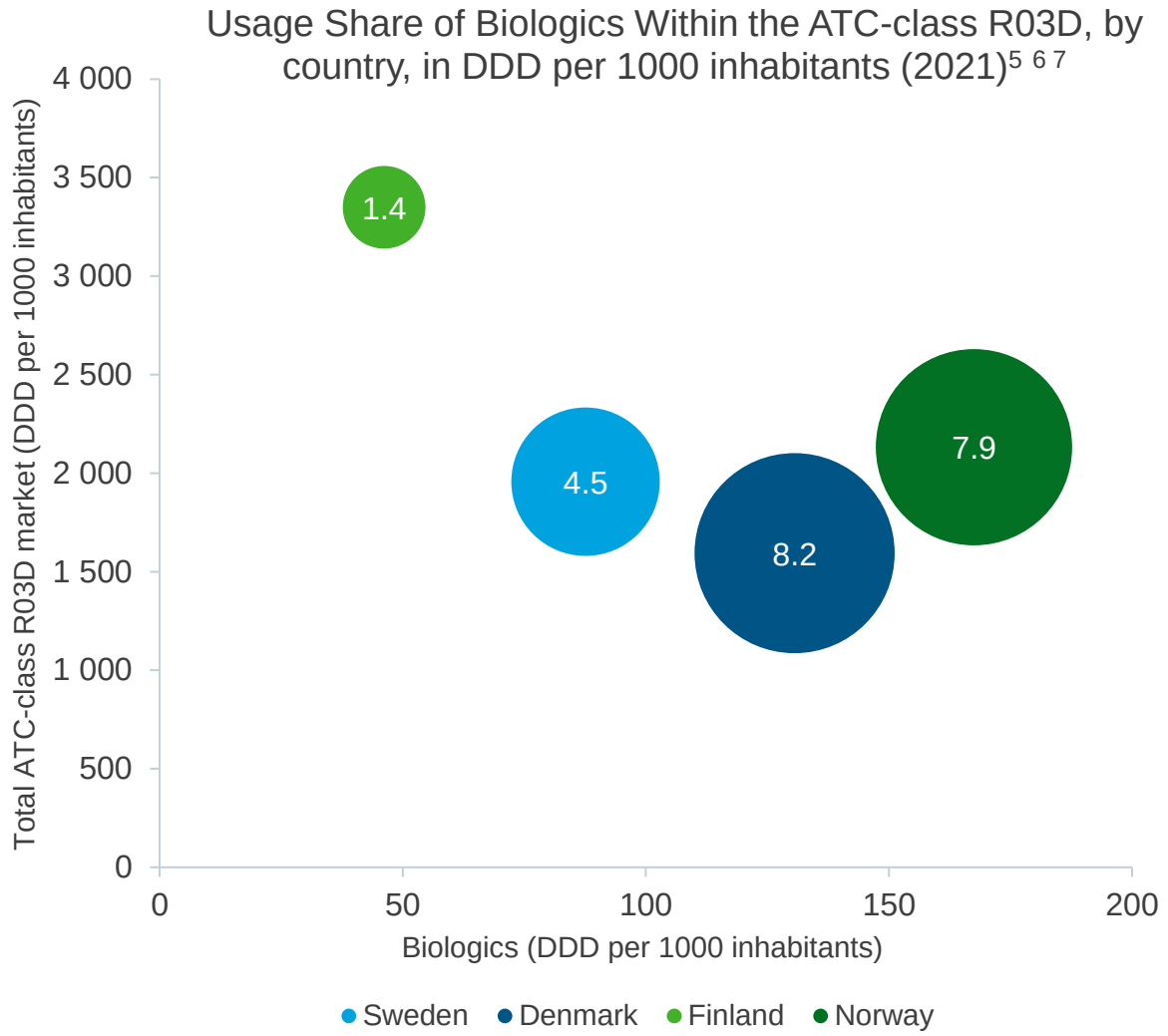
Regional differences are largest in Norway, where the ranges of DDD consumption per regional inhabitants are wider. This can for example be a result of regional differences in access to biologics for respiratory treatment, treatment practices or impacted by centralization care.

- The more narrow ranges in Finland, Sweden and Denmark are a crude indicator of more limited regional treatment variation within the country.
- **Kanta-Häme (FI), Agder (NO), Gotland Län (SE)** and **Region Midtjylland (DK)** are the regions per country with the highest DDD per 1000 inhabitants.

Denmark Holds the Highest Biologic Usage Share Among the Nordics, While Finland Falls Behind in Biologics Usage

Pricing and Usage Share of the Selected Biologics per Country

- Usage share has been defined by usage (in DDD) of the selected biologic respiratory agents over the total usage (in DDD) of ATC class R03D drugs (other systemic drugs for obstructive airway disease).
- Based on this definition **Denmark has with 8.2% the highest usage share for biologics,** with Norway close behind. The usage share of Finland is **1.4%**.
- Finland has the lowest usage of selected respiratory biologic agents per 1000 inhabitants in Nordics**, combined with** the highest DDD usage of ATC-class R03D drugs per 1000 inhabitants. Both factors impacting the relative low usage share of respiratory biologics within the ATC-class R03D.

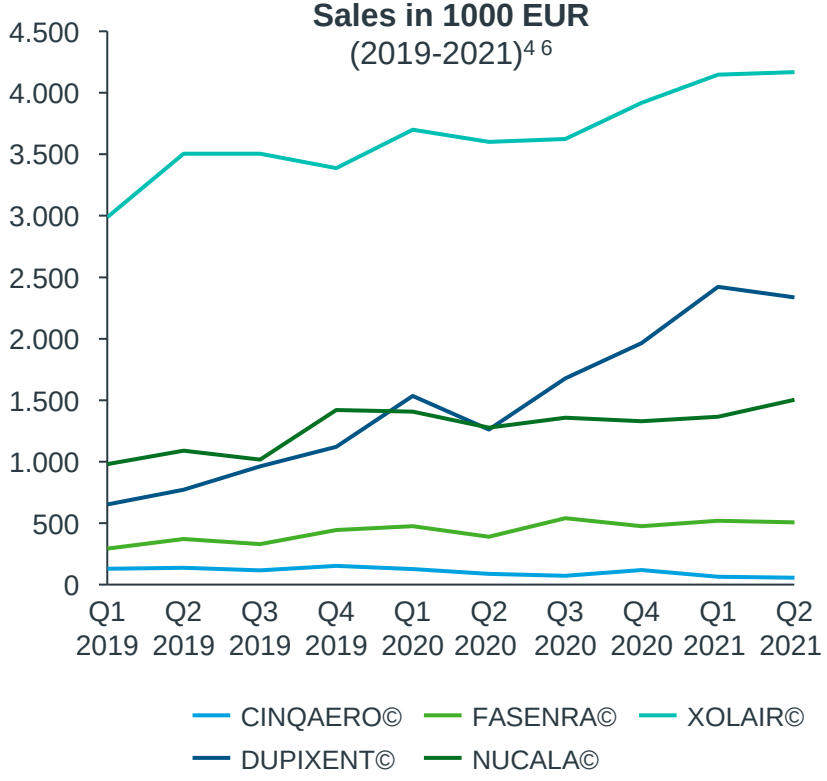


Sources: [5]IQVIA sales data Sweden, Finland, Norway (2021), [6]Sundhedsdatastyrelsen, [7]See appendix for sources. DDD as per WHO definition.

Xolair© Holds the Highest Level of Sales and Dupixent© Holds the Largest Sales Increase in Denmark

Development in Danish Sales of Biologics and Dupixent© Sales by Specialty in Danish Healthcare Region "X"

Change in Danish Biologics Sales in 1000 EUR
(2019-2021)[4 6]



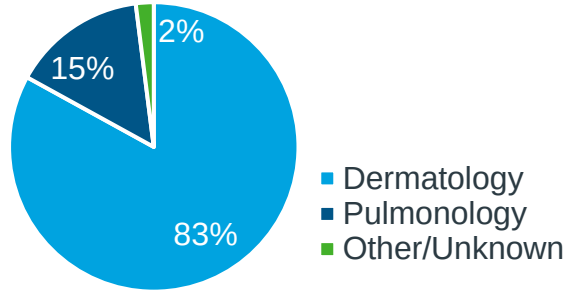
Sources: [4]European Medicines Agency, [6]Sundhedsdatastyrelsen

Approval Date and Percentage Changes in Sales[4 6]

Product	Approval year (EU)	% change in sales (Q1 2019 - Q2 2021)
Xolair©	2005	39%
Nucala©	2015	56%
Cinqaero©	2016	- 56%
Dupixent©	2017	258%
Fasenra©	2018	73%

- **Xolair© is the respiratory biologic agent with the highest levels of sales** in Denmark from 2019 to 2021, while Cinqaero© is the least sold biologic.
- The largest sales increase is observed for Dupixent©.

Dupixent© Unit **Sales by Specialty** in Danish Healthcare Region "X" (2020-2021)[8]



- **Dupixent© is a biologic drug used for treatment of several diseases including asthma.** However, it has not been included as a respiratory biologic agent as it is widely used for treatment of atopic dermatitis.
- This is clearly visible when IQVIA analyzes Dupixent© unit sales by specialty, showing a **significantly higher prescription by dermatology** than for pulmonology in Danish region "X".
- Usage by specialty and indication becomes increasingly important to understand and interpret usage patterns within and across countries.

Appendix

Topics to address in potential next steps

- What reasons can explain differences in biologics usage per country?
- What factors can explain the low usage of respiratory biologic agents in Finland?
- What can Nordic countries learn from their treatment approaches?
- In which patient types has biologic therapy achieved the desired outcomes?
- What is the patient perspective?

References

[1] Eurostat (Statistics | Eurostat (europa.eu)). Retrieved on 18 May 2022

[2] Dragonieri S, Carpagnano GE. Biological therapy for severe asthma. *Asthma Res Pract*. 2021;7(1):12. Published 13 August 2021

[3] Global Initiative for Asthma (ginasthma.org). Retrieved on 18 May 2022

[4] European Medicines Agency (ema.europa.eu). Retrieved on 18 May 2022

[5] IQVIA sales data Sweden, Finland, and Norway; Products: Xolair, Nucala, Fasenra and Cinqaero; Period: 2021

[6] Sundhedsdatastyrelsen; Products: Xolair, Nucala, Fasenra and Cinqaero; Period: 2019-2021

[7] Statistikmyndigheten SCB (Q4 2021); Danmarks Statistik (Q4 2021); Statistics Finland (Q4 2021); Statistisk sentralbyrå (Q4 2021)

[8] IQVIA sell-in data, Danmarks Statistik, Sundhedsdatastyrelsen, Amgros, and IQVIA calculations/algorithms; Product: Dupixent; Period 2020-2021

Please contact us for more information

Reach out to your IQVIA account manager or contact the **Nordic Real World & Analytics Solutions** team at **nordic_consulting@iqvia.com**