

Exploitation of data available in open access on the consumption of medication in France: use case on biosimilars

Background

The French Health National Insurance regularly provides **data** accessible in **open access** regarding the consumption and expenses related to healthcare. One of the raw data set available, Open Medic, show specific interest to study **drug consumptions** and **related expenses** in France.

Considering the importance could have proper penetration of biosimilar to **decrease healthcare expenses**, it appeared interesting to investigate how Open Medic data can be used to better understand biosimilar market penetration and related expenses in France.

The example of anti-TNF was chosen following the quite recent expiration of 2 patents out of the 5 anti-TNF commercialized in France.

Objectives

This work aimed to **highlight strengths and weaknesses of the possible exploitation of open data** from the French healthcare insurance through a concrete example describing the market penetration of anti-TNFs biosimilars, and the **cost savings generated by the introduction of biosimilars in France**.

Methods

DATA SOURCES

This work was based on exploitation and reprocessing of Open Medic's data (2014 to 2021 datasets), which include data on drugs delivered in community pharmacies (outside hospital):

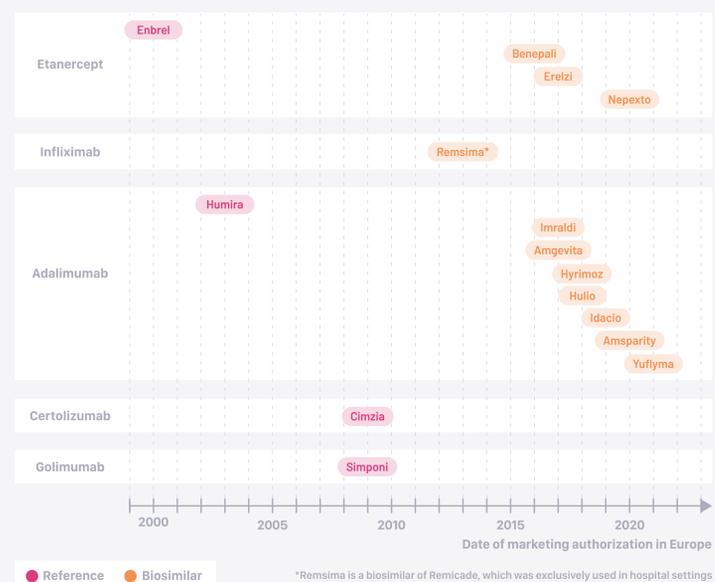
- annual drug expenditures (reimbursed and reimbursable amounts),
- number of boxes dispensed,
- descriptive elements on beneficiaries (age group, gender, region of residence),
- information on the prescriber's speciality.

USE CASE CHOSEN ON ANTI-TNF

An application based the penetration of anti-TNF biosimilar on the market was chosen.

All medication registered under the ATC class L04AB and delivered in community pharmacies were included in this analysis.

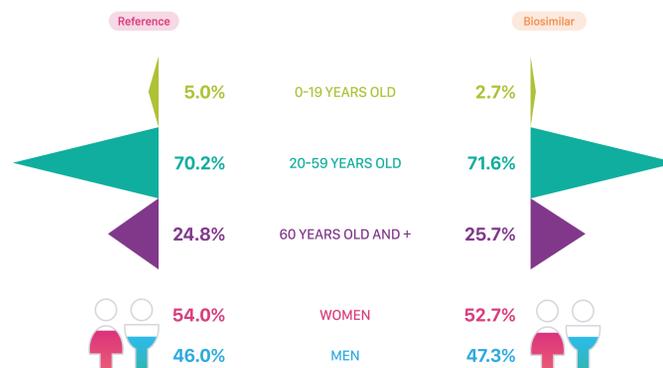
ANTI-TNF REGISTERED IN FRANCE ACCORDING TO THEIR MARKETING AUTHORIZATION DATE IN EUROPE



Graphs and design were inspired from the digital tool Eureka Med', developed by Heva in the context of an hachathon organized by the French health insurance.

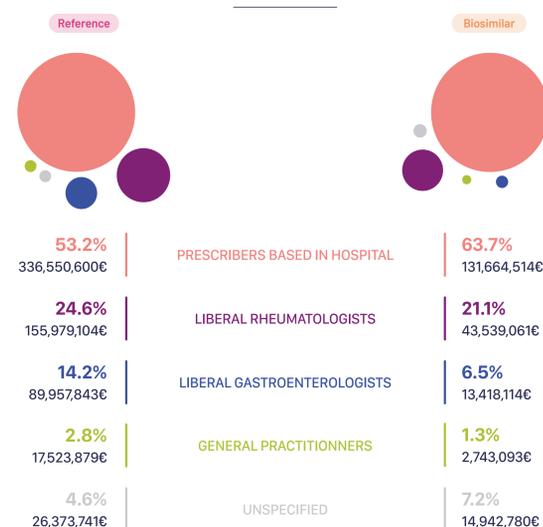
Results

PROFILE OF PATIENTS RECEIVING ANTI-TNF IN FRANCE IN 2021

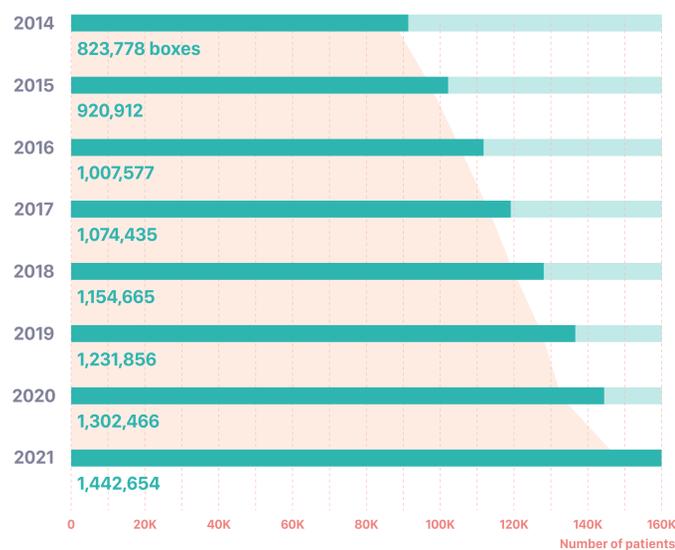


PROFILE OF PRESCRIBERS IN 2021

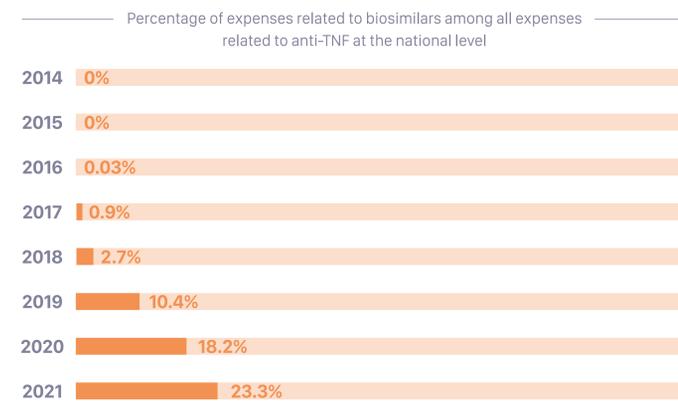
only categories > 2% for biosimilar or reference are represented



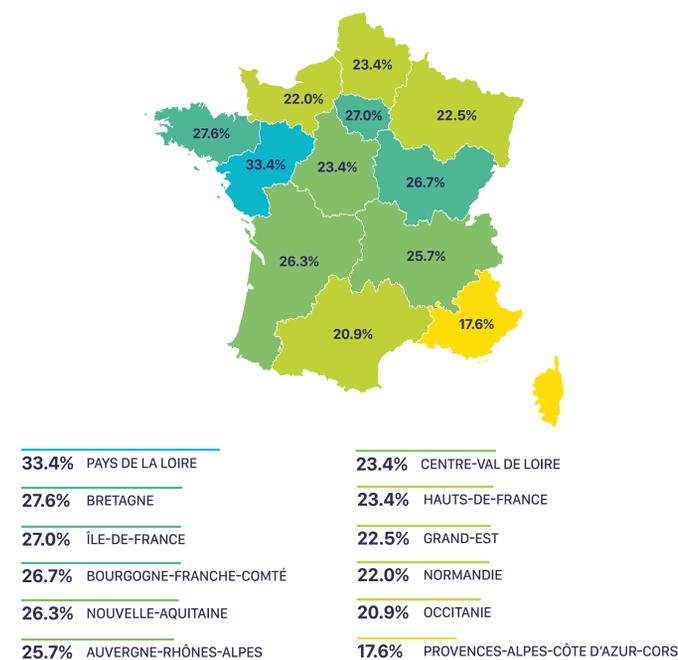
OVERALL INCREASE OF ANTI-TNF CONSUMPTION IN FRANCE BETWEEN 2014 AND 2021



ANTI-TNF BIOSIMILAR PENETRATION OF THE FRENCH MARKET



Percentage of expenses related to biosimilars among all expenses related to anti-TNF at the regional level in 2021



IMPACT OF BIOSIMILARS ON ANNUAL EXPENSES PER PATIENTS FOR ANTI-TNF



Conclusion

Expenses related to anti-TNF biosimilars increased from 8 M€ in 2017 up to 195 M€ in 2021, representing 23.3% of the total expenses of anti-TNF in 2021.

Overall reimbursements for anti-TNF drugs are increasing as the number of patients treated increases, however, the reimbursements per patient has significantly decreased since biosimilars' arrival on anti-TNF market.

This analysis showed that open data can be very useful to assess the impact of the biosimilar arrival on healthcare expenses.