Uptake of Oncology-Related Biosimilars: A Global Analysis of Usage Data

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Background and Objectives

- Biologics are large complex molecule manufactured using living cells/organisms
- Revolutionized the treatment of cancer and other disease conditions
- "A biosimilar biologic drug, or biosimilar, is a biologic drug that is highly similar to a biologic drug that was already authorized for sale"
  - There are no expected clinically meaningful differences in efficacy and safety between a biosimilar and the biologic drug that was already authorized for sale*
- Biologics are less expensive than reference biologics and have significantly decreased the spending on anti-cancer biologics

*Health Canada - Biosimilar biologic drugs in Canada: Fact Sheet 2019

Background and Objectives

- Biosimilars have been approved in many countries
- These countries have adopted stringent guidelines on biosimilar quality, safety, and efficacy standards that are consistent with the regulatory framework for approval set out by WHO
- There is a lack of a global comparison of biosimilar uptake in the current literature

Objective

- Describe the uptake of oncology-related biosimilars in countries with WHO aligned regulatory frameworks for approving them

What we did

- 13 countries in the Organization for Economic Co-operation and Development included in the analysis
  - Australia, Belgium, Canada, France, Germany, Italy, Japan, New Zealand, Norway, Spain, Sweden, United Kingdom and United States
- Used IQVIA MIDAS quarterly sales volume and value data for 5 biologic drugs
- Timeframe
  - October 1 (Q4) 2022 and September 30 (Q3) 2023
- 5 oncology-related reference biologics with biosimilars marketed in the United States during the study period
  - bevacizumab, filgrastim, pegfilgrastim, rituximab (intravenous), and trastuzumab (intravenous)

What we found

Heatmap of the percentage of units purchased that were biosimilars, by country, from Q4 2022 to Q3 2023

Country	Unit[a]	Bevacizumab	Filgrastim	Pegfilgrastim	Rituximab	Trastuzumab	Median
Norway	1	84%	97%	99%	98%	95%	97%
	2	92%	97%	99%	93%	92%	93%
UK	1	55%	100%	94%	96%	37%	94%
	2	(32%-57%)[b]	(100%)[b]	94%	(71%-88%)[b]	(14%-15%)[b]	(71%-88%)[b]
Italy	1	97%	98%	86%	93%	88%	93%
	2	98%	98%	86%	81%	74%	86%
Sweden	1	82%	97%	99%	93%	86%	93%
	2	94%	98%	(99%)[b]	83%	77%	(94%)[b]
Australia	1	100%	81%	56%	100%	93%	93%
	2	(100%)[b]	81%	56%	(100%)[b]	(78%-88%)[b]	(81%-88%)[b]
Spain	1	93%	92%	83%	93%	85%	92%
	2	93%	92%	83%	81%	70%	83%
Canada	1	86%	92%	99%	75%	89%	89%
	2	93%	92%	99%	47%	89%	92%
France	1	97%	97%	85%	88%	47%	88%
	2	99%	(97%)[b]	85%	73%	35%	(85%)[b]
Germany	1	88%	85%	60%	90%	68%	85%
	2	92%	(85%)[b]	(60%)[b]	86%	66%	(85%)[b]
USA	1	83%	84%	44%	75%	70%	75%
	2	86%	85%	44%	71%	84%	84%
New Zealand	1	0%	98%	74%	94%	70%	74%
	2	(0%)[b]	99%	74%	(54%-98%)[b]	(38%-86%)[b]	(54%-86%)[b]
Japan	1	37%	95%	0%[c]	79%	70%	70%
	2	33%	92%	0%	79%	70%	70%
Belgium	1	100%	70%	66%	69%	35%	69%
	2	100%	73%	66%	37%	19%	66%
Median	1	86%	95%	83%	93%	70%	86%[d]
	2	(93%)[b]	(92%)[b]	(83%)[b]	(79%-81%)[b]	(70%-74%)[b]	(84%-86%)[b,d]

What we found

Heatmap of the Expenditure on study biologics by country, from Q4 2022 to Q3 2023

Country	Percentage of expenditure on biosimilars	Per-capita expenditure on the study's oncology-related biologics[a] (USD)	Total expenditure on the study's oncology-related biologics[a] (USD millions)
Norway	96%	14.6	80
Sweden	89%	10.0	105
Italy	87%	10.2	608
Spain	84%	10.4	498
Australia	84%	2.8	74
Canada	78%	12.5	488
France	76%	14.6	967
UK	73%	6.8	462
Germany	72%	5.6	469
USA	58%	24.5	8,388
Belgium	57%	11.1	130
Japan	25%	7.1	885
New Zealand	18%	1.6	8.1
Median	76%	10.2	469

Discussion and Conclusion

- **Uptake based on units purchased**
  - **Variation across countries as well as between biosimilars in the same country**
- **Uptake based on expenditure**
  - **High uptake of oncology-related biosimilars in European countries (especially Norway, Italy, Sweden, Spain) and Australia**
  - **Canada ranked 6th in biosimilar uptake based on expenditures**
  - **Lowest uptake was in New Zealand and Japan**
- **Reasons for variation**
  - **Timing of introduction/marketing of biosimilar**
  - **Switching/automatic substitution policies**
  - **Introduction of alternative routes of administration**

Questions