

Utilization and patient characteristics for the trastuzumab originator, biosimilars, and other HER2 inhibitors in the United States

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BACKGROUND

- Biosimilars for **trastuzumab**, a **HER2 inhibitor (HER2I)**, have been available in the US since 2019
- Information on their utilization and patient characteristics is limited
- We assessed utilization and patient characteristics for the **trastuzumab originator, biosimilars, and other HER2Is** in the US

METHODS

- Data:** Healthcare claims for 10/1/2016-up to 2/29/2020 (end date varied across health plans) from the **Biologics and Biosimilars Collective Intelligence Consortium (BBCIC)'s Distributed Research Network** (>95 million persons across 5 Research Partners). Research Partners used curated data stored in the US Food and Drug Administration (FDA) Sentinel Common Data Model.
- Study population:** Commercially-insured adults continuously enrolled in their health plan with medical and drug coverage ≥ 365 days (baseline period) prior to their incident HER2I use
- Measurements:** **Number of incident users and patients' demographic and clinical characteristics** for each HER2I (trastuzumab, trastuzumab-anns, trastuzumab-dkst, trastuzumab/hyaluronidase-oysk, ado-trastuzumab, lapatinib, neratinib)
- Statistical analysis:** Descriptive analysis using the Sentinel distributed analysis tools

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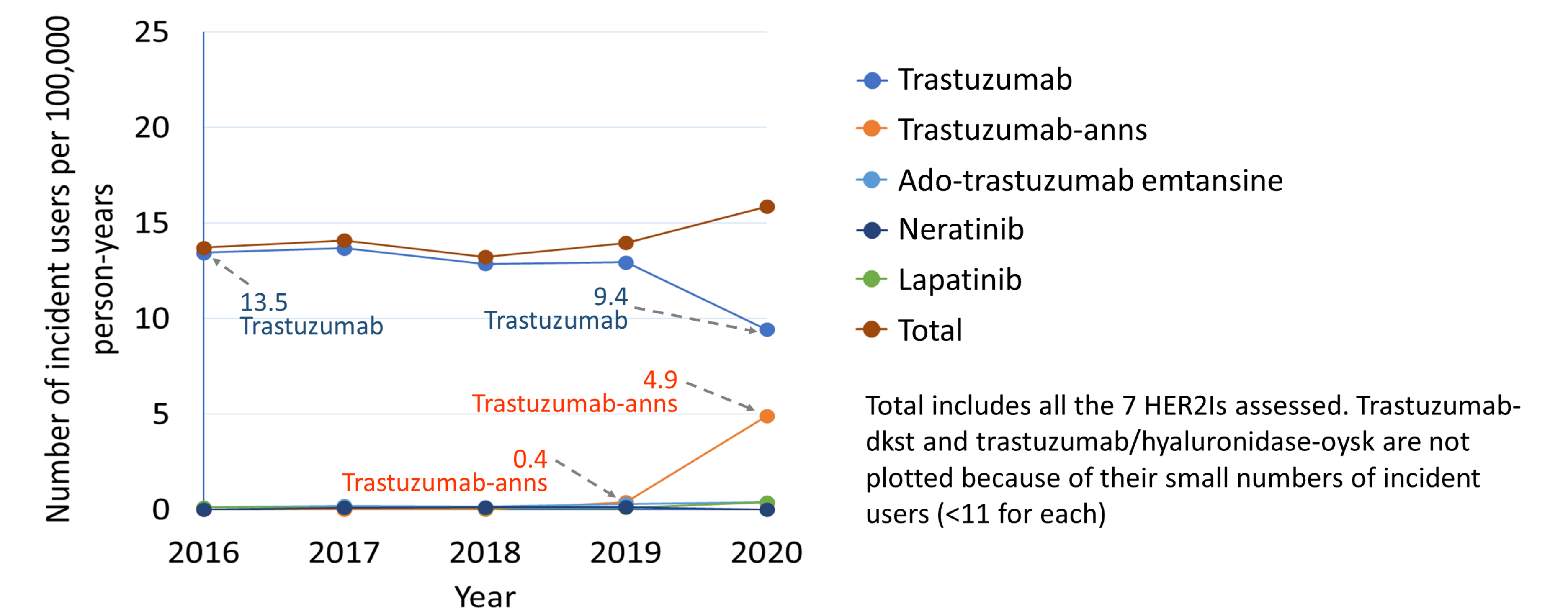


Takeaways

- Number of incident users per person-time decreased over time with the trastuzumab originator and increased with its biosimilar trastuzumab-anns
- Charlson/Elixhauser comorbidity score was the highest for lapatinib and similar between the trastuzumab originator and trastuzumab-anns
- There were variations in patient characteristics between HER2Is and by metastatic status, while the characteristics were generally similar between the trastuzumab originator and trastuzumab-anns

RESULTS

- Number of incident users (incident to any HER2Is):** trastuzumab (6,631), trastuzumab-anns (122), ado-trastuzumab emtansine (116), neratinib (54), lapatinib (54), trastuzumab-dkst and trastuzumab/hyaluronidase-oysk (<11)
- Mean age:** Similar between the trastuzumab originator (57.2 years, SD=12.0) and its biosimilar trastuzumab-anns (59.0 years, SD=12.6)
- Number of incident users/100,000 person-years:** Decreased over time with trastuzumab originator and increased with its biosimilar trastuzumab-anns



- Clinical characteristics of incident users (incident to any HER2Is)**

	Trastuzumab	Trastuzumab-anns	Ado-trastuzumab emtansine	Neratinib	Lapatinib
Charlson/Elixhaus Combined Comorbidity Score	1.1	1.3	1.7	0.5	2.0
Chemotherapy users, % ^a	18.5	14.8	24.1	NC	38.9
Endocrine therapy users, % ^b	11.1	10.7	41.4	63.0	50.0
Among metastatic breast cancer patients, endocrine therapy users, % ^b	19.3	NC	55.6	NC	69.6
Among non-metastatic breast cancer patients, endocrine therapy users, % ^b	6.9	NC	NC	69.0	NC

Only part of the characteristics investigated are presented due to limited space. NC: not calculated, for smaller counts (>0, <11). Trastuzumab-dkst and trastuzumab/hyaluronidase-oysk are not shown because of their small numbers of incident users (<11 for each).

^a Measured during the 183 days prior to the incident HER2I dispensing. ^b Measured during the 365 days prior to the incident HER2I dispensing.