Utilization patterns and characteristics of patients treated with the originator and the follow-on insulin glargine in the United States

Young Hee Nam[1], Aaron B. Mendelsohn[1], James Marshall[1], Cara L. McDermott[2], Jeffrey S. Brown[1], Catherine M. Lockhart[2]

[1] Department of Population Medicine, Harvard Medical School and Harvard Pilgrim Health Care Institute
[2] Biologics and Biosimilars Collective Intelligence Consortium (BBCIC)

Academy of Managed Care Pharmacy (AMCP) 2021

BACKGROUND

The first follow-on drug (Basaglar®) of the originator insulin glargine (Lantus®), a long-acting insulin for treatment of type 1 and type 2 diabetes mellitus (T1DM, T2DM), was approved in 2015 in the United States. Utilization patterns and user characteristics of these drugs in the real-world setting are limited.

OBJECTIVE

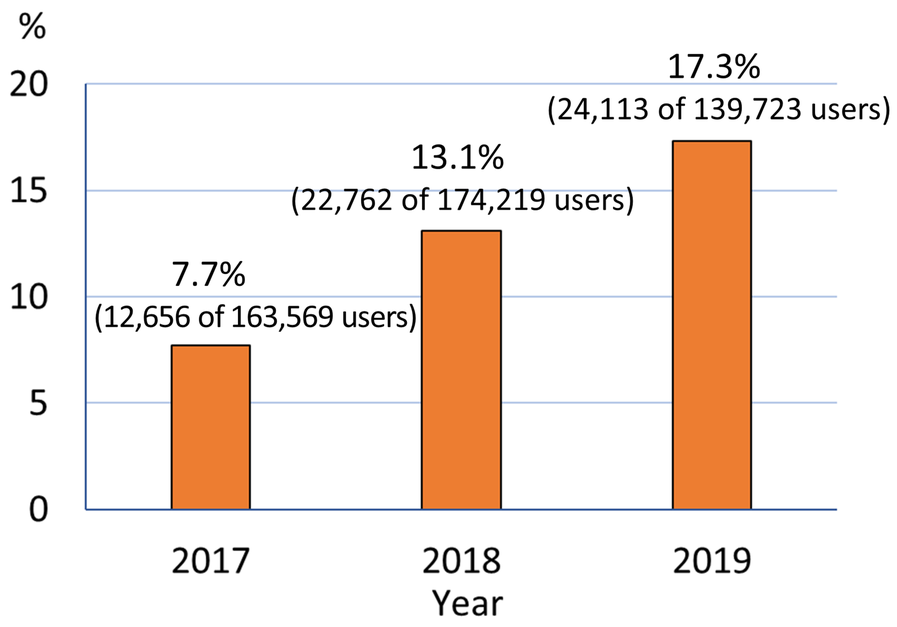
To evaluate utilization patterns and characteristics of patients treated with the originator vs. the follow-on insulin glargine, with the overarching goal of preparing for real-world, observational comparative effectiveness research for these drugs.

METHODS

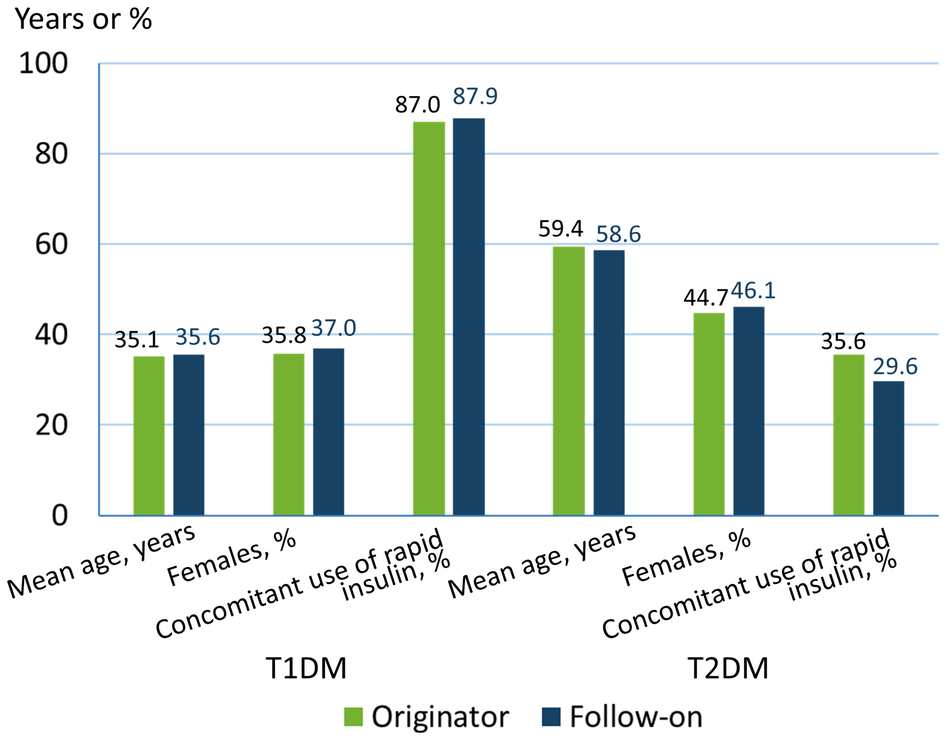
- Study design: A retrospective observational study using the FDA Sentinel analytic tools[1]
- Data source: Healthcare claims data representing >95 million person-years from five commercial health plan partners in the Biologics and Biosimilars Collective Intelligence Consortium (BBCIC) Distributed Research Network[2]
- Eligible individuals for analyses: Diabetes patients (age ≥18 years) with prevalent use of the originator (Lantus®, Toujeo®, Soliqua®) and follow-on (Basaglar®) insulin glargine between 01 January 2011 – 30 September 2019 (some health plan partners' data were not available through 30 September 2019) and continuous enrollment for ≥183 days prior to the first observed dispensing date of insulin glargine ("baseline period")
- Main measurements and statistical analyses: Descriptive analyses on the utilization and patient characteristics for insulin glargine, (a) overall and (b) among the TIDM group and the T2DM group excluding those diagnosed with both T1DM and T2DM in the entire available record separately

RESULTS

- We identified 524,161 prevalent users of insulin glargine overall; 485,487 originator users and 38,674 follow-on users (not necessarily mutually exclusive).
- The proportion of the follow-on drug users among total insulin glargine users was 10.3% (n=1,507) in the T1DM group and 9.2% (n=24,926) in the T2DM group.
- The proportion of the follow-on drug users among total insulin glargine users by year, 2017-2019



- Selected characteristics of the users of the originator and the follow-on insulin glargine among the T1DM and T2DM groups



Combined baseline comorbidity score (standard deviation)

	T1DM	T2DM
Originator	0.3 (0.7)	0.7 (1.7)
Follow-on	0.5 (0.8)	1.1 (1.7)

CONCLUSIONS

- The proportion of the prevalent users of the follow-on insulin glargine among the total insulin glargine users increased from 7.7% in 2017 to 17.3% in 2019.
- The mean ages were similar between the originator users and the follow-on drug users in both the T1DM group and the T2DM group.
- Among follow-on drug users in the T2DM group, the proportion of concomitant use of rapid insulin was slightly lower and the average combined baseline comorbidity score was slightly higher than the originator group.
- Further studies are needed to elucidate potential user differences and comparative effectiveness between the originator and the follow-on insulin glargine.

REFERENCES

1. US Food and Drug Administration. The Sentinel Operations Center. Surveillance Tools: Routine Querying Tools (Modular Programs). https://www.sentinelinitiative.org/sentinel/surveillance-tools/routine-querying-tools. Accessed 15 March, 2021.
2. Biologics and Biosimilars Collective Intelligence Consortium (BBCIC). www.bbcic.org. Accessed 15 March, 2021.

Acknowledgements/Funding source: This project was supported in full by the Academy of Managed Care Pharmacy (AMCP) Biologics and Biosimilars Collective Intelligence Consortium (BBCIC).