Naming Convention, Interchangeability, and Patient Interest in Biosimilars

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November 3, 2026

Patient interest in biosimilars

- Using a behavioral experiment methodology, we had identified that consumers were sensitive to information presented in drug advertisements (in this case, drug price information)

Table 2. Questionnaire Responses Among 580 Study Participants Exposed to Different Direct-to-Consumer Pharmaceutical Advertising Formats

	Mean (SD)				
		Low Price		High Price	
Questionnaire Item	No Price (n = 116)	Without Modifier (n = 115)[a]	With Modifier (n = 116)[b]	Without Modifier (n = 116)[a]	With Modifier (n = 117)[c]
Ask your doctor about the drug[d]	5.12 (1.73)	5.29 (1.51)	5.33 (1.57)	2.90 (2.21)[e]	4.48 (1.95)[e]
Ask your insurer about the drug[d]	5.01 (1.82)	5.17 (1.75)	5.19 (1.80)	4.09 (2.27)[f]	4.85 (1.99)[g]
Research the drug online[d]	5.94 (1.32)	6.12 (1.17)	6.12 (1.29)	4.92 (2.02)[e]	5.74 (1.47)[f]
Use the drug[d]	4.93 (1.52)	4.91 (1.43)	4.92 (1.49)	3.24 (2.05)[e]	4.36 (1.63)[e]
Expected out-of-pocket cost, $	77.76 (148.94)	49.75 (43.62)	52.60 (77.97)	2787.08 (5209.57)[e]	1355.39 (3624.00)[f]
Perceived effectiveness[h]	5.14 (1.17)	5.10 (1.32)	5.23 (1.11)	5.29 (1.17)	5.14 (1.15)

Garrett JB, Tayler WB, Bai G, Socal MP, Trujillo AJ, Anderson GF. Consumer Responses to Price Disclosure in Direct-to-Consumer Pharmaceutical Advertising. *JAMA Intern Med.* 2019;179(3):435–437.

Naming convention and interchangeability

- Using the same methodology, we examined if patient interest would vary according to exposure to nonproprietary naming convention and drug interchangeability information



FEATURE ARTICLE

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Socal MP, Garrett JB, Tayler WB, Bai G, Anderson GF. Naming Convention, Interchangeability, and Patient Interest in Biosimilars. Diabetes Spectr. 2020 Aug;33(3):273-279.

Methodology

- N=1,306 US-based consumer volunteers
- Recruited via Amazon Mechanical Turk. Required approval rating of at least 98%, at least 1,000 previous tasks completed, and passing 2 attention-check questions
- Participants were instructed to assume that they had type 2 diabetes well controlled with a fictitious prescription drug named “Karlanza (insulin glargine).”
- Participants were then randomly assigned to view one of several different print advertisements for a fictitious biosimilar named “Wilkisar (insulin glargine),” after which they responded to a series of questions.

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Questions

- After viewing the print advertisement, participants were asked about their likelihood of taking the advertised drug, asking their doctor about the drug, asking the insurance company about the drug, and researching the drug online
- Questions were measured on a 7-point Likert scale, ranging from “extremely unlikely” to “extremely likely”
- Participants were also asked about their perceptions of the effectiveness and similarity of the biosimilar compared with the biologic
- 5-point Likert scale, “not similar at all” to “extremely similar”

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Experiment 1

- Advertisements varied the **biosimilar suffix only**
  - 2 conditions: with/without suffix (no mention of whether the drug required a new prescription)

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Experiment 2

- Advertisement varied on two dimensions: biosimilar suffix and interchangeability
- **Biosimilar suffix:** varied by changing the nonproprietary name of the biosimilar presented to participants: “insulin glargine-acxf ” versus “insulin glargine.”
- **Interchangeability:** varied by changing a phrase in the advertisement indicating that the drug “does not require a new prescription” or that the drug “requires a new prescription” for those already taking the biologic.
- **Total 5 conditions:** with/without suffix; with/without interchangeability; and suffix on biosimilar + no interchangeability + suffix on the reference biologic

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All advertisements

- **All advertisements (in both experiments)** stated that the biosimilar “Wilkisar” was “highly similar to “Karlanza”, with no clinically meaningful differences in terms of efficacy, safety, and purity” (frequent language in biosimilar marketing)

- All advertisements also mentioned that participants could save up to 15–20% by taking the biosimilar

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Results: Suffix

- when there was no mention of interchangeability, the presence of a suffix **reduced** the likelihood of using the biosimilar (mean 5.02, SD 1.40) compared with no suffix (mean 5.37, SD 1.31) (p=0.02).
- Participants' perceived similarity of the biosimilar to the biologic was **lower** when a suffix was present (mean 4.11, SD 0.88) than when absent (mean 4.22, SD 0.86) (p=0.04).
- When the advertisement stated whether the drug was interchangeable, the likelihood of using the biosimilar **did not** differ with the presence of a suffix (mean 5.22, SD 1.48, vs. mean 5.34, SD 1.48; p=0.23).

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Results: Interchangeability

- When biosimilar was **interchangeable** (vs. not interchangeable), participants were significantly **more likely** to use the biosimilar, ask their doctor about the biosimilar, and research the biosimilar online.
- **Interchangeability also increased participants' perception of the biosimilar's similarity to the biologic.**
- No effect of including a suffix on both the biologic and the biosimilar was detected when compared with including a suffix on the biosimilar only.
- **Mediation analysis suggests that participant's interest was mediated by their perception of higher similarity when the biosimilar was interchangeable**

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Conclusions

- Both biosimilar suffix and interchangeability provide signals to patients regarding the underlying level of “true similarity” of the biosimilar to the biologic.
- When given interchangeability information, patients rely on that signal alone, not on the biosimilar suffix, to infer drug similarity and form an opinion about the biosimilar.
- Policies to support biosimilar adoption should aim to mitigate the effects of biosimilar suffix and interchangeability identified in this study
- This should include regulatory reform as well as informational programs to providers and patients

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Thank You!

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