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Response to "Using Hawthorne Effects to Improve Adherence in Clinical Practice: Lessons from Clinical Trials"

Joel M. Gelfand, MD, MSCE[1,2], **Shuwei Wang, BS**[1], **Junko Takeshita, MD, PhD**[1], **Andrew D. Robertson, PhD**[3], **Gerald G. Krueger, MD**[4], **Kristina Callis Duffin, MD**[4], and **Abby S. Van Voorhees, MD**[1]

[1]Department of Dermatology, University of Pennsylvania Perelman School of Medicine, Philadelphia

[2]Department of Epidemiology and Biostatistics, Center for Clinical Epidemiology and Biostatistics, University of Pennsylvania Perelman School of Medicine, Philadelphia

[3]The National Psoriasis Foundation, University of Utah School of Medicine, Salt Lake City

[4]Department of Dermatology, University of Utah School of Medicine, Salt Lake City

We thank Mr. Davis and Dr. Feldman for their insightful comments in response to our study. They addressed how the Hawthorne effect, which occurs when patients' behaviors change (such as improving adherence) after knowing they are being watched in ways that may improve outcomes, could be leveraged in clinical practice. In our cross-sectional study, patients were evaluated at a single time point under real world conditions (e.g. routine follow-up visit) and did not know that the effectiveness of their psoriasis treatment was going to be formally assessed until the day of their regularly scheduled clinic visit [1]. Thus the Hawthorne effect could not have affected adherence and was unlikely to have impacted our estimates of physician reported outcomes but may have influenced patient reported outcomes.

The degree to which suboptimal adherence with systemic psoriasis treatments influences effectiveness remains largely unknown. Nevertheless, optimizing patient adherence remains an important treatment goal and thus dermatologists may consider attempts at replicating the Hawthorne Effect in their clinical practices. However, achieving the Hawthorne effect in

Correspondence: Joel M. Gelfand, MD, MSCE Department of Dermatology, University of Pennsylvania, 1471 Penn Tower, One Convention Ave, Philadelphia, PA 19104 joel.gelfand@uphs.upenn.edu.

Author Contributions: Dr. Gelfand had full access to all of the data in the study and takes responsibility for the integrity of the data and the accuracy of the data analysis. *Study concept and design*: Gelfand, Krueger, and Callis Duffin. *Acquisition of data*: Gelfand, Krueger, Callis Duffin, and Van Voorhees. *Analysis and interpretation of data*: Gelfand. *Drafting of the manuscript*: Gelfand and Wang. *Critical revision of the manuscript for important intellectual content*: Gelfand, Robertson, Krueger, Duffin, Van Voorhees, Takeshita, and Wang. *Statistical analysis*: Gelfand and Wang. Obtained funding: Gelfand and Callis Duffin. *Administrative, technical, or material support*: Gelfand. *Study supervision*: Gelfand and Krueger.

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clinical practice may not be feasible for many practitioners and patients. More frequent follow-up office visits may be impractical due to various factors including time and expense for the patient and scheduling difficulties for the physician. Promising novel approaches to mimicking the type of close follow-up which occurs in the clinical trial setting include mobile tele-dermatology for home monitoring of psoriasis patients, which has been shown to have high acceptance ratings in both patients and dermatologists, with great potential for increasing patient motivation and compliance [2].

We also note that the factors which explain differences in efficacy observed in clinical trials and effectiveness observed in real world settings are complex and multi-factorial. For example, patients on systemic psoriasis treatments often face issues of access (treatment expense, delays in obtaining insurance approvals to continue treatment or lack of insurance approval to increase the dose of treatment due to sub-optimal response, difficulty in traveling to offices that provide psoriasis treatment, etc.), tachyphylaxis, and often patients express safety concerns that result in treatment discontinuation [3]. Additionally, prior treatment experience, which may inform response rates may not be reflected in clinical trials (i.e CHAMPION and ACCEPT trials included only TNF inhibitor naïve patients whereas nearly 30% of our patients had used a different TNF inhibitor prior to their current TNF treatment) [4, 5].

The determinants of psoriasis treatment effectiveness in real world settings remain an important scientific knowledge gap. Prospective effectiveness studies are urgently needed in order to optimize the quality of care for patients with psoriasis.

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References

1. Gelfand JM, Wan J, Callis Duffin K, et al. Comparative effectiveness of commonly used systemic treatments or phototherapy for moderate to severe plaque psoriasis in the clinical practice setting. Arch Dermatol. Apr; 148(4):487–494. [PubMed: 22508874]
2. Chambers CJ, Parsi KK, Schupp C, Armstrong AW. Patient-centered online management of psoriasis: a randomized controlled equivalency trial. J Am Acad Dermatol. Jun; 66(6):948–953. [PubMed: 21890236]
3. Yeung H, Wan J, Van Voorhees AS, et al. Patient-reported reasons for the discontinuation of commonly used treatments for moderate to severe psoriasis. J Am Acad Dermatol. Jul 28.
4. Griffiths CE, Strober BE, van de Kerkhof P, et al. Comparison of ustekinumab and etanercept for moderate-to-severe psoriasis. N Engl J Med. Jan 14; 362(2):118–128. [PubMed: 20071701]
5. saurat JH, Stingl G, Dubertret L, et al. Efficacy and safety results from the randomized controlled comparative study of adalimumab vs. methotrexate vs. placebo in patients with psoriasis (CHAMPION). Br J Dermatol. Mar; 2008 158(3):558–566. [PubMed: 18047523]