

# Economic and Clinical Evidence Supporting At-Home Phototherapy: An Annotated Bibliography

## Key Clinical Trials Supporting Zerigo's Approach

Gelfand, JE, Armstrong, AM, Lim, H et al (2024). Light Treatment Effectiveness (LITE) Study Group. Home versus office-based narrow-band UVB phototherapy for psoriasis: A multicenter randomized controlled trial. *JAMA Dermatology*. <https://doi.org/10.1001/jamadermatol.2024.3897?form=MG0AV3>

**Key Results:** Study of **783 patients showed home phototherapy users were significantly more adherent (51%) compared to office-based treatment (16%)**. Home treatment demonstrated equivalent efficacy with better adherence rates, supporting its use as a first-line therapy with fewer side effects and quicker time to clear.

Medical University of Graz Research Team. (2024). Combination therapy with adalimumab and NB-UVB in psoriasis: A split-body comparative study. *Journal of Dermatological Science*, in press.

**Key Results:** Split-body study in psoriasis patients showed **86% reduction in lesions with combined NB-UVB and biologic therapy versus 53%** with biologic alone. The study demonstrates significant synergistic effects when combining phototherapy with biologics, potentially allowing for optimized treatment regimens.

Bristol Myers Squibb Research Consortium. (2024). Treatment patterns and cost analysis of oral and biologic therapy switching in psoriasis: A 14-year retrospective cohort study. *Journal of Managed Care & Specialty Pharmacy*, in press. <https://pubmed.ncbi.nlm.nih.gov/36794863/#full-view-affiliation-1>

**Key Results:** Analysis of 14 years of claims data revealed **only 40% of oral medication patients persisted for a full year, with switchers incurring 1.5x higher costs**. This longitudinal study highlights significant economic implications of treatment switching and emphasizes the need for more sustainable first-line treatment options.

## Healthcare Access and Delivery Challenges Dermatology

El-Komy, M. H. M., et al. (2023). Telemedicine and psoriasis: A review based on statements of the telemedicine working group of the International Psoriasis Council. *Journal of European Academy of Dermatology and Venereology*, 2, 19-31. <https://psoriasisCouncil.org/wp-content/uploads/2023/01/Telemedicine-and-psoriasis-A-review-based-on-statements-of-the-telemedicine.pdf>

**Key Results:** Review found high patient satisfaction and comparable outcomes with telemedicine in psoriasis care. Guidelines were established for implementing effective telemedicine practices in dermatology.

Feng, H., Berk-Krauss, J., Feng, P. W., & Stein, J. A. (2018). Comparison of dermatologist density between urban and rural counties in the United States. *JAMA Dermatology*, 154(11), 1265-1271. <https://pubmed.ncbi.nlm.nih.gov/30193349/>

**Key Results:** Study revealed significant disparities in dermatologist distribution between urban and rural areas. Findings highlighted the need for alternative care delivery models, including telemedicine and remote monitoring.

Sandoval, A. G., Mahajan, A., & Buzney, E. (2024). Phototherapy for psoriasis in the age of biologics. *Dermatologic Clinics*, 42, 399-404. <https://pubmed.ncbi.nlm.nih.gov/38796271/>

**Key Results:** Analysis confirmed phototherapy remains a cost-effective first-line treatment option despite biologic availability. Study addressed common misconceptions about phototherapy and provided evidence for its continued relevance.

### Treatment Outcomes and Cost Analysis Chronic Skincare Diseases

Boehmer, K. R., et al. (2023). The impact of health and wellness coaching on patient-important outcomes in chronic illness care: A systematic review and meta-analysis. *Patient Education and Counseling*, 117, 107975. <https://pubmed.ncbi.nlm.nih.gov/37738790/>

**Key Results:** Meta-analysis showed significant benefits of health coaching in chronic disease management, including improved outcomes and adherence. Support services were found to be critical components for treatment success.

Esposito, M., et al. (2021). Satisfaction and attitudes toward systemic treatment for psoriasis: A cross-sectional study. *Dermatologic Therapy*, 34, e14949. <https://pubmed.ncbi.nlm.nih.gov/33724607/>

**Key Results:** Study revealed varying satisfaction levels with systemic psoriasis treatments. Patient attitudes were found to significantly impact treatment adherence and outcomes.

Institute for Clinical Economic Review. (2018). Targeted immunomodulators for the treatment of moderate to severe plaque psoriasis: Effectiveness and value. [https://digirepo.nlm.nih.gov/master/borndig/101745013/ICER\\_Psoriasis\\_Update\\_Final\\_Evidence\\_Report\\_10042018.pdf](https://digirepo.nlm.nih.gov/master/borndig/101745013/ICER_Psoriasis_Update_Final_Evidence_Report_10042018.pdf)

**Key Results:** Analysis showed high costs of targeted immunomodulators relative to clinical benefits in psoriasis treatment. Report recommended considering cost-effective alternatives including phototherapy for appropriate patients.

McCoy, T., et al. (2023). Systematic review and estimated cost-efficacy of biologics compared with narrow band ultraviolet B light for the treatment of psoriasis and atopic dermatitis. *International Journal of Dermatology*, 62, 986-999. <https://pubmed.ncbi.nlm.nih.gov/37066447/>

**Key Results:** Cost-effectiveness analysis demonstrated significant advantages of phototherapy while maintaining comparable efficacy. Study provided economic justification for considering phototherapy as a first-line treatment option.

Schneider, J., Moy, R., & Bhutani, T. (2024). The impact of at-home narrow band UV-B phototherapy for mild to severe psoriasis: A retrospective, multi-center observational study. *Journal of Drugs in Dermatology*, 23(8), e169. <https://jddonline.com/articles/impact-of-at-home-narrow-band-uvb-phototherapy-mild-severe-psoriasis-retrospective-multicenter-observational-study-S1545961624P7815X/>

**Key Results:** Multi-center study showed significant improvement in psoriasis severity across patient populations using at-home NB-UVB. Research validated the effectiveness of supported home phototherapy programs with high patient satisfaction rates.

Sbidian, E., et al. (2023). Systemic pharmacological treatments for chronic plaque psoriasis: A network meta-analysis. *Cochrane Database of Systematic Reviews*. <https://pubmed.ncbi.nlm.nih.gov/37436070/>

**Key Results:** Network meta-analysis ranked relative efficacy and safety profiles of systemic treatments. Study provided evidence-based guidance for treatment selection based on patient characteristics and preferences.

Svendsen, M. T., et al. (2022). Regular support provided by dermatological nurses improves outcomes in patients with psoriasis treated with topical drugs: A randomized controlled trial. *Clinical and Experimental Dermatology*, 47(12), 2208-2221. <https://pubmed.ncbi.nlm.nih.gov/35973788/>

**Key Results:** RCT demonstrated 27% better treatment adherence with nurse support in topical psoriasis treatment. Study validated the importance of support services in achieving optimal treatment outcomes.

Thai, S., et al. (2023). Real-world treatment patterns and healthcare costs in patients with psoriasis taking systemic oral or biologic therapies. *Journal of Dermatological Treatment*, 34(1). <https://pubmed.ncbi.nlm.nih.gov/36794863/>

**Key Results:** Analysis revealed high costs and variable adherence patterns with biologic therapies in real-world settings. Study identified opportunities for cost reduction through alternative treatment approaches and improved adherence strategies.

## Additional Clinical Evidence and Research Summaries

### Psoriasis Studies

Armstrong, A. M., Mehta, M., & Schupp, C. (2021). Psoriasis prevalence in adults in the United States. *JAMA Dermatology*, 157(8), 940-946. <https://pubmed.ncbi.nlm.nih.gov/34190957/>

**Key Results:** Analysis showed approximately 3% prevalence of psoriasis in US adults, with higher rates in older and non-Hispanic white populations. The study established current baseline prevalence data essential for healthcare planning and resource allocation.

Arora, S., Das, P., & Arora, G. (2021). Systematic review and recommendations to combine newer therapies with conventional therapy in psoriasis. *Frontiers in Medicine*. <https://pubmed.ncbi.nlm.nih.gov/34490293/>

**Key Results:** Review demonstrated improved outcomes when combining conventional therapies with newer treatments while reducing side effects. The paper provides evidence-based recommendations for integrating phototherapy with biologics and other systemic treatments.

Boztepe, G., Karaduman, A., & Sahin, S. (2006). The effect of maintenance narrow band UV-B phototherapy on the duration of remission for psoriasis: A prospective randomized clinical trial. *International Journal of Dermatology*, 45, 245-250. <https://pubmed.ncbi.nlm.nih.gov/16533223/>

**Key Results:** Study found that maintenance NB-UVB therapy significantly extended remission periods compared to standard treatment protocols. Twice-weekly maintenance therapy showed optimal results for maintaining disease-free intervals.

Li, Y., Cao, Z., Guo, J., Li, Q., Zhu, W., Kuang, Y., & Chen, X. (2022). Assessment of efficacy and safety of UV-based therapy for psoriasis: A network meta-analysis of randomized controlled trials. *Annals of Medicine*, 54(1), 159-169. <https://pubmed.ncbi.nlm.nih.gov/34989291/>

**Key Results:** Meta-analysis confirmed strong efficacy of NB-UVB in psoriasis treatment with a favorable safety profile. Network analysis positioned NB-UVB as a preferred treatment option based on risk-benefit assessment.

Michielsens, C. A. J., van Muijen, M. E., Verhoef, I. M., et al. (2021). Dose tapering of biologics in patients with psoriasis: A scoping review. *Drugs*, 81, 349-366. <https://pubmed.ncbi.nlm.nih.gov/33453052/>

**Key Results:** Review found that many patients maintained disease control with reduced biologic dosing schedules. The findings suggest potential cost savings and reduced side effect risks through optimized dosing strategies.

### Atopic Dermatitis and Vitiligo Studies

Bouceiro Mendes, R. M. D. A., Alpalhão, M. D. B., & Filipe, P. L. (2022). UVB phototherapy in the treatment of vitiligo: State of the art and clinical perspectives. *Photodermatology, Photoimmunology & Photomedicine*, 38, 215-223. <https://pubmed.ncbi.nlm.nih.gov/34626483/>

**Key Results:** Review established NB-UVB as a first-line therapy for vitiligo with detailed treatment protocols. Study provided evidence-based recommendations for optimizing treatment success rates and managing expectations.

Davis, D. M. R., et al. (2024). Guidelines of care for the management of atopic dermatitis in adults with phototherapy and systemic therapies. *Journal of the American Academy of Dermatology*, 90(2), e43-56. <https://pubmed.ncbi.nlm.nih.gov/37943240/>

**Key Results:** Guidelines established phototherapy as a key component in atopic dermatitis management. Evidence-based recommendations were provided for integrating phototherapy into comprehensive treatment plans.

Molla, A. (2024). A comprehensive review of phototherapy in atopic dermatitis: Mechanisms, modalities, and clinical efficacy. *Cureus*, 16(3), e56890. <https://pubmed.ncbi.nlm.nih.gov/38665759/>

**Key Results:** Review demonstrated phototherapy's effectiveness as a steroid-sparing treatment in atopic dermatitis. Detailed analysis provided optimal protocols for different phototherapy modalities.