EE244

Cost-Effectiveness of Delgocitinib vs. PUVA in Patients with Moderate-to-Severe Chronic Hand Eczema

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Conclusions

- Treatment of moderate-to-severe Chronic Hand Eczema with delgocitinib cream is highly likely to be cost-effective relative to PUVA in the UK NHS context.
- Delgocitinib cream is expected to be a dominant treatment relative to PUVA, providing both better clinical outcomes for patients and reduced treatment expenditures to the UK NHS.

Objectives

- This analysis investigated the relative cost-effectiveness of delgocitinib cream (20mg/g) and psoralen with ultraviolet A (PUVA) light therapy as treatment options for patients with moderate-to-severe Chronic Hand Eczema (CHE) which has not adequately responded to treatment with topical corticosteroids (TCS) or for whom TCS is inappropriate in the UK NHS context.

Background

- CHE is hand eczema that lasts for 3 months or relapses at least twice a year.[1]
- CHE is a persistent, inflammatory skin disease affecting the hands and wrists, characterised by key symptoms of itch and pain, together with signs such as erythema, scaling, fissures and vesiculation.[2]
- CHE is associated with a substantial burden of illness including strongly impacting patients' physical and psychological quality of life.[3]
- Approved by the EMA and FDA without a black box warning, delgocitinib cream (20mg/g) is a novel pan-Janus kinase (JAK) inhibitor with a strong safety profile.[4]
- As a pan-JAK inhibitor, delgocitinib targets all four JAK isoforms, which are critical components of cytokine signalling pathways involved in inflammatory diseases.[5]
- By inhibiting the JAK-STAT pathway, delgocitinib effectively blocks the signalling of multiple pro-inflammatory cytokines, reducing inflammation, itching, and other immune responses in CHE.[6]
- PUVA light therapy is used to treat various inflammatory skin conditions, including CHE which is resistant to topical steroids.[7]
- PUVA's mechanism of action involves absorption of psoralen in the skin, which increases the sensitivity of the skin to ultraviolet A light. Ultraviolet A light penetrates to the upper dermis layer of skin and has a wide range of effects.[8]

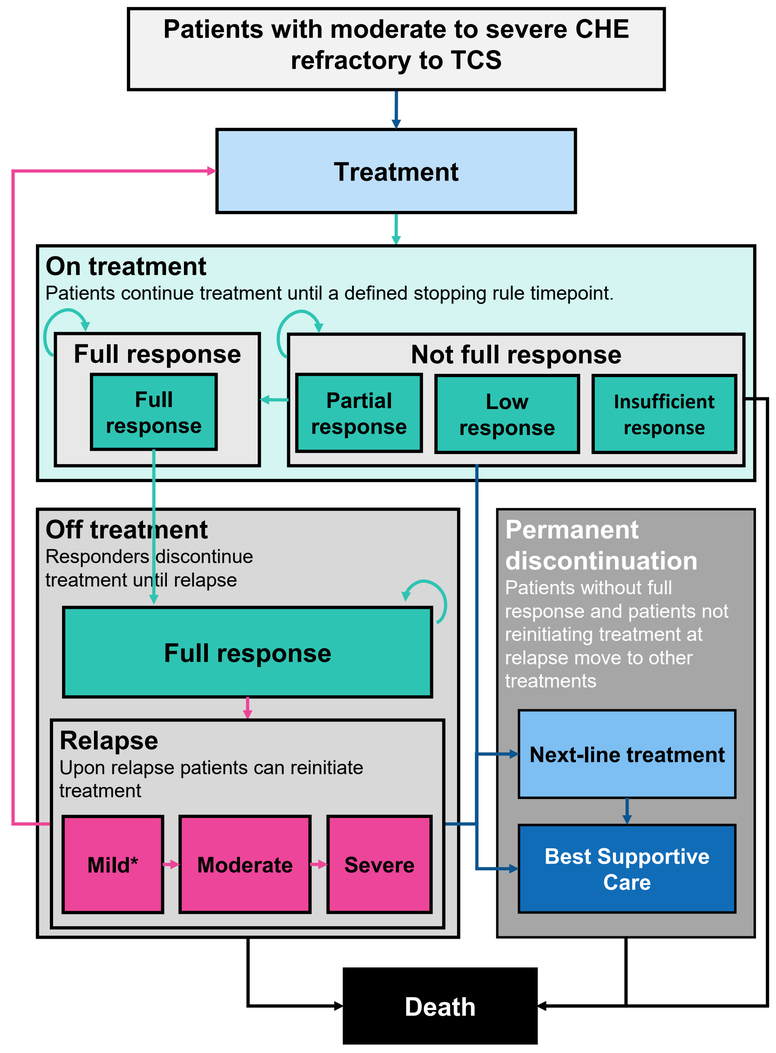
Methods

- A systematic literature review (SLR) was conducted to identify relevant randomized controlled trials (RCTs) assessing safety and efficacy of treatments for moderate to severe CHE. The SLR (Oct 2024) was compliant with PRISMA-P guidelines for reporting SLRs and meta-analyses,[9] meeting standards of the National Institute for Health and Care Excellent (NICE) methods guidelines for technology appraisals[10] and the Cochrane Handbook.[11]
- Informed by prior economic evaluations for CHE identified in the SLR, a Markov model (Figure 1) considering 4-week cycles was built to assess the cost-effectiveness of treatments for moderate-to-severe CHE, considering treatment response health states based on the IGA-CHE outcome measure.[12]
- Efficacy data was sourced from DELTA 1 and DELTA 2[4], DELTA FORCE[13] and ALPHA trials.[14]
- A network meta-analysis (NMA) provided relative efficacy of delgocitinib and PUVA for treatment of CHE.[15]
- Next-line treatment consisted of a basket of treatments identified in the RWEAL survey of physicians treating patients with CHE.[16]
- Best supportive care (BSC) consisted of treatment with emollients, topical corticosteroid and topical calcineurin inhibitors identified in the RWEAL study.[16]
- Utilities data (EQ-5D) was collected from DELTA 1 and DELTA 2,[4] and DELTA FORCE[13] clinical trials.
- Costs of medications and other healthcare resources were sourced from standard UK reference sources including the British National Formulary,[17] NHS Payment Scheme tariffs,[18] and PSSRU Unit Costs of Health and Social Care.[19]

Patient Pathway

- After 12 weeks, response to treatment is assessed.
- Full responders discontinue and resume treatment in the event of relapse.
- Patients achieving partial/low response at 12 weeks continue treatment until either achieving full response or permanently discontinuing treatment after 24 weeks.
- Insufficient responders at week 12 permanently discontinue.
- Patients who permanently discontinued treatment proceed to next-line treatment and/or BSC in sequence.

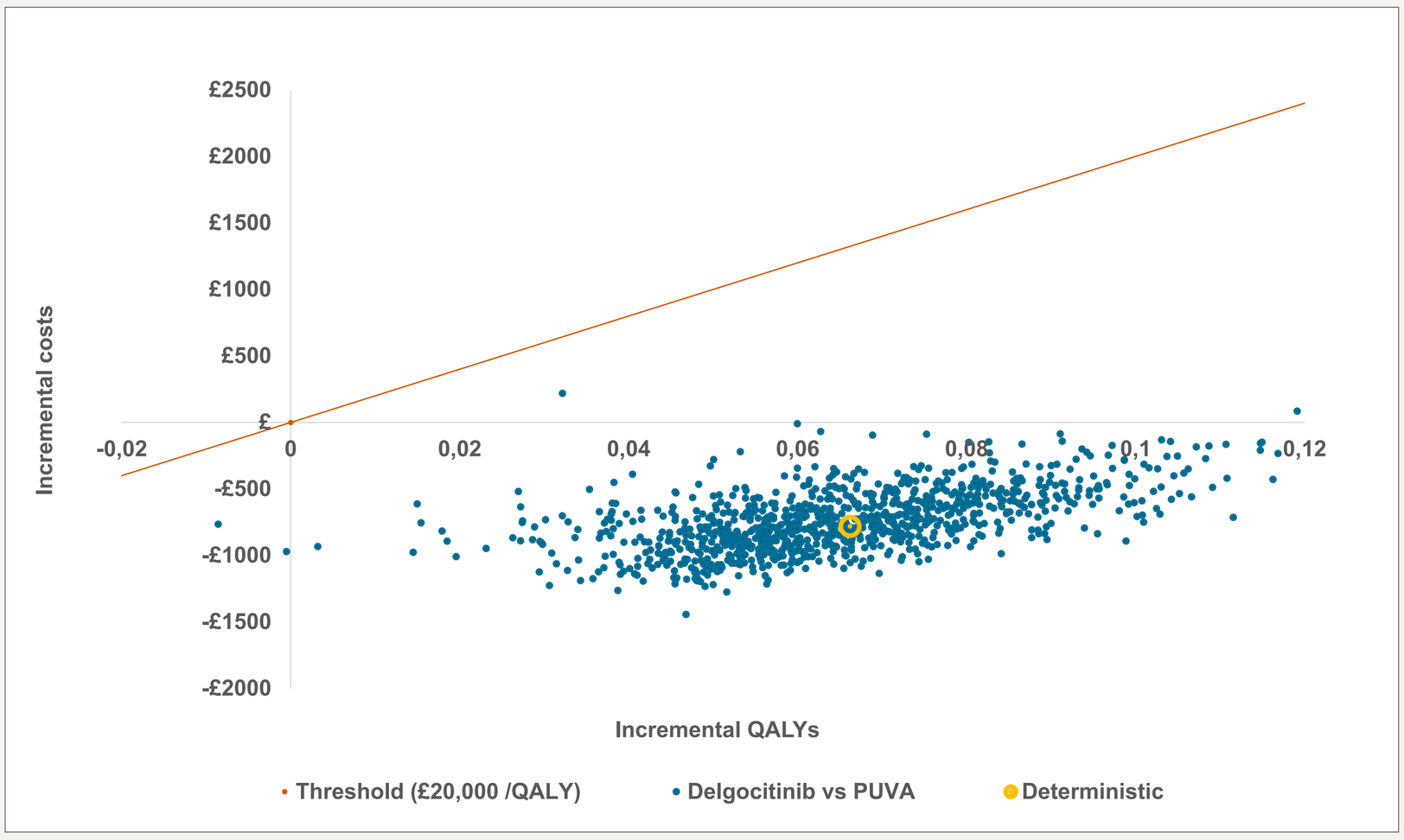
Figure 1. Markov model structure



Additional Model Settings

- Costs and utilities were discounted at 3.5% per annum.
- A 10-year time horizon was considered, as was background population mortality.

Figure 2. Incremental cost-effectiveness plane



Results

- Treatment of moderate-to-severe CHE with delgocitinib cream provides greater accumulation of quality-adjusted life-years (QALYs) and lower healthcare costs compared to treatment with PUVA in the UK healthcare context
- Key factors driving modelled cost-effectiveness results included probabilities of relapse, estimated utilities of health states, consumption of delgocitinib, response to re-treatment, and risks of treatment discontinuation.

Table 1. Base-case results

	Delgocitinib	PUVA	Increment
Cost	£ 8,884	£ 9,665	-£ 782
QALYs	5.472	5.406	0.066
		ICER	Delgocitinib Dominates PUVA

Limitations

- This analysis does not account for the considerable costs borne to patients who are prescribed PUVA-based treatment associated with time taken away from productive employment, as well as the out-of-pocket expenses associated with travelling to healthcare centres where PUVA is available. Including these costs would reinforce the likelihood of delgocitinib being a dominant treatment in comparison with PUVA.

Abbreviations: BSC, best-supportive care; CHE, chronic hand eczema; EMA, European Medicines Agency; FDA, Food and Drug Administration; ICER, incremental cost-effectiveness ratio; IGA-CHE, Investigator's Global Assessment for Chronic Hand Eczema; ITC, indirect treatment comparison; JAK, Janus kinase; NICE, National Institute of Care and Health Excellence; NHS, National Health Service; NMA, network meta-analysis; PUVA, psoralen ultraviolet A; QALY, quality-adjusted life-year; RCT, randomised controlled trial; TCS, topical corticosteroid; UK, United Kingdom.

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References: [1] Thyssen JP, et al. 2022. Guidelines for diagnosis, prevention, and treatment of hand eczema. Contact dermatitis; 86:357-378. [2] Lee GR, et al. 2019. Current and emerging therapies for hand eczema. Dermatol Ther; 32:e12840. [3] Grant L, et al. 2020. Development of a Conceptual Model of Chronic Hand Eczema (CHE) Based on Qualitative Interviews with Patients and Expert Dermatologists. Adv Ther; 37(2):692-706. [4] Bissonnette R, et al. 2024. Efficacy and safety of delgocitinib cream in adults with moderate to severe chronic hand eczema (DELTA 1 and DELTA 2): results from multicentre, randomised, controlled, double-blind, phase 3 trials. The Lancet; 404(10451):461-473. [5] McGuigan, A., Shirley, M. 2025. Delgocitinib 20 mg/g Cream: A Review in Chronic Hand Eczema. Drugs; 85:1153–1162. [6] Abdelhalim, A., et al. 2025. Topical delgocitinib for the treatment of chronic hand eczema. J Dermatolog Treat; 36(1). [7] Brass D, et al. 2018. An observer-blinded randomized controlled pilot trial comparing localized immersion psoralen-ultraviolet A with localized narrowband ultraviolet B for the treatment of palmar hand eczema. Br J Dermatol;179(1):63-71. [8] Kurz B, et al. 2023. Phototherapy: Theory and practice. JDDG: Journal der Deutschen Dermatologischen Gesellschaft; 21:882–897. [9] Shamseer L, et al. 2015. Preferred Reporting Items for Systematic Review and Meta-Analysis Protocols (PRISMA-P) 2015: elaboration and explanation. BMJ; 349:g7647. [10] NICE. 2022. Health technology evaluations: the manual. Available at: www.nice.org.uk/process/pmg36. [11] Higgins JPT, et al. 2024. *Cochrane Handbook for Systematic Reviews of Interventions* version 6.5 (updated August 2024). Cochrane. Available at: www.cochrane.org/handbook. [12] Silverberg JI, et al. 2024. Validation of the Investigator Global Assessment of Chronic Hand Eczema (IGA-CHE): a new clinician reported outcome measure of CHE severity. Arch Dermatol Res; 316(4):110.

[13] Giménez-Arnau AM, et al. 2025. Efficacy and safety of topical delgocitinib cream versus oral alitretinoin capsules in adults with severe chronic hand eczema (DELTA FORCE): a 24-week, randomised, head-to-head, phase 3 trial. The Lancet; 405:1676-1688. [14] Smith IL, et al. 2022. Comparison of ALitretinoin with PUVA as the first-line treatment in patients with severe chronic HAnd eczema (ALPHA): study protocol for a randomised controlled trial. BMJ Open;12(2):e060029. [15]LEO Pharma. 2024a. Data on file. Network meta-analysis to assess the efficacy and safety of treatments for moderate to severe chronic hand eczema. [16] LEO Pharma. 2024b. Data on file, RWEAL study results. [17] British National Formulary. Available at: https://bnf.nice.org.uk/. [18] NHS Payment Scheme Available at: https://www.england.nhs.uk/pay-syst/nhs-payment-scheme/. [19] Jones, KC., et al.. 2024. Unit costs of health and social care 2023 manual. Available at: https://kar.kent.ac.uk/105685/.

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