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Cost-effectiveness of an Enhanced Silver-containing Dressing (Aquacel® Ag+ Extra™) in Treating Non-healing Venous Leg Ulcers

Overview

- > **Study Objective:** Assess the cost-effectiveness of Aquacel® Ag+ Extra™ (CISEB) versus Cutimed® Sorbact® (DACC) in non-healing venous leg ulcers (VLUs) from the UK healthcare service's perspective.
- > **Trial Basis:** Multicentre RCT (UK, Germany, Colombia) of non-healing VLUs; transition data derived from ITT and propensity score (PS)-matched cohorts.
- > **Model Structure:** 24-week Markov model with 2-week cycles; health states included static, improved, infected, and healed.
- > **Resource Use:** Nurse visits, dressings, medications, debridements, and hospital care captured; unit costs applied at 2022/23 UK tariff prices.
- > **Utility Inputs** Existing research on how VLUs affects quality of life were examined. These values were applied to calculate both the length and quality of life (QALYs).
- > **Analyses Conducted:** Base case and PS-matched models, probabilistic sensitivity analysis (10,000 iterations), deterministic, and scenario analyses (nurse mix).

Results (24 weeks)

- > **Healing rates:** Aquacel® Ag+ Extra™ healed 74–77% of VLUs vs 58–61% with DACC (=+35% relative likelihood)
- > **QALYs:** Aquacel® Ag+ Extra™ patients accrued 0.432 QALYs vs 0.412 with DACC → +0.020 incremental QALYs.
- > **Total cost per patient:** Aquacel® Ag+ Extra™ £933 vs DACC £1,215 → £282 saving per patient.
- > **Incremental cost-effectiveness:** Aquacel® Ag+ Extra™ was dominant (lower cost, higher benefit).
- > **PS-matched results:** Consistent with base case → Aquacel® Ag+ Extra™ £935 vs £1,207; saving £272; QALY gain +0.019; also dominant.
- > **Cost drivers:** >80% of total costs came from clinician visits; dressings and medications contributed only ~12–16%. Aquacel® Ag+ Extra™ reduced nurse visits by enabling more frequent healing.

Sensitivity & Robustness

- > **Probabilistic Sensitivity Analysis (PSA):** 10,000 Monte Carlo simulations; ≈95% probability that Aquacel® Ag+ Extra™ is cost-effective at the £20,000/QALY threshold
- > **Deterministic Analysis:** Main drivers were healing rates, visit frequency, and utilities; Aquacel® Ag+ Extra™ remained cost-saving across all plausible ranges.
- > **Scenario Analyses:** Alternative nurse workforce mixes (e.g. different proportions of community vs specialist nurses) — Aquacel® Ag+ Extra™ consistently dominant.
- > **Two-way sensitivity:** Tested different healing rates for both comparators; Aquacel® Ag+ Extra™ remained dominant except under extreme/unrealistic assumptions.

 **Aquacel® Ag+ Extra™ is the dominant treatment strategy: better outcomes at lower cost.**

IMPROVEMENT IN HRQoL

5%

REDUCTION IN THE COST OF CARE

23%

TOTAL SAVED PER PATIENT

>£250

Conclusion

- > Aquacel® Ag+ Extra™ was consistently dominant across both the base case and PS-matched cohorts: producing lower overall UK healthcare service costs and greater patient benefit (QALYs gained) compared with DACC.
- > The economic advantage was driven primarily by reduced clinician visits, which account for over 80% of VLU management costs. By improving healing probability, Aquacel® Ag+ Extra™ shortened time in high-cost health states.
- > Robustness was demonstrated through multiple sensitivity and scenario analyses — including probabilistic (Monte Carlo), deterministic (tornado), and workforce mix variations — all confirming Aquacel® Ag+ Extra™'s dominance and high probability (>95%) of cost-effectiveness at accepted UK service thresholds.

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