



# CDO Real-World Cost-Effectiveness Study Summary

Below are a few of the highlights extracted from the cost-effectiveness paper by Drs. Mercurio, Lavery, Agarwal and Oropallo published in the Journal for Health Economics Outcomes & Research.<sup>1</sup> This study used comparative effectiveness research tools to analyze real-world cost data from Homelink, the nation’s largest ancillary provider group, for both Continuous Diffusion of Oxygen (CDO) therapy and negative pressure wound therapy (NPWT). The total cost of therapy was calculated by combining cost data with published clinical results for CDO & NPWT, including a Prospective Patient Database (PPD) which includes real-world clinical data for 764 patients. A more detailed comparison of the clinical results for CDO & NPWT can be found in the paper by the same authors in the journal Oxygen.<sup>2</sup>

Key points and conclusions from the paper include:

- **CDO Costs Less:** CDO is highly efficacious in clinical practice and cost-effective compared to NPWT and other therapies such as moist wound therapy (MWT) and hyperbaric oxygen (HBO).
  - In the United States, the **average savings of CDO is \$14,238** to heal a wound instead of using NPWT.
- **Statistically Significant:** The cost difference is statistically significant at far beyond the 99% confidence level, for all patients, healed wounds only, or any other possible subset of the two populations.
- **Conservative Estimate:** The clinical efficacy and cost-effectiveness comparisons are likely conservative since the NPWT results by Blume continue to be some of the highest efficacy results, with a risk ratio of 1.48.
  - In the Blume study, if closure by other means such as surgical or amputation (9% of NPWT closures) are removed, the risk ratio decreases to 1.34.
  - The Blume study had 33% longer time to heal to get a risk ratio of 1.48, compared to CDO therapy having a risk ratio of 2.04 in a 4-week shorter timeframe (Table 1).
  - Meta-analyses as recent as 2025 cite the Blume study as a positive outlier that improved the results of the NPWT group overall, yielding average risk ratios of 1.41 to 1.48, less than or equal to the Blume results.
- **Primary Reasons CDO Costs Less:** There are two primary reasons for the significant cost savings:
  - The first is that CDO therapy is much easier to apply and maintain than traditional NPWT: CDO dressings can easily be changed by patients at home without the assistance of a nurse, whereas traditional NPWT dressing changes need a trained nurse or specialist.
  - The second is the substantially higher efficacy of CDO therapy.

## Higher Efficacy Results in Lower Costs

- NPWT closed 43.2% of wounds in 112 days, whereas CDO closed 79.2% (Table 2). Thus, almost twice as many patients had their wounds healed within 112 days using CDO therapy as with NPWT. Wound sizes were similar, yet **CDO healed 83% more wounds in the same timeframe.**
- The Kaplan-Meier median estimate for 100% ulcer closure with NPWT was 96 days, yet it was only 58 days for CDO. **CDO healed wounds 66% faster than NPWT.**

Table 1. Comparison of efficacy of CDO therapy versus NPWT (Blume) in published studies

Study	N	Study Length, Weeks	Control Arm	Wound Closure, Study Group	Wound Closure, Control Group	p-Value	Relative Risk
CDO	146	12	Placebo System	46%	22%	0.016	2.04
NPWT	335	16	MWT (various)	43%	29%	0.007	1.48

Table 2. Comparative clinical efficacy of CDO and NPWT: CDO PPD to NPWT Blume

Outcome	CDO (Real-World, PPD)	NPWT (Blume Study)
Closure at 112 Days, %	79.2%	43.2%
Kaplan–Meier Estimate to Full Closure, days	58 days	96 days
Average Baseline Wound Size, cm <sup>2</sup> (SD)	11.7 (27.7)	13.5 (18.2)



## Real-World Cost Comparison: CDO vs NPWT

Using real-world cost data from Homelink billing, costs to treat patients were calculated using the clinical efficacy data. The costs were broken out to show the costs to heal a wound versus treating wounds that did not heal. Costs to treat different wound types were matched to their ICD coding.

The total cost to treat a wound using CDO therapy for all patients in real-world clinical settings (PPD) is shown in Figure 1. These costs include all wound types and locations, ranging from head to toe and including diabetic foot ulcers, leg ulcers, pressure ulcers, and many other wound types.

Figure 2 shows the costs of NPWT based on the patient outcomes in the Blume study. Note that maximum costs highlighted with red circles are an order of magnitude higher than those for CDO therapy.

From these two figures, one can see that the costs for CDO therapy are significantly less no matter how the data is analyzed. Also of note is that the Medicare population (65+) had similar results to the overall results.

Figure 1. Estimated Total Cost of Wound Treatment (US \$) for CDO using PPD Results

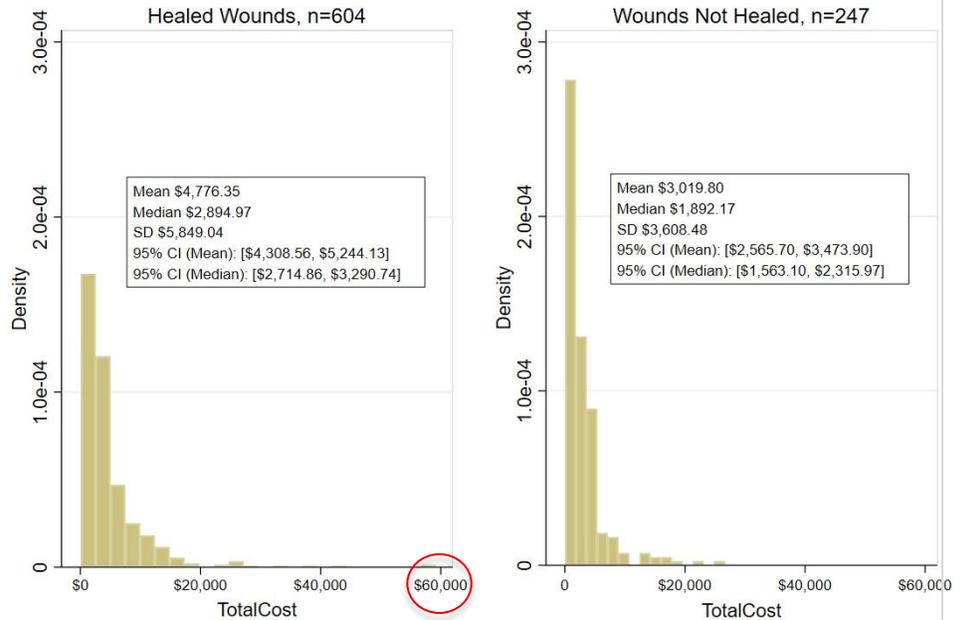
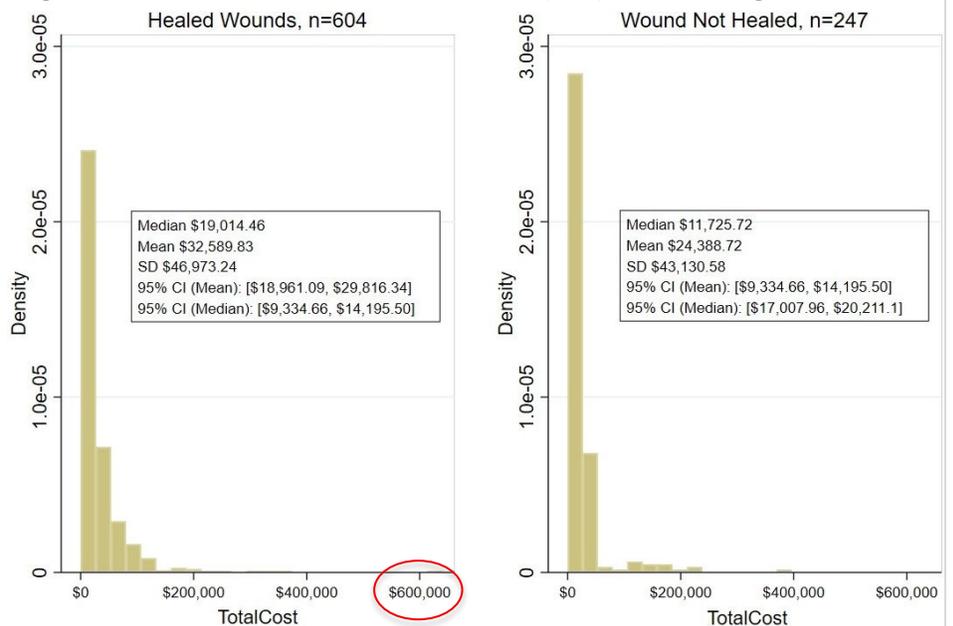


Figure 2. Estimated Total Cost of Wound Treatment (US \$) for NPWT using Blume Results



## References

1. Mercurio M, Lavery LA, Agarwal A, Oropallo A. Cost-Effectiveness of Continuously Diffused Oxygen Therapy Compared with Negative-Pressure Wound Therapy. *JHEOR*. 2026;13(1):30-38. [doi:10.36469/001c.155760](https://doi.org/10.36469/001c.155760)
2. Mercurio M, Lavery LA, Agarwal A, Oropallo A. Clinical Efficacy of Continuously Diffused Oxygen (CDO) Therapy and Cohort Comparison to Negative Pressure Wound Therapy (NPWT). *Oxygen* 2025, 5(4), 26; [doi:10.3390/oxygen5040026](https://doi.org/10.3390/oxygen5040026).