

A Mosaic of Evidence: The Clinical and Economic Benefits of Ceramide-Infused Skin Barriers in Ostomy Care

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Ceramide-infused ostomy barriers are associated with meaningful improvements in peristomal skin outcomes, health-related quality of life, and reduced healthcare costs.

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Introduction

Patients who undergo ostomy surgery rely on ostomy skin barriers and ancillary accessories to manage fecal or urinary output. Selecting an appropriate skin barrier is challenging due to the wide range of available products, yet this decision is clinically important, as non-optimal barrier selection or use may lead to unwanted sequelae such as peristomal skin complications (PSCs). PSCs have been associated with increased healthcare resource utilization, poorer clinical outcomes, and reduced health-related quality of life.¹⁻³

Accordingly, we sought to summarize available clinical and economic evidence supporting the use of ceramide-infused barriers (CIBs) compared with non-ceramide-infused ostomy skin barriers (non-CIBs).⁴



Methods

A targeted narrative review synthesized evidence on CIBs across multiple study designs. Previously published evidence included mechanistic studies assessing epidermal barrier function, including trans-epidermal water loss (TEWL), the ADVOCATE adaptive randomized controlled trial evaluating clinical and economic outcomes, and cost-effectiveness analyses (CEAs) and budget impact models (BIMs).

This review additionally reports post hoc secondary analyses of patient-level ADVOCATE data not previously published, including p-value function

and bootstrap analyses to further characterize uncertainty around PSC incidence, and summarizes de novo analyses of previously unpublished multinational product evaluation data.

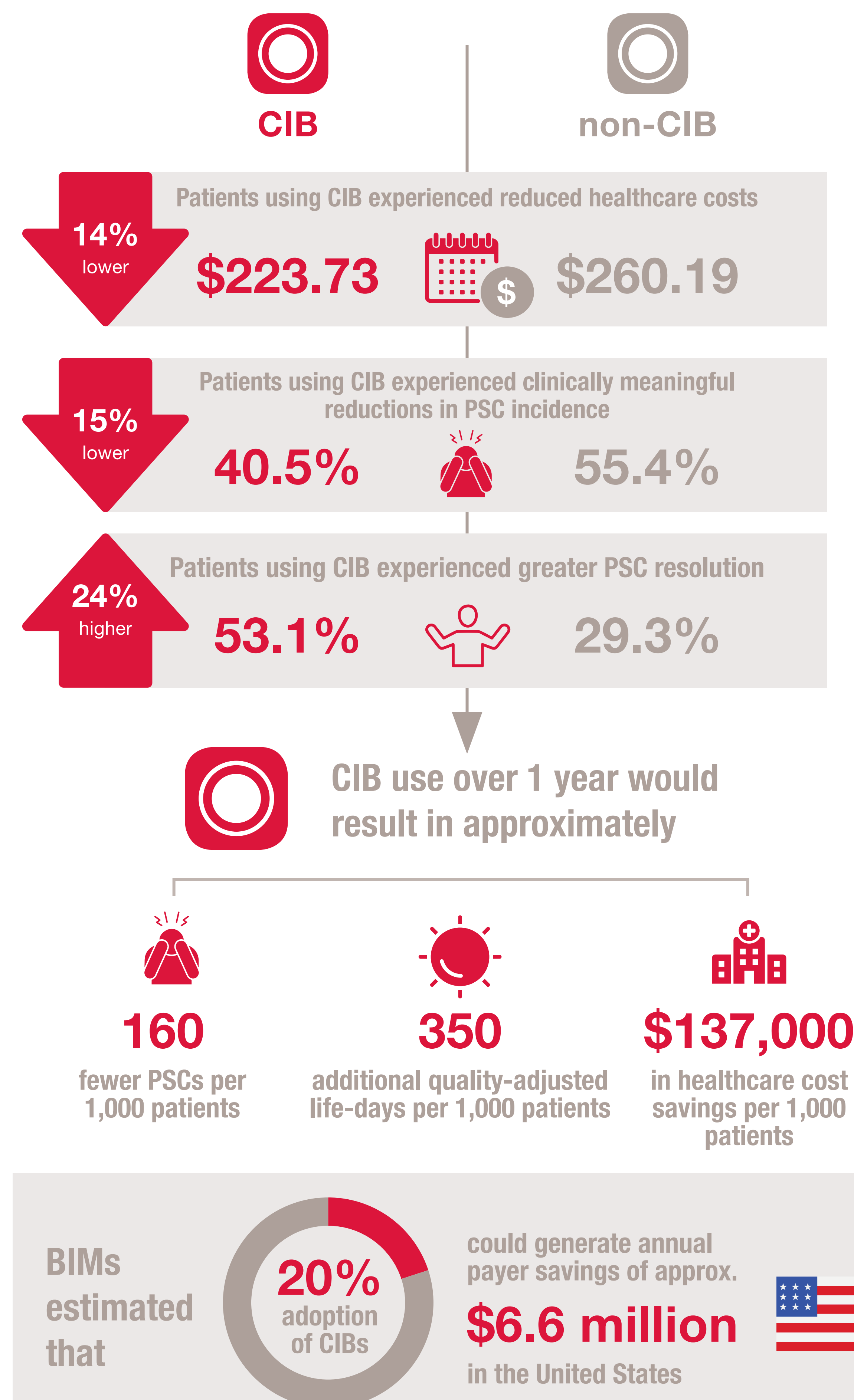
This poster presents results from primary and secondary analyses of the ADVOCATE trial, CEAs, BIMs, and select real-world clinical and economic endpoints derived from the product evaluations: peristomal skin condition, ostomy product wear time, and ostomy accessory use.

Results

Across identified sources, CIBs demonstrated consistent clinical and economic benefits. In the ADVOCATE randomized controlled trial, mean ostomy-related healthcare costs over 12 weeks were 14% lower with CIBs than with non-CIBs (\$223.73 vs \$260.19; $p = .017$), corresponding to an estimated annual per-patient savings of approximately \$158. CIB use was also associated with a clinically meaningful reduction in PSC incidence (40.5% vs 55.4%; $p = .069$) and significantly greater PSC resolution (53.1% vs 29.3%; $p = .042$) compared with non-CIBs.

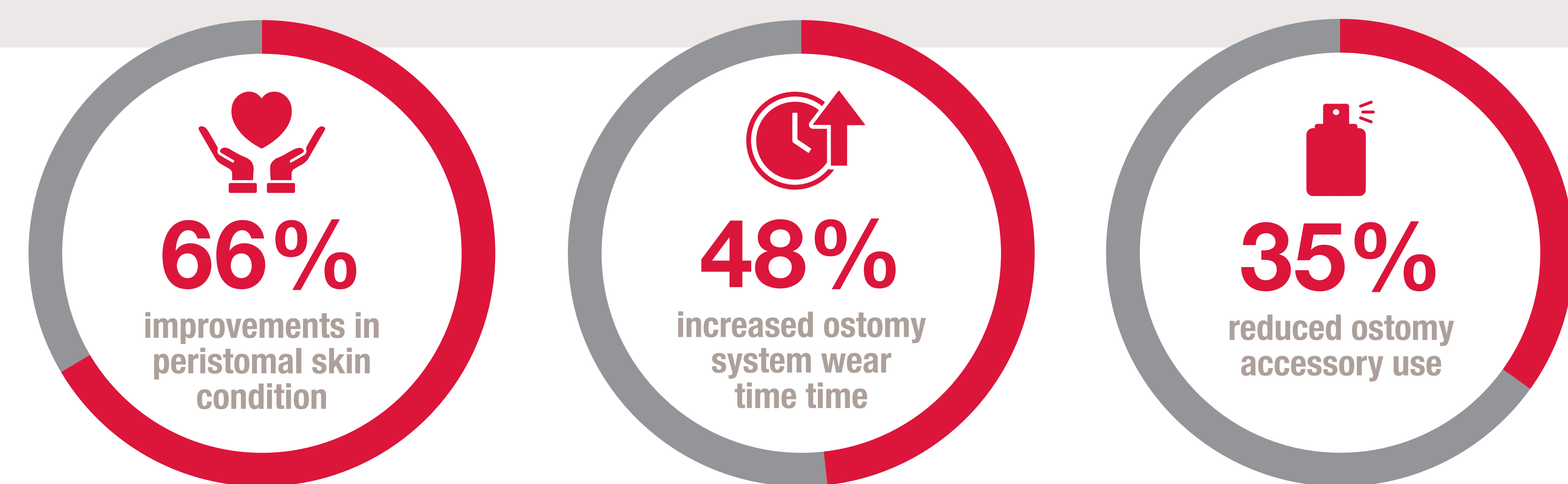
Post hoc p-value function and bootstrap analyses showed that the direction of effect consistently favored CIBs, with over 95% of simulations indicating fewer PSCs, suggesting that the non-significant PSC incidence result reflected limited statistical power rather than absence of a treatment effect.

Building on ADVOCATE findings, CEAs found that CIBs were economically dominant, with 92% of simulations indicating better health outcomes at lower cost compared with non-CIBs. Over a 1-year horizon, CEAs projected that CIB use would result in approximately 160 fewer PSCs, 350 additional quality-adjusted life-days, and \$137,000 in healthcare cost savings per 1,000 patients. Consistent with these findings, BIMs estimated that 20% adoption of CIBs (vs non-CIBs) could generate annual payer savings of approximately \$6.6 million in the United States.



Previously unpublished multinational product evaluation data (~2,500 patients) indicated that use of CIBs was associated with improvements in peristomal skin condition (66% of patients), increased ostomy system wear time (48% of patients), and reduced ostomy accessory use (35% of patients).

~2,500 multinational patient evaluations found that CIB use supports



Conclusions

Cumulative evidence (randomized trials, economic evaluations, real-world evidence) consistently demonstrates that ceramide-infused barriers deliver clinically meaningful improvements in health and economic outcomes. Collectively, these findings support these barriers as the clinically effective and economically dominant ostomy skin barrier for patients living with an ostomy.



Scan here for additional information on this research.

1. Nichols TR, Inglese GW. The Burden of Peristomal Skin Complications on an Ostomy Population as Assessed by Health Utility and the Physical Component Summary of the SF-36v2(R). *Value Health*. 2018;21(1):89-94.
 2. Voegell D, Karlsmark T, Eddes EH, et al. Factors influencing the incidence of peristomal skin complications: evidence from a multinational survey on living with a stoma. *Gastrointestinal Nursing*. 2020;18(Sup4):S31-S38.
 3. Taneja C, Nitsch D, Rolstad BS, Inglese G, Eaves D, Oster G. Risk and Economic Burden of Peristomal Skin Complications Following Ostomy Surgery. *J Wound Ostomy Continence Nurs*. 2019;46(2):143-149.
 4. Berger A, Sawalhi-Leckenby N, Inglese G, Skountrianos G, Pigatto P. Ceramide-Infused Skin Barrier for Use Following Ostomy Surgery: A Narrative Review of Available Data. *J Wound Ostomy Continence Nurs*. 2026;53(2):115-123.