

# PICO<sup>◇</sup> Single Use Negative Pressure Wound Therapy System (sNPWT) significantly reduces the likelihood of surgical site infections (SSIs), complications (SSCs) and the financial burden following cesarean section compared to PREVENA<sup>™</sup> in real-world use

Vilkins A, Nherera L, Searle R, Welsh T. Prophylactic negative pressure wound therapy for cesarean section: a realworld evidence study. *Wounds*. 2025;37(4):152–157.

Available at: [Wounds](#)  

## Key points

Compared to PREVENA, patients receiving PICO sNPWT following cesarean section had:

### Significant clinical findings




Significantly lower overall and superficial SSI rates (p<0.05)



Significantly lower SSC rates (dehiscence and seroma, p≤0.05)

### Significant economic finding\*



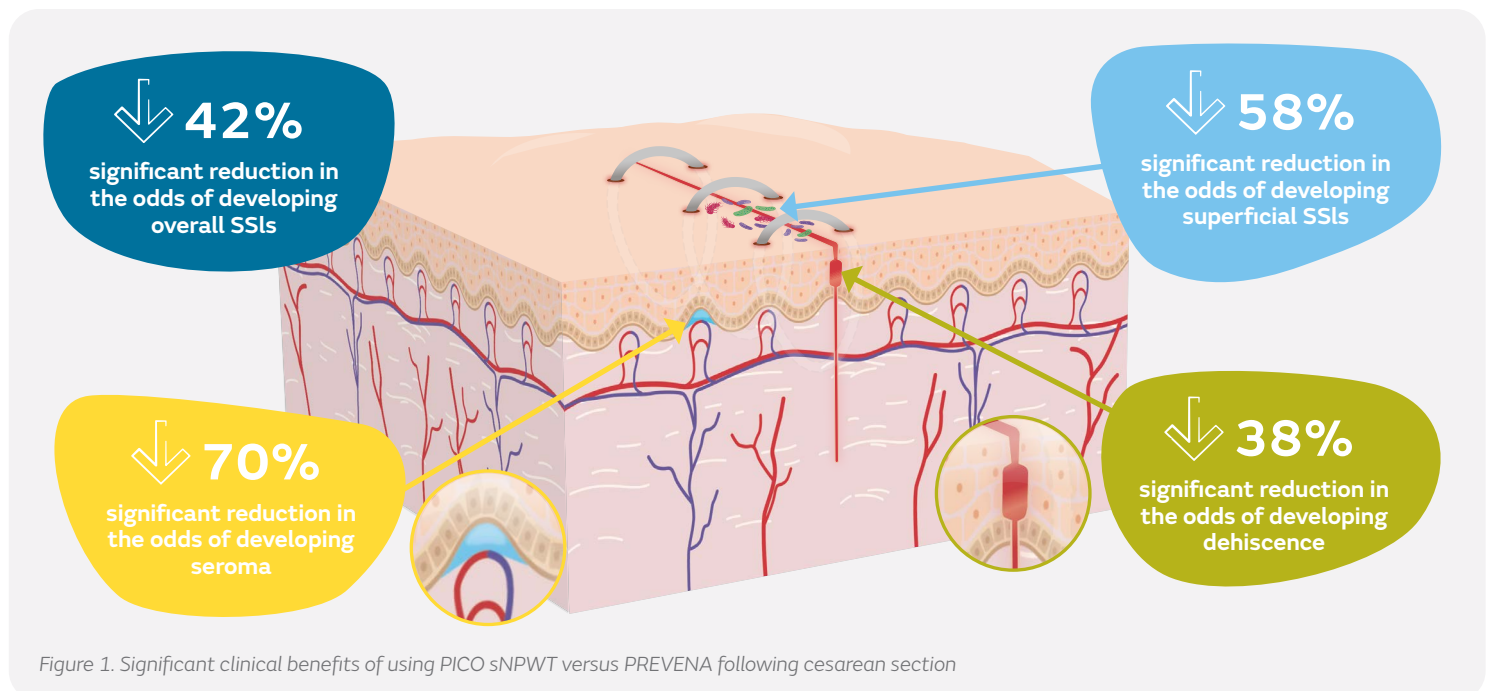
Significant \$728,220 cost-saving per 1,000 patients (p<0.05)

## Overview

- Retrospective review of the US PREMIER PINC AI Healthcare Database for patients receiving either PICO sNPWT or PREVENA following cesarean section between January 2017–June 2022
  - The study included and compared 5,332 adult patients from each treatment group
- Study endpoints included overall SSI, superficial SSI, deep SSI, dehiscence, seroma, hematoma, length of stay and cost

## Results

- Significant odds reductions in clinical outcomes were observed for patients receiving PICO sNPWT versus those receiving PREVENA (Figure 1)



The PREMIER Healthcare Database showed that PICO<sup>o</sup> sNPWT performed significantly better, and is cost-saving, compared to PREVENA<sup>TM</sup>:

Clinical outcomes

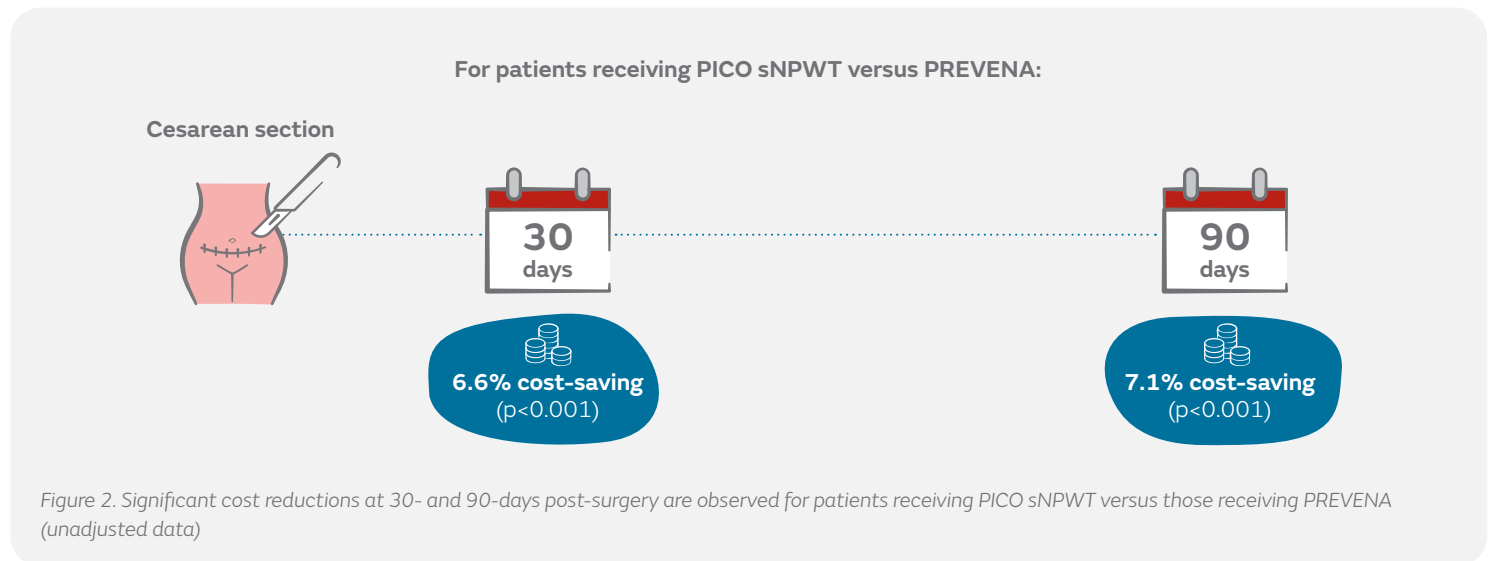
- A significant clinical benefit was observed for patients receiving PICO sNPWT versus patients receiving PREVENA (Table 1):
  - Overall SSI, superficial SSI, dehiscence and seroma reduction ( $p \leq 0.05$ )
  - No significant difference was observed for deep SSI and hematoma

Table 1. Patients receiving PICO sNPWT have lower odds of developing the following SSIs and SSCs versus those receiving PREVENA following cesarean section

Clinical outcome	Better outcome with PICO sNPWT	Odds ratio (OR)
Overall SSI	✓	0.58 (42% reduction; $p=0.018$ )
Superficial SSI	✓	0.42 (58% reduction; $p=0.017$ )
Dehiscence	✓	0.62 (38% reduction; $p=0.005$ )
Seroma	✓	0.30 (70% reduction; $p=0.050$ )

Health economic outcomes

- PICO sNPWT also demonstrated a significantly lower financial burden to healthcare providers compared to PREVENA:
  - Total costs at both 30 and 90 days were significantly lower with PICO sNPWT versus PREVENA ( $p < 0.001$ ; Figure 2)
  - At 90 days post-surgery the use of PICO sNPWT could lead to cost-savings of \$728,220 per 1,000 patients compared to using PREVENA ( $p < 0.001$ )



Conclusions

The implementation of PICO sNPWT following cesarean section in real-world use demonstrated significant reductions in surgical site infection rates and surgical site complications compared to patients receiving PREVENA. Additionally, PICO sNPWT also demonstrated significantly lower costs and reduced financial burden to healthcare providers following cesarean section compared to patients receiving PREVENA.

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\*Estimated using unadjusted data.