

Potential budget impact of Negative Pressure Wound Therapy (NPWT) versus conventional wound treatment in diabetic foot ulcers (DFU), surgical wounds (SAWHI) and traumatic wounds for selected countries in Latin America[‡]

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Background and Aim

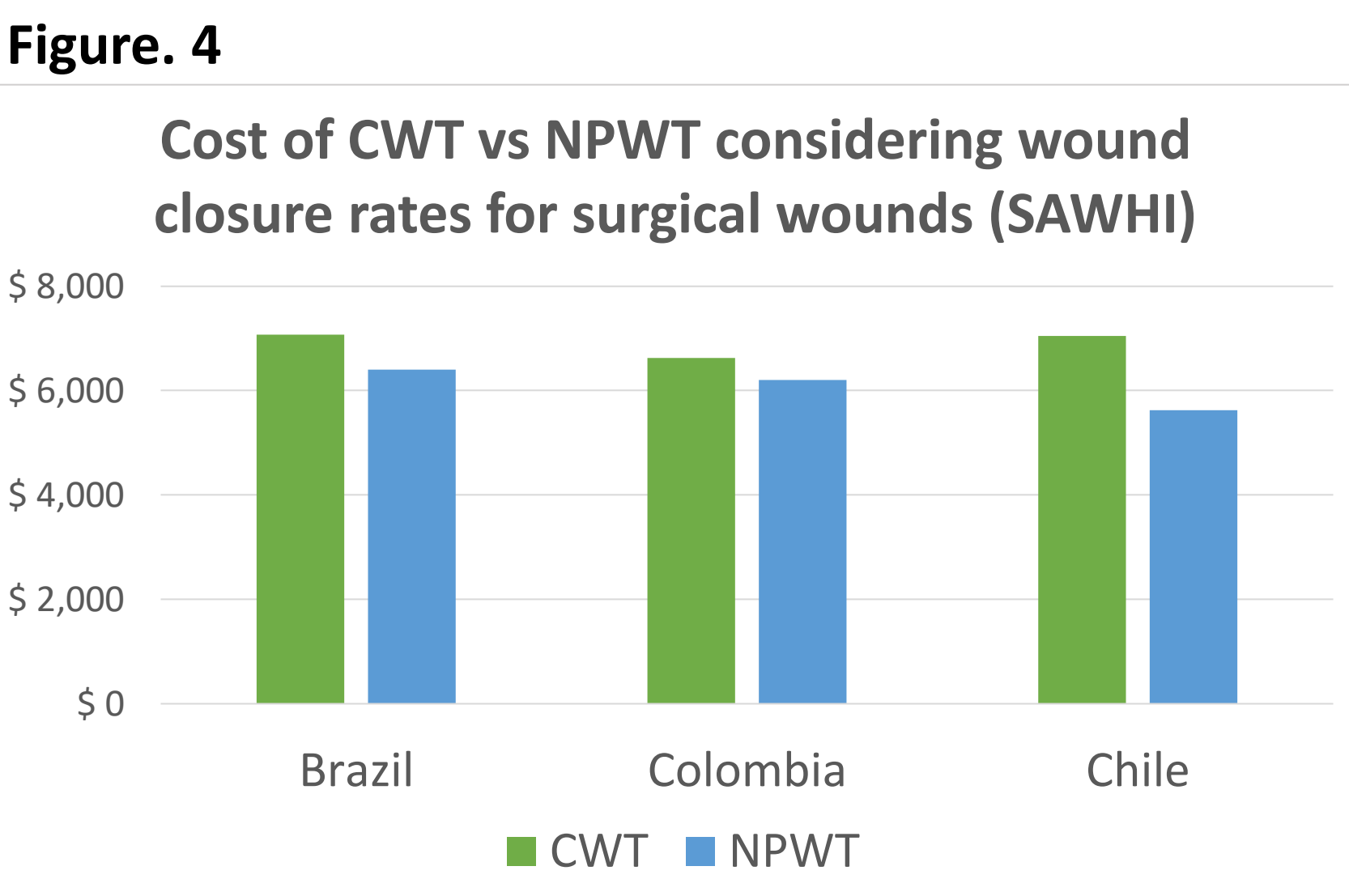
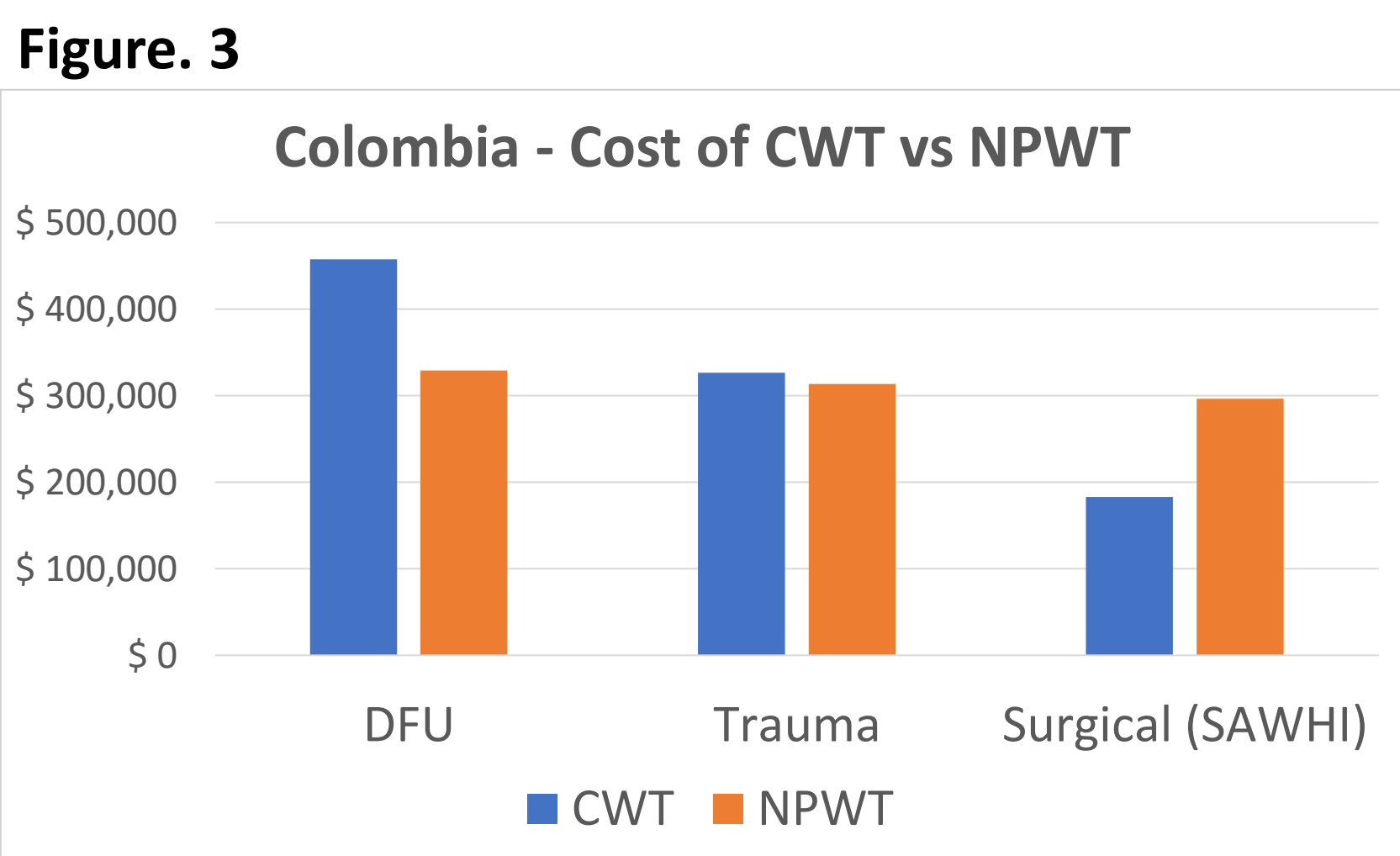
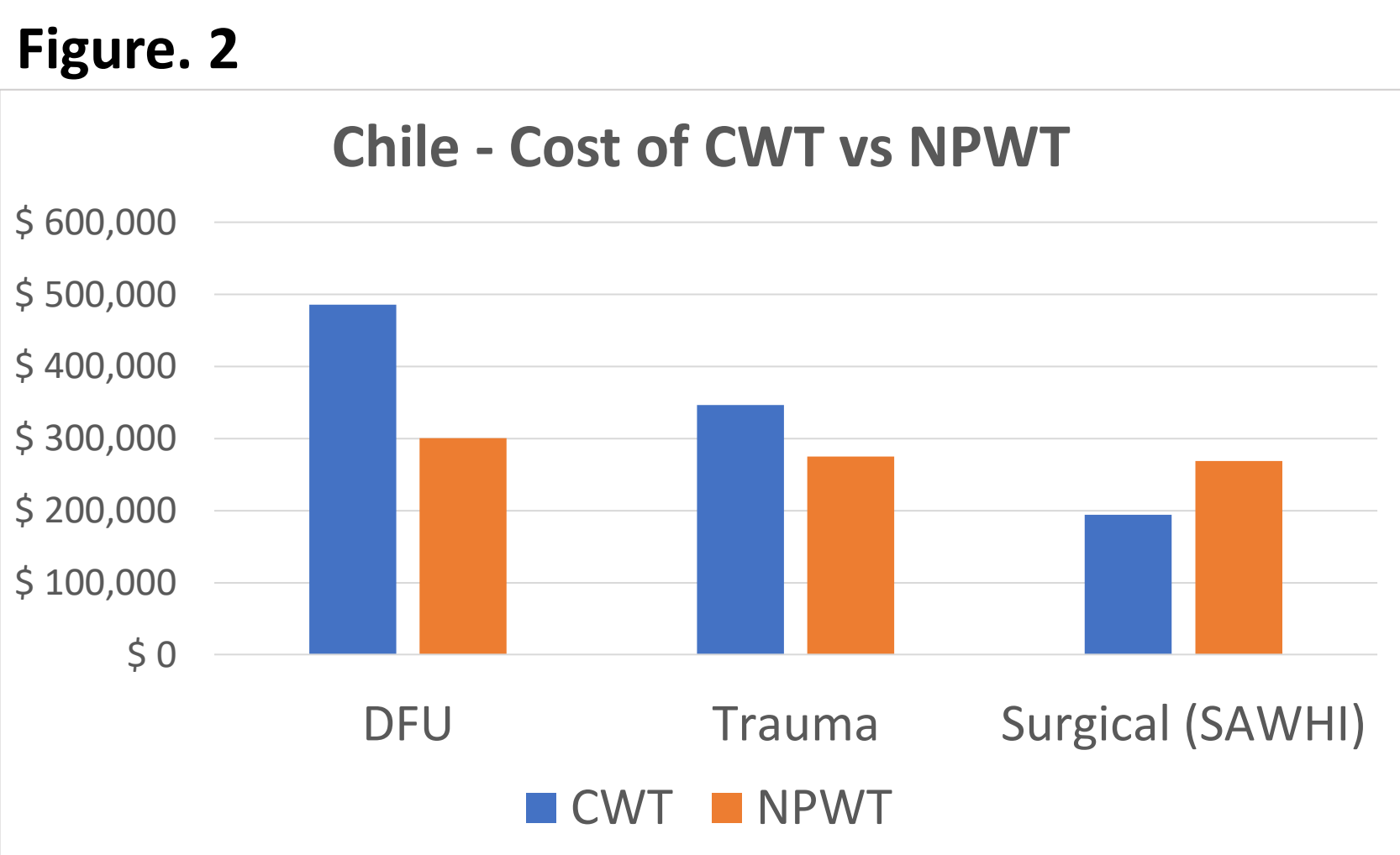
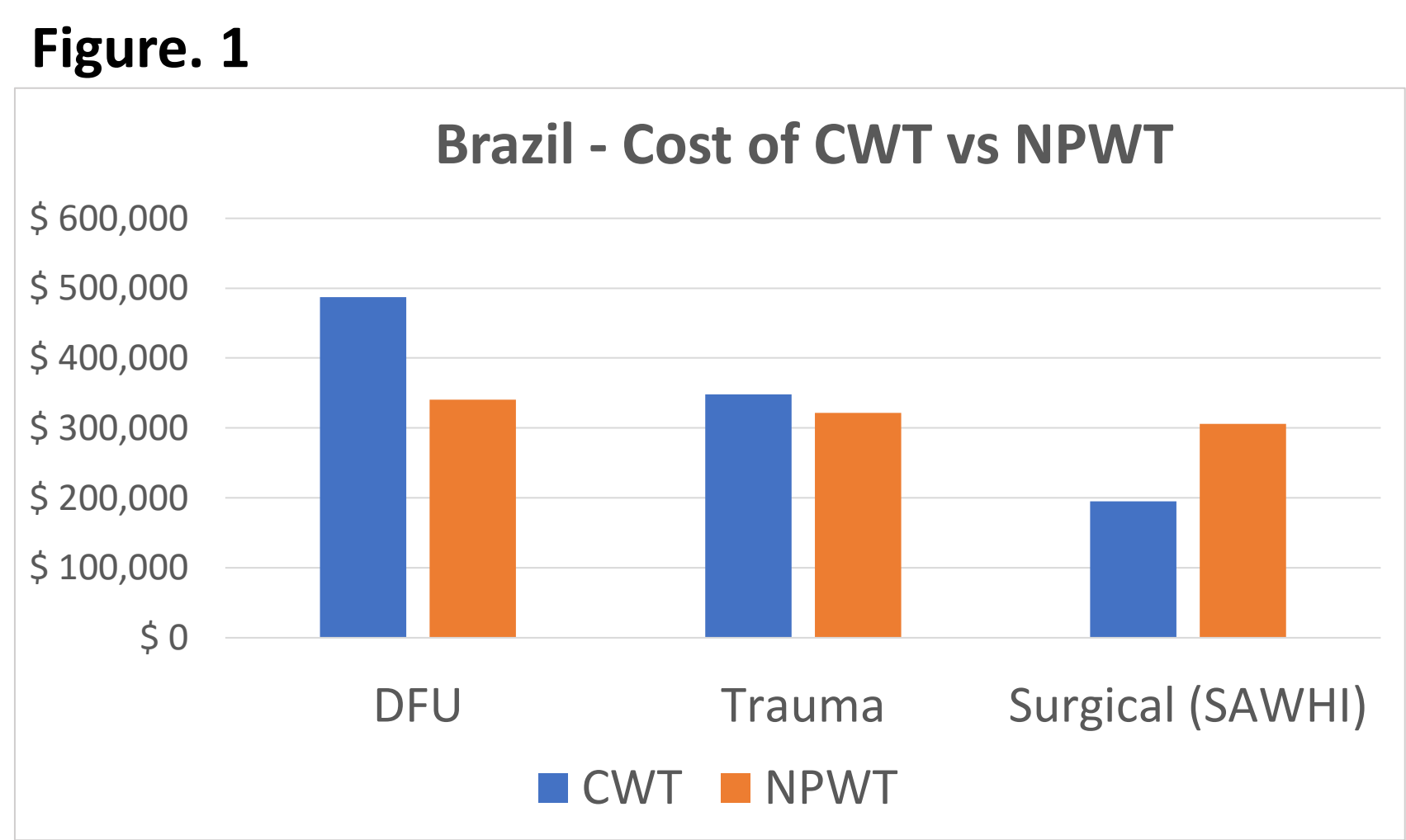
- Negative Pressure Wound Therapy (NPWT) is defined as the application of sub-atmospheric pressure to create an environment that promotes wound healing by secondary or tertiary (delayed primary) intention. NPWT facilitates the continuous removal of exudate and helps prepare the wound bed for closure.
- The objective of this study was to estimate the potential budget impact of negative pressure wound therapy (NPWT) vs conventional wound treatment (CWT) for diabetic foot ulcers (DFU), subcutaneous abdominal surgical wounds with healing impairment (SAWHI) and traumatic wounds (trauma) in hospital settings, across selected Latin American countries.

Methods

- The model calculated the potential budget impact based on cost and mean surgical length of therapy (LoT) and mean length of stay (LoS) from the perspective of private health care in Brazil and public health care in Chile and Colombia.
- The model considered LoT (NPWT vs CWT) in the respective indications: 14.82 d vs 44.57 d (DFU) ¹, 17.45 d vs 32.76 (trauma) ² and 11.8 d vs 13.9 d (SAWHI) ³, also LoS (NPWT vs CWT): 15.86 d vs 29 d (DFU) ¹, 13.55 d vs 20.67 d (trauma) ² and 11.8 d vs 13.9 d (SAWHI) ³.
- The LoS and LoT data for patients undergoing surgery are equal as only in-hospital patients are considered.
- Overall wound closure rate (NPWT vs CWT) was included in the model for SAWHI patients of 47.8% vs. 27.6% ⁴.
- Local material costs were applied.
- All calculations were performed in local currency and converted to US dollars.

Results and Conclusion

- Total cost reduction for 100 patients with DFUs using NPWT vs CWT was \$184,783 (38.1%), \$128,179 (28.0%) and \$146,766 (30.1%) for Chile, Colombia, and Brazil, respectively. **(Figure. 1-3)**
- Total cost reduction for traumatic wounds using NPWT vs CWT was \$71,319 (20.6%), \$12,962 (4.0%), and \$26,061 (7.5%) for Chile, Colombia and Brazil, respectively. **(Figure. 1-3)**
- The mean per-patient total cost in the NPWT group was 20% lower for Chile, 6% lower for Colombia and 9% lower for Brazil.
- The use of NPWT in DFU and traumatic wounds is likely to be cost saving for hospital budgets for all three countries included in this analysis.
- Based on LoT and LoS, extra cost for SAWHI using NPWT vs CWT was \$74,456 (38.3%) for Chile, \$113,395 (62.0%) for Colombia and \$110,957 (56.9%) for Brazil. **(Figure. 1-3)** However, when wound closure rates are taken into account, cost savings are expected due to the high overall closure rate with the use of NPWT vs CWT (20.1%, 6.5% and 9.4% for Chile, Colombia and Brazil, respectively). **(Figure. 4)**
- Based in LoT and LoS only, NPWT for DFU and trauma wounds are expected to be cost saving compared to CWT. For patients with SAWHI, additional investment should be balanced with clinical benefits obtained.
- A cost-effectiveness analysis is recommended to position the incremental cost in the perspective of the willingness to pay for the improved health outcome.



Legend

- CWT = Conventional Wound Therapy
- NPWT = Negative Preassure Wound Therapy
- \$ = cost transled in US\$
- Bar charts show calculated potential cost for 100 wounds treated in hospital

References

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