

DECREASING NURSING WORKLOAD: SIMPLIFYING WOUND MANAGEMENT WITH AN INNOVATIVE TRANSFORMING POWDER DRESSING

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Symposium on Advanced Wound Care | Fall 2023 | Las Vegas, NV

INTRODUCTION

The current nursing shortage is expected to intensify, especially as an aging population continues to burden healthcare systems.¹ Nursing shortages directly impact proper wound management and treatment in a negative way, increasing both time to wound healing and overall hospital length of stay (LOS).^{2,3} We investigated if simplifying wound management by utilizing an extended wear transforming powder dressing (TPD), instead of current standard of care (SOC), would decrease nursing workload by reducing requisite dressing changes and time associated with wound care, without compromising overall outcomes.

METHODOLOGY AND MATERIALS

TPD is a commercially available dressing comprised primarily of hydrogel polymers like those used in contact lenses. When hydrated with saline, TPD aggregates to form a moist, oxygen-permeable barrier that covers and protects the wound while releasing excess exudate through vapor transpiration. TPD may be left in on the wound for up to 30 days and topped off as needed without requiring primary dressing changes.

Aggregated data (US and outside of the US) from seven cohorts (N=76; 4-95 y/o; 33% female and 67% male) of patients refractory to SOC and converted to TPD were evaluated. Dressing change frequency and nursing resource allocation dedicated to wound care in patients were compared following conversion to TPD. SOC dressing, dressing change time and number of weekly treatments were recorded or estimated based on expert opinions.

REFERENCES & ACKNOWLEDGEMENTS

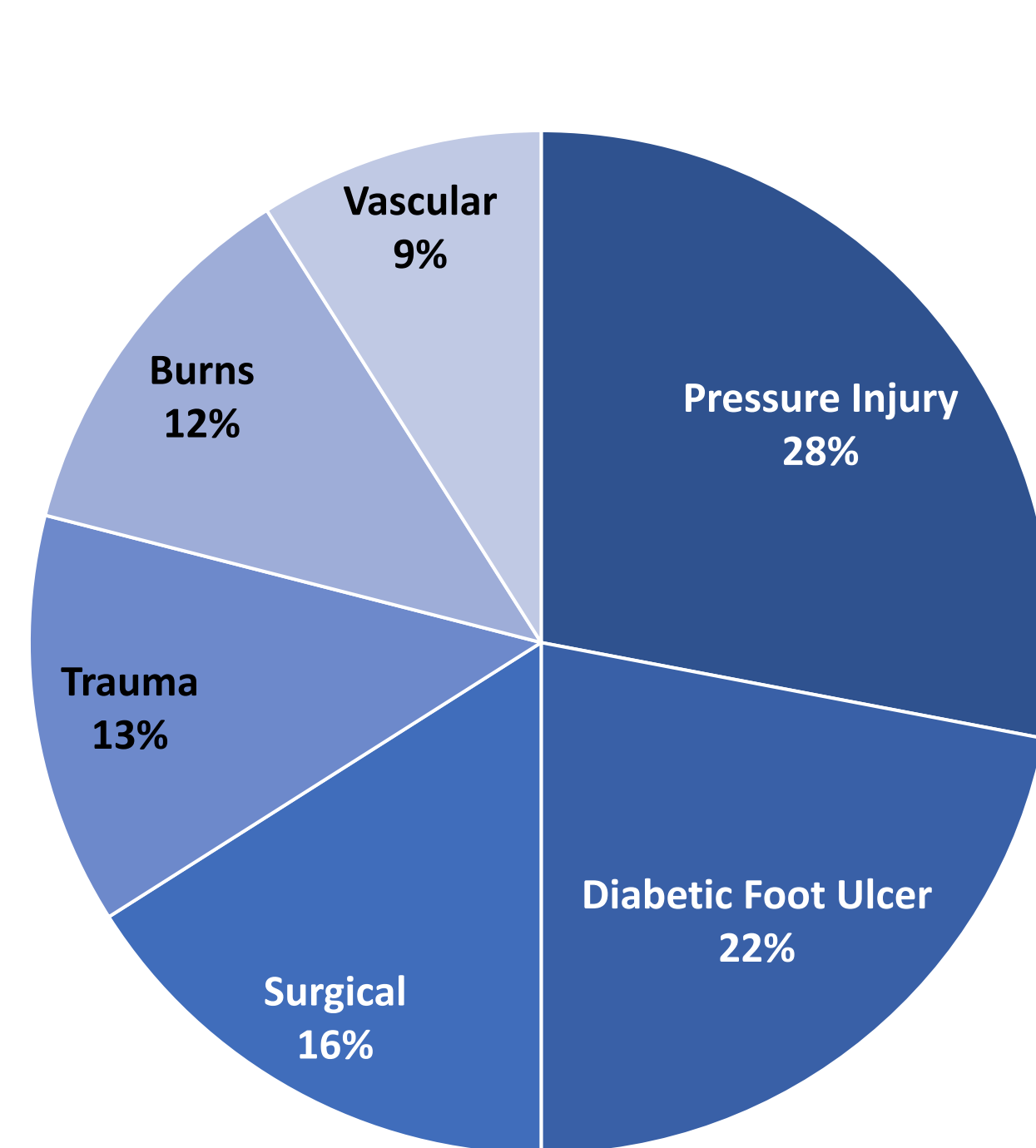
(1) AACN Fact Sheet-Nursing Shortage [aacnnursing.org/news-information/fact-sheets/nursing-short/](https://www.aacnnursing.org/news-information/fact-sheets/nursing-short/) Accessed online 29OCT2022 | (2) Nursing Shortages: Implications on Wound Care and The Way Forward. April 5, 2022. Healiat Training & Education. <https://healiat.com/nursing-shortages-implications-on-wound-care-and-the-way-forward> | (3) Nurse staffing models, nursing hours, and patient safety outcomes. nlm.nih.gov. age. Accessed online 28OCT2022.

Acknowledgements: This poster was created in collaboration with Altrazael Life Sciences Inc. (ALSI). Mr. Ron Sotomayor and Dr. Jonathan Saxe serve as clinical consultants to ALSI. Dr. Saxe also serves as ALSI's Medical Director.

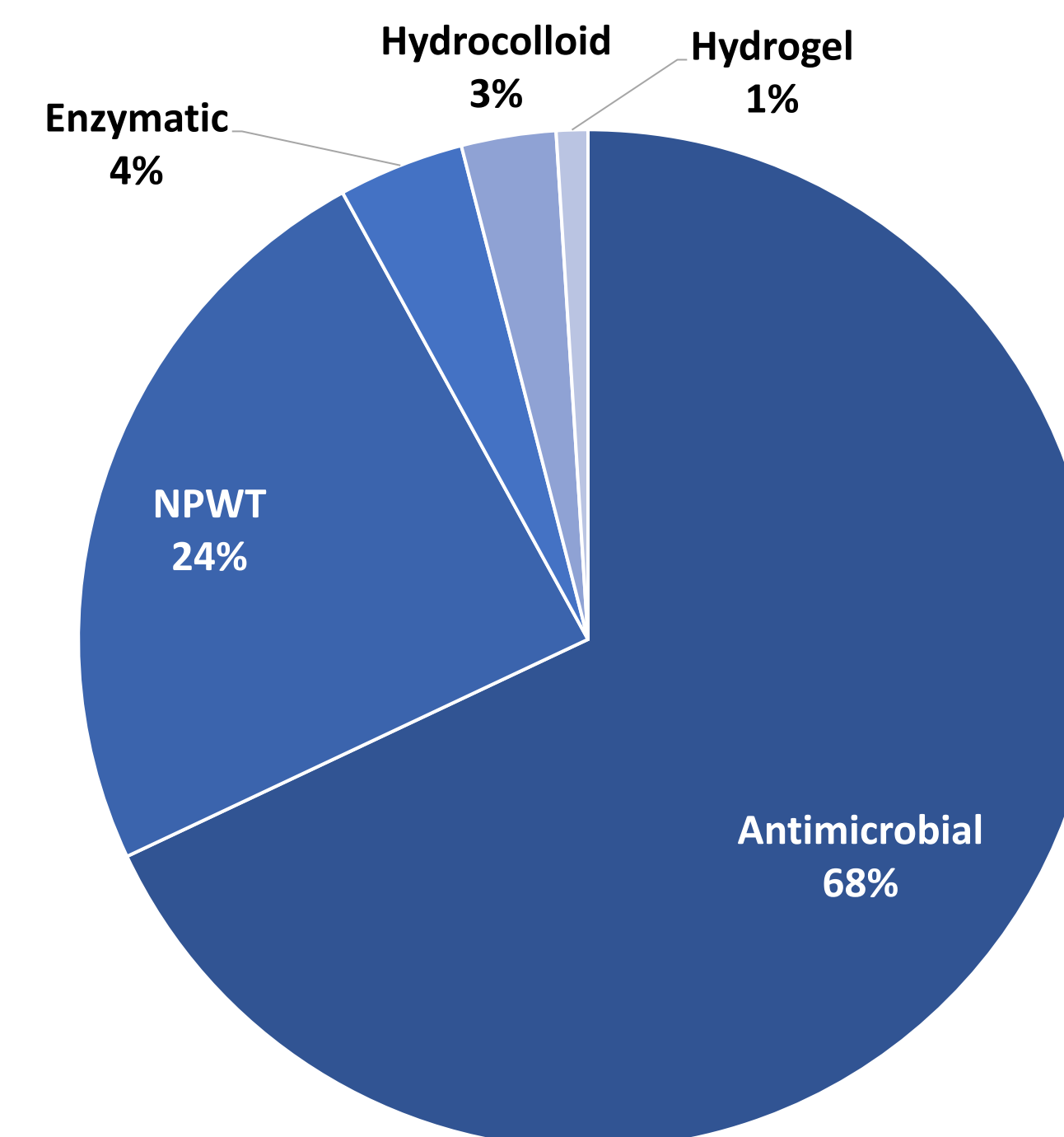
DEMOGRAPHICS

- **N:** 76 | **Age:** 4 – 95 years
- **Gender:** 33% female / 67% male | **Wounds:** 41% acute / 59% chronic

WOUND ETIOLOGY DISTRIBUTION



SOC TREATMENT MIX



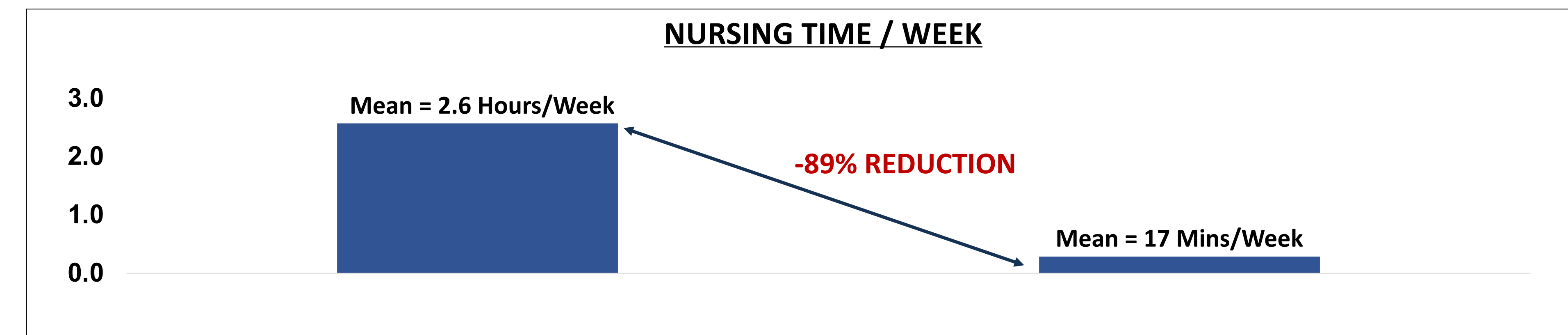
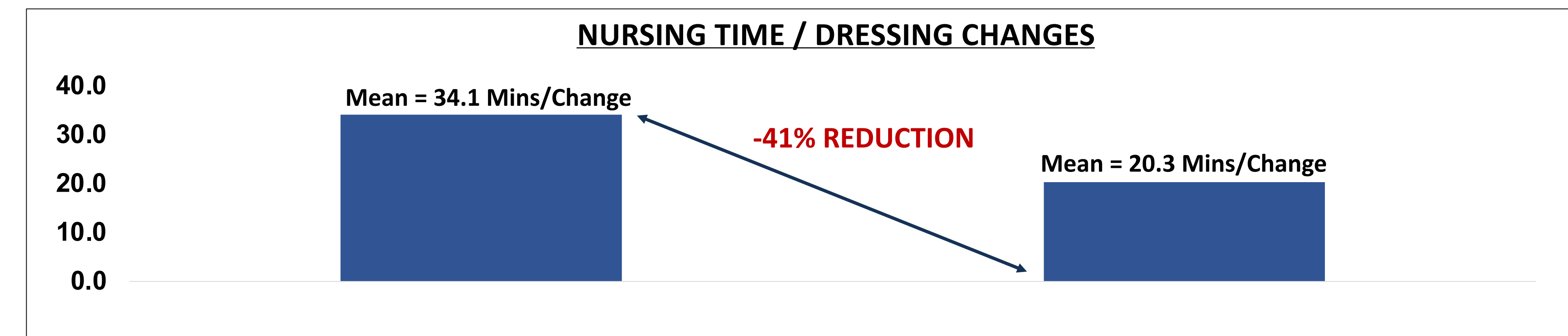
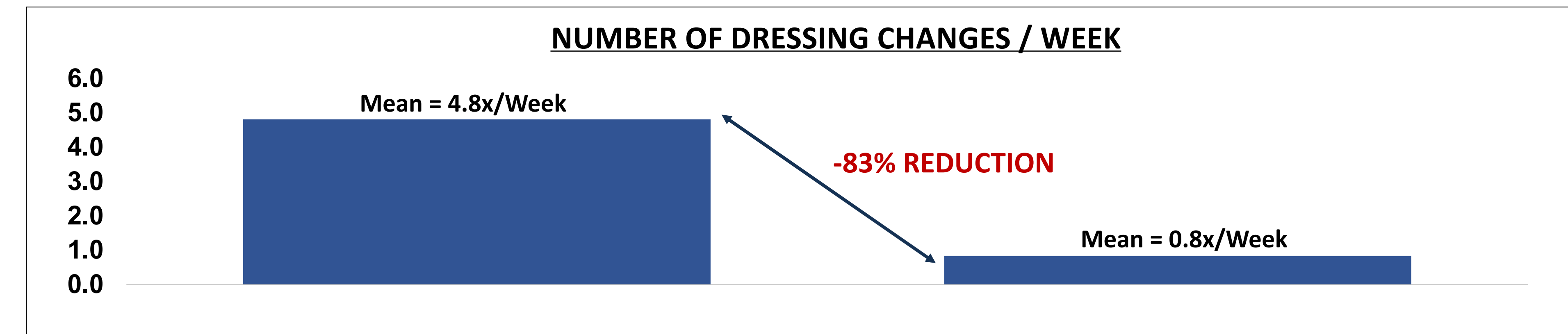
NURSING EFFICIENCIES ACHIEVED ACROSS ETIOLOGIES

WOUND TYPE	WEEKLY DRESSING CHANGE FREQUENCY			TIME / CHANGE (MINS)			TIME / WEEK (MINS)		
	SOC	TPD	% CHANGE	SOC	TPD	% CHANGE	SOC	TPD	% CHANGE
Surgical	5.6x	1.1x	-81%	34	20	-53%	154	17	-90%
Trauma	4.1x	1.1x	-73%	49	23	-53%	174	25	-86%
Burns	7.0x	0.7x	-90%	29	19.4	-33%	202	13	-94%
Prl	5.4x	0.7x	-88%	23	16	-30%	122	11	-91%
DFU	3.6x	0.8x	-77%	33	23	-31%	111	19	-83%
Vascular	2.9x	0.9x	-70%	20	14	-29%	52	13	-75%
All	4.8x	0.8x	-83%	34	20	-41%	154	17	-89%
Acute	5.5x	1.0x	-83%	46	23	-49%	223	22	-90%
Chronic	4.3x	0.8x	-83%	26	18	-30%	107	14	-87%

RESULTS

- SOC: mean dressing change frequency of 4.8x /week (3x/day to 1x/week) requiring 34 mins / change (10 -120 mins)
- TPD: mean dressing change frequency of 0.8x / week (0.2x to 2.0x/week) requiring 20 mins / change (10 -60 mins)

➤ MEAN TIME / WEEK FOR WOUND CARE = 2.6 HOURS / WEEK WITH SOC VERSUS 17 MINS / WEEK WITH TPD



CONCLUSION

Simplifying wound management with TPD reduced nursing workload, dressing change frequency and overall costs by enhancing labor efficiency without compromising wound healing outcomes.