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IMPROVED HEALING RATES THROUGH STANDARDIZED ANTIMICROBIAL, OFFLOADING AND COMPRESSION PRACTICES

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INTRODUCTION

Bon Secours Mercy Health (BSMH) operates 23 wound care centers across more than 18 counties, with primary markets in OH, KY, VA and SC, serving approximately 12,000 patients annually.

Each center operates independently in its decision-making resulting in variation of foundational wound care practices and product selection. While a system-wide wound care committee provides a forum for sharing evidence and best practices, alignment across centers remains inconsistent. Mercy Springfield and Urbana centers recognized the potential to standardize care and compare their results to other centers with the goal of improving healing outcomes across the system.

Research has demonstrated chronic wounds often fail due to gaps in basic care rather than advanced therapies.

Delayed healing is often attributed to:

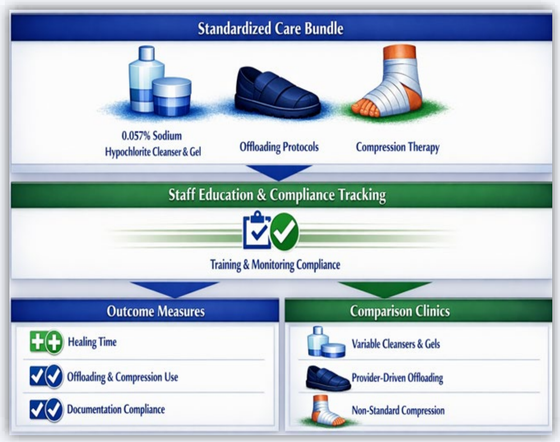
- Persistent bioburden and biofilm formation which sustain inflammation
- Uncontrolled edema and poor perfusion
- Repetitive mechanical stress or pressure
- Insufficient offloading
- Systemic co-morbidities
- Variability in practice

Evidence-based practices and recommendations support the use of **broad-spectrum antimicrobial cleansers and gels for early aggressive treatment to optimize faster wound healing**. **Offloading and compression are also basic practices that may influence healing rates** for appropriate wound types.

OBJECTIVES

1. **To evaluate whether implementing a standardized protocol-driven foundational wound care bundle reduces wound healing time** compared to current variable practices across BSMH.
2. **Assess the impact of consistent use of a 0.057% sodium hypochlorite broad-spectrum antimicrobial wound cleanser and gel** on effectively reducing or eliminating wound bioburden.
3. **Determine the effect of reinforcing offloading protocols** for all wounds influenced by pressure on healing progression.
4. **Examine whether emphasizing multilayer compression therapy** improves edema control and venous return, contributing to faster healing.

METHODS



Two BSMH wound care centers (Mercy Springfield and Urbana) implemented a **standardized foundational care bundle** consisting of:

- Protocol using **0.057% sodium hypochlorite antimicrobial cleanser** for all wounds **and gel** application when clinically indicated
- Optimized diabetic **offloading** protocol with devices tailored to wound location and severity, including felt padding, surgical shoes and total contact casts
- Standardized multilayer **compression therapy** for edema and venous wounds

Staff received focused education on protocol expectations and documentation with a **goal of 100% compliance**. The **TIME framework** for wound bed preparation is a recommended practice for all centers.

Compliance was tracked at every visit, including intervention use and provider ordering patterns.

Quality metrics included:

- Average days to heal
- Utilization of 0.057% sodium hypochlorite antimicrobial cleanser and gel
- Utilization of offloading and compression where appropriate
- Documentation of interventions and patient conversations to demonstrate compliance

Outcomes were compared with **21 clinics where wound care practices were not standardized**. These clinics used a variety of wound cleansers (normal saline, surfactants, hypochlorous acid solutions) and alternative gels. Offloading and compression interventions were applied at the discretion of individual providers, resulting in variation of product selection and inconsistency of use.

RESULTS

Data was collected over two years (2024, 2025) and includes approximately **22,000 – 24,000 patients** seen across 23 total wound care centers within BSMH.

Average Days to Heal

Wound Type	Intervention Days	Control Days	Overall Fewer Days	Overall Percent Improvement
Diabetic	62.8	84.0	21.3	25.3%
Neuro	42.0	66.0	24.0	36.4%
Pressure Injury	61.0	87.0	26.0	29.9%
Trauma	28.0	40.0	12.0	30.0%
Venous	46.0	56.5	10.5	18.6%
Overall Averages	**48.0**	**66.7**	**18.8 Fewer Days**	**28.0% Improvement**

Average days to heal was 28% less with 18.8 fewer average days for the interventional group due to implementation of the standardized care bundle compared to the control.

Offloading & Compression Average Compliance

	Offloading		Total Average	Compression		Total Average
Site	2024	2025		2024	2025	
Intervention	100	100	**100%**	99.5	100	**99.75%**
Control	79.9	77.8	**78.8%**	85.3	84.3	**84.8%**
Percent Improvement	Offloading		26.8% Greater	Compression		17.6% Greater

Interventional centers demonstrated **offloading compliance reaching 100%, showing a 26.8% improvement** compared to the control clinics. **Compression therapy achieved 99.75% compliance, demonstrating a 17.6% improvement.**

Standardized Bundle Recap:

- **Standardized wound cleansing using a 0.057% sodium hypochlorite trigger spray for all wounds and gel when clinically indicated** has been the preferred product for the interventional centers over the past 6 years due to overall effectiveness in irrigation, mechanical, and autolytic debridement. This approach demonstrated optimal bioburden reduction, biofilm disruption, and odor control while preserving viable tissue and **was used consistently across all wound types.**
- **Standardized offloading for diabetic wounds and pressure related injuries** included appropriate device selection, education on gait and pressure redistribution, and identification of barriers to adherence, supported by assistive devices.
- **Compression therapy was** optimized for venous wounds through ABI (Ankle-Brachial Index) verification, appropriate system selection, and consistent wrap technique, reinforced by patient education on wear time and adherence.

CONCLUSIONS

Standardized care bundle with 0.057% sodium hypochlorite cleanser and gel, offloading and compression compliance combined with staff education led to faster healing times across diverse wound types.

- ✓ **100% compliance with 0.057% sodium hypochlorite broad-spectrum antimicrobial cleanser for all wound types, and use of gel, offloading and compression where clinically indicated**
- ✓ **Faster, consistent healing rates for all wound types (DFUs, VLUs, pressure injuries, neuro, surgical wounds, trauma and skin tears)**
- ✓ **Reduced variability in practice across two community-based wound care centers**
- ✓ **Improved healing times and healing rates with evidence-based standardized care bundle**
- ✓ **Scalable model that can be replicated across BSMH and other systems to ensure consistent foundational wound care to drive optimal healing outcomes**

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