

## How mobile and wearable negative pressure wound therapy aids in compliance and workflow



The science of advanced wound care is ripe with innovations that promote convenience, compliance and positive clinical outcomes. These novel solutions are in the form of small yet effective wearable devices for patients.

## The complexity of advanced wound care and new solutions

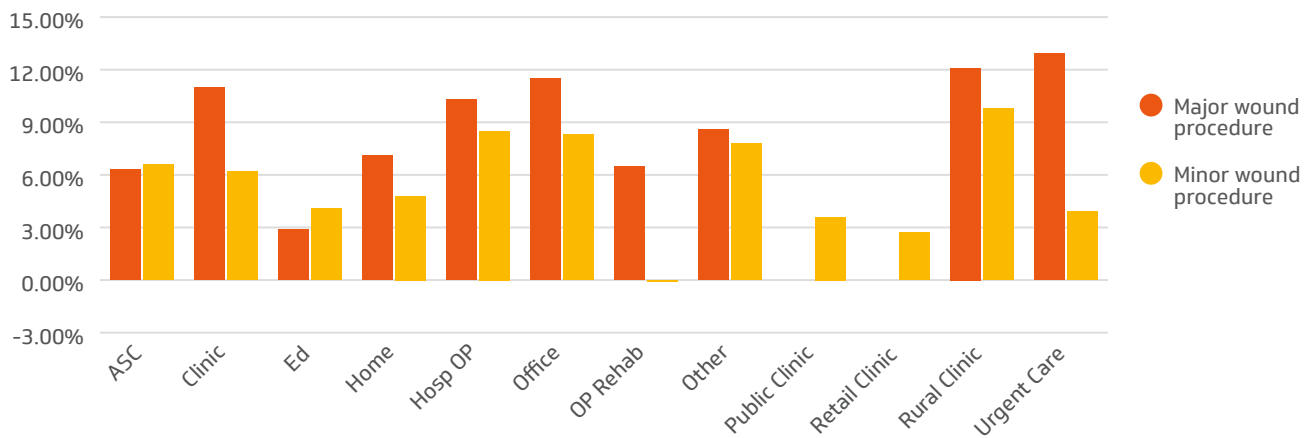
**Acute and chronic wounds from surgical incisions, burns, trauma, pressure injuries, diabetic foot ulcers and vascular insufficiencies are complex and unique.**

Treatment options are numerous and addressed by wound care specialists who select the best treatment and dressings. One option is negative pressure wound therapy (NPWT), also known as vacuum-assisted closure. This solution aids healthy tissue growth by removing wound exudate, reducing infections, aiding in increased blood flow and wound closure.

NPWT is undergoing massive innovation, such as the miniaturization of healing apparatus. For example, portable machines allow for convenient care and treatment in alternate care settings and at home. Smaller wearable designs promote greater patient mobility and enhanced compliance due to the longer intervals required between dressing changes. The extended gaps between care also lighten caregivers' workload, helping providers navigate staffing challenges.

The three-year projections from Sg2<sup>®</sup>, a Vizient company, indicate 0.5% growth in major wound procedures and 7.82% growth in minor wound procedures in outpatient settings. Sites of care showing the highest growth and shifts are urgent care sites (12.9%), rural clinics (12.1%), physician offices (11.5%), hospital outpatient sites (10.3%) and homes (7.1%).<sup>1</sup> Growing demand and a change in care locations underscore the need for solutions catering to remote patients, care at home and convenience to promote compliance.

**Figure 1. Wound procedure 3-year growth by care site**



Source: Proprietary Sg2 All-Payer Claims Data Set; IQVIA; Accessed August 2023. Sg2 Analysis, 2023.

Acute surgical and trauma wounds are being discharged to home at a high rate. Acute wounds using NPWT are expected to grow at a slightly faster rate of 8.8% compared to chronic wounds at 7.3% over the next five years.<sup>2</sup>

# Suppliers of compact and wearable NPWT devices should continue to explore and validate extended clinical applications enabling easier discharge to home.

## Enhanced patient compliance with wearables

Despite the risks of non-healing wounds (infection, sepsis, amputation and death), maintaining the routine for effective acute or chronic wound care can be challenging. Patient access to a wound clinic or alternate care site can be inhibited by location, lack of transportation or scheduled working hours. Social determinants of health also contribute to the challenges of compliance and successful wound care.

Patient nonadherence has costly consequences. The World Health Organization claims that half of patients with chronic illnesses, including chronic wounds, are nonadherent. This results in an estimated 125,000 deaths and between \$100 to \$300 billion in medical costs annually in the United States.<sup>3,4</sup>

The long duration and frequency of some wound care regimens can hinder compliance. Ultra-compact and wearable options that allow for freedom of movement without being tethered to equipment are a practical solution. Wearable devices can improve compliance by 20%. Patient mobility and the extended period between dressing changes with these new mechanisms promote enhanced compliance. Compact and wearable devices can alleviate the traditional inconvenience and social risk barriers for many patients. Suppliers should work with health systems to emphasize these benefits.

Suppliers should further commit to solving other barriers and unmet needs by developing more precise educational materials. These resources would utilize a variety of platforms in different languages and literacy levels to promote patient engagement and comprehension for proper use. As wound care supplies become more widely available through distribution and direct commercial channels, the added distance between manufacturers, nurses and patients will amplify the need for effective communication, education and training for patient consumers.

## Unburdening workforce with reduced dressing change intervals

The nursing shortage affects every aspect of patient care, including purchased services of wound, ostomy and continence nursing teams (WOCN). A recent **Nursing Workforce Intelligence Report** outlines the current state of volatility.<sup>5</sup> Suppliers that align clinical outcomes with reduced outsourced spending on nursing hours due to fewer dressing changes will benefit as care sites evaluate products and solutions beyond cost. Empathetic health systems are focused on their employees and understand the financial impact of replacing nurses from burnout and turnover. They are scrutinizing spend on contract labor and workforce operational inefficiencies across the continuum of care.

## Acknowledging other innovations

Innovations in advanced wound care join emerging science in other product segments, all of which play a role in chronic wound management:

- **Wound dressing and smart bandages**
- **Hydrogels and foams**
- **Digital documentation**
- **Oral nutritional supplements**
- **Regenerative medicines**
- **Topical oxygen therapy**
- **Wearable sensors**
- **Fluorescence imaging detecting bacteria**




It is a System of CARE and solutions that will be needed to solve for the 8 million patients that suffer from chronic wounds, along with \$30 billion financial impact on U.S. healthcare.<sup>6</sup> One avenue is partnerships and strategic alliances with innovators within the wound care market. Another approach would be a less direct agreement with solutions that promote a shared goal of healthy healing. Take, for example, the role that nutrition plays in wound care. Poor nutrition is a significant contributor to delayed wound recovery. **Providers and suppliers must collaborate to educate patients about healthy nutrition's role in promoting effective wound care for surgical wounds and post-diagnosis chronic wounds.**<sup>7</sup>

Suppliers are innovating with intriguing wound care designs backed by clinical evidence to solve barriers and workflow issues. Further gains in the critical wound care sector will require a holistic approach, resulting in positive outcomes and greater patient satisfaction.

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## References

- 1 Impact of Change®, 2023; Proprietary Sg2 All-Payer Claims Data Set, 2021; The following 2021 CMS Limited Data Sets (LDS): Carrier, Denominator, Home Health Agency, Hospice, Outpatient, Skilled Nursing Facility; Claritas Pop-Facts®, 2023; Sg2 Analysis, 2023.
- 2 Negative Pressure Wound Therapy (NPWT) Devices: Global Markets. BCC Publishing. Published March 2021. Accessed July 28, 2023. [Negative Pressure Wound Therapy \(NPWT\) Devices Market Report \(bccresearch.com\)](#)
- 3 Gallagher, D. The Issue of Noncompliance in Wound Care Patients. Wound Source. Published Jan. 21, 2022. Accessed July 28, 2023. [Treatment Noncompliance in Wound Care Patients: Part One: Possible Reasons WoundSource](#)
- 4 Moffatt C, Murray S, Keeley V, Aubeeluck A. Non-adherence to treatment of chronic wounds: patient versus professional perspectives. Int Wound J. 2017;14(6):1305-1312. doi:10.1111/iwj.12804
- 5 Vizient, [Nursing Workforce Intelligence Report](#). <https://vizientinc-delivery.sitecorecontenthub.cloud/api/public/content/c372877070484a40be8cde3b480606f9>
- 6 Wang C, Sani E, Gao W. Wearable Bioelectronics for Chronic Wound Management. Wiley Online Library. Published on Dec. 26, 2021, Accessed July 23, 2023. <https://onlinelibrary.wiley.com/doi/abs/10.1002/adfm.202111022>
- 7 Vizient. [Nutritional support and wound management: An overview](#). Published May 2022. Accessed July 28, 2023. [9c2e6a681b1844aba46771f296ffbd6a](https://www.vizient.com/insights/nutritional-support-and-wound-management-an-overview)

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