

# The characteristics and impact of stalled wounds

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## Introduction

- Effective management of “stalled” wounds has increasingly important implications for those who provide wound care services within healthcare systems.
- As the burden of wounds in the population continues to grow, the demand for wound care increases.<sup>2</sup>
- UK cost of managing these non-healing wounds estimated at £3.2 billion per year, compared with £2.1 billion for wounds that healed.<sup>3</sup>

## Aims of the study

- To use the results of a survey of wounds to compare characteristics and treatment of stalled wounds with those of improving wounds.
- To consider how these results present opportunities to improve practice.

## Methods

- Survey data were collected across several community wound care providers in the UK, Ireland, Finland, Norway and Denmark between February and August of 2017.
- Data were captured by clinicians using online or paper-based questionnaires for each wound on their caseload during a period of typically one week.
- Stalled wounds were defined as wounds with a clinician-documented status of either static or deteriorating. No clinician or patient-identifiable data were collected at any point.
- Analysis conducted using SAS 9.4 to compare characteristics and treatments of stalled wounds with those which were improving.

## Results

- Wound status documented in 1057 surveyed wounds.
- The total stalled wound population was 35.6% (static and deteriorating combined).
- Previously published survey of wound care using similar methodology reported similar proportion of 37.4%.<sup>6</sup>
- Stalled wounds were most frequently observed to be leg ulcers (44.4%).
- 35.5% of stalled wounds were observed as such when they were over a year old.
- Almost half (48.8%) of the stalled/deteriorating wounds were less than 6 months old.
- Infection was documented in 13.2% of stalled wounds.
- Three times the rate seen in improving wounds (4.3%).
- Stalled wounds more frequently saw problematic observations in the peri-wound area; specifically excoriation (14.1%), maceration (17.0%), inflammation (17.6%).
- Despite notable difference in wound progression, characteristics and treatment priority there was little difference in dressing utilization between the two cohorts.
- Given the higher reported rates of signs and symptoms of infection in the stalled wounds cohort, there was relatively little difference in the rates of anti-microbial usage between the stalled and improving cohorts (35.9% and 32.41% respectively).
- Use of more advanced therapies, such as Negative Pressure Wound Therapy (NPWT) which has been shown to be effective in ‘kick-starting’ stalled wounds, was negligible in both cohorts.

## Potential opportunities

The time taken to heal a wound is considered one of the three main drivers in managing wound care resources and stalled wounds present a significant opportunity to increase efficiencies for wound care providers.<sup>1</sup> Potential opportunities to consider may be:

- Identification and documentation of these non-responding wounds could be a useful first step towards a differentiated and appropriate treatment approach.
- Over time, large datasets may be used to identify factors which might result in wounds following a typical healing trajectory and allowing for more tailored and timely treatment options.
- Targeted interventions for stalled wounds, such as NPWT were rarely used within stalled wounds surveyed.
  - One evaluation of such a therapy in 9 wounds has shown that such an intervention yielded significant improvements in healing outcomes, time to heal, treatment costs and treatment time.<sup>4</sup>
  - A subsequent evaluation of 52 wounds showed statistically significant improvements in wound healing trajectories of stalled wounds,<sup>5</sup> 61.5% of wounds responded positively to therapy producing an estimated cost reduction of 33.1%.

## Conclusion

1. The burden of stalled wounds treated in community healthcare has remained largely unchanged over the last decade.
2. The characteristics and consequences of stalled wounds are different from improving wounds.
3. Wounds are in general treated in the same way, irrespective of whether they are stalled or improving, suggesting that the healing status of a wound is not a major factor used to select treatment.
4. Early intervention to return stalled wounds to a healing trajectory may be a useful approach to improving efficiency in wound care, such as use of targeted treatment with NPWT.

Table 1. Wound status

Status	Frequency	Percent %
Improving	611	57.81%
Static	295	27.91%
Deteriorating	81	7.66%
Unknown	70	6.62%
Frequency missing = 19		

Table 2. Wound types

Status	Static/Deteriorating N %	Improving N %
Diabetic foot ulcer	30	31
	7.98%	5.07%
Leg ulcer	167	197
	44.41%	32.24%
Pressure ulcer Grades 2 - 4	39	77
	10.37%	12.60%
Surgical wound	38	104
	10.11%	17.02%
Other	102	202
	27.13%	33.05%

Table 3. Wound duration

Duration	Static/Deteriorating N %	Improving N %
6 Weeks or less	70	262
	18.97%	43.74%
6 weeks to 3 months	48	79
	13.01%	13.19%
3 months to 6 months	62	97
	16.80%	16.19%
6 months to 9 months	29	40
	7.86%	6.68%
9 months to 12 months	29	24
	7.86%	4.01%
>12 months	131	97
	35.50%	16.19%

Table 4. Wound infection

Status	Static/Deteriorating N %	Improving N %
Yes	49	26
	13.24%	4.28%
No	284	571
	76.76%	94.07%
Don't know	37	10
	10.00%	1.65%

Figure 1. Treatment priority by wound status

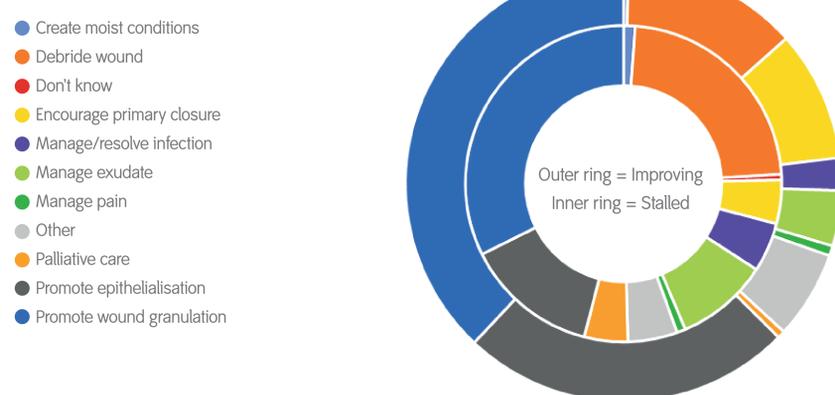
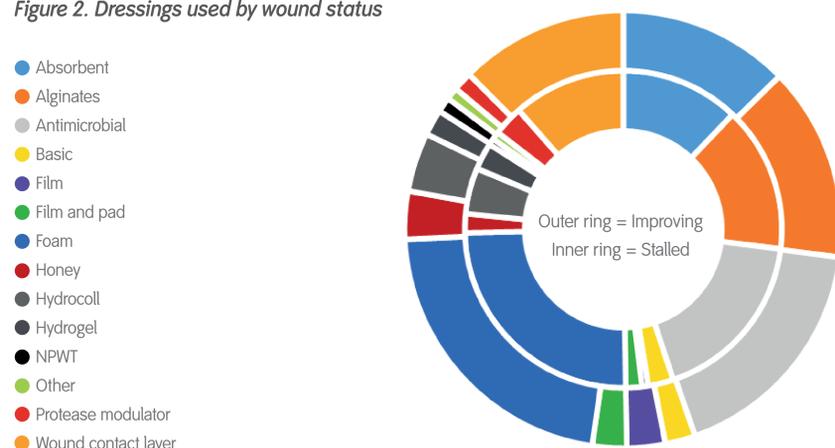


Figure 2. Dressings used by wound status



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References  
 1. Guest JF, Vowden K, Vowden P. The health economic burden that acute and chronic wounds impose on an average clinical commissioning group/health board in the UK. J Wound Care. 2017;26(6):292-303. 2. Dowsett C, Bielby A, Searle R. Reconciling increasing wound care demands with available resources. J Wound Care. 2014;23(11):552, 554, 556-8 passim. 3. Guest JF, Ayoub N, McIlwraith T, Uchebun I, Gerrish A, Weldlich D, Vowden K, Vowden P. Health economic burden that different wound types impose on the UK's National Health Service. Int Wound J. 2017;14(2):322-330. 4. Hampton J. Providing cost-effective treatment of hard-to-heal wounds in the community through use of NPWT. Br J Community Nurs. 2015 Jun;Suppl Community Wound Care:S14, S16-20. 5. Dowsett C, Hampton J, Myers D, Styche T. Use of PICO<sup>®</sup> to improve clinical and economic outcomes in hard to heal wounds. Wounds International. 2017;8(2):53-58. 6. Ousey K, Stephenson J, Barrett S, King B, Morton N, Fenwick K, Carr C. Wound care in five English NHS trusts: results of a survey. Wounds UK 9(4):20-28.