

Burden of Wound Care

What does it mean for clinicians?

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Introduction

The updated Burden of Wound Care study (Guest et al, 2020) details the prevalence and cost of wounds to the UK's National Health Service in 2017/2018, building on the work of the previous seminal studies (Guest et al, 2015; 2017).

This Made Easy highlights the key findings of the updated study, how this can be translated into practice and what it means for clinicians.

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The Burden of Wound Care studies (Guest et al, 2015; 2017; 2020) reviewed and presented standards of wound care, types of wounds, prevalence, use of resources, and potential financial cost of wound management to the health service based on data extracted from The Health Improvement Network (THIN) database.

The clear inclusion criteria for patient notes reviewed was the same for each study; all patients were aged over 18 years, had one of 2,086 wound-related read codes and had a one-year continuous medical history commencing from the first mention of a wound in the study year (Guest et al, 2020). Patients who died during the reviewed periods were excluded, as were those who had a surgical wound that healed within 4 weeks of the procedure, or if they had a dermatological tumour.

What is the THIN database?

The THIN database is a UK primary care database hosting longitudinal anonymised patient records. The database is used for research and analysis, to enable academics and researchers to understand patient pathways, clinical outcomes, epidemiology of diseases and drug effects, thereby allowing them to make suggestions to influence future health improvements.

What has changed?

Guest's studies highlighted the previous 'hidden epidemic' of costs of wound care, highlighting the financial cost, and the need to develop and implement strategies across the UK to promote equity of management and access to treatment.

Since the original 2015 burden of wounds study, Guest et al have continued to review wound care data, culminating in the publication of a cohort study updating the burden of wounds to the UK's National Health Service in 2017/2018 (Guest et al, 2020). Clinical outcomes and wound-related resource use were used to model healing rates and total healthcare resource use, using a sample of 3,000 patients' notes during 2017/18.

UK population changes

The Office for National Statistics (2018) stated that, between 2018 and 2028, the number of people aged 75 to 84 years in England is projected to increase by 33.9%, and aged 85 years and over by 22.8%. The UK population is estimated to be 68,109,016, with 2,115 births daily and 1,753 deaths per day, equating in a net increase of 1 person every 2 minutes (United Nations, 2021).

With the ageing population continuing to grow, there may be an increase in skin damage and resulting wounds, either chronic or acute. However, the Burden of Wounds study found that wounds are no longer predominantly the preserve of elderly patients.

Where is care delivered?

There has been a marked change in where patients are accessing healthcare during the period 2012–2017. Guest et al (2020) reported that the percentage of patients accessing different resources increased during the period 2012–2017, with a >10,000% increase in the number of healthcare assistant visits, a 399% increase in the number of district/community nurse visits, a 51% increase in the number of practice nurse visits.

Summary of changes in patients accessing healthcare during the period 2012–2017 (Guest et al, 2020)

- Number of healthcare assistant visits: >10,000% increase
- Number of district/community nurse visits: 399% increase
- Number of practice nurse visits: 51% increase
- Number of specialist nurse visits: 2% decrease.

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There was a 2% decrease in the number of specialist nurse visits and minimal clinical involvement of tissue viability nurses and other specialist nurses in direct patient management. Pursuant to changes in accessing health care demonstrates the importance of an interprofessional approach to education and skills development alongside evidence-based care pathways.

The assessment, diagnosis and management of both acute and chronic wounds is a nurse-led discipline. Much of wound care management is delivered in community areas by community and district nurses, although there is an increasing reliance on practice nurses to also manage these wound types.

Tissue viability services offer expert advice, education and strategic leadership to support generalist nurses, professions allied to medicine and to ensure effective resource management. The National Wound Care Strategy Programme (NWCSP; Adderley et al, 2021) have recognised the increasing reliance on practice nurses as the initial point of contact for clinical care for many patients with wounds, and the fundamental role they possess in wound care by promoting healthy lifestyles that reduce the risk of developing chronic wounds and promote healing and providing initial care.

Wound assessment

Since the inception of the NWCSP, it has aimed to implement a high standard of wound care across England by reducing variation, improving safety and improving patient outcomes, while minimising the burden of wound care for patients, carers and healthcare providers across a range of wound types. Integral to promoting timely wound healing is an effective holistic patient assessment, supported by a structured wound bed assessment.

The NWCSP (2020) lower limb recommendations highlight that current data and information for wound care is very poor, apart from data related to diabetic foot ulcers. However, they stress that good-quality data and information is essential to inform both clinical care and quality improvement. Good-quality data should inform treatment decisions, enable continuity of care, support decision-making and enable audits to identify unwarranted variation and support improvement programmes.

Similarly, surgical wound recommendations note that sub-optimal management of surgical site complications is thought to be due to unwarranted variation of care, with under-use of evidence-based practice, over-use of therapies for which there is insufficient evidence, and insufficient surveillance systems for monitoring surgical site infection outside hospital care provision (Gray et al, 2018).

Key wound types (Guest et al, 2020)

1. Unspecified (16%)
2. Leg ulcer (venous; 15%)
3. Surgical wound (14%)
4. Open wound (9%)
5. Diabetic foot ulcer (9%)
6. Leg ulcer (unspecified; 9%)
7. Abscess (8%)
8. Trauma (7%)
9. Burn (6%)
10. Pressure ulcer (5%)
11. Leg ulcer (mixed; 3%)
12. Leg ulcer (arterial; 1%)

Key points: Healing rates and contributing factors (Guest et al, 2020)

- An estimated 59% of chronic wounds healed if there was no evidence of infection compared with 45% if there was a definite or suspected infection
- Healing rate of acute wounds was unaffected by the presence of infection
- Smoking status appeared to only affect the healing rate of chronic wounds.

Key points: Resource use (Guest et al, 2020)

Annual levels of resource use attributable to wound management included:

- 54.4 million district/community nurse visits
- 53.6 million healthcare assistant visits
- 28.1 million practice nurse visits.

Key points: Cost (Guest et al, 2020)

- The annual NHS cost of wound management was £8.3 billion
- £2.7 billion and £5.6 billion were associated with managing healed and unhealed wounds, respectively
- 81% per cent of the total annual NHS cost was incurred in the community.

Guest et al (2020) estimated during the period 2012/13 to 2017/18, a 71% increase in the annual prevalence of wounds from 2.2 million to 3.8 million, with the largest increase related to acute wound types (80%). There was a small decrease in pressure ulcers from 7% to 5%. However, 16% of all wounds had no diagnosis and 9% of leg ulcers lacked clarity as to whether the ulcer was venous, arterial or mixed.

It is vital to ensure that holistic assessment is carried out and

that this leads to action in practice (Wounds UK, 2018). Holistic assessment should lead to accurate diagnosis, which in turn leads to action being taken. Care should be planned according to treatment objectives that are agreed with the patient and their carers, which should always be according to SMART principles (specific, measurable, achievable, relevant and timed) and tailored to the individual (Wounds UK, 2018).

Wound healing

The Office for National Statistics (2018) predict all regions of the UK will have a greater proportion of people aged over 65 years by mid-2028. Those aged 80 and over experience twice the morbidity rate of the 60 to 64 years group, which is in turn twice that of the 20 to 24 group (Public Health England, 2017). In line with this, there is an expectation that there will be a rise in associated comorbidities. Public Health England (2017) stated morbidity, as a result of diabetes, increased by three-quarters (75%), moving from a rank of 14th highest to 8th highest, driven mainly by high levels of obesity in the population. Climbing levels of obesity are leading to worrying levels of malnutrition and nutritional deficiency, resulting in a 35% reduction in timely wound healing (Guest et al, 2015).

With the continued increase of the ageing population and associated comorbidities, it is essential that health promotion, preventative strategies and accurate wound assessment are embedded into clinical practice and integral to all wound and tissue viability education programmes delivered to all healthcare professionals.

The majority (70%, $n=2.7$ million) of wounds healed, leaving 30% ($n=1.1$ million) unhealed during the study period 2017/18. There was no definitive reason for non-healing wounds, although Guest et al (2020) state 59% of chronic wounds healed if there was no evidence of infection, compared with 45% if there was a definite or suspected infection. The healing rate among acute wounds was unaffected by the presence of infection. 38% of chronic wounds healed if patients were smokers, compared with 55% and 58% if patients were non-smokers or ex-smokers, respectively, although smoking status did not appear to affect the healing rate of acute wounds. Diabetes was an independent risk factor for non-healing of venous leg ulcers and renal disease for non-healing of diabetic foot ulceration.

Getting it right first time

The burden of wound care studies have provided an overview of the ever-increasing financial and quality of care outcomes for patients with wounds. As the population continues to

Key statistics (Guest et al, 2020)

- The annual prevalence of wounds increased by 71% between 2012/2013 and 2017/2018
- There was a substantial increase in resource use over this period and patient management cost increased by 48% in real terms
- There were an estimated 3.8 million patients with a wound managed by the NHS in 2017/2018, of which 70% healed in the study year; 89% and 49% of acute and chronic wounds healed, respectively.

age and increase, it is paramount that clinicians get it right first time when assessing, implementing, and evaluating care interventions using resources appropriately. Professor Guest has informed us that one piece of information not included in the 2017/18 update is that the time to healing was a mean of 1 month per healed acute wound and a mean of 4 months per healed chronic wound. However, for those wounds that remained unhealed at the time the data were extracted from the THIN database, the length of time patients had their wound from onset was a mean of 9 months per unhealed acute wound and a mean of 32 months per unhealed chronic wound. Clearly, not getting it right first time has potentially serious consequences for patients.

There needs to be a review of work force planning to meet ever-changing clinical needs. Investment will be required in recruiting healthcare professionals who are able to take responsibility for skin management and associated conditions across all healthcare areas. Educating healthcare professionals to accurately identify, assess and plan management of wounds and skin damage and provision of equipment to prevent skin damage and maintain skin integrity is required, alongside effective systems to measure outcomes. This can be achieved from developing local pathways, working together in a multidisciplinary team, effective communication between

To make a difference, clinicians should:

- Be aware of their local incidence/prevalence data relating to wound types
- Be aware of time to healing for all wound types
- Be aware of their infection rates
- Ensure patients and carers are involved in the decision-making process
- Measure outcomes effectively
- Understand how data is recorded and where results can be accessed
- Be able to implement SMART principles (Specific, Measurable, Achievable, Realistic, Timely) when planning interventions.

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team members and patients/carers, robust reporting and audit systems.

There is a national programme designed to improve medical care by reducing unwarranted variations – Getting It Right First Time (GIRFT, 2021). The GIRFT programme identifies change that will assist in improving care and patient outcomes, as well as delivering efficiencies such as the reduction of unnecessary procedures and cost savings.

Although not directly focused on wound care, the underlying principles can be transferred to improve outcomes in wound care. Education and health promotion for patients and carers to understand prevention and management and to be able to support their care interventions is essential. Technology is constantly improving to assist in patient self-care through telehealth, virtual consultations and patient-focused healthcare literature.

Supported self-management has the potential to relieve pressure on health and social care services caused by workforce shortages (De Silva, 2011) and supported by clinicians, who concurred that the involvement of patients and carers is crucial to ensure success of health promotion activities and self-care.

Limitations

Although the studies have offered an insight into the real world of wound management, there are some limitations. The annual number of wounds may be an underestimate since some of the patients may have had multiple wounds, but this is not transparent in the patients' records and is difficult to establish (Guest et al, 2020).

The analysis does not consider the potential impact of those wounds that remained unhealed beyond the study period, nor the potential impact of managing patients with wounds being cared for in residential and nursing homes (Guest et al, 2020).

Summary

- **With an ageing population, rates of wounds are increasing every year; however, it should be noted that the study found that wounds are no longer the preserve of elderly patients**
- **Rates of comorbidities and non-healing wounds are also increasing**
- **Practice variation is an issue in wound care, which needs to be addressed with an interdisciplinary approach and evidence-based practice, to promote equity of management and access to treatment**
- **There have been changes in where patients are accessing healthcare**
- **Education and health promotion for patients and carers is essential**
- **Supported self-management has the potential to relieve pressure on health and social care services.**

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