

The role of audit in demonstrating quality in tissue viability services

Tissue viability services are under increasing pressure to demonstrate that they provide value for money and a quality service. With the quality agenda, defined end-points need to be established against which tissue viability service providers can measure the quality and value of their services. This paper discusses the difficulties in achieving this in a multidisciplinary service where care crosses provider boundaries, wounds are often slow to heal and patients have multiple comorbidities. Data from the Bradford and Airedale wound care audit illustrates service delivery and how quality of tissue viability services can be enhanced and equitable across the district.

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KEY WORDS

Wound care
Audit
Evidence-based practice
Venous leg ulceration

In today's NHS, services are under ever-increasing financial pressure. As a result, there is a demand for evidence that demonstrates value for money. Service providers must also meet the requirement for quality accounts as highlighted in Lord Darzi's report, *High quality care for all: NHS Next Stage final review* (Department of Health [DH], 2008).

Tissue viability services are not excluded from these pressures — service providers are frequently criticised for providing limited evidence to support service provision and a failure to demonstrate quality care and 'value for money'. Tissue viability and wound care services are not alone when it comes to failing to provide

evidence to justify their existence. All clinicians assume that they are good at delivering quality care, but opinion alone does not provide enough justification for any service. This holds true for tissue viability nurses as much as any others, and they must be prepared to provide actual supporting evidence to justify service delivery.

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Policy

Lord Darzi's report (DH, 2008) turns the focus on quality and places this at the heart of all that clinicians do, but how can they demonstrate quality in tissue viability services?

Prevalence and incidence audits are a necessary tool in planning workforce resources and service development, and clinicians are asked to provide prevalence audits as part of the requirements of the Care Quality Commission (CQC) (the independent regulator of health and social care in England; www.cqc.org.uk/). But do audits, conducted in isolation, really capture data relating to the quality of care?

Where is the evidence for quality care? Can, for example, tissue viability nurses explain what they do, justify their actions and provide data demonstrating outcomes and associated costs to prove it?

The demands of *The Framework For Quality Accounts* (DH, 2009) suggest that clinicians should be implementing a tool that continually monitors care and measures outcomes. However, what are the best outcome measures by which to judge tissue viability and wound care services? Does, for example, following evidence-based care guarantee quality outcomes?

Although evidence-based practice, which can be defined as an integration of the best available evidence obtained from research, clinical guidelines and other resources, coupled with clinical expertise, certainly allow clinicians to justify their methods, this alone is no guarantee of quality outcomes.

So, what are the quality outcome measures for tissue viability and wound care services? Lord Darzi's report focuses on holding trusts accountable for quality of care. Pressure ulcers are frequently cited quality indicators for trusts and tissue viability services (Ousey and Shorney, 2009).

Important as pressure ulcers are, it would be wrong to focus on their

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prevalence alone as an outcome measure that can indicate the value of tissue viability and wound care services. Outcome can cover a number of defined end-points, the most obvious of which is healing, but it can also include soft end-points such as pain control, exudate management, time to debridement, patient opinion on care, staff effectiveness and competencies.

To capture this variety of data, the systems used must be robust, wide-ranging and capable of monitoring care over time.

Audit

In the authors' unit, the tools used to monitor care on a day-to-day basis include quantitative and qualitative data generated using TELER (Browne et al, 2004a, b), as well as data derived from audits relating to pressure ulcer prevalence, equipment availability and utilisation and dressing performance.

Audit is an ongoing process and involves much more than simply collecting data on a yearly basis. The DH states that audit is, 'the systematic critical analysis of the quality of care, including diagnosis, treatment, outcome, use of resources, and effects on quality of life for the patient' (NHS Executive, 1996).

Because wound care services frequently cross clinical areas and professional boundaries, compiling comprehensive data can be challenging. Whether the NHS information technology (IT) revolution will provide clinicians with the tools to collect the quality of data necessary to demonstrate the value of tissue viability services remains to be seen. Also, relying solely on factual data could result in a depersonalised service.

When planning service changes clinicians should therefore be careful to support audit data with feedback from patient user groups. Current national policy actively encourages patient involvement in services, but again this alone is no guarantee of quality or value (DH, 2008, 2009).

Local implementation

Since 1992, the Wound Healing Unit in Bradford has conducted a number of district-wide audits. These have largely focused on the prevalence, assessment, treatment, outcome and recurrence of venous leg ulceration and have supported service development and a well-established educational framework.

The latest published audit (Vowden et al, 2009; Vowden and Vowden, 2009a, b, c, d) assessed wound care services across the then newly-formed Bradford and Airedale Primary Care Trust (now Bradford and Airedale Community Services), which serves a population of 500,000.

Combining data from this audit with population data for each postcode district obtained from the Office of National Statistics allowed accurate point prevalence data to be derived. Point prevalence being the number of events or persons with a given disease or other attribute during a specified time period, in this case during the specified audit week. Figures 1-4 illustrate some of the population data related to age, sex, wound type and locality.

Comparing data obtained from audits over a period of time can also be useful as it can both validate data and demonstrate how service provision has influenced disease

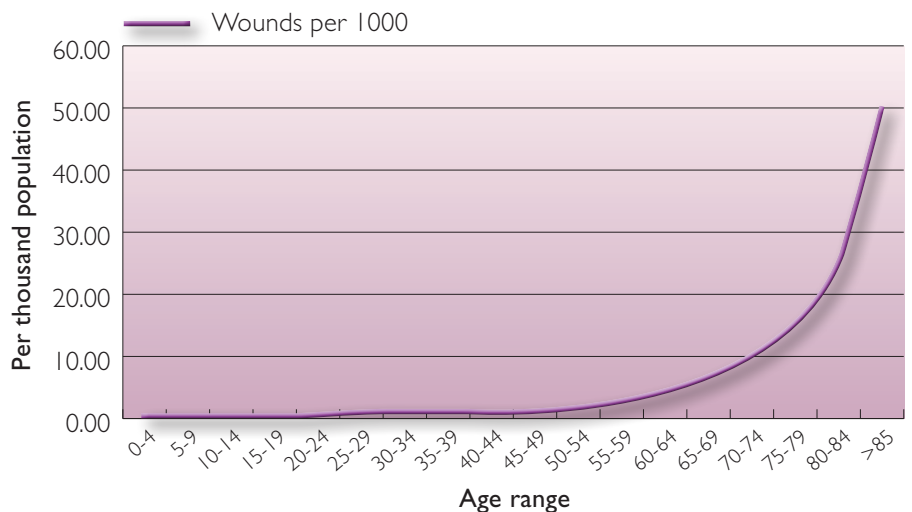


Figure 1. Wounds per thousand population by age.

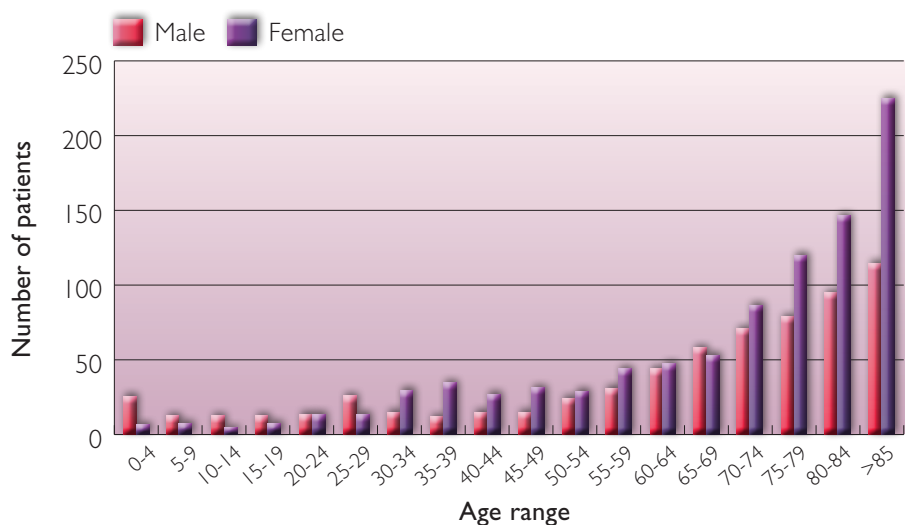


Figure 2. Number of wounds by patients' sex and age.

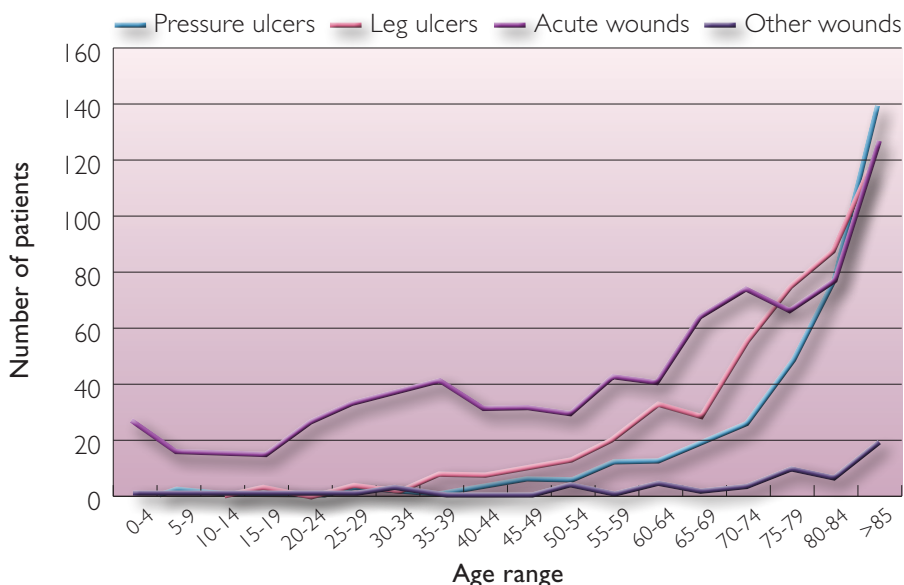


Figure 3. Number of wounds by wound type and patient age.

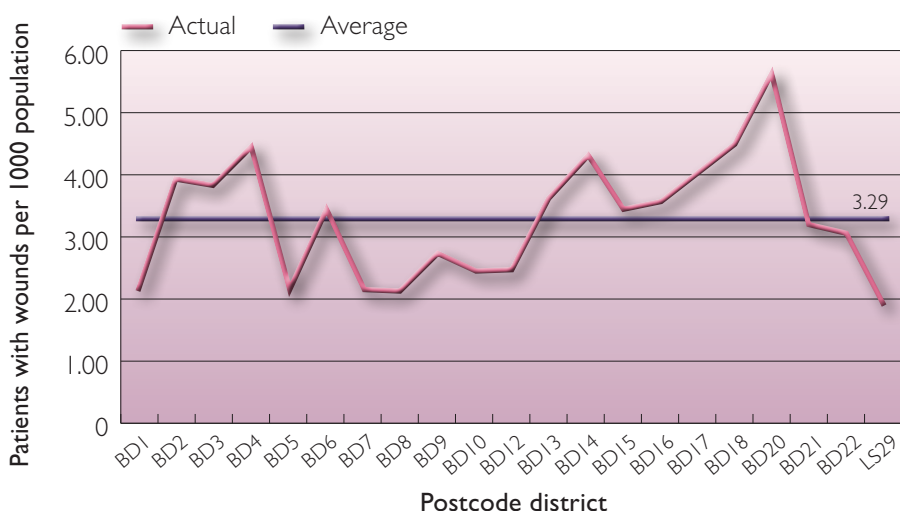


Figure 4. Wounds per thousand population by postcode district.

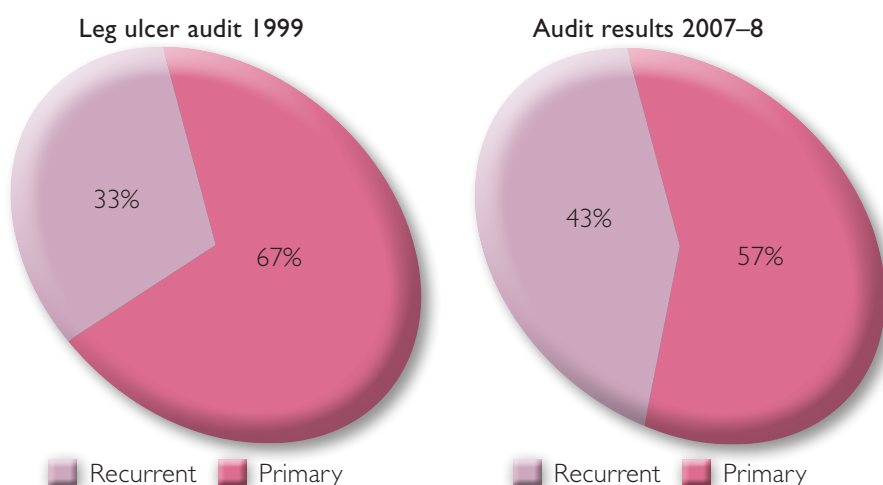


Figure 5. Comparison of venous leg ulcer recurrence reported in two separate audits of leg ulceration in Bradford and Airedale.

behaviour. Figure 5 demonstrates one example, looking at the prevalence of recurrent venous ulceration in the leg ulcer population in Bradford and Airedale. This has fallen by 10% between 1999 and 2007/8. It is impossible to say if this improvement is due to quality care or to other factors, such as improved patient awareness or the increased use of venous surgery in leg ulcer patients.

Multiple wounds can be a problem when collecting data, as wounds may be of different aetiologies, require different treatments and have different healing times. All these factors add to the complexity of data collection and analysis. Figure 6 demonstrates results from one clinic in the wound healing unit outpatient referral audit, which covers the same year as the Bradford and Airedale district-wide audit and illustrates the number of wounds present per patient. The results demonstrate a remarkably similar shaped histogram profile, indicating that the Bradford data is likely to be representative of the wider UK population.

Figure 7 shows a comparison between the Bradford data and data from Hull, which was collected using a similar audit tool for the same types of patients and wounds (Drew et al, 2007). All these data indicate that approximately 30% of patients have multiple wounds.

Outcome measures

Analysis of the local Bradford audit data indicates that these patients frequently have wounds of more than one aetiology, often located at different anatomical sites. This poses interesting questions when clinicians attempt to measure the outcome, quality and cost-effectiveness of tissue viability services for patients with multiple wounds:

- ▶▶ What is the ultimate outcome measure — that the patient is 'woundless' and no further wound care is required?
- ▶▶ Does the outcome measure require healing of the most serious (or target) wound, as is frequently the case in clinical trials? If so, how do clinicians define 'most serious'?

- ▶ Is the outcome measure defined as symptom control, as outlined by the patient?
- ▶ Is the outcome defined by an intermediate measure, such as debridement, infection control or granulation tissue formation?

In the authors' audit, outcome measures focused on the patient's most serious wound, as defined by the clinician responsible for his or her care. However, this is subjective and restricts the value of the audit when looking at total service provision, as it will underestimate costs and resource requirements. This method was chosen as the complexities involved in monitoring all wounds within such a large population would have been impossible given the resources available.

If clinicians are unable to agree and define an outcome measure, especially for patients with multiple wounds, how can they measure the cost-effectiveness of wound care provision or demonstrate the value and quality of a service?

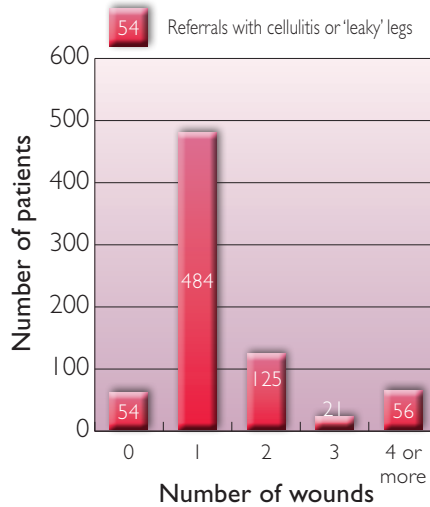
There is no doubt that wound care services are expensive to provide. Analysis of the data available from the authors' district-wide audit estimated the total cost of wound care for the local population at £9.9 million (Vowden et al, 2009). The total cost to the NHS of caring for patients with wounds has been conservatively estimated to be £2.3bn to £3.1bn per year (Posnett and Franks, 2007).

This kind of expenditure means that tissue viability services will always be a target for cost reduction. The challenge faced by clinicians is to justify this expenditure by demonstrating the cost-effectiveness of their services, while highlighting the false economy of indiscriminate cost reductions in either products or staff.

Recommendations for change

The Bradford audit raised several issues, particularly around the non-adherence to local policy which could potentially be linked to the duration of some wounds and demonstrated a number of areas of good practice where all patients' care

Outpatient clinic patient referral data



Bradford and Airedale audit data

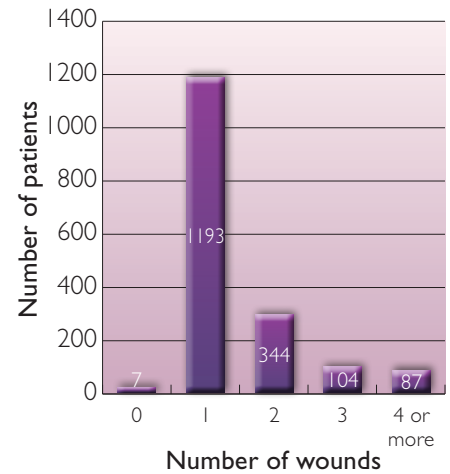


Figure 6. Wounds per patient from different audits conducted in Bradford during 2007/8.

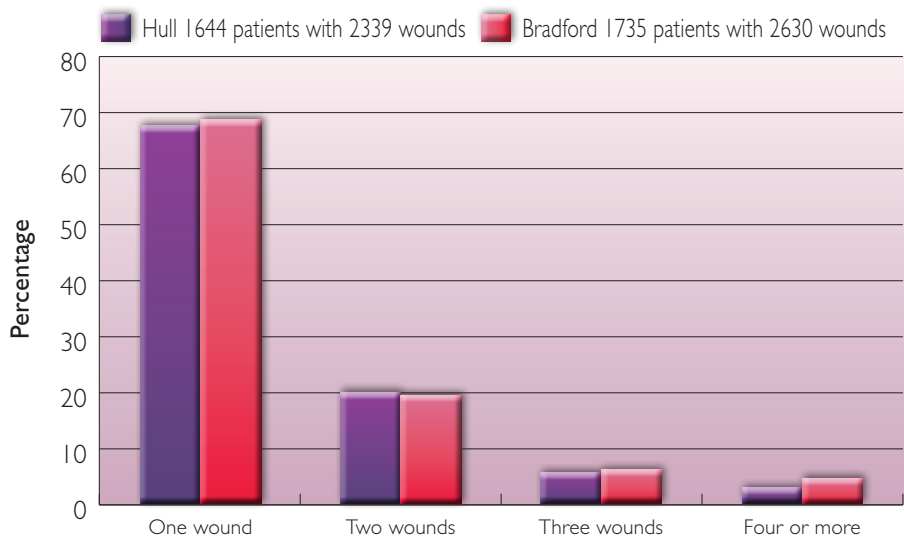


Figure 7. Number of wounds per patient.

details, assessments and treatments were appropriate and clearly linked to actions taken. It allowed the authors to produce a series of recommendations to improve care. These helped to ensure that staff adhered to the district-wide policies and had consistent wound care documentation across all areas of care, as well as an integrated educational strategy that ensured knowledge to provide equitable care across all care settings, which applied to all clinical areas and the majority of tissue viability services.

Surgical site infection (SSI) is a key quality indicator. Some wound infections may not become apparent until after the patient is discharged. Table 1

demonstrates the reported wound infection rate for surgical wounds. The reporting of infection did not correlate with the bacteriological data reporting between community centres and hospitals, and the actions taken, specifically the use of antimicrobial dressings (Vowden and Vowden, 2009e). The recommendation relating to SSI was that the common reporting standard be implemented across all care settings and that there should be no conflicts in practice.

Another area of concern was the referral procedure. Local policy, based on national recommendations, stipulates that a patient with a wound that is failing to heal between four weeks and

Table 1

Overall reported infection rates related to surgical wound status

	Infected				
	Don't know	No	Yes	Total	%
Primary closure	48	182	7	237	3.0
Open surgical wound	4	91	16	111	14.4
Post-surgical breakdown	2	67	19	88	21.6
Dehisced wound	3	22	7	32	21.9
Total	57	362	49	468	10.5

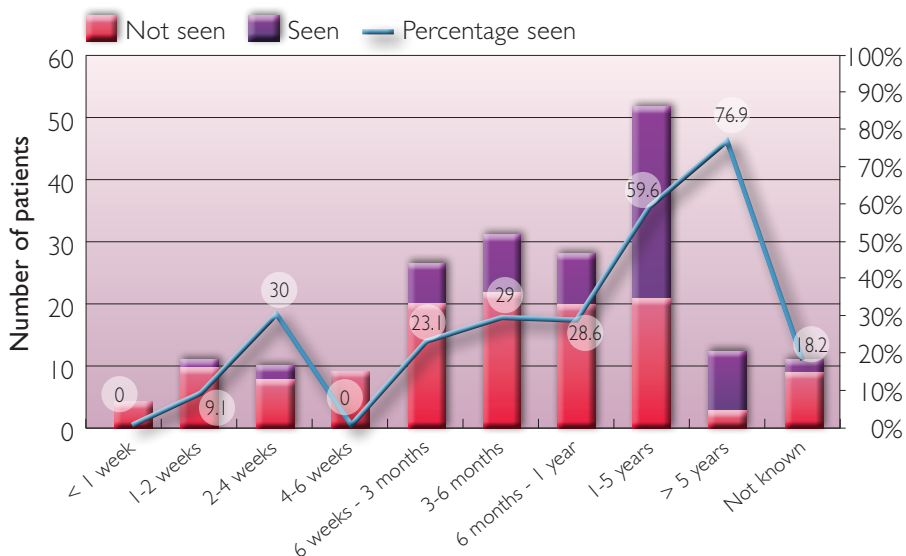


Figure 8. Venous leg ulcer patients and referral for specialist care.

three months should have the benefit of being seen by a wound care specialist. However, the audit demonstrated that a significant proportion of these patients, irrespective of wound type, had not been referred to the tissue viability team. *Figure 8* demonstrates the referral pattern for patients with venous leg ulceration and shows that only 53.2% of patients with ulcers of greater than 12 weeks' duration had had the benefit of specialist involvement in their care. This data allowed the policy on referral of patients with non-healing leg ulcers to be reinforced.

Referral to tissue viability services and long-standing wounds were a particular problem for patients in

nursing homes, where over 44% of wounds were present for three months or more, with some wounds described as 'acute' being present for over six months (further details have been published elsewhere [Vowden and Vowden, 2010]). Also, acute leg wounds were not regarded as 'leg ulcers' even after prolonged periods of treatment.

Despite the long duration of many of these wounds, only 34% of nursing home patients with a wound were reported to have been seen by the community tissue viability nurse. This increases the potential for inappropriate treatment and may lead to increased treatment costs. Data allowed us to re-enforce policy that all wounds of

greater than three months' duration be reviewed by a tissue viability nurse or referred for specialist review.

A final, and important example of how audit has allowed the authors to address an issue of unequal provision of wound care was in the management of foot ulceration in patients with diabetes. The audit showed that patients who were identified as having a diabetic foot ulcer were usually seen by the podiatrist, the wound care nurse consultant, or both, who would then be involved in their management. However, if a patient with diabetes was classified as having a pressure ulcer on their foot, the multidisciplinary team (MDT), involving a podiatrist and a wound care nurse consultant, rarely saw them (*Figure 9*).

This is contrary to the guidelines laid down in the *National Service Framework for Diabetes* (DH, 2001) and local policy, and failure to refer was often reflected in the patient's management, for example, patients with a pressure ulcer on the leg or foot rarely had a vascular assessment, while all patients referred to the MDT underwent a Doppler assessment of their lower limb blood supply.

This deficit in the management pathway could definitely have impacted on patient outcome and quality of care. The issue of vascular and neurological assessment required immediate attention and the referral practice has now been changed to ensure that all patients with diabetes have the benefit of MDT review and treatment.

Conclusion

The stimulus to write this paper was a question debated at last year's Wounds UK conference in Harrogate which asked whether there was value in tissue viability services. The simple answer is, yes, but clinicians need to make sure that they have gathered the necessary evidence in order to justify their tissue viability service.

To do this they need to define what a quality tissue viability service consists of and how it relates to evidence-based care and patient involvement. It is also

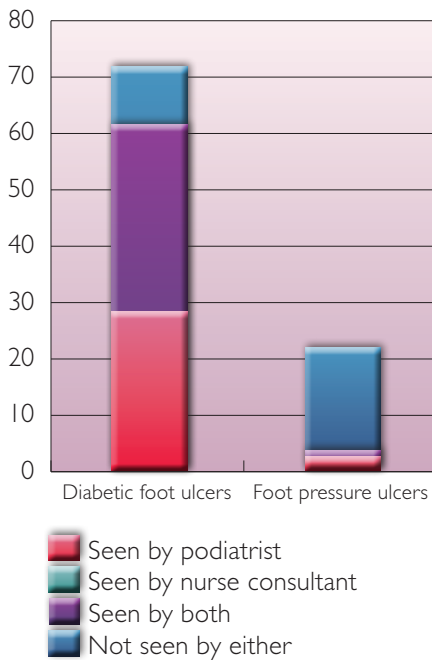


Figure 9. Who manages foot ulceration in the patient with diabetes?

crucial to identify outcome measures, particularly for complex cases and patients with multiple wounds, and to establish quality indicators.

Audit is one element in establishing the need for tissue viability and wound care services. However, audit is not simply about data — the process is ongoing and involves defining questions and interpreting data as well as instigating change.

The Bradford audit has allowed the authors to improve service provision and make recommendations for practice. However, audit cannot be used in isolation — like evidence-based practice, it is only one element in ensuring a quality service. **WUK**

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Key points

- ▶▶ Audit is a useful tool to describe services and support change.
- ▶▶ Audit alone cannot satisfy the requirements of the quality agenda.
- ▶▶ The use of evidence-based practice, following policy and patient satisfaction surveys, along with audit would provide a better picture of tissue viability services.
- ▶▶ There is no agreed outcome measure for individual patients with complex wounds.

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This year will see the introduction of the national Quality Accounts. The primary purpose of these reports is to ensure that clinicians assess quality across all services, with an eye to continuous quality improvement. They represent a challenge and cultural shift, involving managers and clinicians working together to rigorously analyse the quality of care provided. The three main domains of focus for the Quality Accounts will be patient safety, clinical effectiveness and patient experience. This offers tissue viability and those dealing with patients with wounds the opportunity to highlight the quality of service they provide. There are many unanswered questions as to how this will be done.

To respond to this challenge, Wounds UK's new 'Enacting quality initiatives in tissue viability' series, supported by Smith & Nephew Healthcare, will roll out in 2010 with articles that discuss related themes, thereby serving as a toolkit for clinicians to measure service quality.