Expounding the economic case for change in diabetic foot care

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A new economic analysis for Diabetes UK found that foot ulcers and amputations now cost the NHS in England around £1 billion or £1 in every £140 of NHS expenditure (Kerr, 2017). Around two thirds of this money is spent on treating foot ulcers in primary care, community and outpatient services. Around £250 million could be saved if the prevalence of diabetic foot ulcers could be cut by one third through faster healing and fewer recurrent ulcers. The role of the foot protection team, specifically podiatrists, are integral to managing these patients. It is imperative that every foot-care team, community podiatry service and local foot champion ensures this is on the agenda of their local commissioners to demonstrate the value of having these teams in existence.

NHS foot costs

The recent report, by Marion Kerr for Diabetes UK, found that total expenditure on healthcare related to foot ulceration and amputation in people with diabetes in 2014-15 in England is estimated at £972m-£1.130bn; equivalent to around 0.7–0.8% of the entire NHS budget. Around two thirds of this was expenditure on treating foot ulcers in primary, community and outpatient settings (see table1). Commissioners and budget-holders may be generally unaware of this large cost of caring for diabetic foot ulcers as the individual item costs are small and often buried in community services and GP budgets.

As the paper reports, it is estimated that 5–7% of people with diabetes have had a foot ulcer at some time, and that 2% experience at least one new foot ulcer in a given year. There are over 7,000 lower-limb amputations in people with diabetes in England each year. Every year, approximately eight out of every 10,000 people with diabetes undergo major lower extremity amputation (above ankle), and 18 out of 10,000 have a minor amputation (below ankle). In many cases, amputation occurs as a result of foot ulceration and infection.

For many people with diabetes, ulceration is an ongoing problem. Studies suggest that around a quarter of patients who become ulcer-free have developed new ulcers within three months and around 40% developed new ulcers within 12 months. Some foot ulcers are painful and treatment often requires a considerable amount of time spent on clinic visits, hospitalisation and frequent changes of wound dressings. This can impinge on many aspects of patients' family and working lives, due to lack of mobility, time off work and possible loss of income. Also foot ulcers can be unpleasant and smelly, curtailing social activity and leading to the person being further socially isolated.

Quality of life both for those with current ulcers and for people who have undergone major amputation is considerably lower than for patients with other long-term conditions, such as chronic obstructive pulmonary disease or renal disease requiring haemodialysis.

Improving diabetes foot care services

As the Diabetes UK report says, understanding the cost of current models of care is an important first step toward building the case for improved services. Clinical evidence and audit data suggest that there is a great deal of scope for improvement in the quality and outcomes of diabetic foot care in England. On the one hand, there is a large body of evidence indicating that targeted preventive services can identify those at risk of ulceration and improve outcomes, and that early access to multidisciplinary specialist care for patients with ulcers can reduce ulcer duration, improve healing rates, reduce amputations and increase survival rates. On the other hand, national diabetes audits indicate that many patients in England do not receive specialist foot care in a timely way, and that appropriate specialist services do not exist in many areas (NHS Digital, 2017a). Almost two thirds of inpatients with diabetes have no documentation in their case notes of a foot risk assessment during their hospital stay (NHS

Digital, 2017b). Almost one quarter of hospital sites do not have a multidisciplinary foot care team. In many areas of the country, there are no clear pathways for referral of patients to appropriate specialist services.

Improving lives and saving money

Reducing ulcer duration is key to improving quality of life for patients and reducing NHS costs. Marion Kerr, the author of the Diabetes UK report, estimates that at least 60,671–75,838 people with diabetes in England have foot ulcers at any given time (2–2.5% of the diagnosed diabetes population), and that the mean weekly cost of caring for each patient is £208. Some ulcers never heal, so quality of life is permanently reduced, and these costs to the NHS are ongoing. The more severe the ulcer, the more difficult it is to achieve healing, and the more costly the care. Patients who wait longer to be seen have, on average, more severe ulcers and longer ulcer duration than those who are seen quickly. The report estimates that reducing the prevalence of people with diabetic foot ulcers by one third would save the NHS £210m–£262m a year. If the proportion of people with severe ulcers was also reduced, the savings would be greater.

Table 1. Total estimated expenditure on diabetic foot disease, England, 2014-15.

Primary, community and outpatient care, ulceration	£629,161,354–£786,451,692
Inpatient care, amputation	£43,797,632
Inpatient care, ulceration	£278,452,386
Post-amputation care	£20,813,777
Total	£972,225,149–£1,129,515,487

The potential for improved services to deliver better outcomes and cost savings will vary from place to place, depending on baseline standards of care, and on the type of improvement undertaken. The

report presents illustrative cost, benefit and saving estimates from three services, which suggest that early access to specialist care and foot checks for inpatients with diabetes are associated not only with improved outcomes, but also with financial savings for the NHS that substantially exceed the cost of the service. In addition, we would argue that payers need to ensure investment is also made into the podiatry workforce to meet the increasing demands on services. Podiatrists are critical and central to the success of this provision. They have specialist skills in the lower limb that enable them to recognise, prevent and provide the best foot care for patients with diabetes. They are also central in the team when treating foot ulcers and other diabetes-associated foot complications. As the country's diabetic population is ever increasing, there needs to be some serious investment into the prevention and management of foot ulcers if amputations are to be reduced and the NHS is to remain sustainable.

Implications for local health economies

Decisions on improvements in prevention and care for foot problems in diabetes will need to be informed by local data on costs, savings and outcomes.

Close collaboration between primary, community and acute care providers will be needed if better outcomes for people with diabetes and cost savings for the NHS are to be delivered. In order to ensure rapid referral to specialist care, it is necessary not only that an appropriate specialist service exists in each area, but also that non-specialist staff understand the diabetic foot, and that clear referral protocols are in place.

The cost savings made from improved care are likely to accrue both to commissioners and acute providers. The excess costs of extended lengths of stay are borne by acute providers, while the costs of amputations and extended ulcer duration are mainly paid by commissioners. It will be important for commissioners and providers of care working collaboratively within Sustainability and Transformation Plans (STPs) footprints, to take heed of the Diabetes Aide Memoire for STPs that says Clinical Commissioning Groups (CCGs) should ensure they have a footcare pathway with adequate capacity to enable early referrals of people at risk of diabetic foot disease to foot protection teams and people with active disease to multidisciplinary footcare teams as recommended by NICE (2016). They should consider the distribution of costs and savings arising from improved care, in order to ensure that improved services are appropriately incentivised.

It is also important to audit new services to ensure that gains in quality and productivity are achieved, and participation in the National Diabetes Foot Care Audit should be promoted and sustained across community foot protection services and specialist teams.

Diabetes prevalence is increasing and, as a result, the absolute number of diabetes-related amputations in England increased by 16% between 2009–12 and 2012–15, even as rates of major amputations per 10,000 people with diabetes were slightly reduced. Unless there is a significant increase in the quality and efficiency of diabetes foot care, it is likely that the cost of ulceration and amputation care for people with diabetes will rise substantially, both in absolute terms and as a proportion of total NHS spending.

Given the high cost of diabetic foot care, and the continuing increase in diabetes prevalence, it is likely that the provision of higher quality cost effective foot care for people with diabetes, and early intervention to avoid complications, are likely to play an important part in attempts to improve the overall quality and productivity of the NHS in the coming years. ■

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