2022 Update on the National Diabetes Foot Care Audit

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Citation: Game F (2022) A. *The Diabetic Foot Journal* 25(4): 12–15

Key words

- Amputation
- Audit
- Diabetic Foot Ulcers
- Mortality

Article points

1. The National Diabetes Audit allows clinical teams to have reliable data to track.
2. The available data show quite marked variation between localities in the number of ulcer episodes recorded. It therefore seems likely that a sizeable proportion of providers do not participate in the audit procedure and therefore cannot benefit from the information it provides.
3. There are now over 100,000 ulcer episodes recorded, and the data confirm that delay in first expert assessment is associated with more severe ulceration at presentation and a lower likelihood of being both alive and ulcer-free 12 weeks later.

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The National Diabetes Foot Care Audit (NDFA) is part of the family of audits undertaken as part of the National Diabetes Audit (NDA) of England and Wales. The NDFA was launched in July 2014 and the latest findings describing the overall dataset from England and Wales was published in May 2022 and is available online at: https://digital.nhs.uk/data-and-information/publications/statistical/national-diabetes-footcare-audit/2014-2021. Many readers of *The Diabetic Foot Journal* will be well aware of these findings but the aim of this article is provide a brief summary of the results and to draw attention to some particular observations.

The overall aim of the National Diabetes Foot Care Audit (NDFA) is to record every new episode of foot ulceration that occurs in people with diabetes in England and Wales and to document its outcome. These data will enable clinical staff to explore the effectiveness of the service they provide and to compare it with other centres.

How is each new ulcer episode documented?

For this purpose, an 'episode' is taken as any new ulcer that occurs in a person who has previously been free from one — even if they have had one or more in the past. If there is more than one active ulcer (on the same foot, or both), then the largest or the most clinically significant is taken as the index ulcer, but the episode is not considered complete until all ulcers have healed.

National guidance (NICE, 2016) is that every person with diabetes and a new ulcer episode should be assessed by a health care professional, preferably working as part of a multidisciplinary or multi-professional team, who has specialist expertise in the best management of foot disease in diabetes, and such assessment should be undertaken as soon as possible and ideally within 14 days of first presentation to any non-specialist health care professional. This is recorded as the "First Expert Assessment" (FEA) in the NDFA.

Registration of each episode with the NDFA of the NHS number, baseline assessment and 12 week healing status makes it possible to track the effectiveness of care and to compare with other services. In addition, central linkage within the NDA to details of diabetes care and co-morbidities allows analysis for periodic national reports while taking account of case-mix and other factors.

Data recorded at first expert assessment (FEA)

The only information which the specialist clinician has to record at the time of first expert assessment (FEA) comprises:

1. the person's NHS number
2. the time that has elapsed from first presentation of a new episode to a non-specialist health care professional and first assessment by an expert, and is allocated to one of four categories: a) within 2 days; b) within 2 weeks; c) within 2 months; d)

longer than two months; or e) are self-presenting.
3. the severity of the index ulcer at the time of FEA which is determined using the simple, 6-item, SINBAD scale — which can usually be undertaken within one or two minutes and requires no specialist equipment (Ince P et al, 2008).

In addition, the healthcare professional, or team, is asked to document the person's outcome at 12 weeks from FEA — and to record whether:
1. the person is alive or not
2. the person has any active ulcers remaining: an active ulcer includes a surgical wound eg following a minor or major amputation
3. or whether the person has been lost to follow-up

The outcome can also be later matched, when appropriate, with hospital activity data: Hospital Episode Satatistics (HES), in England, and the Patient Episode Database for Wales (PEDW).

What is the purpose of collecting these data?

The aim is to provide clinicians with reliable information on the outcome of their accumulated routine clinical practice. It is only when they have these details that clinical teams can track whether their outcomes are changing with time and how their practice compares with any other service in either England or Wales.

The easiest way for clinicians to gain access to their data and to compare it with others is through the NDFA dashboard: https://bit.ly/3Vf958o

What are the main findings in the 2022 update of the NDFA?

What percentage of ulcer episodes are registered?

The number of ulcer episodes registered increased year on year before reaching a peak of approximately 25,000 in the year to 2020. It then dropped slightly during COVID-19 pandemic. The number of individuals referred with one or more ulcer episodes per year followed a very similar pattern and rose to a peak of just over 20,000 pa before falling slightly in the 12 months to March 2021. There are now 108,450 ulcer episodes referred in 76,310 people during the total period of the audit, 2014-2021. This large number of registrations suggests widespread support for the scheme amongst some 200 services.

Because, however, there is no system for assessing the total number of new ulcer episodes in any one study population, it is not yet possible to determine the percentage of all ulcer episodes that are registered. Nevertheless, the available data do show quite marked variation between localities (CCGs in England; Health Boards in Wales) with the incidence of episodes varying from zero to 1.9% of people with diabetes. It therefore seems likely that a sizeable proportion of providers do not participate in the audit procedure – even though there are no data yet available to indicate whether or not such non-participation is associated with worse clinical outcome. The NDFA is exploring new approaches to establish the true population prevalence of ulcers.

It is also very likely that some areas will opt to register only some of newly referred ulcer episodes. This may be the result of different pathways of referral being adopted – such as through vascular surgical teams or other specialist teams who are less likely to participate in the NDFA. Some services may register some episodes but not all – either because of the varying pressures of workload or, potentially, a decision being made to register only a proportion of their total affected population. Whatever the reason, it would seem likely that those teams with a higher number of registrations are probably reporting a more realistic percentage of their affected population. It also seems likely that those who systematically review most, if not all, of their clinical practice are more likely to have greater insight into the overall performance of their service.

The relationship between time to first expert assessment (FEA), severity at FEA and healing in 12 weeks of follow-up

The evidence available in the latest review reinforces the observations made in earlier reports. Specifically, it shows that there is 1. a statistically significant relationship between shorter time to first expert assessment (FEA) and lesser ulcer severity and 2. A similar relationship between lesser ulcer severity and the likelihood of healing (meaning that the person is both alive and 'ulcer-free') when assessed at 12 weeks. In contrast, the data in over 100,000 ulcer episodes confirm that a longer time to first expert

assessment is associated with ulceration which is more severe and the person is less likely to be both alive and ulcer-free at 12 weeks.

It is therefore encouraging to note the findings in the latest report that show that up until the COVID-19 pandemic there was a year-on-year fall in the proportion registered with more severe ulcers.

Other observations

Increasing incidence of missing data at 12 weeks follow-up

One of the changes which has become steadily more apparent since the onset of the NDFA has been the progressive rise in missing data relating to outcome at 12 weeks. The percent without outcome data was of the order of 5% in the early years of the audit but had risen to 10% in the most recent report. While it is acknowledged that it can be relatively time consuming (and sometimes impossible) to chase the healing status of patients who become lost to follow-up prior to 12 weeks, the majority do not default from follow up if their ulcer is still active. It is therefore possible that evidence of increasing default might relate to a number of other causes, such as transfer of care to other teams with their own specialist registries or to other care providers, where patient records are not shared.

Increasing impact of comorbidities

Another factor which has become more clear in very recent years has been the observation that a rapidly increasing proportion of those referred for management of a new ulcer episode have been admitted to hospital for another reason in the 12 months before the onset of an index ulcer. Some people may obviously have acquired an ulcer as a complication of such an earlier admission – especially as the data indicate that the majority of these admissions were triggered by myocardial infarction, heart failure and stroke. But whatever the reason, the numbers of admissions documented in the 12 months prior to ulcer onset have risen from just over 20% in 2015 to nearer 30% in 2021.

Data on the incidence of major amputation

While the incidence of major (above ankle) amputation is often used as a measure of outcome in this field, it is a measure which can be flawed and requires careful interpretation (Jeffcoate et al, 2021). It is important to remember that an amputation is a treatment and not simply a measure of disease outcome. It is for this reason that it is not used by the NDFA as a primary measure of outcome — even though the data can still be obtained from hospital episode activity and are published in the NDA complications and mortality.

The data from the latest NDFA report do, however, indicate that the incidence of major amputation in 6 months of presentation of an ulcer episode is slowly but steadily falling — to just 2.5% of all episodes of severe ulcer and only 0.5% of those ulcers which are graded less severe.

Nevertheless, it is worth noting that when the incidence of major amputation is compared between different regions in England and Wales, there is evidence of significant regional variation — and such variation could be an indication of differences in usual clinical practice (Yelland et al, 2022).

The use of possible new measures of the effectiveness of care

Despite the comments made above relating to the relative weakness of the incidence of major amputation as a measure of care quality, the latest NDFA report did explore the potential for a new measure of outcome that might be used to explore regional variation. This measure includes data on major amputation and combines it with survival by documenting major amputation-free survival at 12 months from FEA. Data from 2018-2021 indicate that such survival might currently be expected in 90% of those documented as less severe at first assessment but in only 82% of those with ulcers graded as severe. It should, however, be noted that it is not the major amputation which has the greatest impact on the suggested new outcome but the increased mortality in this population.

How can clinicians who provide a specialist service for people with diabetic foot ulcers participate in the audit?

All clinicians involved in the specialist care of foot disease in diabetes — irrespective of their

basic training and irrespective of whether or not their practice is NHS-based or private — can and should participate by logging on to the NDFA dashboard (see side column). The administrative burden is not great and the NDFA will provide service-specific data with which they can compare the outcome of their practice with that of others. ■

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How to participate in the NDFA

Simply log on to:
https://bit.ly/3VjoF2A