

Developing a local diabetes network in Devon to reduce diabetic foot disease



Summary

In 2012 healthcare professionals and patients at the Royal Devon and Exeter NHS Foundation Trust came together as a voluntary network to take action to reduce the increasing number of diabetes related amputations in the county. As a result, they introduced a package of online and education resources for patients and healthcare professionals. Since 2012 the rate of major lower limb (above ankle) amputations per 1000 with diagnosed diabetes in the Eastern locality has reduced from 1.4 per 1000 in 2009-12 to 0.6 per 1000 for 2014-16. Within six weeks of launching the online e-learning resources, 117 healthcare professionals had accessed the e-learning compared to 73 healthcare professionals who accessed face to face training in the previous two years.

The Case for change

Devon has 48,000 people living with diabetes and it is estimated that a further 16,340 are currently living with undiagnosed diabetes¹. In the period 2011-2014, in Devon the rate of all (major and minor) lower limb amputations per 1000 with diagnosed diabetes was 3.9 p/1,000, or 506 amputations per year, compared to a national average of 2.6 p/1000. It was the 2nd highest rate of amputation in the SW and the 12th highest in England. North, East and West (NEW) Devon CCG were forecasting increases in major and minor amputations due to the predicted increases in the prevalence of diabetes.

The Improving Diabetic Foot Faculty (IDFF) was initially established by a lead podiatrist at the Royal Devon and Exeter Hospital in an attempt to reverse this trend and to address the lack of coordination between primary and secondary care.

The former model of care was impacting patients in a number of ways:

- There was no evidence of providing patients with awareness of risks and there was a lack of reinforcement of messages.
- There was inconsistent practice across Devon in offering up to date education on foot care and only 25% of 100 consecutive podiatry notes recorded the offer in patient notes.
- A qualitative survey in 2012 within primary care revealed that 26% of respondents from practice nurses had not received any formal training in diabetic foot assessment and this potentially was resulting in delayed referrals to acute podiatry services. 49% of referrals were late referrals from GP practices.
- There was no evaluation and assessment of the impact of advice provided to patients.

- No NICE compliant structured education was commissioned for those newly diagnosed with Type 2 diabetes.

Developing the network

In November 2012, a voluntary group of healthcare professionals who work within and manage diabetes services in Devon came together to develop a network that also included patient representatives. More recently, the IDFF has expanded to include colleagues from South Devon and Torbay NHS Trust, as well as colleagues from primary care, Diabetes UK and support from a pharmaceutical company who have supported the development of Type 2 diabetes group education.

Achievements

The IDFF made driving down the rate of amputation its key priority. As a result of action learning which brought peers together in a supportive environment and best practice shared between healthcare professionals involved in the network, a range of resources and tools have been developed to promote consistency and standardisation of practice across Devon.

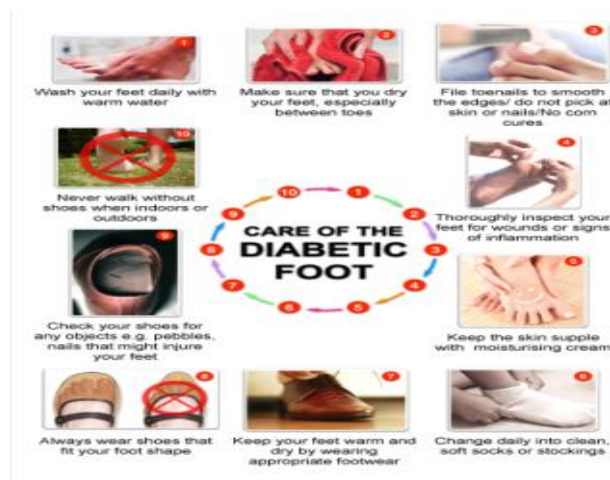
For people with diabetes

A package of education resources have been developed in accordance with NICE guidelines to help develop patient knowledge and understanding. These include:

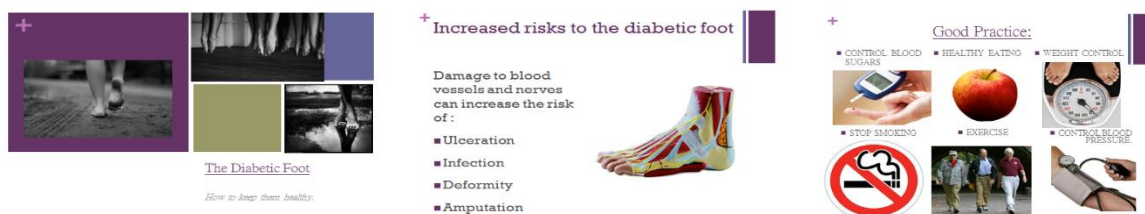
- SOS emergency access cards for when a 'foot attack' occurs:



- 10 steps visual aid posters for patients on daily prevention, causes of ulceration, foot checks, warning signs, annual reviews and how to do a foot check:



- Education 'flashcards' available in waiting rooms:



- Education on foot care available on VDU screens in waiting rooms.
- Face to face training sessions with patients.

Each time a patient is seen in clinic they are exposed to NICE compliant education and this is supported by advice and recorded on their treatment plan.

For healthcare professionals (HCPs)

A package of education resources have been developed for health care professionals as a prompt for provision of optimum foot care. These include:

- 10 steps to education, wound care, caring for feet in hospital and provision of antibiotics:



- Education flyers produced for HCPs on peripheral neuropathy and Charcot foot:



- Structured education relating to diabetic foot disease is now available for both healthcare providers and for the general public. This takes the form of dedicated study days for HCPs and patient education sessions for newly diagnosed people with diabetes or diabetic foot disease:



- A shared database of educational materials, including case studies, available to all HCPs in Devon:



- An online training package has also been developed for the assessment of the diabetic foot with links to referral pathways and resource files:



- Lunchtime educational sessions are available on request for GP practices.
- Masterclass education sessions are offered for HCPs working with diabetes.

How was the change achieved?

The members of the IDFF committed to meeting outside of clinician time to secure progress. The meetings enabled the group to review where the current challenges were, and where improvements needed to be made. The IDFF focused on specific goals and set specific outcomes as a way of measuring initial success and regularly evaluated the effectiveness of the network to achieve these goals. This evaluation led to changes in the structure of the IDFF with the introduction of sub-groups with specific focus areas.

Outcomes

The IDFF has been the key driver in bringing about service development and change in the way diabetes education is offered to patients and in how health care professionals are supported and trained within the community.

- The rate of major lower limb (above ankle) amputations per 1000 with diagnosed diabetes in the Eastern Locality has reduced from 1.4 per 1000 to 0.6 per 1000, lower than the national average.
- Patient recall of information and understanding improved as demonstrated through session evaluations.
- Evaluation of healthcare professional training shows a perceived improvement in knowledge as demonstrated through the use of Likert scales.
- In 2015 audit, 100% of podiatry notes recorded education provision. 78% via the 10 step prompt poster. 98% of were issued SOS cards in clinics.
- Patient education is now fully compliant with NICE guidelines.
- Within 6 weeks of launching the new online training module 117 healthcare professionals completed the course.
- Resources and learning are now being shared across the South West region through the South West cardio-vascular network.
- Root cause analysis has been recently conducted on minor amputations.

Lessons Learned

1. The IDFF concepts were originally planned within clinician time and whilst this generated lots of ideas and innovation they were not all implemented due to time and capacity pressures. The IDFF then moved out of clinician time to meet after work hours on a 'voluntary basis' in order to be proactive.
2. The network started as a multi-disciplinary working group, however to ensure a balance of responsibilities and roles evolved into an established network with agreed terms of reference.
3. The network has needed to become more structured with sub-groups working on specific focus areas. This supports the long term sustainability of the network as it isn't reliant on one lead figure.
4. It was recognized that not enough baseline data was collected at the start of the network as a consequence identifying SMART goals and identifying the impact of the network was more challenging.
5. The need to have commissioned support for structured education via a contractual mechanism such as a CQUIN, would have provided additional funding and allowed the network to reach a wider audience with a standardised approach.
6. The network could have used validated questionnaires to assess patient and healthcare professional knowledge to acquire more robust evidence.

Next Steps

Next steps include evaluating the overall impact of the IDFF and using Diabetes UK's [Network Effectiveness Scorecard](#) to review the efficacy of the network and share the learning and development with other CCGs.

Root cause analysis undertaken in 2015 showed that minor amputations are still a concern as 52% of minor amputations are potentially linked to late referral from primary care. The network has worked hard to secure commitment from practice nurses and district nurses. The IDFF agreed that 2016 was a year of gathering evidence and data aiming to target and support GP education and training from 2017 onwards. The SOS audit data suggests that 32% of patients still present to a GP with a foot emergency.

The IDFF in conjunction with Plymouth University are in the process of applying for a research grant to test the efficacy of the education tools they have developed.

Plymouth Hospitals NHS Trust have now established a similar network, based on the IDFF model, within Derriford Hospital as a way of reducing the increasing number of diabetes related amputations within their population.

Further information

For more information on this case study or about the IDFF, please contact **Sue Pyle** at spyle@nhs.net or **Ian Robinson** at lrobinson2@nhs.net

ⁱ Figures from the 2016 Prevalence Data Model: <http://www.yhpho.org.uk/resource/view.aspx?RID=154049>