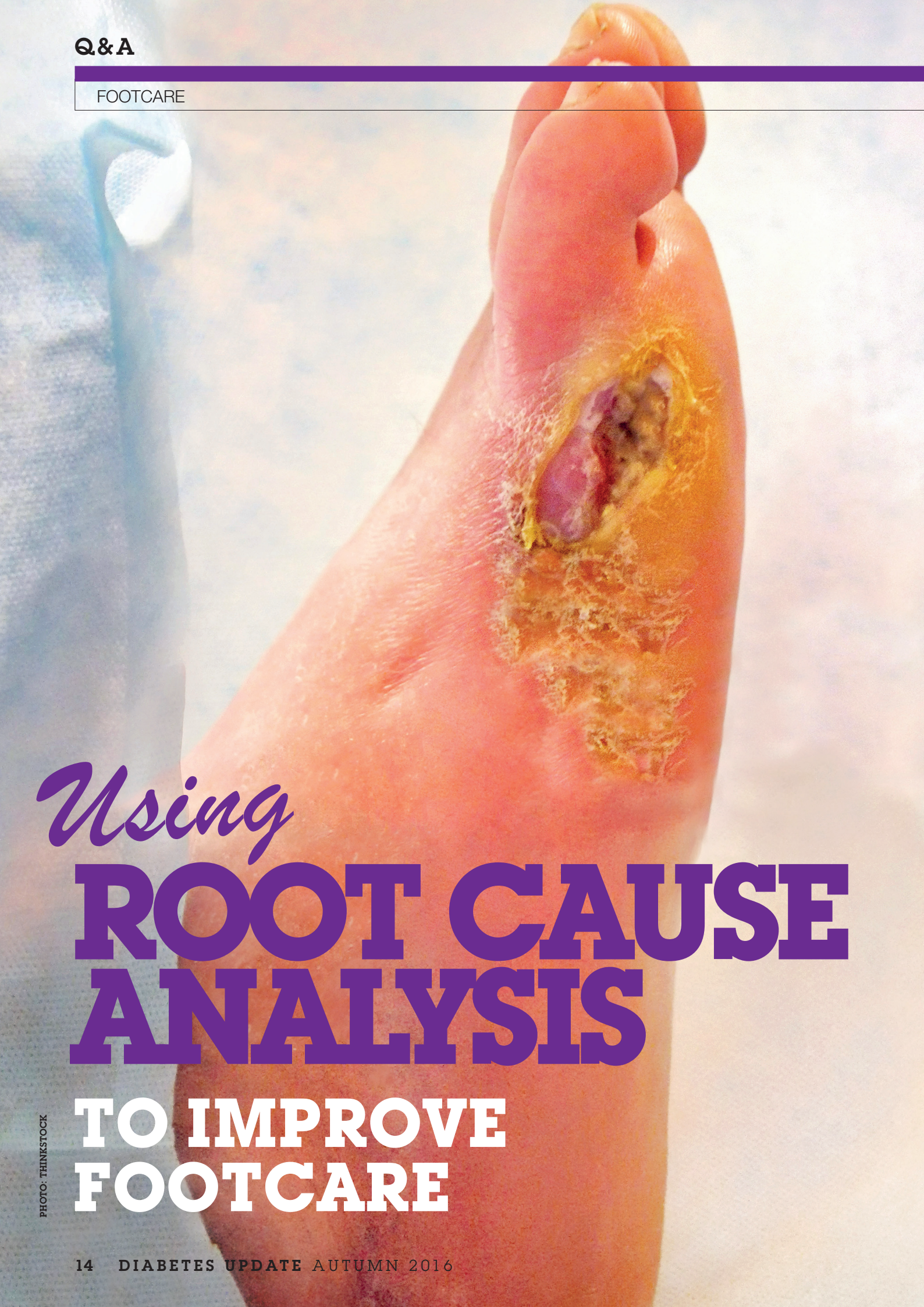

Using ROOT CAUSE ANALYSIS TO IMPROVE FOOTCARE

PHOTO: THINKSTOCK

Helping avoid amputations is a prime focus in diabetes footcare. Root cause analysis (RCA) is one way of understanding why, and how, such adverse events occur and it can be a powerful tool in the prevention of future occurrences. **Katharine Speak**, Principal Podiatrist, Diabetes & High Risk, Harrogate and District NHS Foundation Trust, explains how her team has set up RCA and how they make it work for their patients

How do RCAs relate to footcare?

A root cause analysis (RCA) is a systematic and robust way of examining causal factors in any significant adverse event. They are used in many settings, including health services, to increase understanding of why an event occurred and promoting learning, without apportioning blame.

The National Patient Safety Agency (NPSA, now under the auspices of NHS England) identifies several triggers for conducting RCAs, some of which apply to examining the reasons why people with diabetes are much more likely than those without to lose a limb. By conducting RCAs on diabetes-related amputations, it is possible to prevent recurrence of poor practice and processes to avoid similar occurrences in the future. It is also possible to identify when major amputations are the best possible outcome for the person with diabetes, as well as examples of really good care to share for a positive approach to influencing practice.

Why, and when, did your team start completing RCAs?

The process was initiated by our podiatry department in response to the release of the Atlas of Variation and the Diabetes Footcare Activity Profiles, which highlighted the fact that our region was above the national average for major amputations in people with diabetes. We realised that, unless we really examined each patient's pathway, to see what could have been done differently, we would never identify what changes needed to be made, where and with whom and that our efforts delivering education or investment of staff time may be misguided or ineffective.

It took longer to get the full multidisciplinary team (MdT) on board but, with the development of York Hospital as a vascular hub, it became apparent that a coordinated effort was needed, to examine all the cases that were coming in to the hospital from a wide area encompassing three further hospitals and several clinical commissioning groups (CCGs).

How did you begin the process?

We started to use the hospital data analysis team and clinical coding information to specifically identify all the patients, with and without diabetes, undergoing lower limb major amputation. We then cross-referenced this with the clinic caseload of patients with a known diagnosis of diabetes to double-check. Initially, there was some under-reporting, as patients were occasionally not coded as having diabetes when they did. This has improved significantly, and the accuracy of the data is now very good. Data is now collated on a spreadsheet and shared every two to three months.

We had a time out with our diabetes consultant vascular and orthopaedic surgeons during a break at a conference we were all attending. We discussed the main elements of the disease process that were implicated in the majority of amputations. We also looked at the interventions and treatments that represented best practice for patients with acute diabetic foot problems and the time frames in which they should be delivered.

From this, we developed a proforma to collect together the information that was needed to complete an RCA. This was a paper form which was taken to wherever information could be collected – for example at a patient bedside, from ward notes or podiatry records. This information was then uploaded as an electronically saved version.

What kind of RCA approach do you use and why?

The process is triggered when the patient is identified as needing surgery, as the team involved at this stage of the patient's care is the one which is best placed to analyse the care given up to the event. Initially, we used retrospective data from the previous 12 months and spent time in a block going back over patient records. This was unsatisfactory for a number of reasons. It was time-consuming, but also more difficult to get accurate information as, due to the high mortality rate of this patient group, sadly many of the patients had passed away. So, we had no opportunity to discuss their care up to the surgery with them directly.

We now carry out the meetings in a contemporaneous way each month. The patient is often still on the ward recovering post-op and the clinical situation is fresh. It feels more relevant and responsive.

Who is involved in the RCAs?

There is a need to involve the MdT, community podiatry and ward-based staff who are involved in the care of the patient when the decision to amputate is made. The hospital is a vascular hub for a wide patch and the pragmatic view was to have those present round the table who can access the meeting relatively easily.

We also wanted to invite anyone else who had been involved in the previous care of the patient. This is largely decided on the basis of whether the preliminary investigative work indicates that the amputation was potentially avoidable. We drafted a terms of reference framework to guide the minimum numbers and skill mix needed at the meeting – a type of quorum, if you will – to ensure that the cases get an equitable process for analysis.

How do you access the right data for your RCA?

The data collection process is assisted

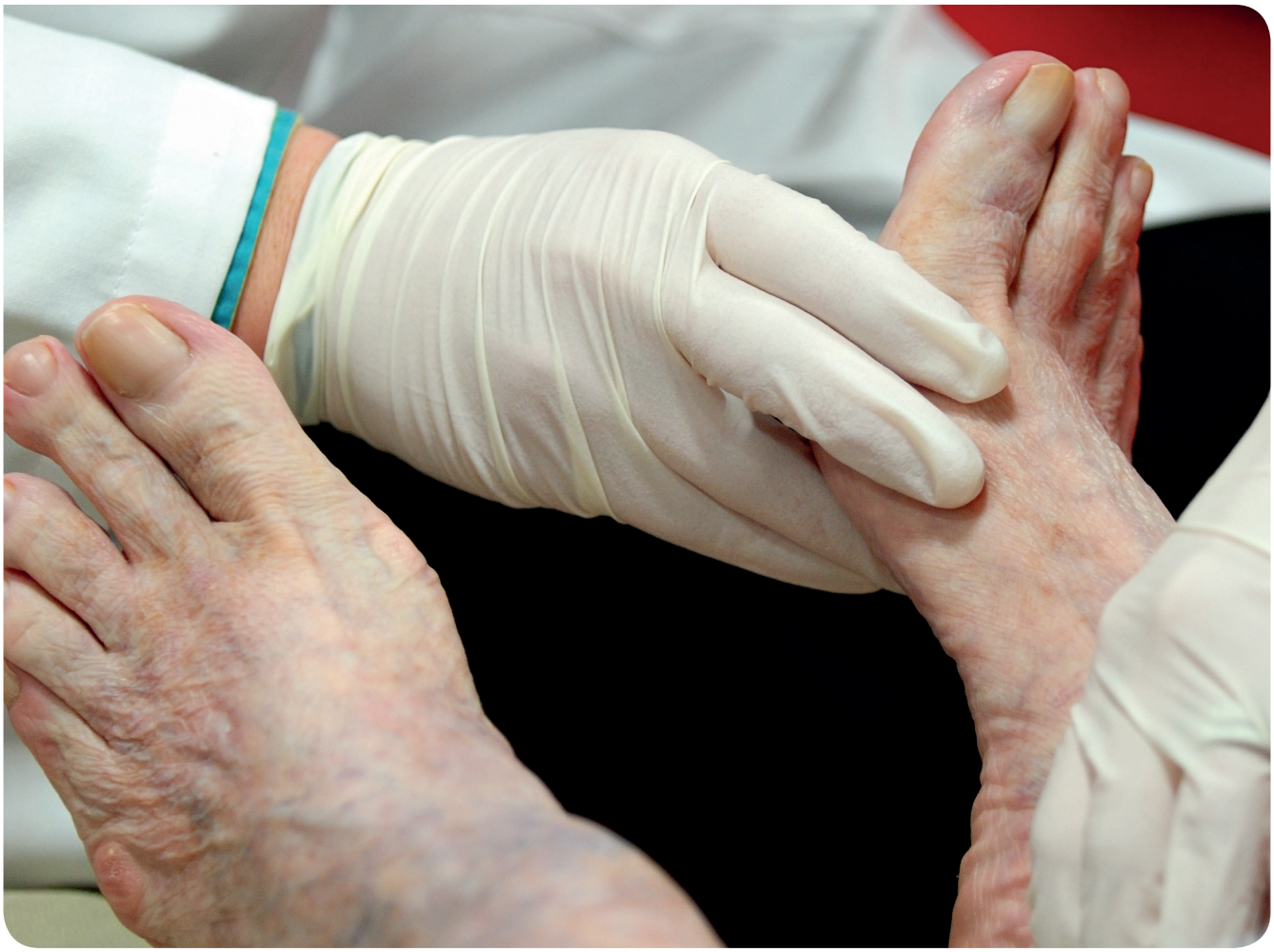

PHOTO: THINKSTOCK

greatly by the hospital electronic records being accessible by all members of the team, both prior to and during the meeting. This includes all previous interventions, blood tests, consultant letters, admission letters and outpatient treatment.

In addition, the community utilises SystmOne as a shared patient record in more than half of the cases, which allows us to look at the treatment history in the GP practice and community nursing, along with podiatry services (even those outside our own CCGs).

What were the main challenges and how did you overcome them?

Lack of detail, or poor-quality record keeping, can be a big challenge in carrying out a successful RCA. This is still a work in progress, but has been highlighted within the hospital team and the wider podiatry service. It is seen as something we want to continually focus and improve on.

How do you identify the causal factors and root cause?

The initial proforma identifies the usual demographics of the patient, their co-morbidities and previous treatment. These are then matched against best practice pathways to look for any shortcomings. The form asks whether the amputation was potentially preventable and gives several cause options. At this stage, there is usually one umbrella term or reason associated with the amputation – for example, late referral to the MdT.

However, roots have many strands and one sentence cannot possibly cover the many contributory factors linked to the root cause. So, we use a cause and effect diagram to drill down to the process failures involved (see the Fish Bone example in the *How To* guide, listed right). This process groups contributory factors to one of the themes developed by the NPSA, such as Communication, Education and Training, and so on.

With the example of a late referral to the MdT, it is necessary to identify the reasons why this might have happened. For example, it could be that healthcare professionals did not realise how serious the patient's condition was (Education and Training), or had a lack of knowledge of the referral pathway, such as who to contact, and how (Task). There may also have been a reluctance to be referred on the part of the patient, or the referral process itself could have been either inefficient or delayed.

How do you share the findings with colleagues?

This is done in various ways. We use the Trust's Safety Bulletin to share short articles and learning points for all staff. In addition, we utilise the podiatry monthly quality bulletin, which is emailed to all podiatry staff across North Yorkshire.

We have done short briefings to the Trust's Clinical Governance Groups

to share our aims. Finally, we will also send a summary report, which is populated at the RCA meeting, to the patient's GP practice.

How have RCAs helped improve the local service?

From a podiatry perspective, we have been working to upskill staff in more remote community locations and supply the appropriate resources. For example, we will provide a small supply of specialist dressings if there is a need to remove bandaging to assess the full lower limb. This helped in one case, where there was some reluctance to remove a leg dressing done by a practice nurse, to examine suspected deterioration, because there was nothing available in a small clinic to replace the dressing with.

We have engaged with the local Diabetes UK patient representative groups, which have been very vocal in expressing their opinions to the CCG. This has supported the RCA process, helping both enable change and keep the profile of diabetes footcare high.

What have you learned and changed along the way?

One of the main elements driving the development of the process has been linking with the Strategic Clinical Network. This has allowed us to work jointly and develop a shared form that automatically populates a spreadsheet ready for analysis when data is inputted. This will allow us to run comparisons across the region to identify common causes and, hopefully, develop joint strategies for tackling the issues together. A problem shared is a problem halved.

The process continues to develop to be broader reaching and more inclusive of other involved staff. We include key staff, such as the amputee nurse counsellor, to inform the patient that we are taking the event very seriously and will be looking into the patient's own personal experience and pathway. Since we started completing RCAs, the value of the findings has led us to develop a similar, but shortened, proforma looking at the causal factors for the more numerous minor amputations as well.

Any advice to someone who is thinking of setting up an RCA?

Identify all the key stakeholders to begin with and look for ways to engage them in the process. Once agreement to meet has been reached, it helps to have a set pattern for meetings. Try to hold them in the same place at the same time. As a group, agree in advance what the intended output of the RCA meeting is and how best the whole team can be part of the wider dissemination process. Also, set out your terms of reference for how the meeting will run.

Utilise the power of diabetes-related amputations being a hot topic just now as a motivator for change. There is so much national work to reference, as sources of information and also as drivers for change. Refer potential members to the Diabetes UK guide *How To: Use Root Cause Analysis to Reduce Diabetes-related Amputations*, the neat local summary of amputation data included on the Diabetes Watch website, and the Diabetes UK State of the Nation 2016 report, which advocates that RCA should be conducted for all major amputations.

Download the Diabetes UK guide at www.diabetes.org.uk/shared-practice-footcare