Multidisciplinary foot teams: celebration, consolidation and challenges

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The last 25 years have seen significant developments in the delivery of diabetes-related foot care. Central to these has been the implementation of multidisciplinary foot teams (MDFTs). To celebrate the last 25 years of MDFT development, nine members of the FDUK executive committee responded to 10 questions about MDFTs. Here, their edited responses are presented as an insightful overview of the major issues relating to MDFTs past, present and future.

1) What have been the most significant developments in the delivery of diabetes foot care over the last 25 years?

The greatest development has been the widespread understanding that diabetes has a significant impact on foot health. This has manifest itself in a number of key areas which, although described separately here, are woven inextricably together in service provision:

Workforce planning: Podiatry posts are now well established and aligned with local and national drivers relating to foot disease in diabetes.

Data: The National Diabetes Audit in England and the SCI-Diabetes database in Scotland have enabled the podiatry profession to better understand the burden of foot disease in order to stratify care accordingly. Quality and Outcome Framework (QOF) points in General Practice helped put diabetes risk stratification on the map, and enabled podiatry services to focus their service provision to those most at risk.

Research: Podiatry involvement in diabetes foot related research has increased exponentially over the last 25 years, driving evidence based service redesign and clinical practice. More recently, population health research has also emerged in this area that will support the development of 'levelling up' service provision to address poorer outcomes linked to deprivation and health inequalities.

Education: Postgraduate educational opportunities to support clinicians in the delivery of high quality diabetes foot care have increased both in informal and accredited learning. The introduction of independent prescribing has transformed podiatric clinical practice over the last 10 years or so and will be a mainstay of future service delivery development.

This focus has influenced undergraduate curriculum development in podiatry programmes, ensuring that graduates are competent in the management of foot disease in a way that those qualifying in the early 1990s would not have been.

The role and success of *The Diabetic Foot Journal* should not be underestimated here. It has played a significant part in bringing education to a wide range of practitioners with a range of excellent articles keeping everyone informed on diabetes foot care related issues.

Guidelines and pathways: The publication of NICE, SIGN and CREST guidelines specifically relating to the foot in diabetes in the late 1990s and early 2000s was a seminal turning point in standardising clinical practice. As these continue to evolve nationally and internationally, the opportunities to drive and learn from best practice globally will be crucial as we build for the next 10–20 years.

The subsequent development of clear patient pathways based on these guidelines provided the impetus for services to develop their own MDT approach and, although variance is still a challenge, there is far more homogeneity across the UK in 2022 than there was in 1997.

Service redesign: MDFTs in one form or another are now the norm rather than the exception in diabetes

foot care. This represents a major achievement for the podiatry profession and is to be celebrated.

Competency frameworks: The development of competency and capability frameworks, including the Capability Framework For Integrated Diabetic Lower Limb Care, provide a benchmark against which practice can be benchmarked at individual and service levels. Utilised appropriately as part of learning needs analyses, these frameworks can provide an evidence-based approach to learning and development at all levels.

Surgical developments: The availability of revascularisation techniques to treat distal peripheral arterial disease (PAD) of diabetes both with surgical arterial bypasses and endovascular methods, and the development of techniques to carry out surgical reconstruction of the deformed Charcot foot.

2) Who or what have been the major influences in the development of multi disciplinary foot teams (MDFTs)?

There are many names who have influenced the development of diabetes foot care. Individuals such as Prof Mike Edmonds, Prof Gerry Rayman, Prof Andrew Boulton, Dr William Jeffcoate, Dr Bob Young, Prof Graham Leese, Prof Brian Kennon and Dr Matthew Young have provided medical and academic leadership. Within the podiatry profession, individuals like Ali Foster, Dr Paul Chadwick, Duncan Stang, Bernard Lee and Bronagh Monaghan have all played a significant leadership role and, more recently, Martin Fox has influenced a radical rethink in podiatric vascular assessment in the lower limb. Willie Munro provided leadership in the orthotic world that had a major influence in joint working between orthotists and podiatrists.

With respect to strategic enablers, the greatest drivers and standards for change have been NICE, SIGN and CREST clinical guidelines and the International Working Group for the Diabetic Foot. A succession of high-quality evidence to support the role of MDFTs in reducing major amputations followed the seminal paper by Edmonds et al (1986), culminating in recent systematic reviews reporting up to a 56% reduction in amputation rates after implementing a multidisciplinary amputation prevention programme (Albright et al, 2020; Musuuza et al, 2020) who report that major amputations were reduced in 94% of published MDFT studies.

3) Do you think that foot disease is still the 'Cinderella' in diabetes care?

There is some evidence to support that this may be the case (Lazzarini et al, 2012), however, it depends on which part of the story you choose to look at. If you want to view it as the unwanted relative to diabetes, then absolutely — it is, quite literally, out on a limb. But who wants foot complications associated with diabetes?

Although foot disease may not always be invited to the party, those passionate about this area frequently rock up anyway and demand attention.

To carry the analogy further — it may still be the case that poorly chosen footwear is generating a national issue that requires a great deal of time and resource to solve. However, once Prince Charming sorts it, we'll be glad for the happy ever after!

Furthermore, by looking to include non-diabetes wounds into foot protection services we may actually be creating Cinderella 2! (Chadwick, 2021).

In the meantime, podiatrists continue to be invited to attend the glittering ball following the *Wounds UK* conference; one of the highlights of the year.

4) What has been the biggest barrier to the development of MDFTs?

The ongoing organisational gulf between community and acute NHS services continues to be the biggest hurdle to integrated care. The inability to share electronic patient records across the 'great divide' is perhaps the most obvious clinical expression of this challenge.

Rigid, inflexible commissioning and planning models coupled with lack of financial resources may hinder development and can often seem to legitimise these silos, and when chronic staffing shortages are added in to the mix, the smoothness and timeouness of the patient journey can be severely compromised both in escalation and de-escalation of care.

Often services and teams are person dependant rather than system dependant and when staff move on, the pathways collapse, having been based on personal goodwill rather than systemic processes.

Personal fiefdoms and egos have often proved insurmountable, providing a reminder that

leadership behaviours, and the associated culture they generate are significant enablers or blockers to improvements or changes to clinical service delivery. Where podiatry managers have allowed their staff to flourish and gain knowledge and skills that they themselves may not have, services are observed to have developed. Where skills and opportunities have been suppressed by management or by lack of medical or surgical support, development has been much more of a struggle.

5) What changes have you seen come in that have been sustainable and which have been little more than fads?

There have been a number of sustainable changes relating to the evolution of the screening process, and separating screening from assessment. The introduction of the 'Traffic Light' system to encourage risk stratification following screening rather than just 'ticking a box' to say screening had been carried out has been a hard fought and much valued long-term win, facilitating the whole of the system to move from asking 'what?' to 'so what?.

Linked to this is the training resource hosted at *www.diabetesframe.org* website to standardise the way foot screening is taught and carried out. This has ensured that whichever healthcare professional or worker carrying out screening does so in an evidence based and standardised fashion.

Changes in vascular surgery techniques and approaches to distal and ultradistal revacularisation either by surgical bypass or angioplasty have become established (Slim et al, 2011), and have strengthened links between medical and surgical practice using the MDFT as an enabler. Innovative developments in Charcot reconstruction have also been established (Ha et al (2020) and as these become more widespread, further improvements in life and limb prognosis may be anticipated moving forward.

Further sustainable changes include:

- Migration from total contact casting to knee-high walkers
- Development of integrated foot protection services
- Prescribing
- Clinical audit
- Clinical academic posts
- Consultant podiatry posts
- Improved vascular assessment
- Larvae therapy and negative pressure.

The fads that have come and gone can be divided broadly into two areas:

NHS Organisational Structures: The constantly shifting sand of how NHS organisations are structured and managed via trusts, Clinical Commissioning Groups, health boards and International Joint Boards etc can render longitudinal service stability difficult to achieve. There is a consensus that the areas where services have had most stable structures and leadership are those which have prospered most by being able to build on constant cycles of learning and improvement.

Dressings: Many wound management products and approaches have come and gone over the years. Everything from electrical stimulation through to MMP inhibitors have been used all with a lack of robust research evidence. Appropriately for a 25-year anniversary, we also had the 'silver' years where every dressing seemed to have a silver derivative and there have also been some very expensive biological dressings that looked promising but failed to gain traction or deliver cost-effective benefits in the long term.

The old adage that 'what you take off or away from a wound matters more than what you put on to or into a wound' seems just as true today as it ever has been! Wound care formularies aim to minimise organisational variation and personal preferences in these areas, but there is still a significant amount of latitude evident across the system, with regional and organisational differences still evident.

Quantifying vascular assessment — particularly in measuring toe pressures — once looked like a preference or a fad, but is now becoming evidentially embedded in routine clinical practice.

6) "Multidisciplinary teams involve team members working independently to create plans specific to their discipline. Interdisciplinary teams are made up of various disciplines working collaboratively toward a common goal" (Nancarrow et al, 2013)

Which do you best think describes service provision to the diabetic foot?

The difference between multidisciplinary and interdisciplinary in is mainly semantics. It is possible to work independently and collaboratively, particularly using shared electronic patient records across whole systems. Anecdotally, where this has been achieved, performance improvements have followed.

It is also evident that the actual term 'multidisciplinary' is now commonly used and is part of the organisational vocabulary. It would be difficult, and potentially counterproductive to change it now. We have spent most of the last 25 years trying to establish consistent messaging to refer quickly to MDFTs and it is important that we do not keep changing that key message.

The notion that six people sit waiting for the next emergency to come through the door is an MDFT myth! The MDFT is a team of disciplines that meet once a week in the MDFT clinic, but its members are, individually or together, readily available at any time to treat people with diabetic foot problems. The podiatry role as the 'gatekeeper' of the team is an important role that has developed over the last 25 years.

7) Do you think that the SARS-CoV-2 experience has strengthened or diminished the functionality of MDFTs?

Both. The pandemic undoubtedly forced whole system redesign into services that may have been struggling to redesign historically, and blurring boundaries between acute and community clinicians provided opportunities for upskilling and provide the potential for a more integrated approach to shared care.

Furthermore, patients who can be managed virtually require new pathways to establish how frequently face-to-face reviews require to be conducted. The longer-term effects of the pandemic upon individuals who may not have sought care early enough, or who had elective surgical or orthopaedic interventions suspended, remain to be seen.

8) Should the same level of multidisciplinary service provision be available to individuals with foot disease who do not have diabetes?

On paper, this seems like a no brainer, however, additional resource needs to be made available to support, such radical service redesign, either by reallocating existing resource or by securing new funding. These costs are likely to be significant simply due to the sheer volume of lower-limb wounds in the population (Guest et al, 2020). It is important that gains achieved in getting to where we are with the diabetes population mustn't be given up by diluting current service provision. Foot protection issues also exist in other specialisms, such as rheumatology and renal, and early referral and intervention options within their pathways need to be addressed too.

9) What are the main barriers to expanding MDFT working to the entire population regardless of their diabetes status?

The main barriers revolve around the availability of specialist resources within an already scarce podiatry workforce. MDFTs have tended historically to be hosted within diabetes departments, and the best opportunities for integrating vascular patients exist where new vascular pathways can be adapted to mirror and integrate with existing diabetes pathways at appropriate points along each patients' journey. Examples of this approach have demonstrated improvements in access for foot wounds (Wylie, 2020).

10) What are the major workforce challenges ahead for the development of MDFTs as we continue to develop the workforce to build on the progress that has been made over the last 25 years?

A large group of clinicians with vast experience are now heading towards retirement and unfortunately, personal experience is something that cannot be passed on.

The current generation of experienced practitioners needs to identify and succession plan for those coming behind and be prepared to share and handover the reins in a supportive way. This is one of the key drivers in FDUK.

There are opportunities for professional skills, such as psychology and mental health support, to be included within MDFTs, and the national workforce challenge facing orthotists also has implications for the development of MDFTs over the next 10 years.

We need to develop consultant level foot protection posts as a profession. There are still too few areas which embrace this. This is linked to the importance

of building on academic foundations that provide a solid base for the development of clinical podiatry practice. While academia in its purest sense isn't for everyone, it is vital that all podiatrists working in advanced roles are able to evidence level 7 education. Maybe in another 25 years this will have evolved into the requirement for a full MSc postgraduate academic pathway with some ringfenced funding to secure a carer pathway to aid recruitment and retention.

There is also a need to continue to change undergraduate education programmes to meet the changing profile of both patients and profession. Embedding learning and teaching as the norm for all podiatry clinicians will go a long way to realising the need for the profession to produce robust research evidence supporting practice and being part of everyday work. Inspiring students to take on the mantle of foot protection is vital in order to consolidate the progress made, and enhancing MDFT placement opportunities is crucial in this regard.

Rheumatology, Vascular and renal disease are all major concerns and whereas pathways may exist (with recognised funding), this is not always true for other conditions

Last, but by no means least, the importance of supporting podiatrists into clinical leadership and management roles remains one of the biggest challenges. What has been achieved over the last 25 years has required intentional leadership that is even more important during this crucial stage of rebuilding better services in a post-pandemic world. ■

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