

The role of inpatient podiatry in the care of the diabetic foot: establishing and implementing services in the South West

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Article points

1. Launching inpatient podiatry services can improve patient care, follow-up planning and education, while promoting diabetic foot disease in an inpatient setting.
2. Establishing the Podiatry InPatient Skills Set (PIPSS) group enabled peer support and encouraged cross-Trust working to benefit patient care.
3. Key areas identified when setting up services are referrals, patient care, discharge planning and education.
4. Inpatient podiatry is recognised as an important adjunct to the overall multidisciplinary foot team.

Key words

- Diabetic foot
- Inpatient podiatry
- Multidisciplinary working

Declaration

Room hire and refreshments for The Podiatry Inpatient Skills Set group are sponsored by ConvaTec UKI

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Inpatient podiatry services were newly established in the South West of England following a peer review process and recommendations. The formation of the Podiatry InPatient Skills Set (PIPSS) group in 2016 allowed for peer learning and improved inpatient care across Trusts. A multi-centred survey demonstrated the value of inpatient podiatry services as an integral member of the multidisciplinary diabetic foot team (MDFT), as well as improved patient care, discharge planning and education of staff. This article describes the successes and challenges of setting up inpatient podiatry services.

With the prevalence of diabetes increasing, it is not surprising that on average 18–30% of hospital beds are occupied by someone with diabetes in the UK (Dhatariya et al, 2020).

National audits, such as the National Diabetes Foot Audit, have given us detailed figures regarding the impact foot disease has on admissions, with the latest report from 2019 demonstrating that one in three patients with severe ulceration (classified as SINBAD score 3 and above) had a foot disease-related admission within 6 months of first expert assessment (NHS Digital, 2019). Furthermore, the National Diabetes Inpatient Audit report from 2017 showed that despite 1 in 20 patients having active foot disease upon admission, less than two thirds of this patient population had a foot examination within 24 hours of admission (NHS digital, 2017).

Economic data produced by Kerr et al (2019) estimated the inpatient cost for diabetes plus foot disease at £376 per day, with overall cost of admission for diabetes patients with foot disease, but without amputation, estimated to be £125.48m in 2014–2015. Length of stay for patients with

diabetes and foot ulceration increased to an average of 8.04 days, compared to those with diabetes but without foot ulceration.

Current NICE guidelines (NG19; 2019) recommend care for inpatients presenting with active diabetic foot disease, or found to have diabetic foot problems on admission, should include a referral to the MDFT within 24 hours of initial foot assessment.

With this in mind, the care of the diabetic foot in an acute inpatient setting is a vital part of the MDFT; however, until recently many Trusts in the South West did not have provision for this.

In 2013–2014, peer reviews of podiatry services in the South West were undertaken to investigate the high amputation rates seen in the area. The reviews made several recommendations, one of which was the appointment of inpatient podiatrists, as these were considered an essential part of the MDFT (Paisey et al, 2019). Since that time, there has been a slowly increasing group of these specialist clinicians within the South West.

In 2016, ConvaTec UKI was approached by

Table 1. The breakdown of professionals that responded to the survey.

Professional groups	Number of respondents
Consultant in Diabetes	7
Consultant Orthopaedic Surgeon	5
Consultant Vascular Surgeon	6
Consultant (not specified)	6
Tissue Viability Nurse	6
Diabetes Specialist Nurse	2
Ward Nurse	5
Podiatrist	16
Profession not stated	4

service leads locally to see if they could facilitate a networking and best practice group for these clinicians in a non-commercial capacity. It was recognised that as all were new roles, establishing a new service in an acute hospital raised a number of challenges, particularly as podiatry is predominately an outpatient-based service and, therefore, required a new way of working and synthesising of services.

In the winter of 2016, inpatient podiatrists from across the South West met and established the Podiatry In Patient Skills Set (PIPSS) group. The initial aim of the group was to identify and share best practice, including documentation, identifying areas for improvement, provision of education and encourage peer support for this new role with meetings biannually.

As inpatient recruitment was new to each Trust, the job specification of each member often varied. A majority saw only patients with diabetes, but a few members were also commissioned to see patients without diabetes. Job roles were split between inpatient and acute outpatient services for most.

The role itself focused, for many, around wound care including post-surgical wound management, education of staff on foot screening, the importance of care of the diabetic foot and offloading of high-risk feet alongside wound management plans, and ensuring robust discharge planning and follow-up for patients, which was identified as a key area for improvement.

Methods

In 2018, following the establishment of inpatient podiatry services, the PIPSS group launched an online multi-centred survey to examine the impact of the services. The survey was sent to Trusts across the South West and distributed to the MDFT in each area. Inclusion criteria was any clinician that worked in the MDFT to also include ward staff. The aim of the survey was to gather feedback on the inpatient podiatry role and whether the role had enhanced the MDFT. The survey included six questions using a 1–5 Likert scale (1-not at all, 3-somewhat and 5-greatly improved) and there was a section for free text so that respondents could indicate areas of improvement or areas that worked well.

The six questions focused on whether there was felt to be an improvement in referrals, patient care, discharge arrangements and clinical knowledge on the diabetic foot. Further questions focused on whether the inpatient podiatry service was felt to contribute to the MDFT and had improved education/training of staff.

Findings

In total the survey was completed by 57 clinicians from a variety of roles across the South West (*Table 1*) and the value of the inpatient podiatrist was widely acknowledged.

Overall, results indicated that inpatient podiatry service had had a positive impact on MDFT and were greatly valued in all areas (*Figure 1*). The addition of the inpatient service to the MDFT

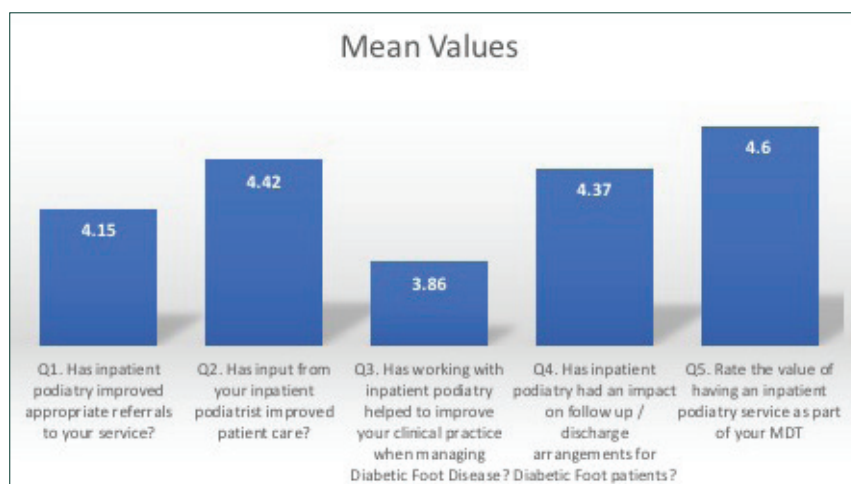
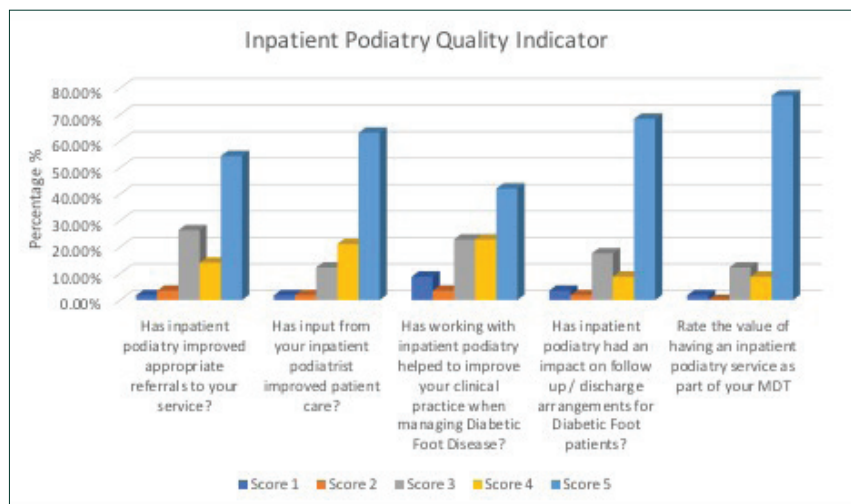


Figure 1. (top) Percentage of respondents at each scoring point; Figure 2. (middle) Showing the mean values for each question; Figure 3. (bottom) Results of respondents showing if they received education from inpatient podiatrist.

was identified as the most significant area of improvement with 44 (77%) of respondents scoring this at a 5 (greatly improved) with a mean value of 4.60 (Figure 2).

It was identified that there had been a significant improvement in patient care with 36 (63%) respondents scoring a 5. Furthermore, improved discharge planning/follow-up care was recognised by 39 (68%) as having improved with the appointment of inpatient podiatrists. Twenty-four (42%) of respondents felt that their clinical practice around the diabetic foot had improved with the appointment of inpatient podiatry services, with 36 (63%) receiving education from the inpatient podiatry team (Figure 3). This showed that the implementation of inpatient podiatry not only served to improve patient care, but also to raise the professional profile of podiatry and the diabetic foot in an inpatient setting, alongside improved appropriate referrals to services.

The survey also included a section for free text, which aimed to gather thoughts for areas of improvement and report areas that were working well. Themes of areas where the inpatient podiatry service was felt to have contributed most was around discharge planning, patient care and education:

“Means seamless care for patients when admitted from community to hospital and vice versa and complete treatment plans to follow so we know what has happened and what is planned”

“Rapid response to inpatients with wounds, education to the wards, implementation of touch toe test and better relationships with the MDT”

“The quality of care for patients with foot disease has improved immeasurably. Also length of stay has improved.”

However, one area that was often mentioned was the lack of service for those patients without diabetes, with comments such as: “Unfortunately, I feel our service is limiting its potential by only seeing patients with diabetes.” These thoughts were often echoed by the podiatrists themselves who identified that many of the patients without diabetes are at as high a risk as the diabetes population. Indeed, Ahmad et al (2016) highlighted that minor amputations are rising at a faster rate in the

population without diabetes than the population with diabetes and, thus, can be argued will require the same level of care as diabetes patients. However, inpatient podiatry posts were often established as part of the diabetes MDT as this is where funding was available, but this may be an area for further development in time.

Discussion

Following the survey, the PIPSS group members reflected on four key areas that were felt to be important in enabling successful services to be established, and may serve to help areas who are yet to have inpatient services.

Setting up services

Perhaps the biggest challenge that all members of the PIPSS group initially faced was establishing an inpatient podiatry service within an acute setting. As a profession, podiatry is predominately an outpatient-based service, so inpatient services brought new complexities with multiple IT systems, multiple stake holders and the added complication of whether the podiatrist was employed by community podiatry or directly by the acute trust, which brought bureaucratic difficulties at times.

With the fast pace of acute medicine, particularly in admission areas of the hospital, podiatrists recognised the need for a quick referral process for ward staff, which would highlight high-risk and ulcerated patients as quickly as possible. One suggestion that was shared among the group was the strength of linking referral pathways with already established services, such as the tissue viability team and the diabetes specialist nurses. This was adopted in many areas and also served to strengthen the working relationships with these professionals. Despite each Trust having different IT systems and pathways, most podiatrists found that an electronic method of referral was the most reliable and served as a good data collection tool.

Another suggestion and key learning point that was shared among the PIPSS group members was to encourage a rolling rotation of community podiatrists into the role. It was recognised that often only one clinician was appointed to the inpatient position and in the absence of the podiatrist, the inpatient service was unable to

run. The introduction of a rolling rotation not only served to upskill the rotational podiatrists, but has also allowed the continuation of inpatient podiatry services.

Patient care

Wukich et al (2013) highlight eight essential skills necessary for treatment and prevention of diabetic foot disorders while an inpatient. Although some of these are more relevant to the wider multidisciplinary team, such as urgent surgical debridement and timely vascular imaging, many of the skills reflect those that podiatrists routinely carry out, such as neurological assessment, bedside vascular assessment and the recognition of need for vascular review. Furthermore, the identification of infection and assessment of its severity, the ability to take deep cultures and ensuring the follow up of patients once discharged are all skills of a podiatrist.

Many of the podiatrists that were recruited to this role also worked concurrently in the outpatient diabetic foot clinics in each locality and, thus, had good knowledge of the diabetic foot and services available, such as orthotics. Predominately, the inpatient role was focused around wound care, although this varied from non-infected diabetic foot ulceration to post-surgical wound management. More routine care, such as callus debridement and nail care, was provided where possible and if there was a clinical need.

The introduction of inpatient podiatry to acute hospitals brought specialised podiatric skills, such as debridement, wound assessment and knowledge of offloading footwear to the patient bedside and implementation of these prior to discharge, ensuring podiatry was involved earlier in the patient journey. Often, podiatric skills complemented existing services, such as tissue viability, collaborative working with such services particularly in complex wounds meant patients received an improved service, bringing both professionals skills together to aid wound healing.

Due to bed pressures within acute settings, patients may be placed on wards that have little knowledge of the care of the diabetic foot, and thus may fail to identify red flags for patients. Skervin et al (2019) recognised a gap in knowledge on the diabetic foot in the medical workforce. Therefore, podiatrists in these roles are often helping to

inform and support junior medical staff on care of the diabetic foot, correct diabetic foot antibiotic guidelines and can often be the first to identify limb threatening complications, such as infection or ischaemia. This early identification not only aids patient care directly but can also reduce length of stay for patients.

This was demonstrated in one member's hospital where the podiatrist began noticing that patients were often sitting on wards without foot checks, but with an unknown source of infection, despite previous campaigns regarding assessment of diabetic feet in 24 hours of admission. Patients were being recognised as having a serious foot infection too late and were requiring urgent surgery. The inpatient podiatrist, along with the rest of the podiatry team, launched a campaign visiting wards educating staff, working closely with admission areas of the hospital to make them aware of the importance of foot checks and to refer to podiatry. In a matter of weeks, referrals were being received in a timely manner and foot checks of patients highlighted infection, thereby preventing deterioration and the need for surgery and reducing length of stay for patients.

Education

Education of ward-based staff is essential in preventing foot ulceration/pressure damage during admission, identification of high-risk patients on admission and ensuring timely and appropriate referrals to the inpatient podiatry team. The role that these wider members of the MDT play should not be underestimated.

The introduction of the Check, Protect, Refer (CPR) campaign in Scotland demonstrated the positive impact education can have on foot assessments for patients with diabetes. The study showed that by working in conjunction with the ward staff the development of a simple and effective tool for foot screening increased the number of patients receiving a foot assessment from 28% to 72% (O'Regan et al, 2018). Although the study acknowledges there is a small cohort involved, the results demonstrate the importance of education and working in partnership with ward-based staff.

However, education of staff is an ongoing challenge for all the inpatient podiatrists, upon appointment many Trusts had a campaign for foot screening on admission and the introduction of

the Touch the Toes test as described by Rayman et al (2011). Education was delivered in a variety of methods, such as ward-based learning, formal presentations and posters.

Despite this, uptake in some areas have been low. This echoed the findings by Goulding and Bale (2019) who found that although different methods of education was carried out in their study to introduce the diabetic foot assessment in ward-based environments, there was no improvement in the number of assessments carried out. Reasons cited for this were time constraints, staff shortages and that nursing staff did not fully appreciate their role in the diabetic foot assessment.

Furthermore, the turnover of staff in an acute setting is often high and in times of staff shortages bank or agency staff are often relied upon to help, who may not have attended training or be familiar with local policies. It is accepted that this is a vital aspect of patient care but an area that requires continuous education for staff.

Discharge planning

Although the importance of patient care cannot be underestimated, perhaps the area where inpatient podiatrists contribute most, is the role they play in ensuring continuation of care as patients move from inpatient settings to outpatients. Wukich et al (2013) identify discharge planning for active foot patients to be an essential part of the management of diabetic foot ulcers in hospital, ensuring timely outpatient appointments.

Inpatient podiatrists regularly identify high-risk and active foot patients that are not known to services or have fallen out of podiatry care. The ability to reinstate these patients to the services and ensure a correct and timely follow-up, ensures a direct link between acute and community/outpatient settings to allow continuation of care for these high-risk patients.

Furthermore, by establishing the PIPSS group it has provided an invaluable platform for communication between Trusts. With an ever-growing number of services centralising, such as renal and vascular services, patients are often travelling out of their local areas for acute inpatient treatment. One benefit of the group was that we were able to share and explain how the podiatry services in each Trust were

structured, and provide the contact details for the departments.

Although this appears trivial, this has meant that care can continue for those patients away from their normal Trust, with communication between inpatient podiatrists. Perhaps most importantly, upon discharge, care can be handed back, along with a summary of their inpatient stay, to ensure continued care for the patients. Prior to inpatient podiatry, this had been a considerable area of concern for Trusts, who would often lose their highest risk patients when they travelled out of area. Therefore, the establishment of inpatient podiatry roles has increased communication between neighbouring Trusts, which has benefitted not only the patients but encouraged collaborative working.

Conclusion

Overall, the introduction of inpatient podiatrists in the South West has shown to be of benefit to the MDFT in improving patient care, discharge/follow-up plans and improved education.

Although often challenging at the start to establish referral pathways and the service, the role has strengthened the MDT links, and has provided education and promotion of the scope of the profession of podiatry. The help and support of the PIPSS group has been valuable

to share best practice, information about local services and provide peer support to ensure continued patient care. Following on from the success of this group, a second group has been started in the east of the country. ■

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