Podiatrists' experience of implementing a national model of care for the diabetic foot

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Introduction

- Diabetic foot ulcers are one of the most common lower extremity complications of diabetes, with the lifetime risk of developing a DFU estimated to be as high as 34%[1]. They increase a person's risk of lower extremity amputation and place a significant burden on the individual and the health system. However, they are preventable through identification of risk factors (e.g. peripheral neuropathy, peripheral vascular disease) and subsequent risk stratification and referral to services that will ensure timely implementation of prevention strategies. These prevention strategies depend on the risk factors identified but may include patient education, treatment of nail and skin pathologies, provision of appropriate footwear and offloading.
- In Ireland, the National Clinical Programme for Diabetes (NCPD) seeks to standardise and improve diabetes care delivery by reorganising–existing fragmented services and introducing new diabetes services. For diabetic foot care, this led to the publication of the **Model of Care (MOC) for the Diabetic Foot** in 2011, which was developed in line with international evidence[2].
- This MOC involves screening for the "at-risk" foot in the GP setting and appropriate risk-stratified care pathways for the prevention and management of diabetic foot disease. It also outlines the specific roles for community and hospital podiatrists in the management of the foot in diabetes
- **Research Rationale:** Evaluating the national Model of Care for Diabetic Foot, how it is perceived and implemented by podiatrists working in primary and secondary care settings is critical to identify good practice and areas where improvement can be made. This is of particular importance to ensure successful implementation of the new MOC published in 2021.
- **Study objectives: (1)** Describe activities carried out by podiatrists working within the acute and community healthcare settings **(2)** Evaluate podiatrist's satisfaction hospital-based and community-based activities **(3)** Evaluate podiatrist's experience of implementing the MOC for the diabetic foot.

Methods

Survey:

- A survey was developed based on one used by the Association of British Clinical Diabetologists in the UK that was based on the Picker Patient Experience Questionnaire.
- It was modified for the Irish health system in collaboration with the NCPD National Clinical Lead for Podiatry to ensure it reflected podiatry work settings and practices.
- It included **(1)** closed questions on participants demographics, their current employment setting, patient caseload, links within primary and secondary care settings, satisfaction with community and acute services and referral pathways and typical work activities and **(2)** open-ended questions asking participants to describe their experiences of implementing the National Model of Diabetes Foot Care and what changes they would make to the NCPD.

Participants and Recruitment:

- The survey was carried out between 31st October 2017 and 10th April 2018 amongst podiatrists working within the Irish Health Service Executive's acute and community settings.
- Participants were recruited via email, with addresses (n= 64) obtained from the National Podiatry Lead.

Data Analysis:

- Closed-ended questions were analysed using StataBE 17. Descriptive statistics (mean, standard deviations, crosstabulations) were inspected for patterns
- Open-ended questions were analysed using content analysis.

Results

In total, 81.25% (n=52) of podiatrists responded, with 47% (n=24) of working in the hospital setting, 37% (n=19) working in the community setting and 16% (n=8) working within the hospital and community setting. As outlined in table 1, no community health organisation meets the international recommendation of two full-time podiatrists per 100,000 population.

Self-reported activities carried out by podiatrists (See Figure 1)

Community-based podiatrists

- 84% carry our annual reviews of those at moderate risk of diabetic foot disease.
- 21% treat those at high risk
- 84% provide a rapid access service
- 32% treat patients with active foot disease

Hospital based podiatrists

- 58% treat high risk patients, with many citing that they are understaffed and so cannot see this patient group.
- 79% provide a rapid access service & treating patients with active foot disease

Podiatrist's satisfaction with acute and community services

Community-based podiatrists

- 47% (n=9) were unsatisfied with how diabetic foot screening, and management of low risk patients was conducted within the GP setting.
- 32% (n=6) were unsatisfied with management of patients at high risk, and those with active foot disease, by hospital based podiatrists.

Hospital-based podiatrists

- 16% (n=4) were unsatisfied with diabetic foot screening activities within the GP setting, and 21% (n=5) were unsatisfied with management of low risk patients within the GP setting.
- 34% (n=8) were dissatisfied with management of moderate risk patients within podiatry community settings
- 62% (n=15) were satisfied with referral pathways used by community based podiatrists.

Podiatrist's experiences with implementation of the Model of Care for the Diabetic Foot.

- All respondents noted **challenges** of successful implementation of the MOC. These were organised into three main categories:
  1) lack of podiatry manager
  2) lack of education/awareness on the role of podiatry amongst other healthcare professionals and
  3) lack of referral pathways between acute and community podiatry services, and to other embers of the multidisciplinary team (e.g. vascular, psychology, physiotherapy)
  4) lack of resources (including infrastructure, staff, time)

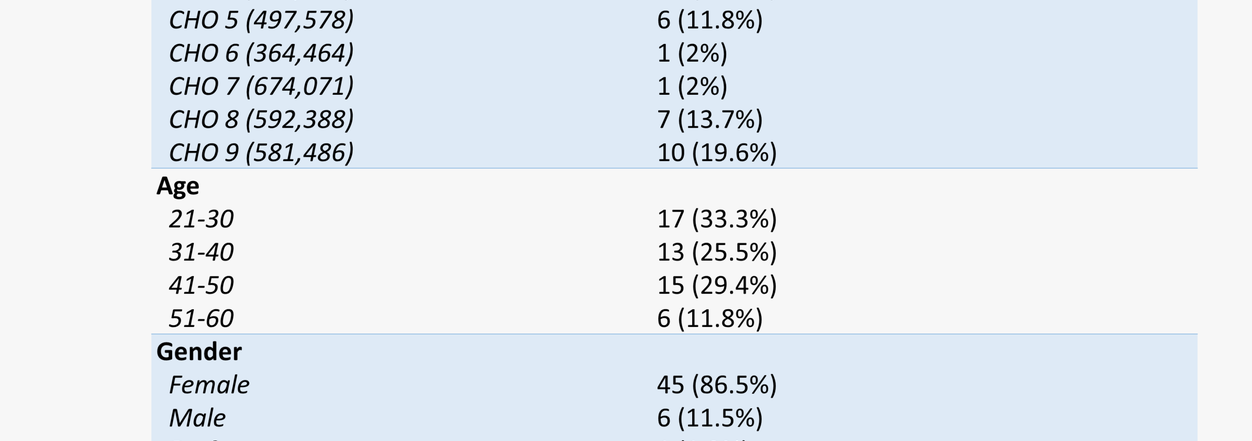
- Respondents noted the following **changes are needed** to enable successful implementation of the MOC:
  1) Increased structured education amongst other HCPs, included training on diabetic foot screening, appropriate referral pathways and the role of podiatrists in diabetic foot care.
  2) Ensuring a podiatry manager is in place for each community health organisation to enable representation at senior management.
  3) Employment of more podiatrists to ensure at least minimal staffing levels are met.

Table 1., Demographic Data

	N = 51
Setting	
Hospital	24 (47%)
Community	19 (37%)
Hospital & Community	8 (16%)
Community Health Organisation (CHO)	
*CHO 1 (389,048)**	7 (13.7%)
CHO 2 (445,356)	3 (5.8%)
CHO 3 (379,327)	5 (9.8%)
CHO 4 (664,533)	11 (21.6%)
CHO 5 (497,578)	6 (11.8%)
CHO 6 (364,464)	1 (2%)
CHO 7 (674,071)	1 (2%)
CHO 8 (592,388)	7 (13.7%)
CHO 9 (581,486)	10 (19.6%)
Age	
21-30	17 (33.3%)
31-40	13 (25.5%)
41-50	15 (29.4%)
51-60	6 (11.8%)
Gender	
Female	45 (86.5%)
Male	6 (11.5%)
Prefer not to say	1 (1.9%)
Grade	
Staff	7 (13.7%)
Senior	38 (76.5%)
Clinical Specialist	3 (5.9%)
Manager	3 (5.9%)

***Figures in brackets relate to population within that community healthcare organisation at the time of data collection.**

Figure 1., Podiatrists Work Activities Across Different Settings



Discussion

- This study provides an insight into current working practices of podiatrists working within Ireland's HSE. Responses indicate discontent with current work practices across acute and community services, and identifies challenges faced by podiatrists when implementing the MOC.
- Some of these challenges have been addressed with the updated version of the MOC, for example:
  1. Many new podiatry post have been funded and subsequently filled.
  2. An online education tool on diabetic foot screening was developed and is freely available to all staff working within the HSE.
  3. It highlights the need for clear referral pathways between GPs, foot protection teams and multidisciplinary teams.
- However, successful implementation of these changes is not guaranteed, and policymakers will need to ensure they are monitored to ensure successful implementation of the 2021 MOC .

References: 1. Armstrong DG, Boulton AJM, Bus SA. Diabetic Foot Ulcers and Their Recurrence. *New England Journal of Medicine*. 2017;376(24):2367-2375. doi:10.1056/nejmra1615439 **2.** National Diabetes Programme Working Group. (2011). *Model of Care for the Diabetic Foot*. http://hdl.handle.net/10147/326403Findthisandsimilarworksat-http://www.lenus.ie/hse

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