



# **An investigation into Lower Leg Ulceration in Northern Ireland**

**March 2013**

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## Foreword

As healthcare professionals we acknowledge the complexities of managing lower leg ulceration. Many of us are involved in developing guidelines, writing articles, and research projects to provide recommendations on the best way to manage patients. However, it remains unclear how many patients are affected by leg ulcers and associated conditions. A few may ask if knowing how many there are really matters? My simple reply would be 'Yes'.

At a time when the NHS is expected to make more financial savings without compromising patient care or safety it becomes imperative to establish the current situation and to predict future service requirements. Clinical audit enables this because it systematically looks at care, treatment and outcomes; examining how resources are currently being used.

The results from this audit will help identify and promote good practice enabling improvements in service delivery and patient outcomes. There are also opportunities to identify education, training and service needs that require extra resourcing. In the future combining audit results with details of demographic changes will enable the healthcare professionals and researchers to provide evidence of current trends and reasons for expenditure. This helps to identify service changes needed to maintain high standards in an ever changing NHS.

I congratulate the team involved in carrying out this clinical unit which is a timely and welcome addition to the knowledge base, and I am sure it will prove invaluable to colleagues working in the ever challenging field of lower leg management.

Susan Knight  
Chair  
The National Leg Ulcer Forum

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## Introduction to the leg ulcer audit

Lower leg ulceration is defined as being an open lesion between the knee and ankle joint that remains unhealed for at least 4 weeks<sup>1</sup>. Evidence would suggest that approximately 1% of the population will suffer from leg ulceration at some point in their lives<sup>2</sup>. The prevalence increases to 20 per 1000 in people over 80 years-of-age<sup>3</sup>.

Lower leg ulceration is often a continuous cycle of healing and tissue breakdown over decades and it is important to note that chronic venous leg ulcerations are associated with considerable morbidity and impaired quality of life<sup>4</sup>. People from the most deprived communities take longer for their leg ulceration to heal and their leg ulcerations are more likely to be recurrent in nature and will impact on the individuals' wellbeing over many years<sup>5</sup>. Treatment of this major health problem results in a considerable cost to the NHS. The cost of treating one ulcer was estimated to be between £1,298 and £1,526 per year based on 2001 prices and in the context of a trial conducted within a specialist leg ulcer clinic<sup>6</sup>.

In Northern Ireland (NI), leg ulcer clinical guidelines were developed by CREST<sup>7</sup> (Guidelines for the Assessment and Management of Leg Ulceration) in 1998 and although never updated were superseded by NICE<sup>8</sup> guidelines in 2006. Leg ulceration affects approximately 1% of the population of the United Kingdom<sup>9</sup>, with a further 400,000 people experiencing recurrence<sup>10</sup>. Within NI the occurrence of leg ulceration is impossible to estimate due to inconsistencies in data collection methods within each of the five health trusts. In addition there are a number of professionals involved in delivering leg ulcer provision in NI, including District nurses; Treatment Room nurses; Practice nurses; Tissue Viability nurse specialists; nurses in Private Nursing Homes; Hospitals based nurses; General Practitioners; Dermatologists; and Vascular consultants. The involvement of so many professionals frequently results in fragmented and duplication of patient care.

The Nursing and Midwifery Strategy promotes delivering safe and effective care; through the development of evidenced based policies, procedure, standards and guidelines for Nursing and Midwifery Practice<sup>11</sup>. It also encourages the adaptation of service improvement models, to design systems and process which respond to the needs of patient/clients, avoiding duplication and maximise the use of resources. Raising standards are identified as a strategic goal<sup>12</sup>. It advocates the development of a cohort of meaningful standards, against which performance can be measured. CREST 1998<sup>7</sup> were the last regional standards developed for leg ulcer care, in order to measure each Health Trust performance and outcomes. It is recommended that systems should be put in place to monitor standards of leg ulcer care, as measured by structure, process and outcome<sup>8</sup>.

However there is a challenge presented here in that there is no evidence locally available regarding training approaches, staff roles (medical or nursing) and responsibilities in this area (for any setting be it primary care, secondary care, patient's own home or the care home setting). In addition there is no clear understanding of the best regional model for managing this clinical condition.

## **Aim**

The aim of the audit was to assess the standard of care provided to patients with lower leg ulceration and to understand who provides care and where this care is provided.

## **Objectives**

The overall objective was to audit the existing practices of nurses in the area of lower leg ulceration across NI. The specific objectives within the audit were:

1. To ascertain the number of patients presenting with lower leg ulceration
2. To assess the standard of care provided to patients with lower leg ulceration
3. To assess the provision and uptake of training amongst health care professionals
4. To determine if HSC Trusts have policies and documentation in place for the treatment of Lower leg ulceration
5. To provide information to assist in establishing regional best practice guideline and care standards for the delivery of lower leg ulceration management in NI.

## **Audit Methodology**

The overall audit took the format of three sets of data collection to enable the audit objectives to be achieved. To determine if HSC Trusts had policies and documentation in place for the treatment of Lower leg ulceration, a questionnaire was sent to the six Tissue Viability lead nurses within the five Trusts.

Secondly a questionnaire was issued to all General Practitioners, District nurses, Treatment Room nurses, Practice nurses and Tissue Viability nurses within the five HSC Trust areas. This questionnaire provided the information required to ascertain the number of patients presenting with lower leg ulceration. It also provided the information regarding the provision and uptake of training amongst health care professionals.

Finally to assess the standard of care provided to patients, a questionnaire was used to analyse patient's experiences as recorded in their records. The relevant notes were analysed for the following groups of staff - Tissue Viability staff, Treatment Room staff, Community Nursing staff and Dermatology and Vascular clinics.

A template was designed (Table 1) for application across the five HSC Trust geographical areas. This template was used to ensure that a representative sample was taken across all areas where lower leg ulceration care was provided. It also helped to achieve consistency in data collection across all HSC Trust areas.



**Table 1: Breakdown of patients records to be audited across each Health and Social Care Trust**

HSC geographical area	Tissue Viability	Treatment Room <sup>1</sup>	Community Nursing	Dermatology & Vascular Clinics <sup>2</sup>
Northern Health & Social Care Trust (NHSCT)	20	30	30	10
Western Health & Social Care Trust (WHSCT)	20	30	30	10
Belfast Health & Social Care Trust (BHSCT)	20	30	30	10
South Eastern Health & Social Care Trust (SEHSCT)	20	30	30	10
Southern Health & Social Care Trust (SHSCT)	20	30	30	10

1 – For those HSC Trusts who provided Practice nurse facilities it was felt that where possible they should also have an opportunity to contribute to the audit. Therefore Treatment Room notes would consist of 20 Trust notes and 10 Practice nurse notes in those HSC Trusts.

2 – As with the Practice nurse notes, not all HSC Trusts provided Dermatology and / or Vascular clinics. If any Trust did not have these services, an extra add 10 notes were added to the Tissue Viability pool. Or if the Dermatology or Vascular Clinic existed, but did not see lower leg ulceration, but referred the patients on to Tissue Viability , then 10 notes should be added to the Tissue Viability pool and, where possible, be the referrals initially sent to the Dermatology / Vascular clinics.

The breakdown of where the notes were actually obtained is shown in Table 5 on page 10.

### **Data Collection Method**

Three main approaches were undertaken to capture the required information.

Firstly an online questionnaire was to be completed by each of the Tissue Viability Leads in relation to the documentation that each Trust used in treating patients with lower leg ulceration (Appendix 1).

Secondly, an online questionnaire was issued to General Practitioners, Community Nursing, Treatment Room nursing, Tissue Viability nursing and Care Home managers to assess the amount of patients with lower leg ulceration being treated and also to identify the nature of staff training. These were issued through Public Health Agency (PHA) mail drops, a mailing list from Regional Quality & Inspection Agency (RQIA) and through Community nursing managers in the Trusts (Appendix 2).

Thirdly a review of patient's notes was completed throughout the 5 Trusts using an agreed questionnaire (Appendix 3).

Three questionnaires were designed as data collection tools specifically to capture the required information (Appendices 1, 2 & 3). These questionnaires were tested within a sample of setting by experienced research staff.

Data was collected between Monday 18 June 2012 and Thursday 31 October 2012.

## **Patient Selection**

For the completion of the patient note review, the required number of patient's charts was randomly selected. This selection was completed by the most appropriate professional within each HSC Trust site area. These professionals consisted of Trust Tissue Viability Leads, Health Centre Treatment Room staff, Practice Nurses or Community Nurses.

All participants' charts were patients who were still being treated within each setting or who had recently been discharged. No identifiable information was recorded during the patient note review. Participants were assigned a Unique Identification number linked to HSC Trust sites.

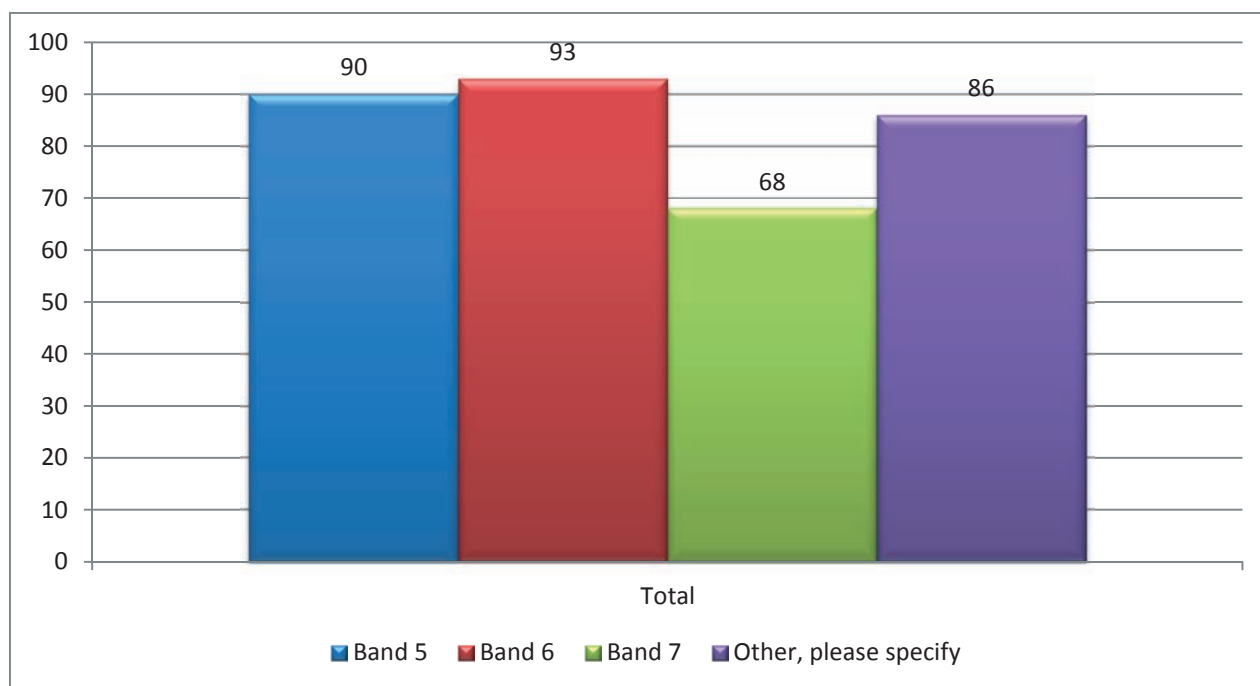
## **Data Management**

Data was collected manually and then entered into Microsoft Excel 2010. To ensure consistency each auditor underwent training in the use of the data collection tools. Robustness of data entry was ensured using double blind entry techniques. Data cleansing occurred with the help of an expert in this field.

## Results

For clarity and ease of interpretation the results will be presented under each of the specific objectives. It is important initially to consider those professionals who are providing care for the patient. The following tables give some context as to where the information has been obtained. A total of 337 staff started to complete the on-line Staff Survey. However, not all of these staff completed all the questions in the questionnaire.

**Figure 1: Details of grades of staff completing staff survey**



The majority of staff who completed the survey were either Band 5 (27%) or Band 6 (27%) nurses. Band 7 staff accounted for n=67 (20%) of the audit. “Others” accounted for 26% (n=86) of respondents.

To fully understand the staff completing the survey Table 2 details this respondent group. This table explains the variation in staff titles used across primary, secondary care and independent settings.

**Table 2: Details of grades of “Other” staff completing staff survey**

Band of staff	Number
Nursing / Residential Unit Manager	44
General Practitioner	12
Care Staff	7
Registered Nurse	5
Grade G	5
Band 8A	4
Practice Nurse	4
Nursing / Residential Unit Deputy Manager	3
Health Care Assistant	1
Band 8b	1

**Figure 2: Details of areas of employment from staff survey by HSC Trust area**

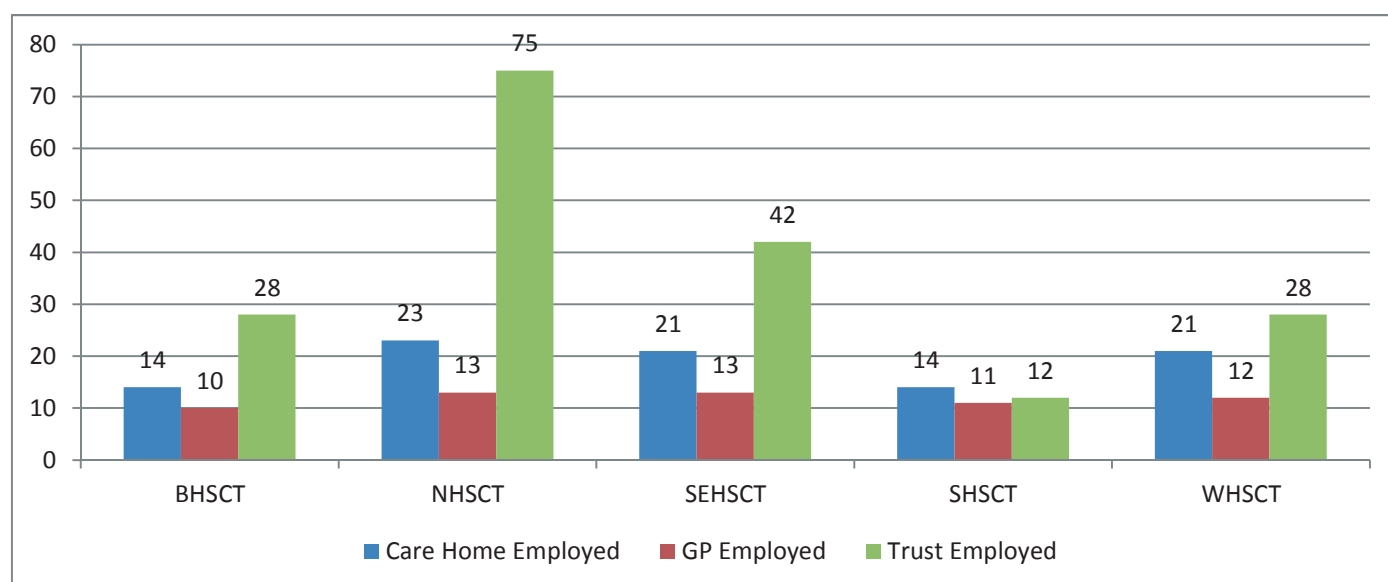
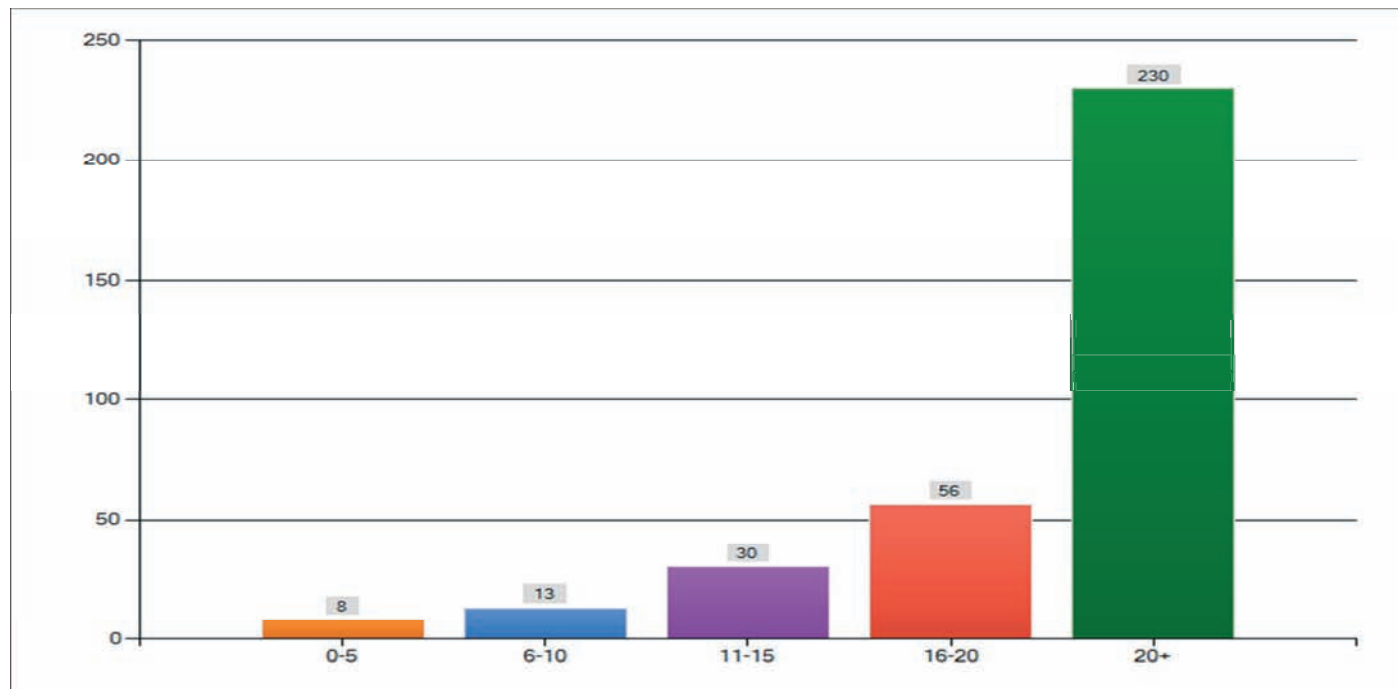


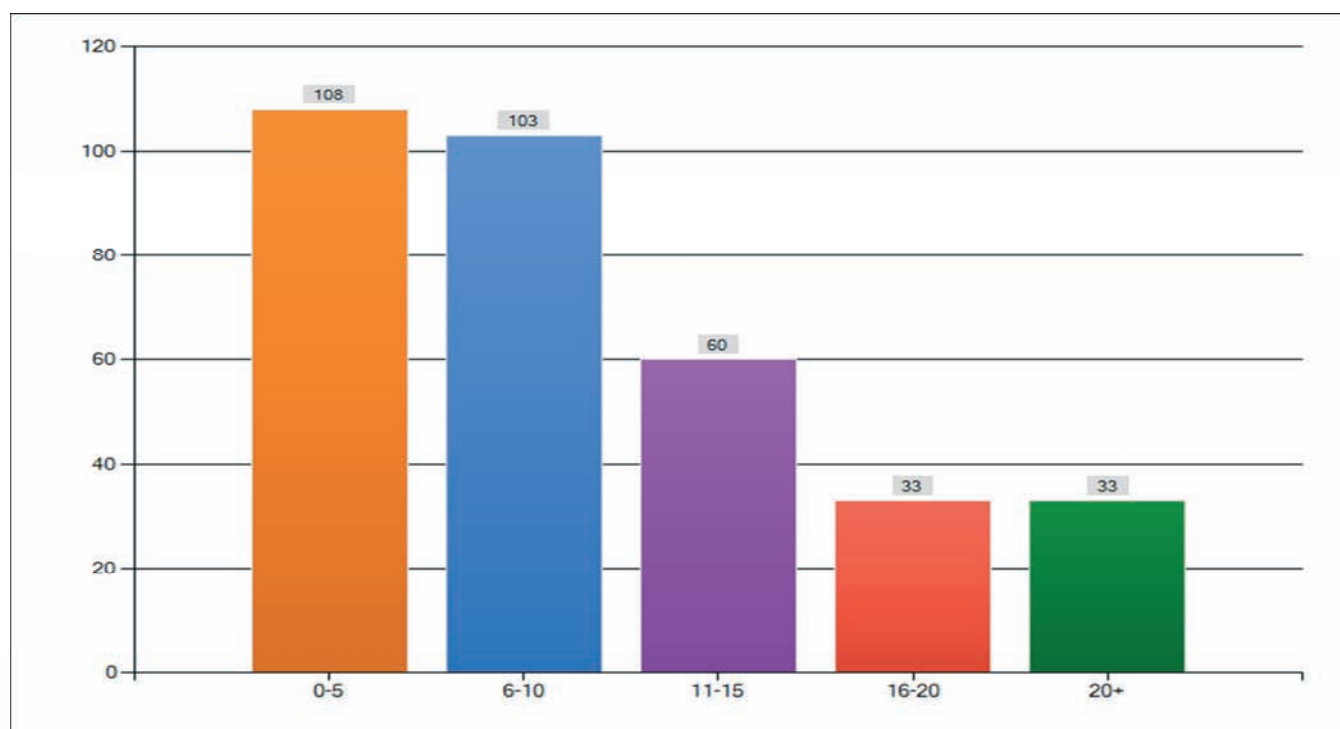
Figure 2 shows that 55% of respondents (185/337) were employed by a Trust, 27% by a Care Home (93/337) and 18% were employed in a General Practice setting (59/337).

Staff were asked to identify the number of years they were registered in their profession. Figure 3 shows that 68% of staff (230/337) had been registered for over 20 years. A total of 17% of staff (56/337) had been registered for 16-20 years, 9% for 11-15 years (30/337), 4% for 6-10 years (13/337) and 2% for 0-5 years (8/337).

**Figure 3: Details of participants by years registered in their profession**



**Figure 4: Details of participants by years in their current post**



Of the 337 respondents, 32% were employed in their current post for 0-5 years (108/337), 30% for 6-10 years (103/337), 18% for 11-15 years (60/337), 10% for 16-20 years (33/337) and 10% for 20+ years (33/337).

**Objective 1: To ascertain the number of patients presenting with lower leg ulceration**

An on-line staff survey (n=337) was used to capture the number of patients with lower leg ulceration and the provision and uptake of training by staff. Table 3 details the results obtained. A total of 225 of the 337 respondents replied to this question representing a completion rate of 66%.

**Table 3: Details of how many patients have received healthcare of any type within the past month**

Number of patients to receive care	Number of respondents
1 - 49	101
50 - 99	31
100 - 199	12
100 - 149	5
150 - 199	5
200 - 299	12
300 - 399	7
400 - 499	5
500 - 999	23
1000 - 1999	15
2000 +	9
Total	225

According to the staff survey, a total of 77,863 patients were treated in the previous month by the 225 respondents to the question.

**Table 4: Details of the number of patients treated with lower leg ulcerations in previous month**

Number of patients lower leg ulceration	Number of respondents
1 - 9	118
10 - 19	23
20 - 29	10
30 - 39	5
40 - 49	3
50 - 99	7
100 +	6
<b>Total</b>	<b>172</b>

Table 4 shows that 76% of the respondents (172/225) treated patients with lower leg ulceration in the previous month. The average number of patients that each respondent treated with lower leg ulceration was 20. The lowest number of patients treated by each respondent was 1 and the highest number treated was 620. The most often occurring number presenting for treatment was 1 patient which was reported by 26 respondents. The total number of patients attending a health professional for treatment of a lower leg ulceration was n=3502 for the month audited. For 6 settings they provided care to over 100 patients with lower leg ulcerations. Of these 6 respondents, 1 respondent worked in a GP employed setting while 5 were employed with a Trust HSC setting. The HSC Trust area with most respondents of over 100 patients treated with lower leg ulcerations was the NHSCT with 3 respondents, then SHSCT with 2 respondents and finally SEHSCT with 1 respondent.

## Objective 2: To assess the standard of care provided to patients with Lower Leg Ulceration

In examining the standard of care provided to patients, a total of 495 patient's notes were randomly selected and audited. Figure 5 details the HSC Trust areas where the charts were audited.

**Figure 5: Total charts audited by HSC Trust area**

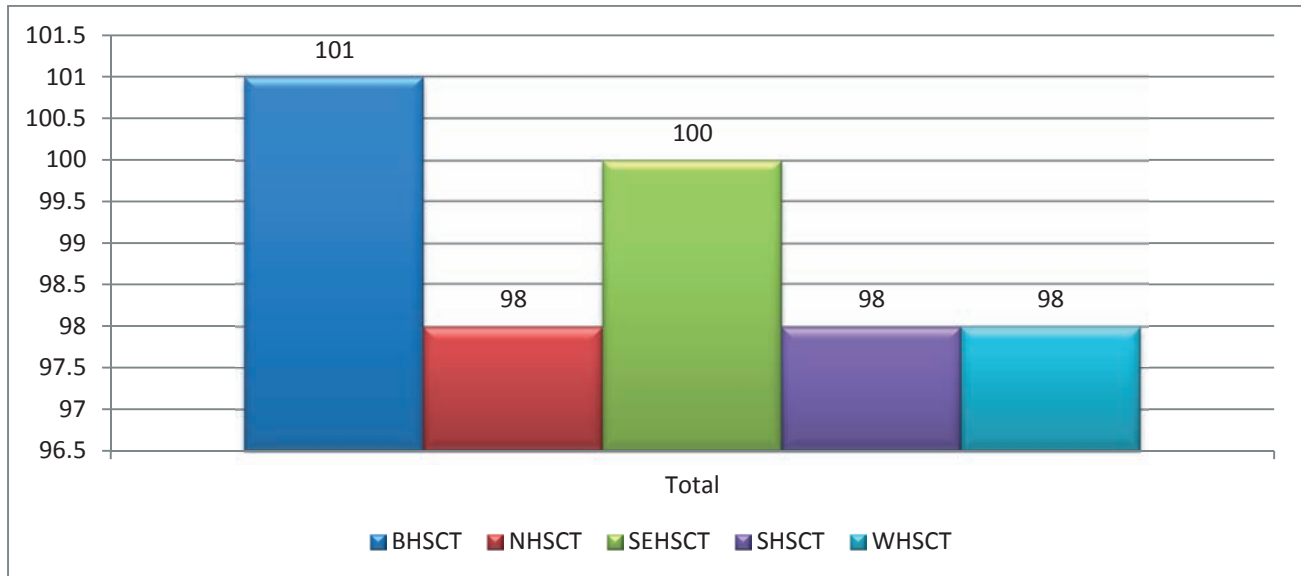
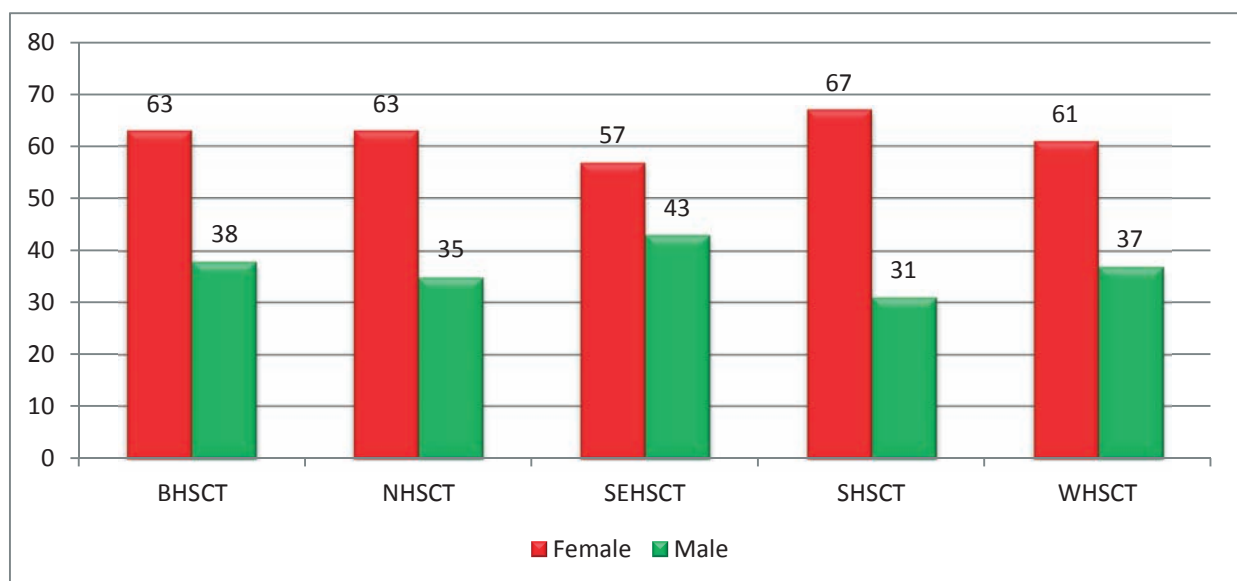


Figure 6 details that of the charts audited, it was found that 63% of the sample were female (311 out of 495) and 37% of the sample were male (184/495). For all trust areas there were a higher number of females as compared to males.

**Figure 6: Details of the number of patients broken down by gender and HSC Trust area**



**Figure 7: Details of the number of patients broken down by age and HSC Trust area**

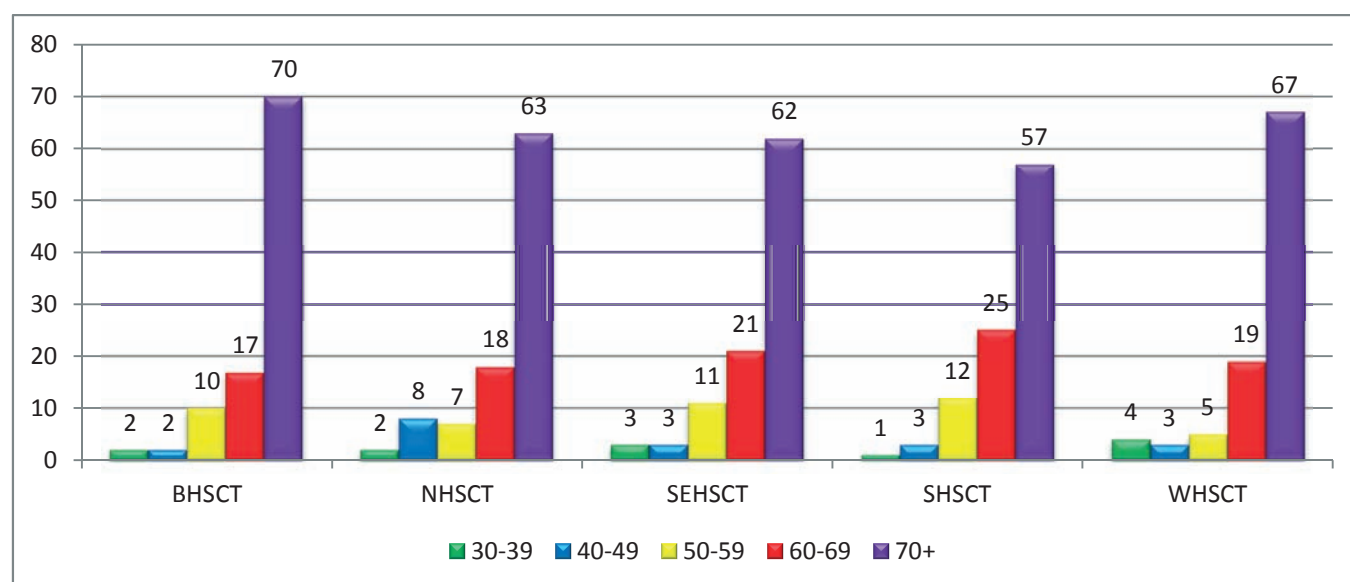


Figure 7 details that 64% of the patients notes audited were aged over 70 (319/495), this was a similar position across each of the 5 Trusts. 20% were aged 60-69 (100/495), 9% aged 50-59 (45/495), 4% aged 40-49 (19/495), and 3% aged 30-39 (12/495).

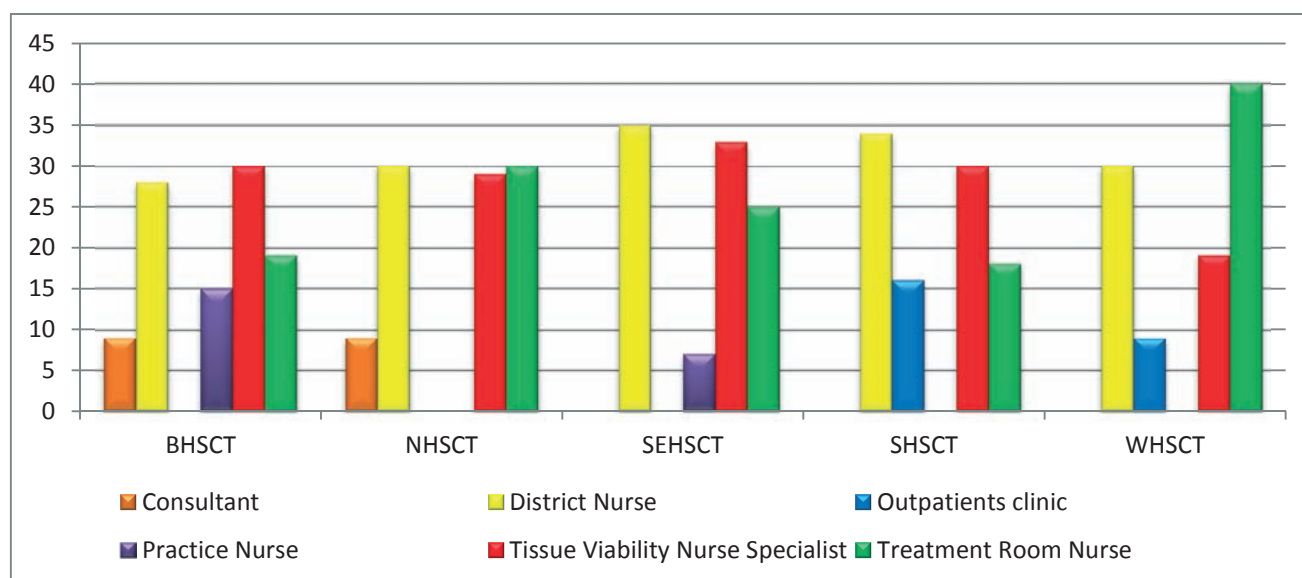
**Table 5: Details the number of notes audited by profession across each HSC Trust area**

	BHSCT	NHSCT	SEHSCT	SHSCT	WHSCT	Grand Total
Consultant	9	9	-	-	-	18
District nurse	28	30	35	34	30	157
Outpatients clinic	-	-	-	16	9	25
Practice nurse	15	-	7	-	-	22
Tissue Viability nurse specialist clinic	30	29	33	30	19	141
Treatment Room nurse	19	30	25	18	40	132
<b>Grand Total</b>	<b>101</b>	<b>98</b>	<b>100</b>	<b>98</b>	<b>98</b>	<b>495</b>

From table 5 we can see that only BHSCT and NHSCT had consultant notes available for the audit, also BHSCT and SEHSCT were the only Trusts to have Practice nurse notes available. All 5 HSC Trusts had District nursing, Tissue Viability nursing and Treatment Room nursing notes available. In the audit, the SHSCT and WHSCT were the only Trusts to provide notes from a nurse lead Outpatients clinic.



**Figure 8: Details of the number of patients broken down by who treated them and HSC by Trust area**



From the patients notes that were audited, 32% were treated by District Nursing (157/495), 28% by Tissue Viability Nurse Specialists (141/495), 27% by Treatment Room Nurses (132/495), 5% at an Outpatient clinic (25/495), 4% by Practice Nurses (22/495), and 4% by Consultants (18/495).

**Table 6: Details of the length of time the lower leg ulceration has been present**

How long has the lower leg ulceration been present?	Count
0 - 2 months	249
3 - 4 months	34
5 - 6 months	30
7 - 8 months	6
9 - 10 months	7
1 year	16
2 years	11
3 years	6
5 years	8
7 years	1
9 years	2
15 years	1
20 years	1
30 years	1
Unknown	122

From the 495 notes audited, 373 (75%) had details of when the lower leg ulceration first started. In the remaining 122 cases (25%) it was not possible to record these details due to incomplete records. The shortest period of time a lower leg ulceration was present at the time of initial treatment was 2 days, the longest was 30 years. The most common period of time the ulcer was present when first treated was 2 weeks, this equates to 16% of cases (59/373).

Of the 373 lower leg ulcers recorded in the audit, 105 (28%) of these were a recurrence of a previous ulceration, this equates to (105/373).

Table 7 shows that of the 105 known recurrences of lower leg ulceration 79% (83/105) had been healed for 1 or more years before the ulceration occurred again.

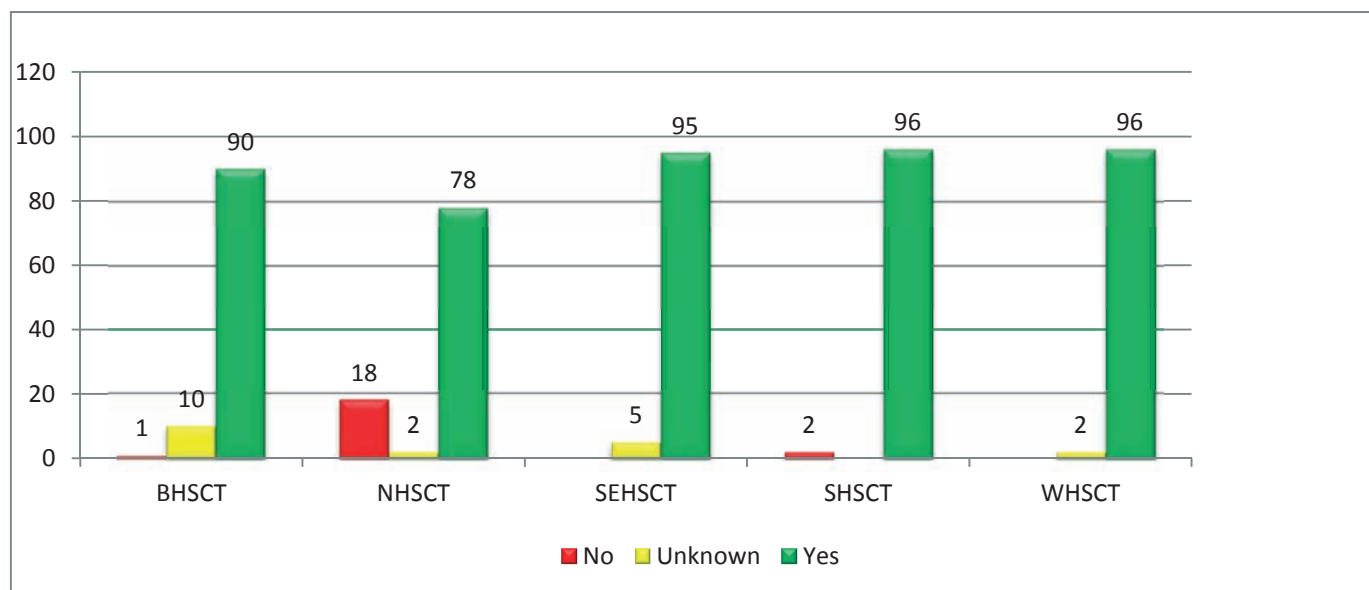
**Table 7: Details of the duration since the last lower leg ulceration has healed**

<b>If a recurrence, how long since last healed?</b>	<b>Count</b>
2 months	3
3 months	2
4 months	2
5 months	1
6 months	11
7 months	1
9 months	2
1 year	20
2 years	19
3 years	14
4 years	6
5 years	15
6 years	4
10 years	1
16 years	1
20 years	2
30+ years	1

The shortest period of time that a lower leg ulceration had healed and then reoccurred was 2 months, and the longest was 30+ years.

It was important to determine the care that the patient received in their management of leg ulcer. From figure 9 we can see that 92% of patients (455/495) had a full clinical history completed at their initial assessment, while 4% did not (21/495). It was not clear from 4% of patients notes if a full clinical history was taken (19/495).

**Figure 9: Details of the number of who had a full clinical history completed at their initial assessment by HSC Trust area**



The better performing HSC Trust areas with 98% of patients having a full clinical history completed were SHSCT and WHSCT areas (both 96/98). The SEHSCT area completed 95% of full clinical histories for patients seen (95/100). In BHSCT 89% of patients had a full clinical assessment completed (90/101), while in the NHSCT area the figure was 80% (90/101).

**Figure 10: Details of the number of patients who had a full clinical History completed at their initial assessment by Staff Speciality**

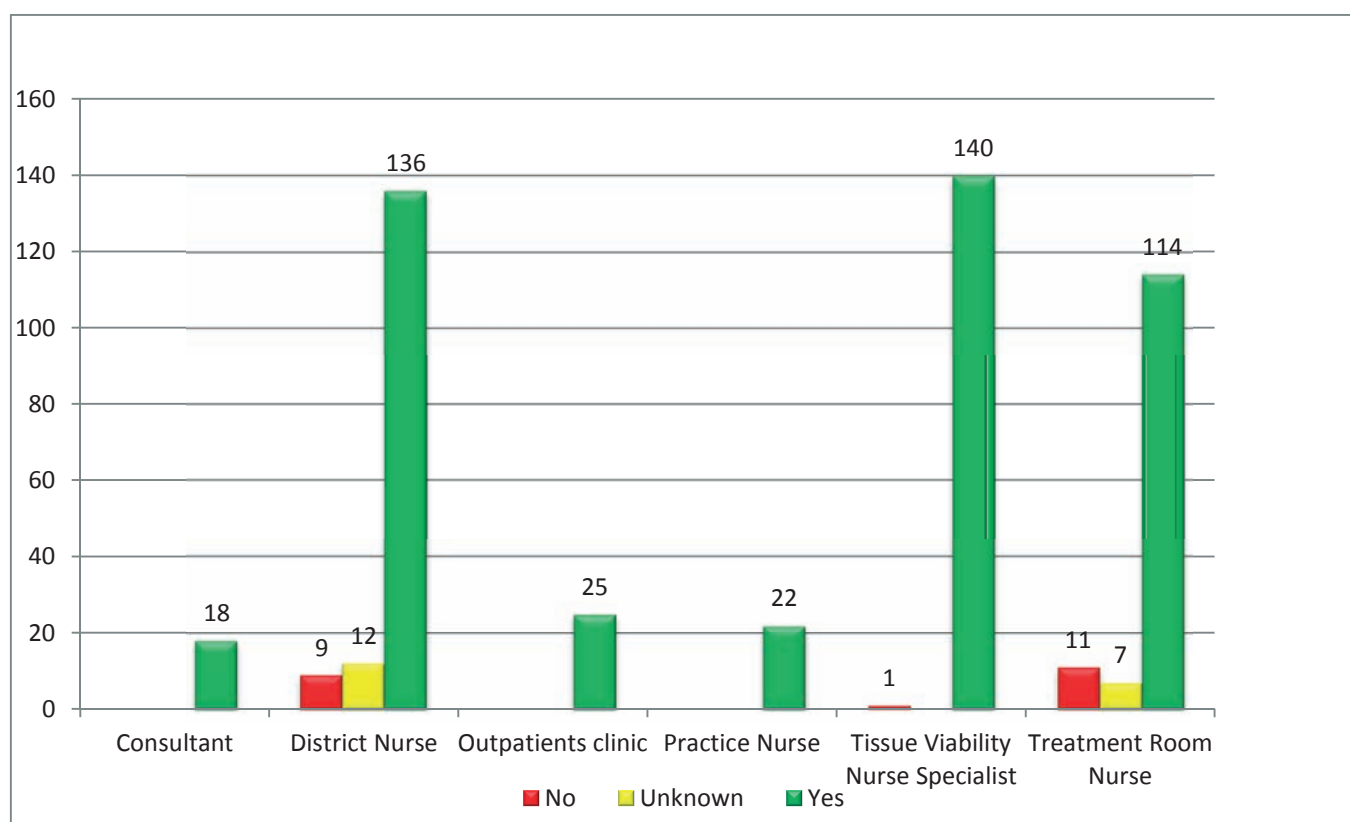
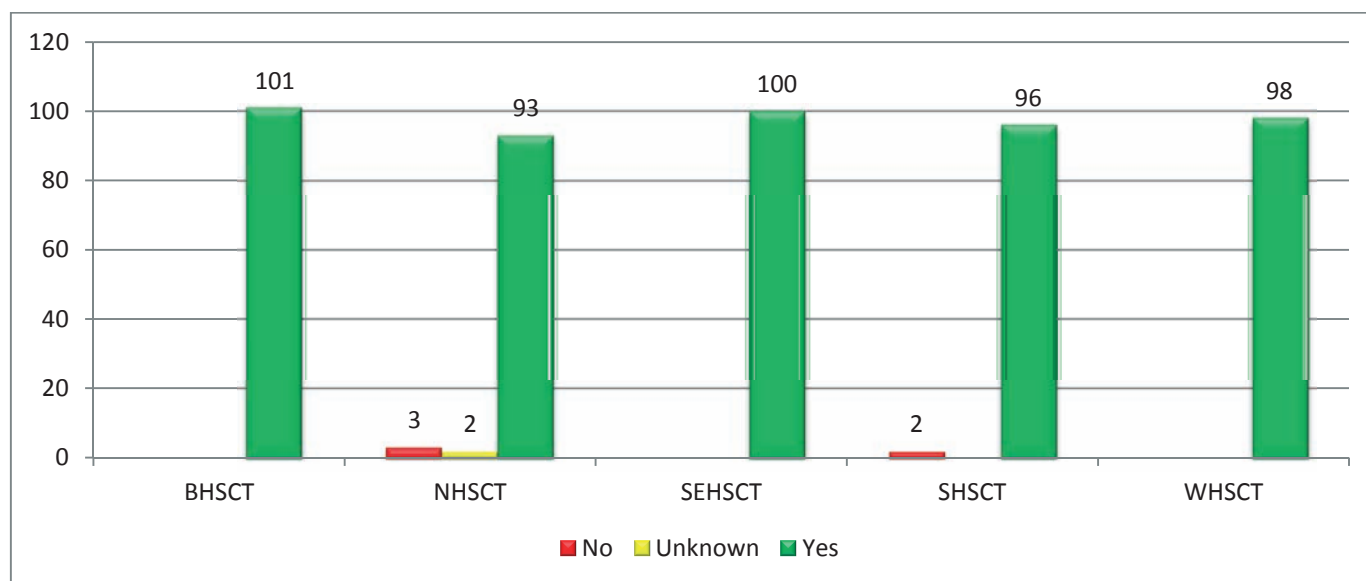


Figure 10 shows that for those patients who attended a Consultant, an Outpatient clinic and Practice nurses everyone had a full clinical history completed. A total of 99% (140/141) of patients attending Tissue Viability nurses had a full clinical history taken. While 87% of patients attending

District Nursing (136/157) and 86% of Treatment Rooms (114/132) had the full clinical history completed.

**Figure 11: Details of the number of patients who had a full physical examination completed at their initial assessment by HSC Trust area**



Across the 5 HSC Trust areas, 99% of patients had a full physical examination completed (488/495), while 1% did not or was unclear from the patient's notes (7/495).

Of the 5 HSC Trust areas, 3 had 100% completion of a full physical examination (BHSCT, SEHSCT and WHSCT) The SHSCT had 2% of patients who did not have a full physical examination completed (2/98) while NHSCT had 3% of patients who did not have a full physical examination completed (3/98).

Figure 12 shows the breakdown of results by staff speciality. From this we can see that 100% of patients seen by consultants, outpatient clinics, practice nurses and tissue viability specialist nurses had a full physical examination completed. In Treatment room nursing, 3% of patients who attended did not have a full physical examination completed (4/132), while in District nursing 0.6% did not have a full physical examination completed (1/157).

**Figure 12: Details of the number of patients who had a full physical examination completed at their initial assessment by staff speciality**

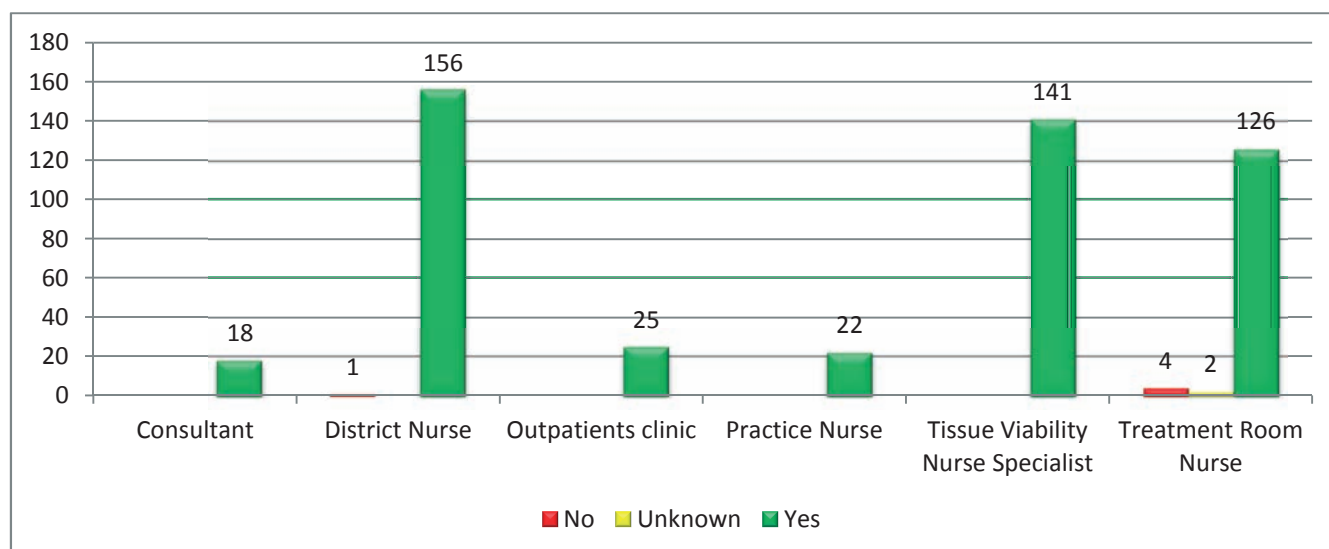
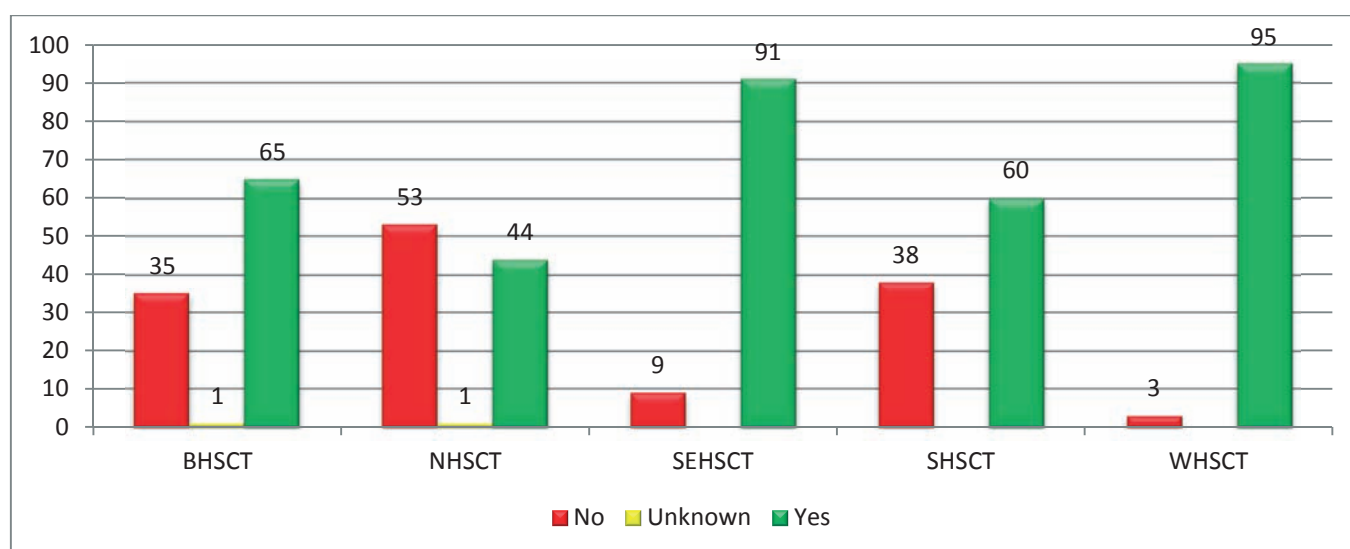


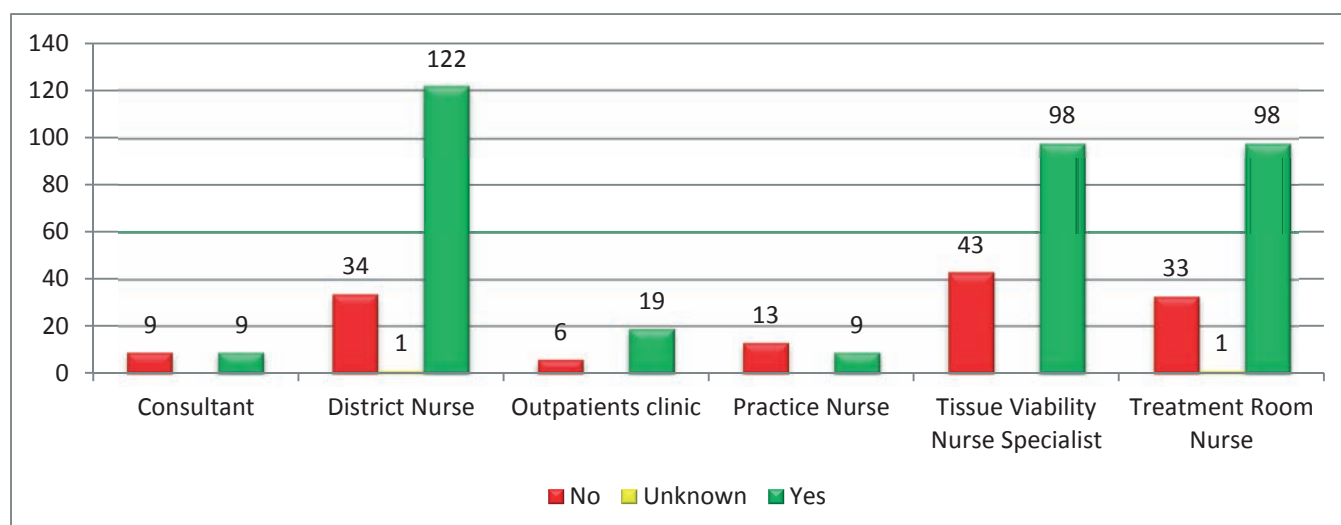
Figure 13 shows the results of Trust areas that completed an open wound observation form as part of their initial assessment. However, it should be noted that an open wound chart is not always completed as details may be recorded on other forms. It is also important to recognise that not all patients will require an open wound chart as the treatment received may not require it ie measurement and fitting of hosiery, varicose eczema etc.

The results showed that 71% of patients (355/495) had an open wound chart completed at their initial appointment. A total of 28% did not (138/495). A total of 2 patients out of the 495 were classed as unknown as it was unclear from the notes as to when they first attended at a clinic. The WHSCT area performed best with 97% of their patients having their open wound charts completed at their initial appointment (95/98). This was closely followed by SEHSCT with 91% (91/100). BHSCT had 64% (65/101) of patients who had open wound charts completed at their initial appointment, while SHSCT had 61% (60/98). The NHSCT had a completion rate of only 45% (44/98).

**Figure 13: Details of the number of patients who had an open wound chart completed at initial assessment by HSC Trust area**

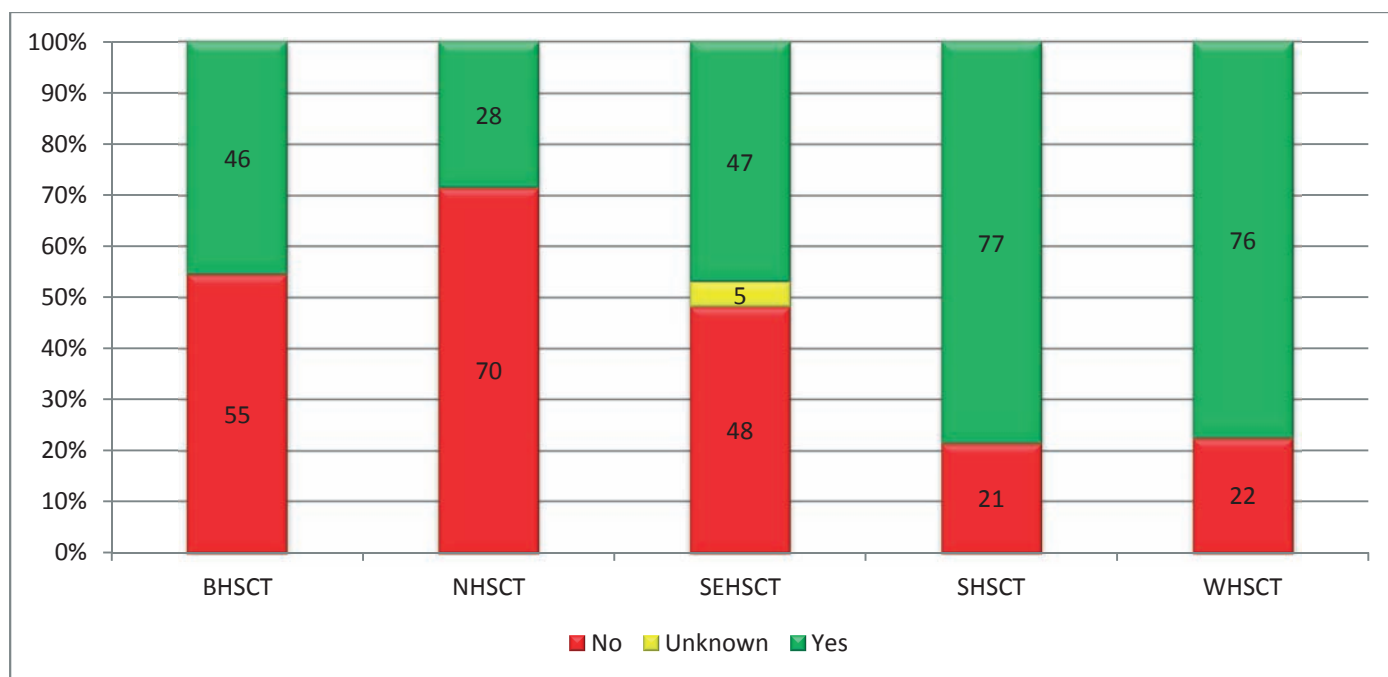


**Figure 14: Details of the number of patients who had an open wound chart completed at initial assessment by staff speciality**



When reviewing notes from Figure 14 we can see that District nurses accounted for the professional group who completed the most open wound charts (122). We can see that across all HSC Trust areas, 77% of District nursing patients (122/157), 76% of Outpatient clinic patients (19/25), 74% of Treatment Room patients (98/132), 70% of Tissue Viability patients (98/141), 50% of Consultants patients (9/18) and 41% of Practice nurse patients (9/22) had an open wound chart completed.

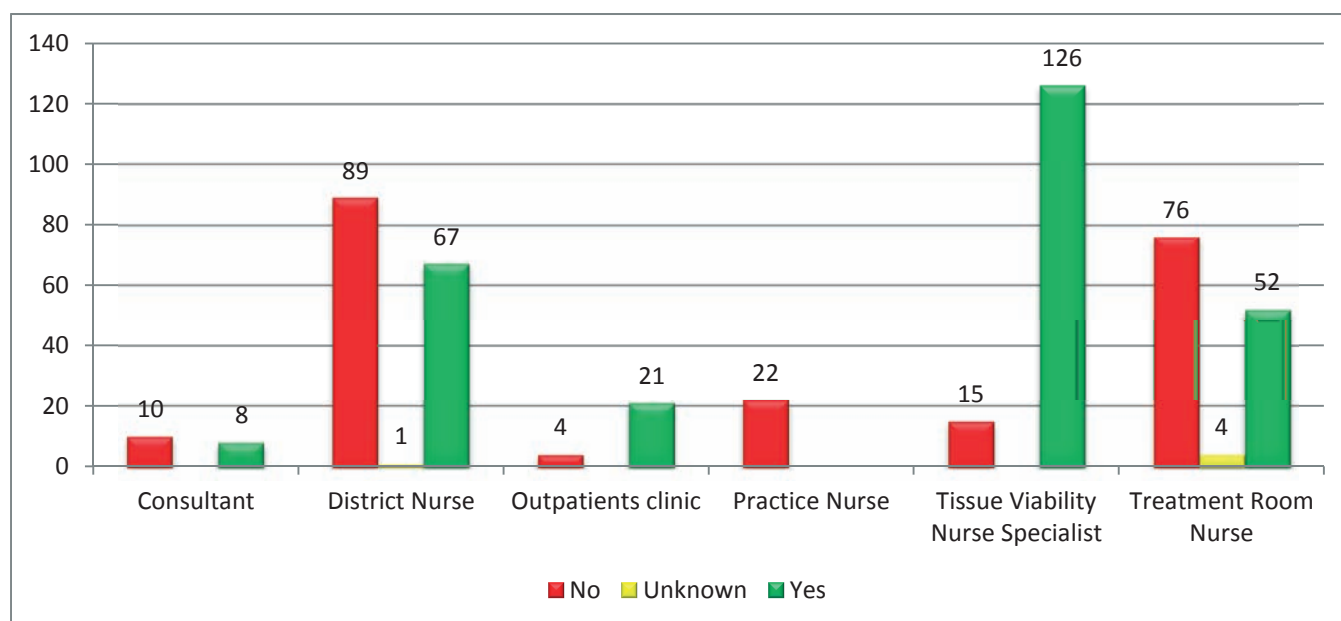
**Figure 15: Percentage of patients who had evidence that a Doppler ABPI was completed at first assessment visit by HSC Trust area**



The best performing Trust areas at carrying out Doppler assessments on patients were SHSC with 78% (77/98) and WHSC with 77% (76/98). Then the SEHSC achieved 47% (47/100) and BHSC with 46% (46/101). The NHSC had only 29% of patients receiving a Doppler assessment at their initial visit (28/98)

Overall across the 5 HSC Trust areas results show that 55% of patients (274/495) had a Doppler ABPI completed at their first assessment visit. 43% of patients (216/495) did not have a Doppler ABPI assessment carried out at their first assessment visit. It was clearly noted in 9 patient's notes that they either refused or could not tolerate the Doppler ABPI being carried out. The methodology of the study did not allow for data to be collected on patients who had additional vascular assessment interventions such as waveforms, CT angio or where Doppler assessment was clinically contra-indicated. It is important to note that not all patients are able to have a Doppler ABPI carried out.

**Figure 16: Details of the numbers of staff who completed the Doppler ABPI by HSC Trust area**

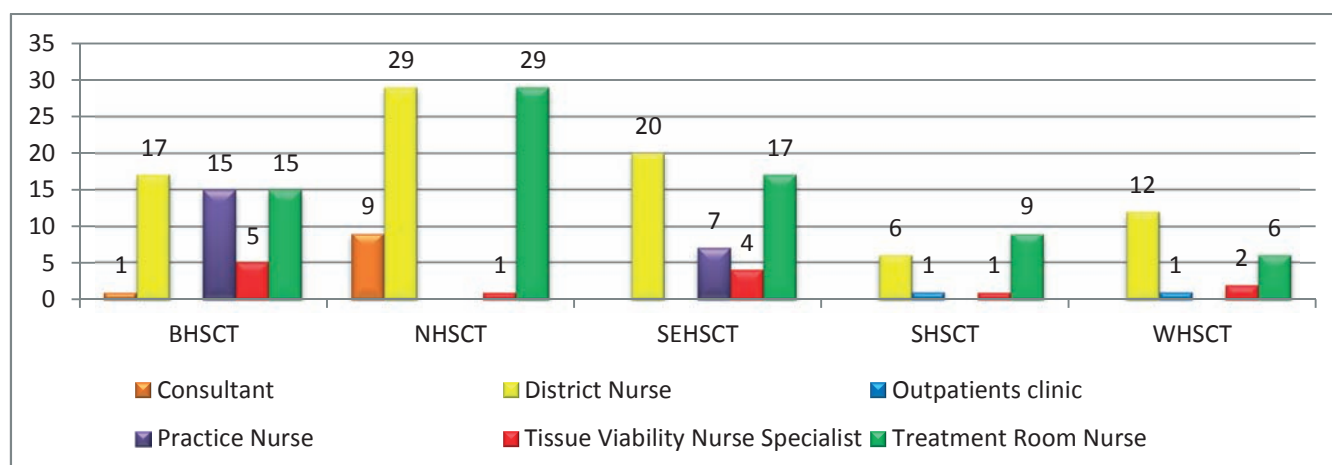


Of the 274 patients who had a Doppler ABPI completed at their initial assessment, 49% were completed by a Tissue Viability nurse specialist (134/274), 25% by a District nurse (68/274), 18% by a Treatment Room nurse (51/274) and 8% at the Outpatient clinic (21/274).

When you break it down by HSC Trust area you get the following results:

- For BHSCT there was a total of 46 patients who had a Doppler completed. Of these 33 (72%) patients had their Doppler completed by a Tissue Viability nurse specialist. District nurses completed 9 (20%) Doppler's and Treatment room nurses completed 4 (8%) Doppler assessments.
- For NHSCT there was a total of 28 patients who had a Doppler completed. Of these 28 patients 27 (96%) of these Doppler's were completed by a Tissue Viability nurse specialist while 1 (4%) was completed by a Treatment room nurse.
- For SEHSCT there was a total of 47 patients who had a Doppler completed. Of these 29 (62%) patients had their Doppler's completed by a Tissue Viability nurse specialist. District nurses completed 14 (30%) and Treatment room nurses completed 4 (8%) Doppler assessments.
- For SHSCT there was a total of 77 patients who had a Doppler completed. Of these 28 (36%) patients had their Doppler completed by a Tissue Viability nurse specialist, District nursing also completed 28 (36%) Doppler assessments. Outpatient clinics completed 13 (17%) Doppler assessments and Treatment room nurses completed 8 (11%) Doppler assessments.
- For WHSCT there was a total of 76 patients who had a Doppler completed. Of these 34 (45%) were completed by Treatment room nurses, and 17 (22%) by Tissue Viability specialist nurses. District nurses also completed 17 (22%) Doppler assessments and Outpatient clinics completed 8 (11%) assessments.

**Figure 17: Details of the numbers of staff who did not complete the Doppler ABPI by HSC Trust area**



Of the 207 patients who did not have a Doppler ABPI completed at their initial assessment, 41% had their first assessment completed by a District nurse specialist (84/207), 37% by a Treatment room nurse (76/207), 11% by a Practice nurse (22/207) and 5% by a Tissue Viability nurse specialist (13/207), 5% by a Consultant (10/207) and 1% by the Outpatient clinic (2/207).

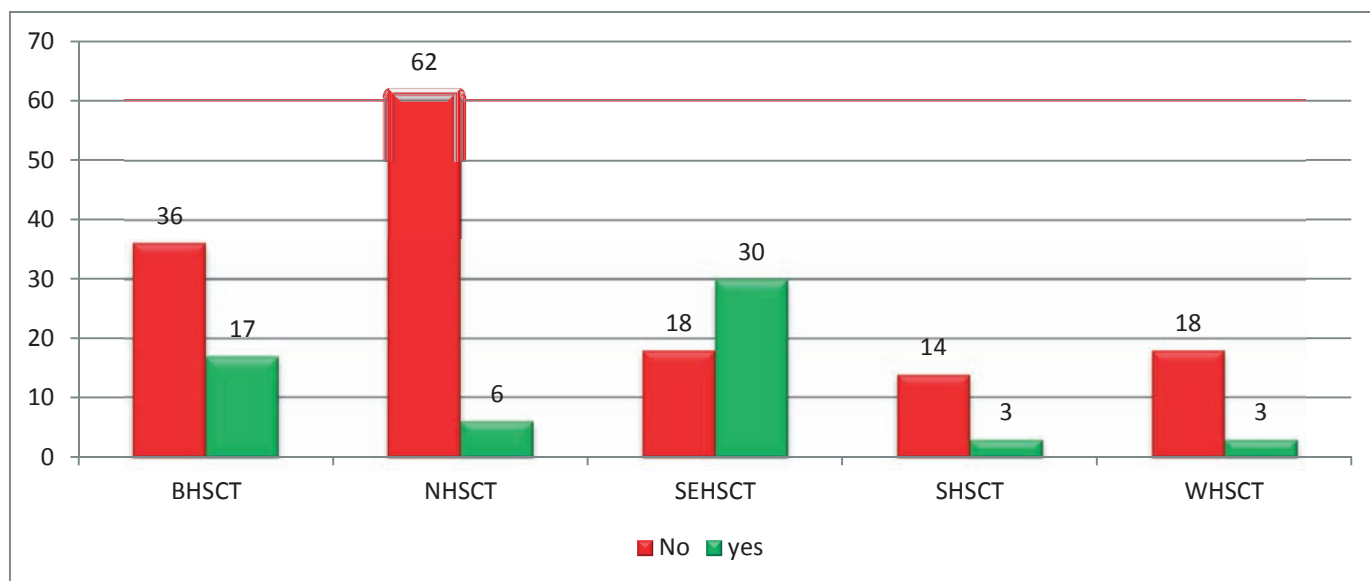
When you break it down by HSC Trust area you get the following results:

- For BHSCT there were a total of 53 patients who did not have a Doppler assessment completed at their first assessment. Of these, 17 (32%) patients first saw a District nurse, 15 (28%) saw a Practice nurse, 15 (28%) saw a Treatment room nurse, 5 (10%) saw a Tissue Viability nurse specialist and 1 (2%) saw a Consultant.
- For NHSCT there were a total of 68 patients who did not have a Doppler assessment completed at their first assessment. Of these 29 (43%) saw a Treatment room nurse, 29 (43%) saw a District nurse, 9 (13%) saw a Consultant, and 1 (1%) saw a Tissue Viability nurse specialist.
- For SEHSCT there were a total of 48 patients who did not have a Doppler assessment completed at their first assessment. Of these, 20 (42%) saw a District nurse, 17 (35%) saw a Treatment room nurse, 7 (15%) saw a Practice nurse, and 4 (8%) saw a Tissue Viability nurse specialist.
- For SHSCT there were a total of 17 patients who did not have a Doppler assessment completed at their first assessment. Of these, 9 (53%) saw a Treatment room nurse, 6 (35%) saw a District nurse, 1 (6%) saw a Tissue Viability nurse specialist and 1 (6%) patient was seen at the Outpatient clinic.
- For WHSCT there were a total of 21 patients who did not have a Doppler assessment completed at their first assessment. Of these, 12 (57%) saw a District nurse, 6 (29%) saw a Treatment room nurse, 2 (10%) saw a Tissue Viability nurse specialist and 1 (4%) attended the Outpatient clinic.

The methodology of the study did not allow for data to be collected on patients who had additional vascular assessment interventions such as waveforms, CT angio or where Doppler assessment was clinically contra-indicated.

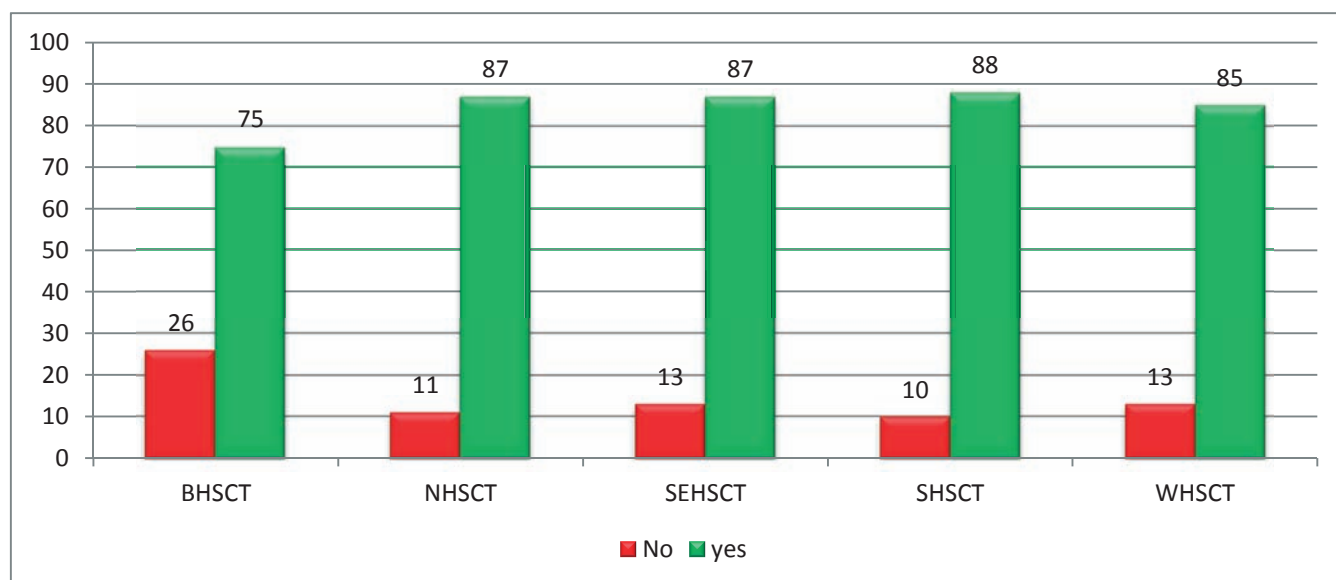


**Figure 18: Details of the number of patients who had a Doppler ABPI completed at any other assessment by HSC Trust area**



Of the 207 patients who did not have a Doppler APBI completed at their initial assessment only 28% (59/207) went on to have it carried out at a subsequent visit. The SEHCT had 62% (30/48) of their patients assessed by having a Doppler assessment carried out at a subsequent visit while BHCT carried out a Doppler assessment in 32% of patients on a subsequent visit (17/53), SHCT 17% at a subsequent visit (3/17), WHCT 14% at a subsequent visit (3/21) and lastly NHCT 9% at a subsequent visit (6/68).

**Figure 19: Details of the number of patients who had their Lower leg ulceration measured at initial assessment visit by HSC Trust area**

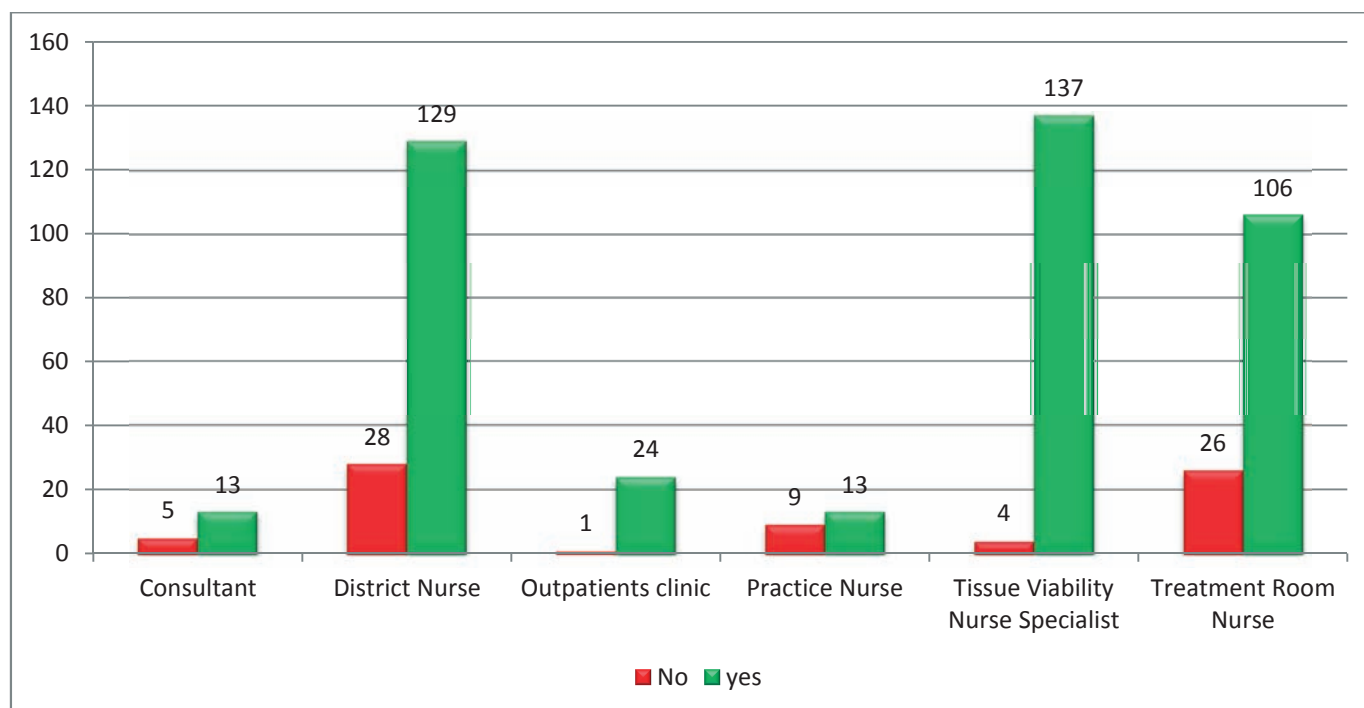


It is expected that a patient should have their wound measured at the initial assessment visit, the audit found that 85% of patients had this carried out (422/495), while 15% did not (73/495).

Four of the HSC Trust areas performed very well in this area. The SHCT was the best performing Trust with 90% of patients having their wound measured at their initial visit (88/98). Then NHCT with 89% of patients having their wound measured (87/98), WHCT with 88%

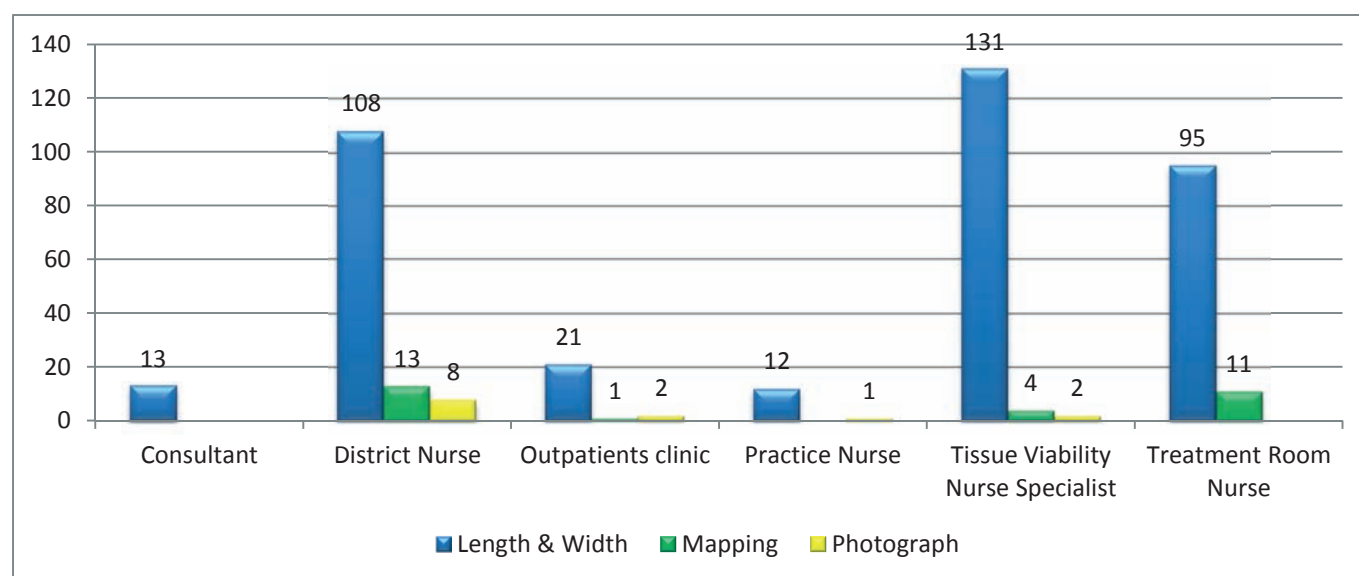
(85/98) and SEHSCT with 87% (87/100). The BHSCT was the worst performing HSC Trust area with only 74% of patients having their wound measured at their initial visit (75/101).

**Figure 20: Details of the number of patients who had their Lower leg ulceration measured at initial assessment visit by staff speciality**



The best performing group of staff were the Tissue Viability nurse specialists with 97% of the patients they saw having their wound measured at the initial assessment (137 out of 141). This was followed by the Outpatient clinics, where 96% of patients had their ulceration measured (24 out of 25). District nurses measured 82% of the patients they saw (129 out of 157), while Treatment room nurses measured 80% (106 out of 132). Consultant clinics accounted for 72% of measurement of the wound (13 out of 18) while finally Practice nurses measured 59% of the patients they saw at their clinics (13 out of 22).

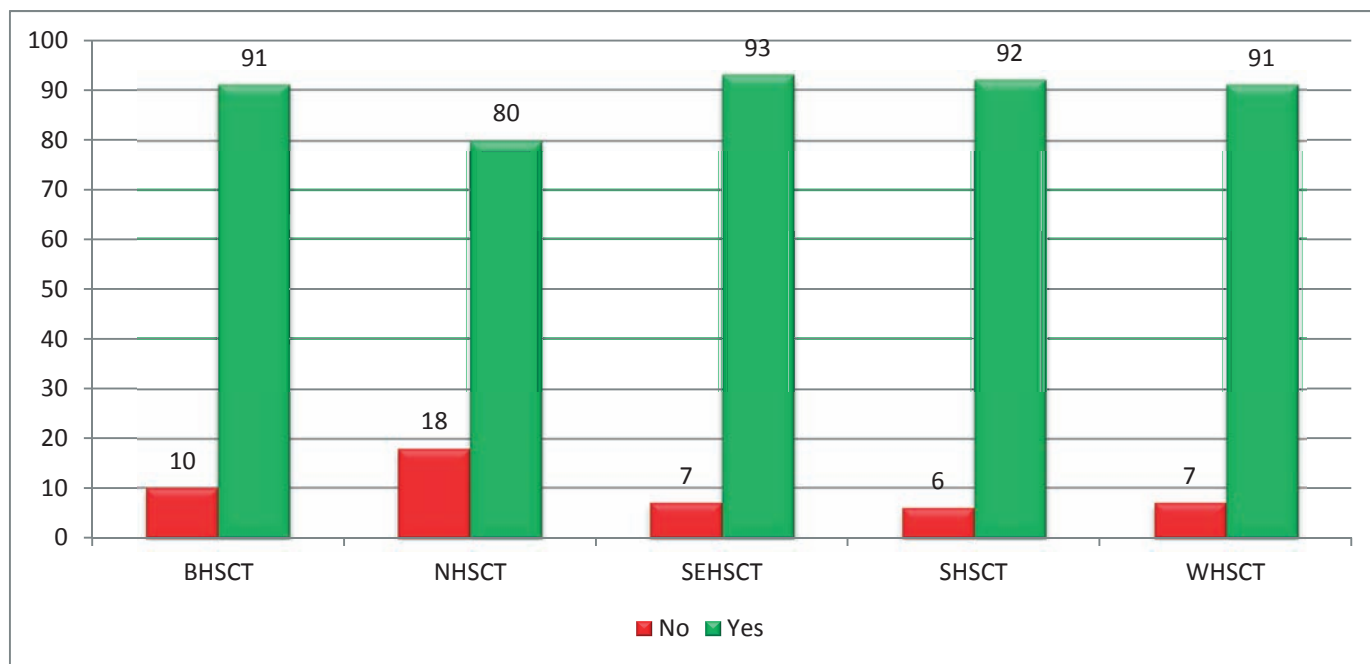
**Figure 21: Details of how the Lower leg ulceration was measured by staff speciality**



It is recommended that when measuring a leg ulcer that both the length and the width of the wound are measured. Of the 422 patients who had their wound measured at their initial

assessment, 90% of these had both the length and width of the ulceration measured (380/422). The remaining 10% was compiled of 7% by mapping the ulceration (29/422) i.e. by tracing over the wound on to a piece of clear acetate and 3% by photographing the ulceration (13/422).

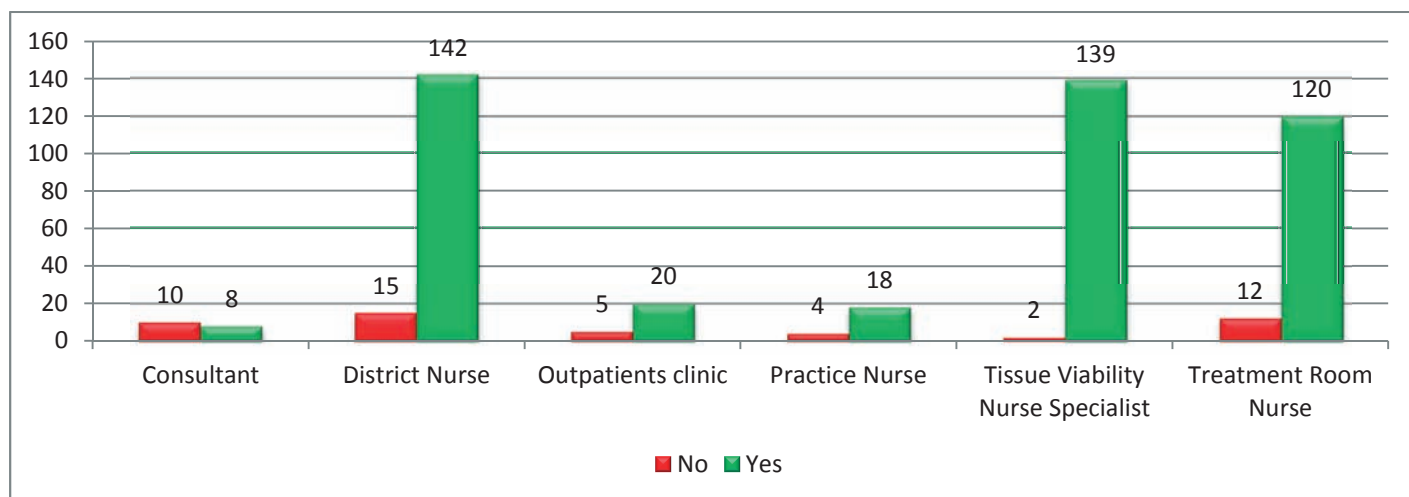
**Figure 22: Details of the numbers of patients who had a pain assessment undertaken by HSC Trust area**



In general, pain was measured on a scale of 1-10 with 10 being most severe. Patients were also asked if it was intermittent, continuous or only at dressing change. Overall across the 5 HSC Trust areas, 90% of patients had a pain assessment completed (447/495) while 10% did not (48/495).

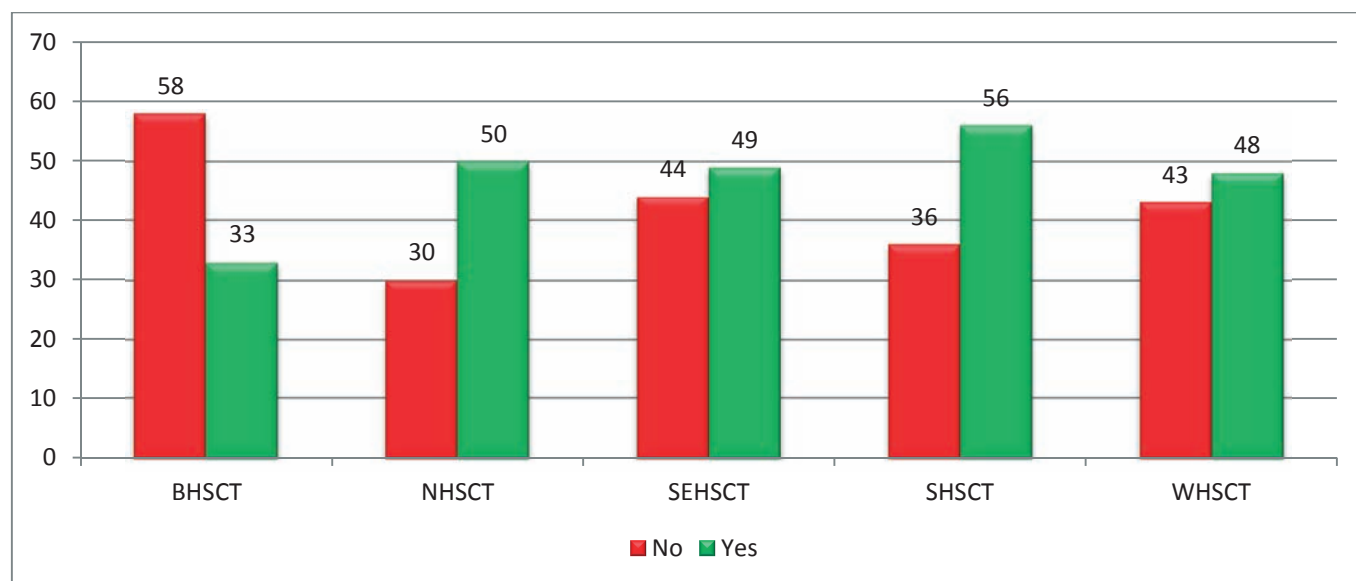
When you break this down by HSC Trust area, SHSCT is the best performing area with 94% (92/98) of patients seen having undertaken a pain assessment. Both WHSCT and SEHSCT areas attained 93% (91/98 and 93/100 respectively), BHSCT area achieved 90% (91/101) while the NHSCT area undertook pain assessment in 82% of the patients seen (80/98).

**Figure 23: Details of the numbers of patients who had a pain assessment undertaken by staff speciality**



From Figure 23 we can see that Tissue Viability nurses once again performed best with 98% of patients seen having had a pain assessment completed (139 out of 141), District Nursing (142 out of 157) and Treatment Nursing (120 out of 132) both completed 90% of pain assessments. Practice nurses completed 81% of pain assessments (18 out of 22). Outpatient clinics completed 80% of pain assessments (20 out of 25) and Consultant clinics completed 44% of pain assessments (8 out of 18).

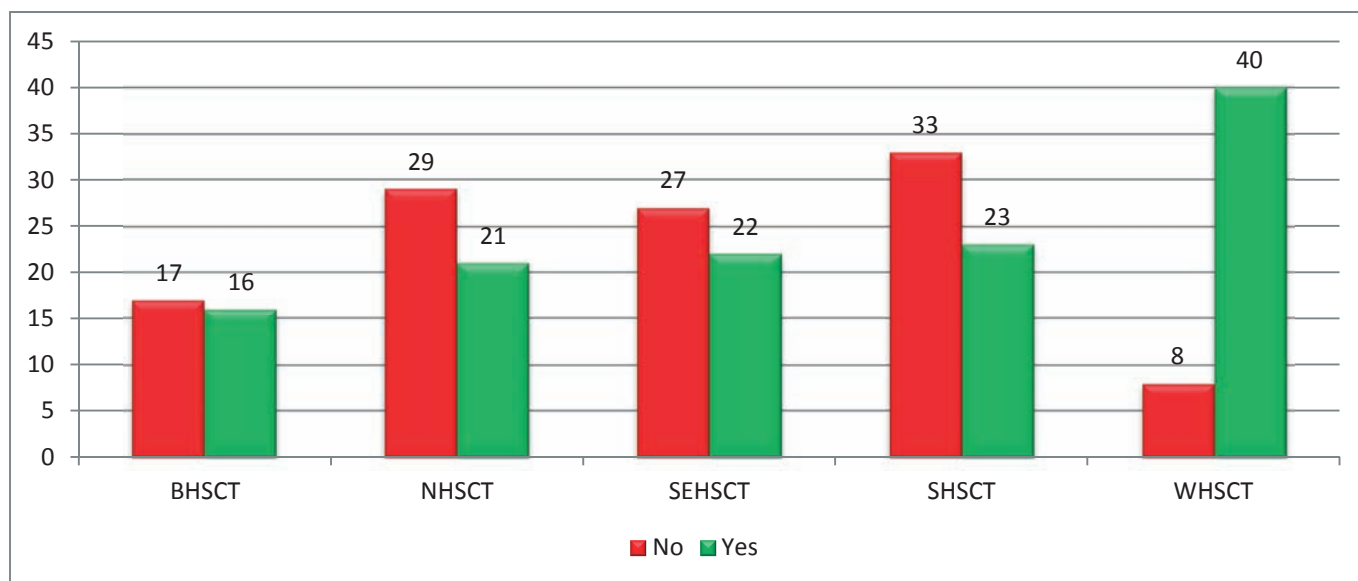
**Figure 24: Details of the number of patients who experience pain by HSC Trust area**



Of the 447 patients who had a pain assessment carried out, 53% stated that they experienced some form of pain (236/447) while 47% stated they did not experience pain (211/447).

Evidence from the audit reports that 63% of patients treated in NHSC area experienced some form of pain (50/80), while in SHSC area the figure was 61% of patients seen (56/92). In both WHSC and SEHSC areas the figure was 53% (48/91 and 49/93 respectively). In BHSC area the audit found that only 36% of patients experienced pain (33/91).

**Figure 25: Details of the number of patients who received analgesia if they experienced pain by HSC Trust area**

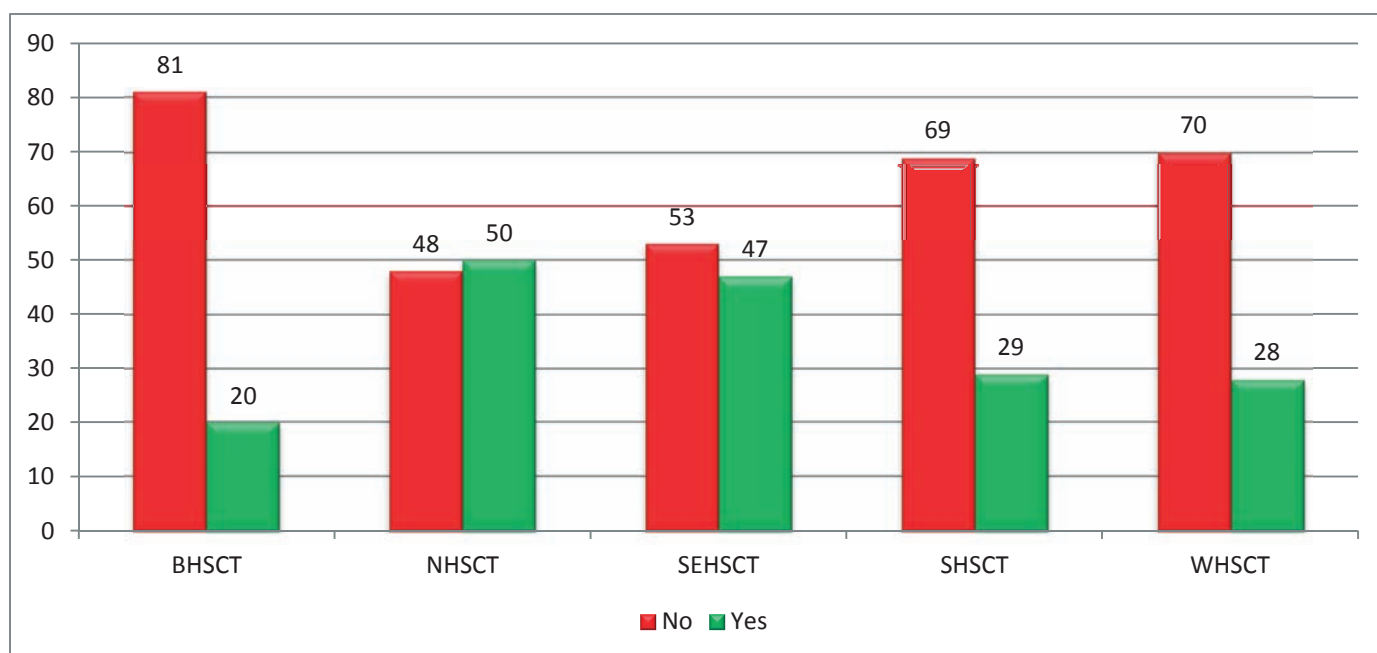


For the 236 patients who stated that they experienced some form of pain, there was evidence that 52% (122/236) received analgesia, while 48% (114/236) did not.

However, it should be noted that patient's notes were looked at in isolation and they may have been prescribed analgesia by another professional and the details were not carried across to other notes.

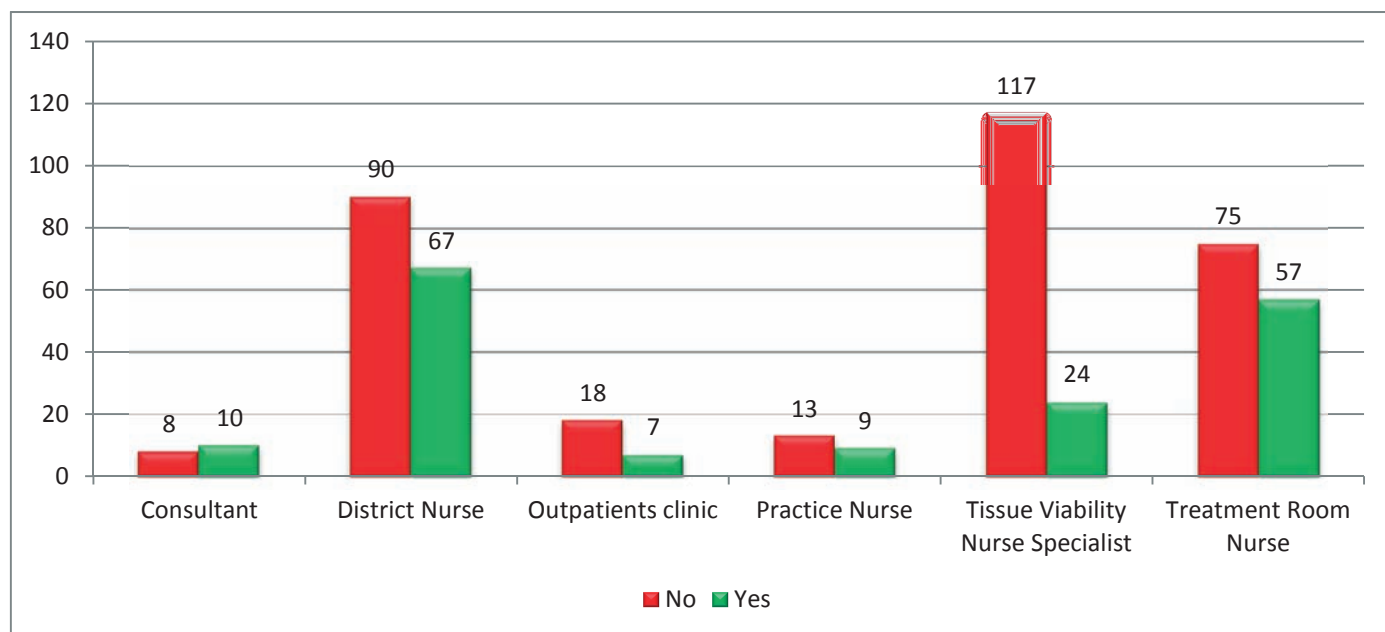
The WHSCT area was the best performing area when it came to recording if analgesia was given to the patient with 83% of those patients who experienced pain receiving some form of analgesia (40/48). There was then quite a drop to BHSCT area who attained 48% (16/33), SEHSCT had 45% (22/49), NHSCT 42% (21/50) and finally SHSCT 41% (23/56).

**Figure 26: Details of the number of patients who were referred to another specialist by HSC Trust area**



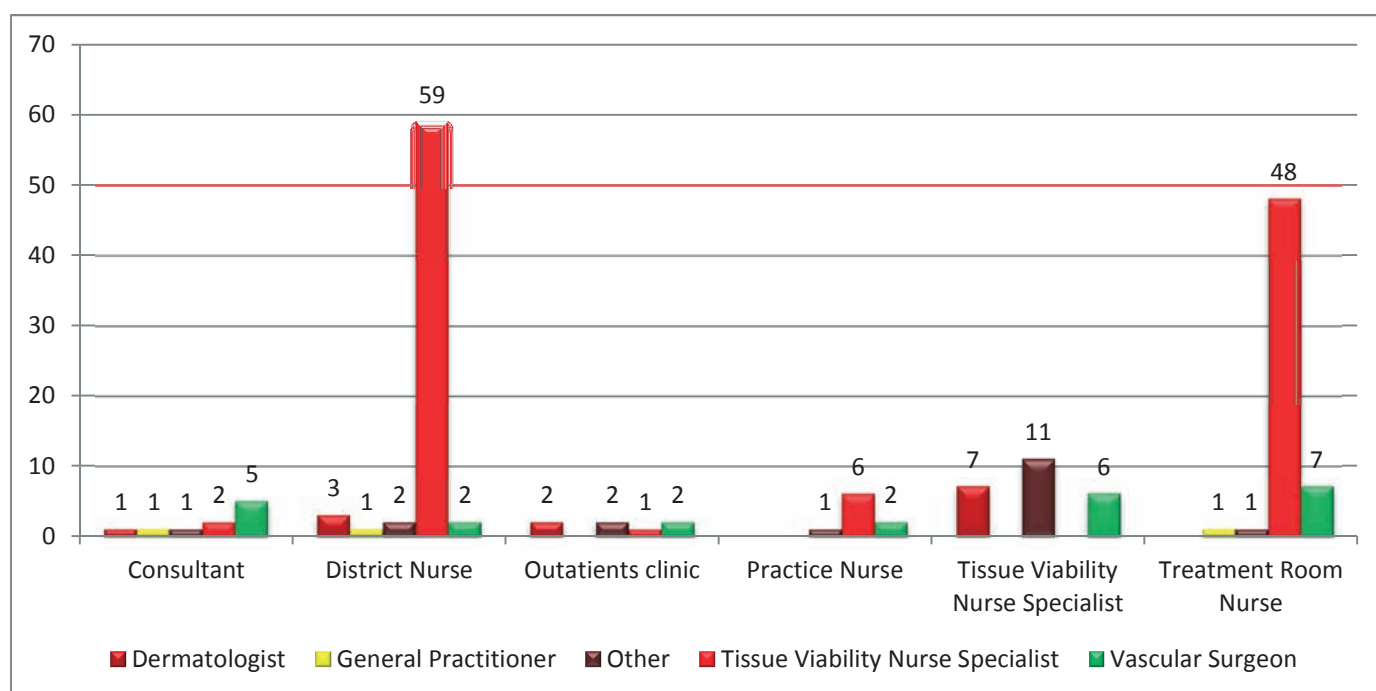
For the 495 patients audited, 35% were referred on to another specialist or service (174 out of 495) while 65% were not (321/495).

**Figure 27: Details of the number of patients who were referred to another specialist by staff speciality**



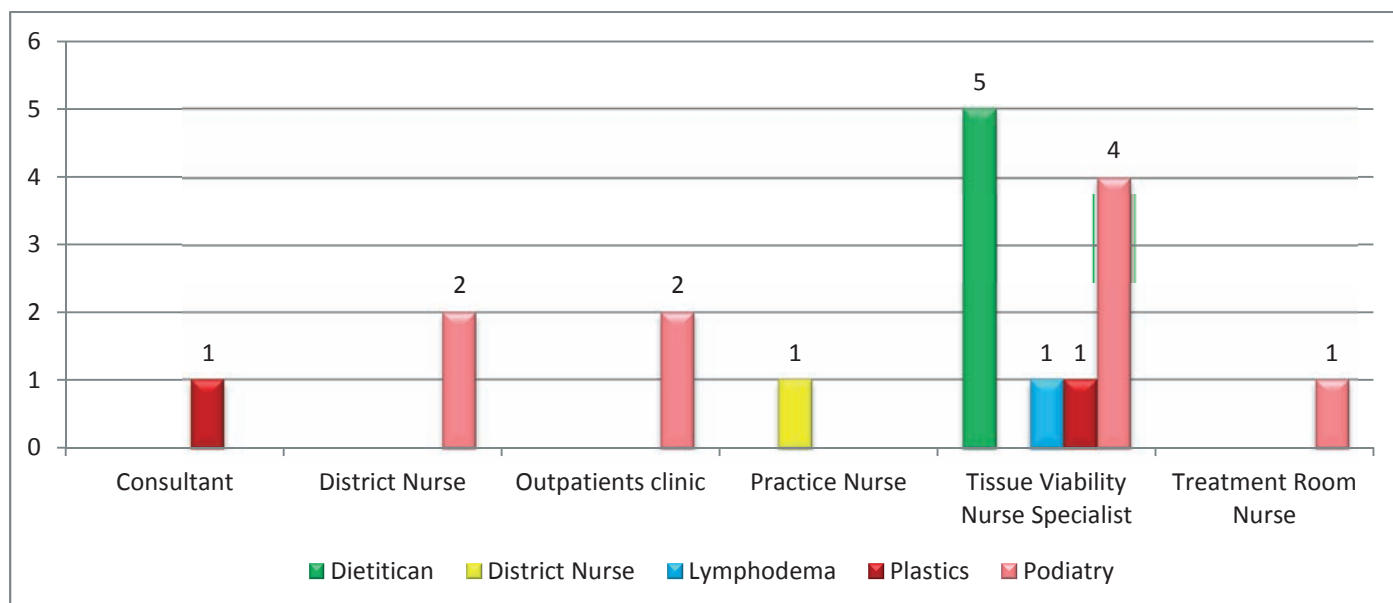
Tissue Viability nurses were the least likely to refer on to another specialist or service with only 17% (24 out of 151) patients with an onward referral. Outpatient clinics referred 28% (7 out of 25), Practice nurses 41% (9 out of 22), District Nursing 43% (67 out of 157), Treatment Room 43% (57 out of 132) and Consultants 56% (10 out of 18).

**Figure 28: Details of the numbers of where referrals were sent by staff speciality**



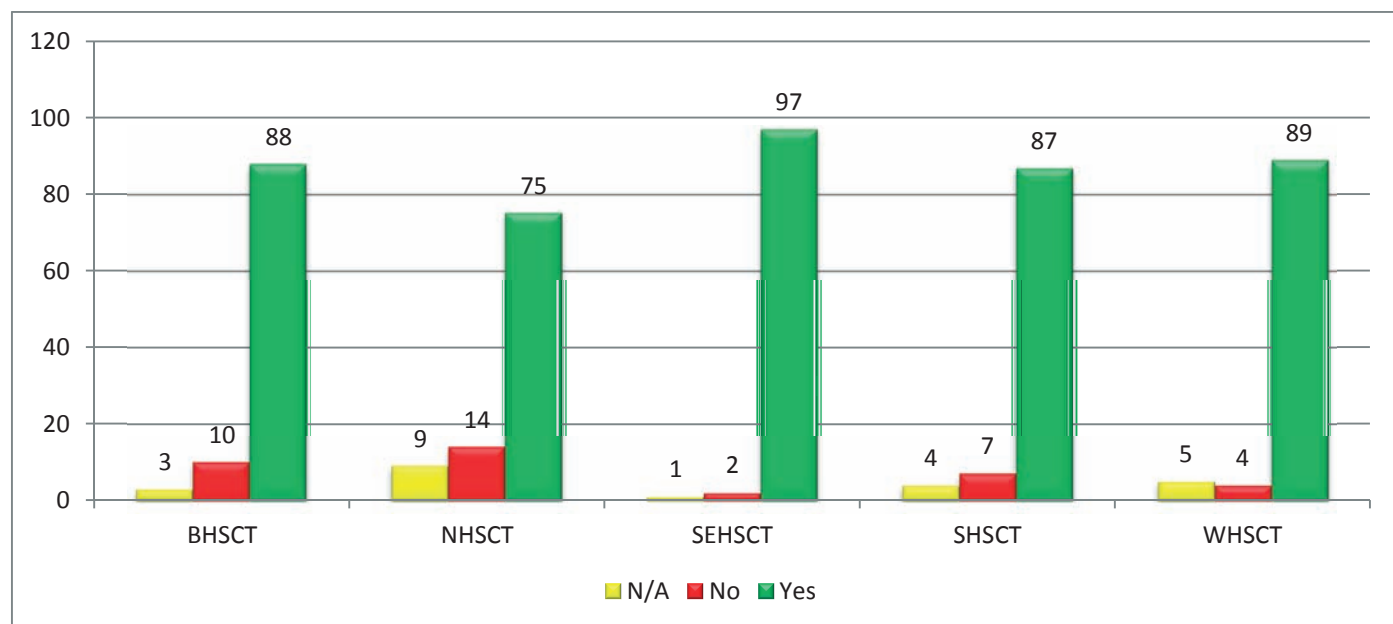
From Figure 28 we can see that the majority of onward referrals were sent to the Tissue Viability Service with 67% of the 174 patients referred to this service (116/174). Vascular Surgeons received 14% of referrals (24/174), Dermatology 7% (13/174) and General Practitioners 2% (3/174). Referrals were sent in 10% of cases (18/174) to other sources as identified in Figure 29. District Nursing and Treatment Room Nursing were the most likely staff group to refer on with a combined total of 71% of onward referrals being sent from here (124 out of 174).

**Figure 29: Details of the numbers of “Other” recipients of onward referrals by staff speciality**



Of the 18 referrals sent to other specialists, 50% were sent to Podiatry (9 out of 18), 27% were sent to a Dietitian (5 out of 18), Plastics received 11% (2 out of 18) and District Nursing and Lymphodema Services 6% each (1 out of 18).

**Figure 30: Details of the numbers of patients who had their care reviewed by HSC Trust area**



Results showed that 88% of patients seen had a review appointment (436 out of 495). The number of patients who did not receive a review was 37, this equates to 8%. Of the further 4% relating to N/A, these were patients who were discharged following their initial appointment.

For the 436 patients who were reviewed Table 8 sets out on average how often they were reviewed each month.

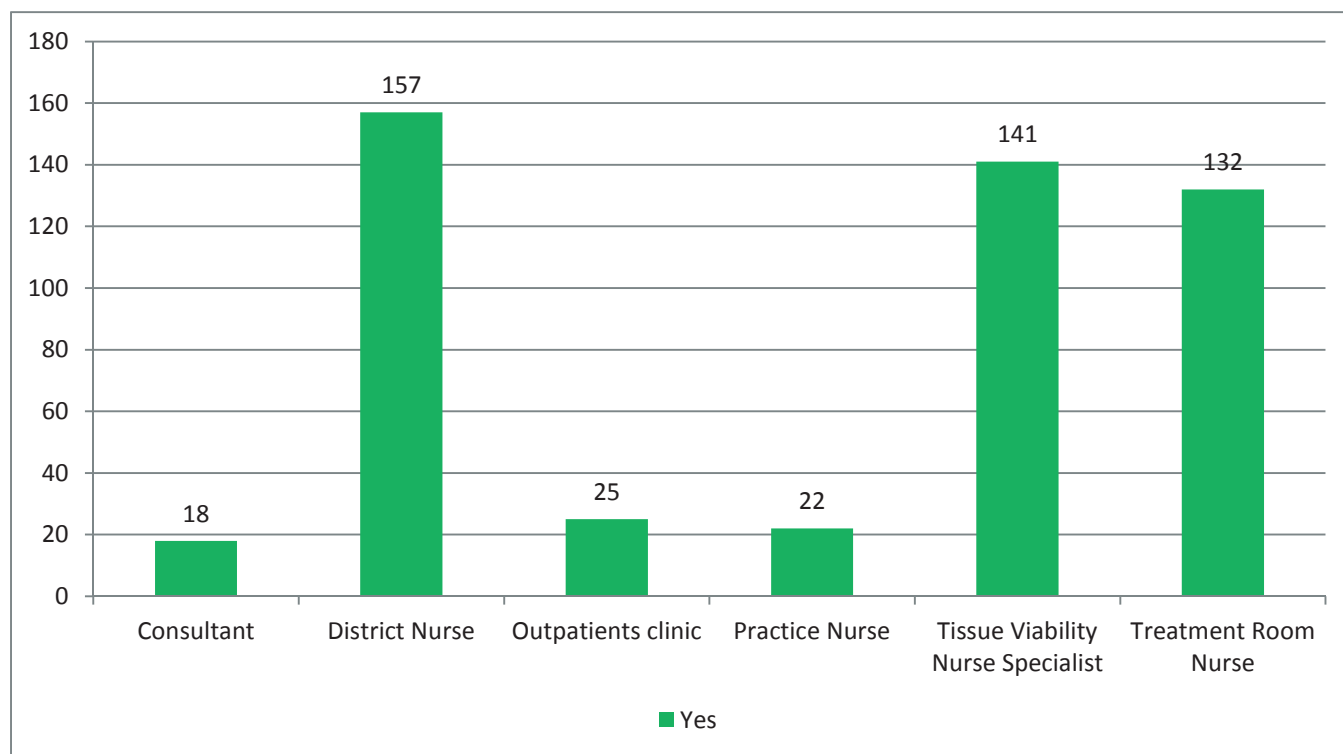
**Table 8: Details the average number of reviews for each patient for each month they received care by staff speciality**

	Four times per week	Three times per week	Twice weekly	Weekly	Three times a month	Twice a month	Once a month	Every two months	Every 3 months	Grand Total
Consultant				2			4			6
District Nurse	1	31	88	22	3	5	5			155
Outpatients clinic			7	6	1	2	6	1	1	24
Practice Nurse			16	5		1				22
Tissue Viability Nurse Specialist clinic			2	17	2	10	67	5	3	104
Treatment Room Nurse		12	62	33		8	9	1		125
<b>Grand Total</b>	<b>1</b>	<b>43</b>	<b>175</b>	<b>85</b>	<b>6</b>	<b>24</b>	<b>91</b>	<b>7</b>	<b>4</b>	<b>436</b>

The most frequent review was four times per week, while the least frequent review was every 3 months. The most common review was twice a week.

District nurses saw patients most frequently with the majority of their reviews being between three times and twice per week. Treatment room staff also saw patients very frequently with the majority of their reviews being twice weekly or weekly. This was echoed in Practice nursing and the Outpatient clinics. The overwhelming majority of Tissue Viability nurse specialist reviews took place on a monthly basis due to the specialist nature of Tissue Viability Services.

**Figure 31: Details of the numbers of patients who had evidence of local documentation being used by staff speciality**



It is recommended that patients should have their details and treatments documented in the appropriate local documentation. From Figure 29 above it is evident that 100% of patients had their details and treatments documented in the appropriate local documentation.



**Figure 32: Details of the numbers of patients who are in graduated compression therapy (bandaging and hosiery) by HSC Trust area**

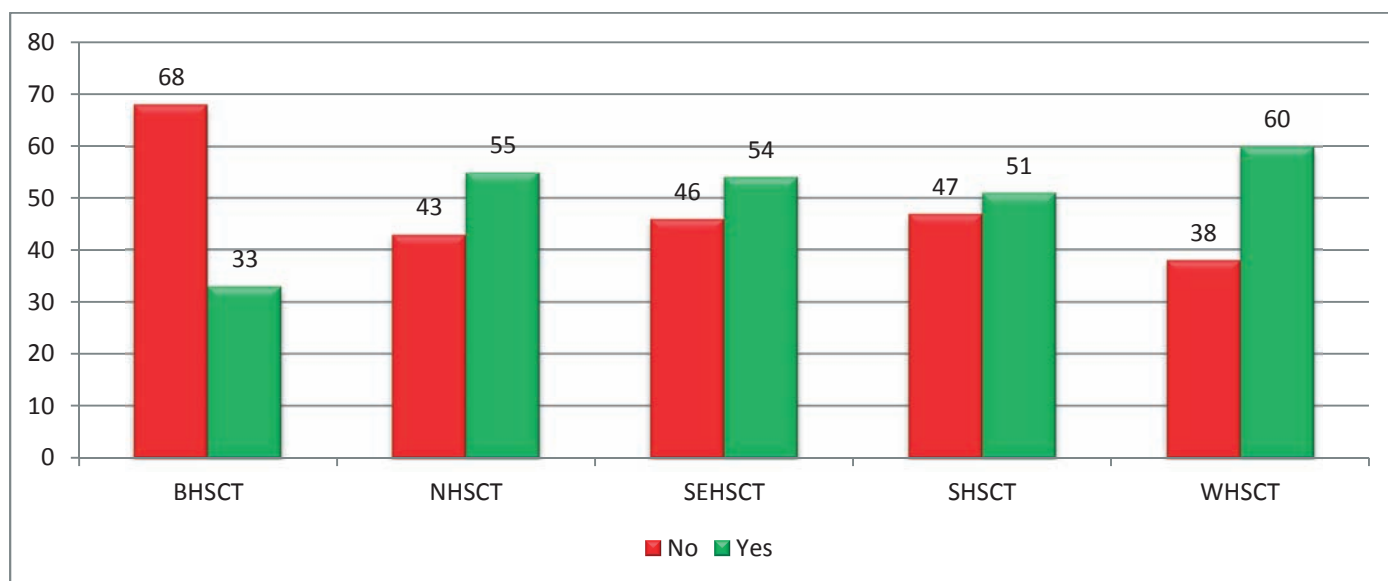
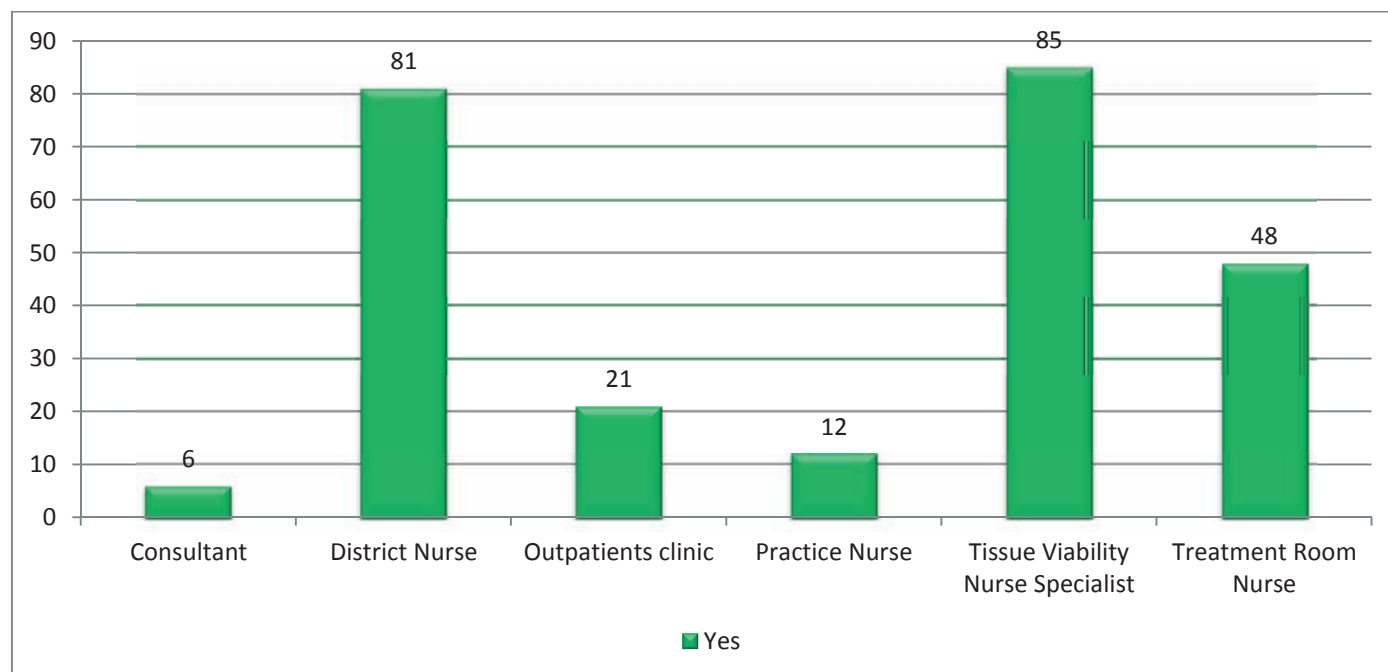


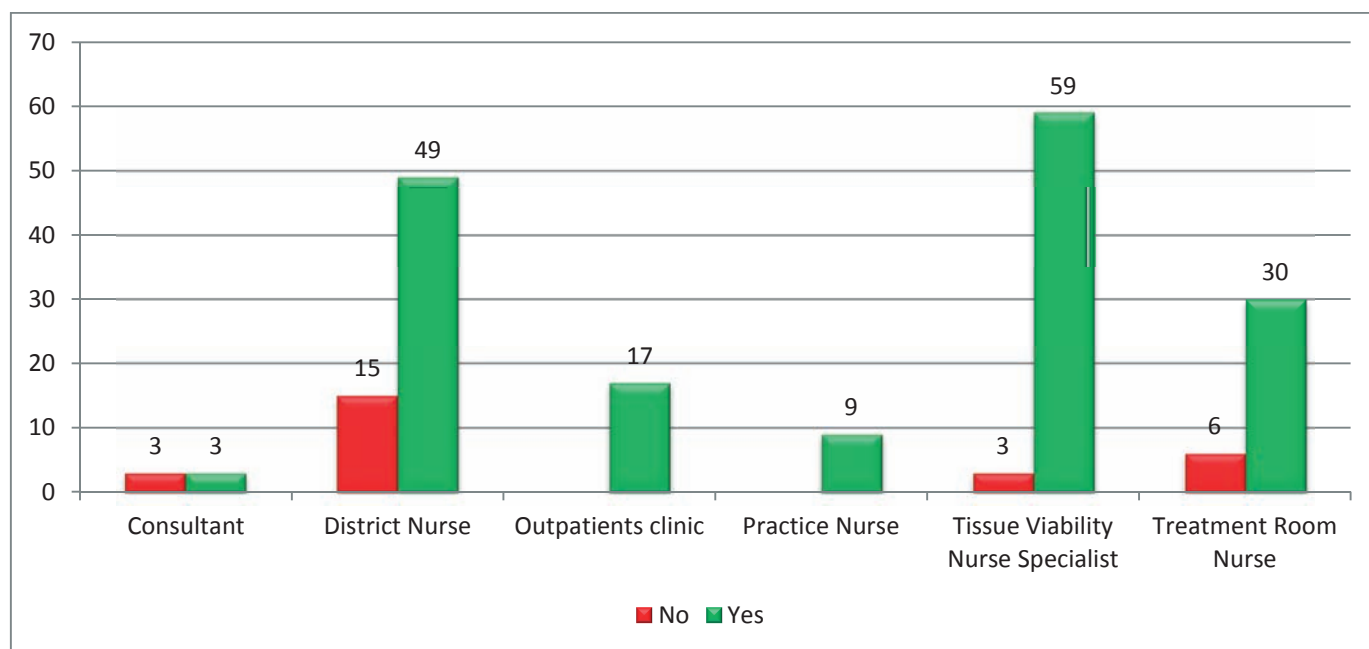
Figure 32 shows that 51% (253/495) of the 495 patients audited had compression therapy as a treatment, while 49% did not receive compression therapy (242/495). The scope of the study only assessed if the patient had compression therapy or not. The study did not investigate why the 49% of patients did not receive compression therapy, i.e. arterial disease or other aetiology.

**Figure 33: Details of the numbers of who used Compression Therapy as a treatment option by staff speciality**



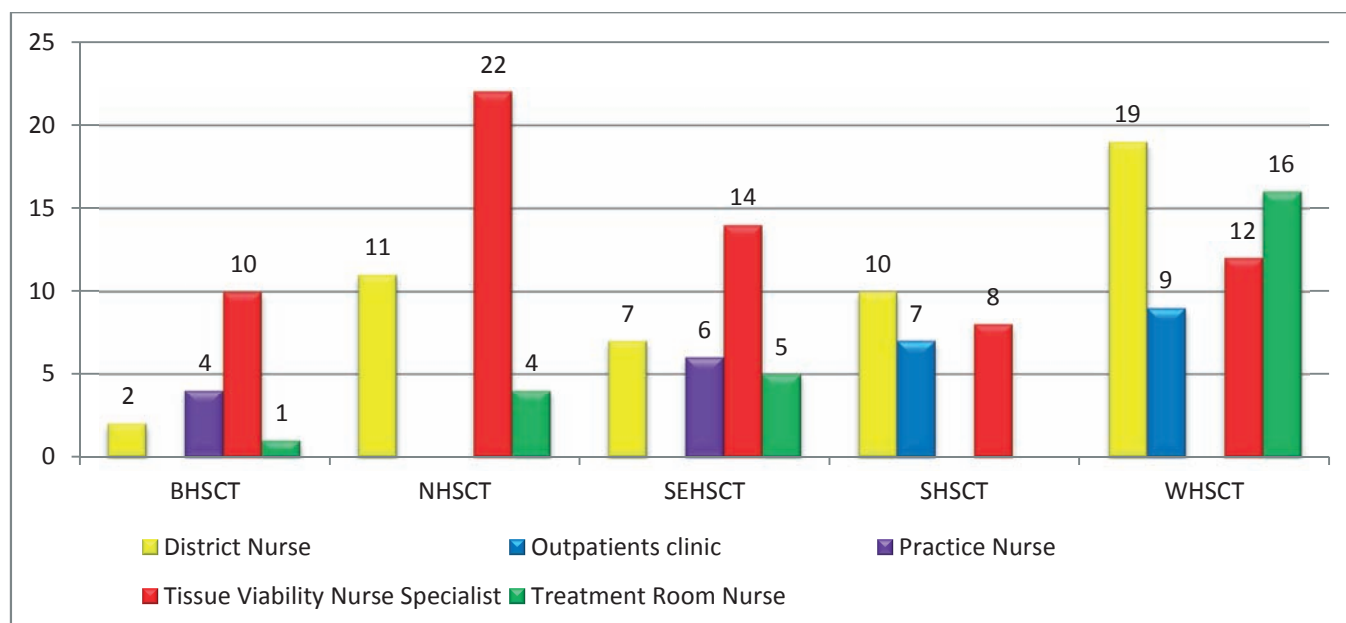
Tissue Viability nurses were the most likely staff speciality to use Compression Therapy as a treatment option with 34% of 253 patients who received it being treated by a Tissue Viability nurse (85/253). District Nursing accounted for 32% (81/253), Treatment Rooms for 19% (48/253), Outpatient clinic for 8% (21/253), Practice nurses for 5% (12/253) and Consultants for 2% (6/253).

**Figure 34: Details of the numbers of patients who had their Compression Therapy reviewed formally on a 3-6 monthly basis by staff speciality**



The methodology of the study assessed if compression therapy had been reviewed formally on a 3-6 month basis. For the 253 patients who had compression therapy only 77% were eligible for review (194/253) as the remaining 23% (59/253) had not had their compression in place for at least 3 months. Of the 194 patients who were eligible for review 86% (167 out of 194) were reviewed on a 3-6 month basis. There was no written evidence in the remaining 14% of cases that the patients had been reviewed (27 out of 194).

**Figure 35: Details of the staff speciality who carried out the review of Compression Therapy**

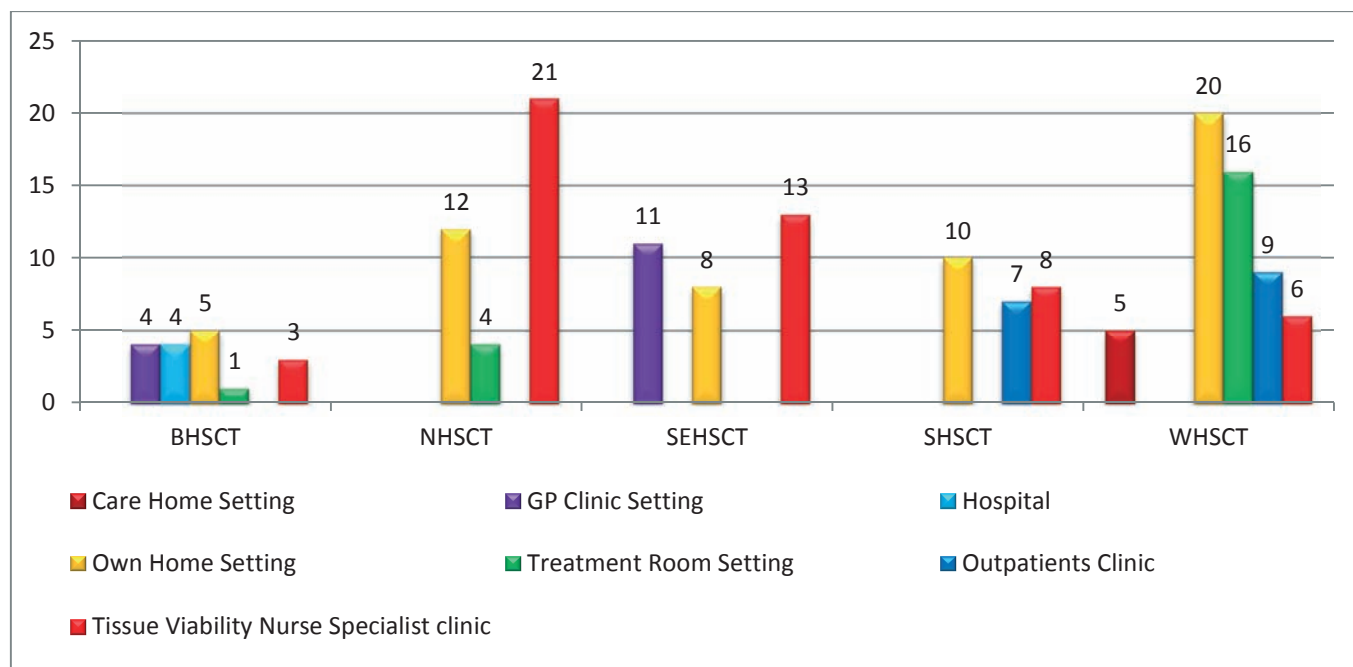


Of the 167 patients who had their compression therapy reviewed, 40% were reviewed by a Tissue Viability nurse (66 out of 167), 29% by a District nurse (49 out of 167), 15% by Treatment Room nurses (26 out of 167), 10% by the Outpatient clinic (16 out of 167) and 6% by Practice nurses (10 out of 167).

When you break Figure 35 down by HSC Trust area you get the following results:

- For BHSCT there were a total of 17 patients who had their compression therapy reviewed. Of these 10 patients (59%) saw a Tissue Viability nurse specialist, 4 patients (24%) saw a Practice nurse, 2 patients (12%) saw a District nurse and 1 patient (5%) saw a Treatment Room nurse.
- For NHSCT there were a total of 37 patients who had their compression therapy reviewed. Of these 22 patients (59%) saw a Tissue Viability nurse specialist, 11 patients (30%) saw a District nurse, and 4 patients (11%) saw a Treatment Room nurse.
- For SEHSCT there were a total of 32 patients who had their compression therapy reviewed. Of these 14 patients (44%) saw a Tissue Viability nurse specialist, 7 patients (22%) saw a District nurse, 6 patients (19%) saw a Practice nurse and 5 patients (15%) saw a Treatment Room nurse.
- For SHSCT there were a total of 25 patients who had their compression therapy reviewed. Of these 10 patients (40%) saw a District nurse, 8 patients (32%) saw a Tissue Viability nurse specialist and 7 patients (28%) were seen at the Outpatient clinic.
- For WHSCT there were a total of 56 patients who had their compression therapy reviewed. Of these 19 patients (34%) saw a District nurse, 16 patients (29%) saw a Tissue Viability nurse specialist, 12 patients (21%) saw a Treatment Room nurse and 9 patients (16%) were seen at an Outpatient clinic.

**Figure 36: Details of the location of which setting the patient was mostly seen in for their review of their compression therapy by HSC Trust area**

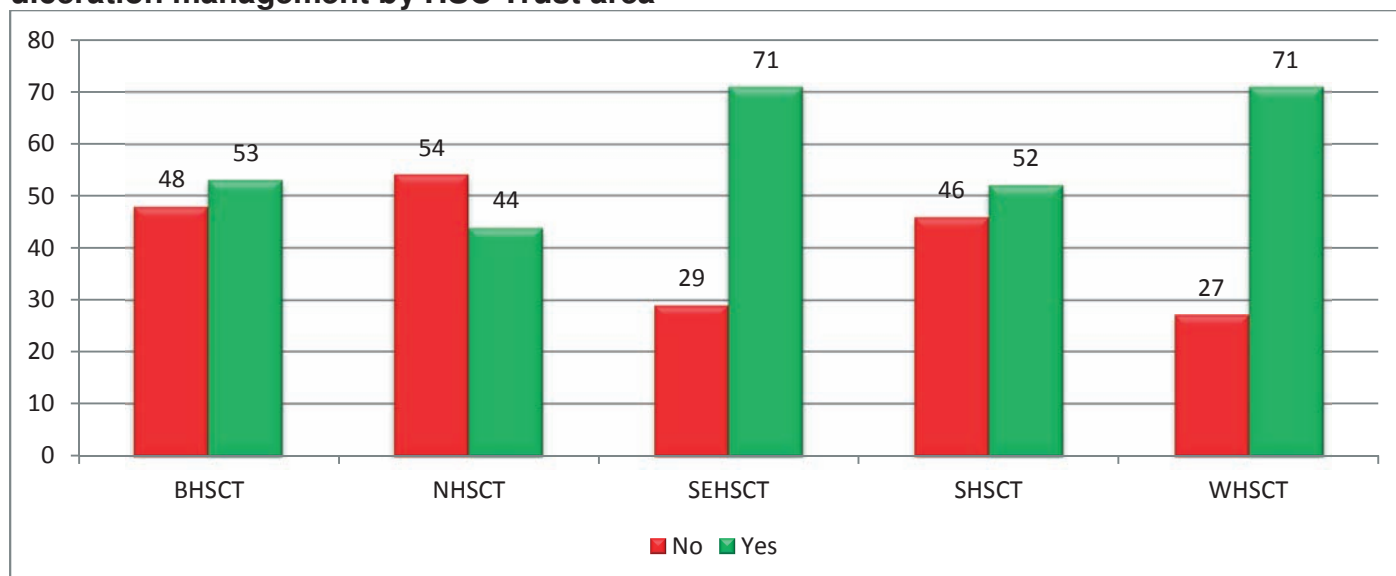


The patient's own home was the most common setting for patients to be reviewed with 33% (55 out of 167), the Tissue Viability Nurse Specialist clinic setting accounted for 31% of the reviews (51 out of 167), Treatment Rooms for 13% of reviews (21 out of 167), outpatient clinic for 9% (16/167), GP Clinic setting for 9% (15 out of 167), Care Homes for 3% (5 out of 167) and a Hospital setting for 2% of reviews (4 out of 167).

When you break Figure 36 down by HSC Trust area you get the following results:

- For BHSCT there were a total of 17 patients who were reviewed. Of these 5 patients (29%) were reviewed in their own home setting, 4 patients (24%) were reviewed in the GP Clinic setting, 4 patients (24%) were reviewed in the hospital, 3 patients (18%) in the Tissue Viability Nurse Specialist clinic and 1 patient (5%) in a Treatment Room setting.
- For NHSCT there were a total of 37 patients who were reviewed. Of these 21 patients (57%) were reviewed at the Tissue Viability Nurse Specialist clinic, 12 patients (32%) in their own homes and 4 patients (11%) in a Treatment room.
- For SEHSCT there were a total of 32 patients who were reviewed. Of these 13 patients (41%) were reviewed at the Tissue Viability Nurse Specialist clinic, 11 patients (34%) in the GP clinic setting and 8 patients (25%) in their own homes.
- For SHSCT there were a total of 25 patients who were reviewed. Of these 10 patients (40%) were reviewed in their own homes, 8 patients (32%) in the Tissue Viability Nurse Specialist clinic and 7 patients (28%) in the Outpatient clinic.
- For WHSCT there were a total of 56 patients who were reviewed. Of these 20 patients (36%) were reviewed in their own homes, 16 patients (28%) in a Treatment room setting, 9 patients (16%) at the Outpatient clinic, 6 patients (11%) at the Tissue Viability Nurse Specialist clinic and 5 patients (9%) in a care home setting.

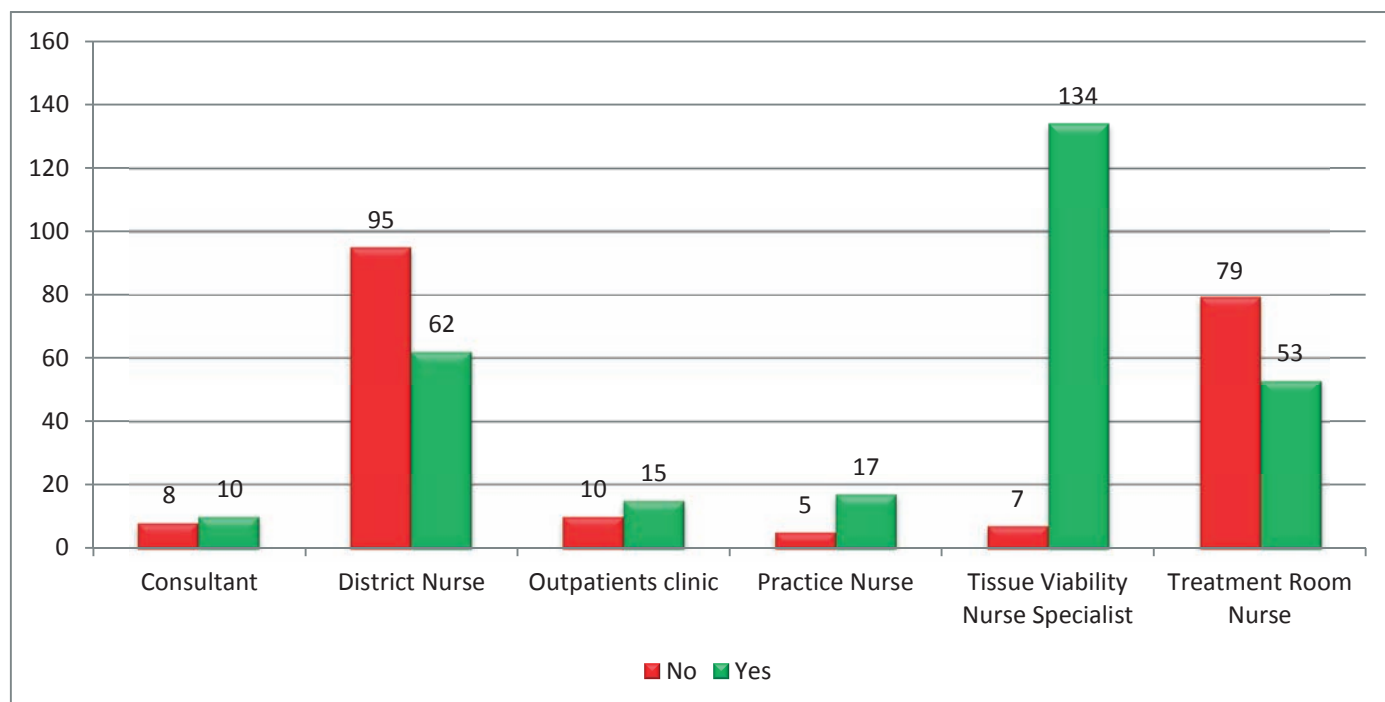
**Figure 37: Details of the numbers of patients who received patient information on leg ulceration management by HSC Trust area**



From the audit 59% of patients (291 out of 495) received information on leg ulceration management, while 41% of patients did not (204 out of 495).

The best performing HSCT area was the WHSCT with 72% of patients treated receiving information on leg ulceration management (71/98). The SEHSCT had 71% of patients treated receiving information (71/100), the SHSCT had 53% (52/98) and BHSCT had 52% (53/101). The NHSCT only gave 45% of patients being treated for leg ulcers information on their management (44/98).

**Figure 38: Details of the numbers of patients who received patient information on Leg Ulceration Management by staff speciality**

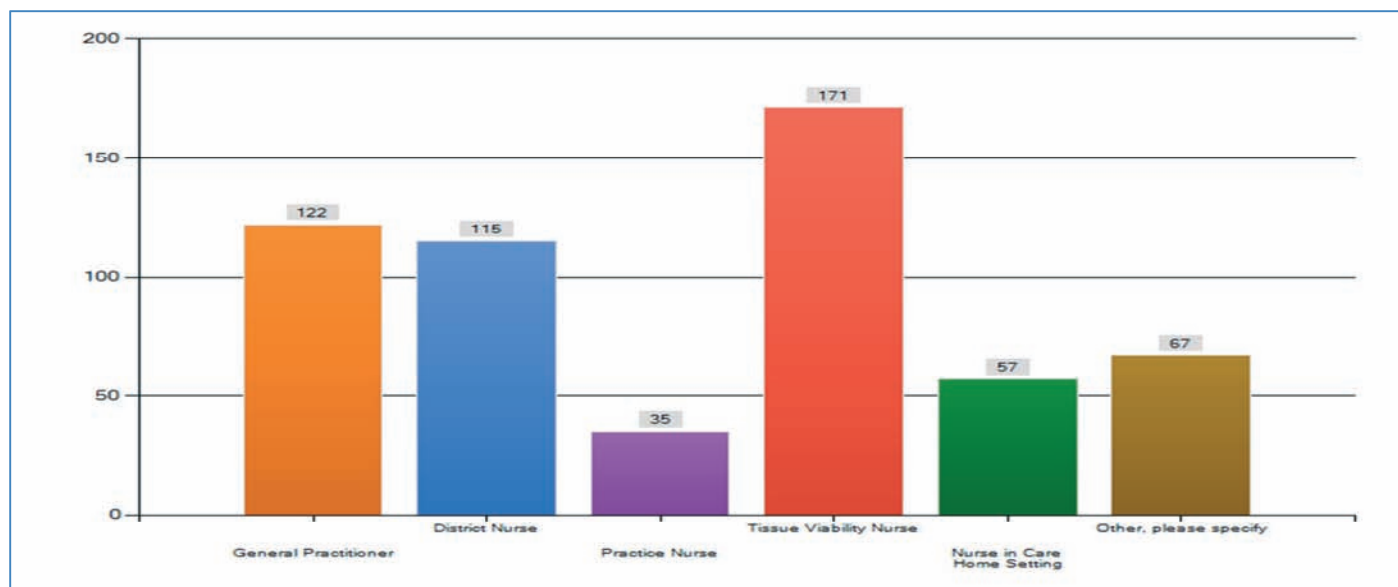


The Tissue Viability Nurse Specialist performed best when issuing patient information on Leg Ulceration Management, 95% of those who were initially assessed by the Tissue Viability Service (134 out of 141) received the relevant information, 77% of Practice nurse patients (17 out of 22) were issued with relevant information. Outpatient leg ulcer clinics issued 60% of patients with the relevant information (15 out of 25). Consultants issued 55% of their patients (10 out of 18) with information, Treatment Rooms with 40% (53 out of 132), and District Nursing with 39% (62 out of 157).

### Objective 3: To assess the provision and uptake of training amongst health care professionals

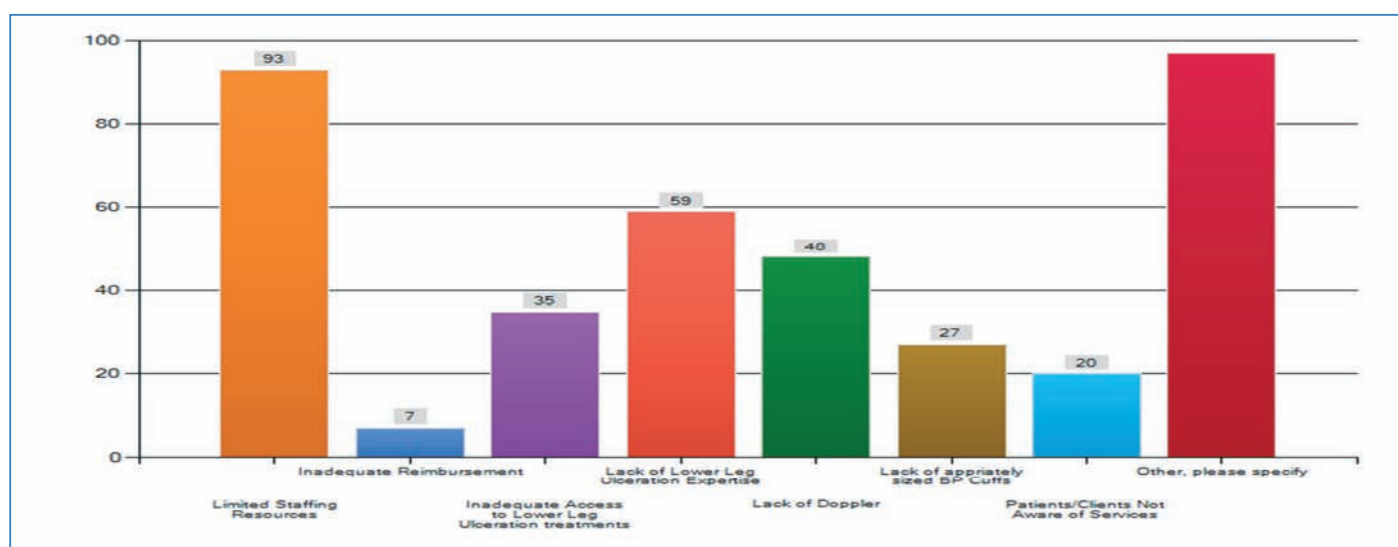
The staff survey was used to assess the uptake of training amongst staff. A total of 337 staff started the survey; however, only 228 actually finished completing it.

**Figure 39: Details of services used to provide management of lower leg ulceration**



Of the 228 respondents, 75% said they used Tissue Viability nurse service in the management of lower leg ulceration (171/228), 53% said they used the General Practitioner (122/228), 50% used District nursing service (115/228), 25% used a nurse in the Care Home Setting (57/228) and 15% used the Practice nurse (35/228). 29% of respondents used other services in their management (67/228). These replies ranged from Treatment Rooms, Dieticians, Vascular and Dermatology Consultants, Podiatry and Pharmacy.

**Figure 40: Details of the barriers experienced by staff in providing care to patients with lower leg ulcerations**



From Figure 40 we can see that 40% of the 228 respondents (93/228) reported that limited staff resources were a barrier to providing care to patients. A further 26% reported that a lack of lower leg ulceration expertise (59/228) was a barrier, while 21% (48/228) expressed a lack of access to

the Doppler equipment as a barrier. Inadequate access to treatments accounted for 15% (35/228) of respondents and a lack of appropriately sized BP cuffs equated to 11% (27/228). Respondents reported that 8% (20/228) of patients were unaware of services provided. Finance was not reported as a problem with only 3% (7/228) of respondents identifying this as a barrier. Reasons highlighted in the other section were poor patient compliance, lack of time to deal with the patients, length of time to see a specialist.

**Figure 41: Details of why patients with lower leg ulcerations are referred on to another service(s)**

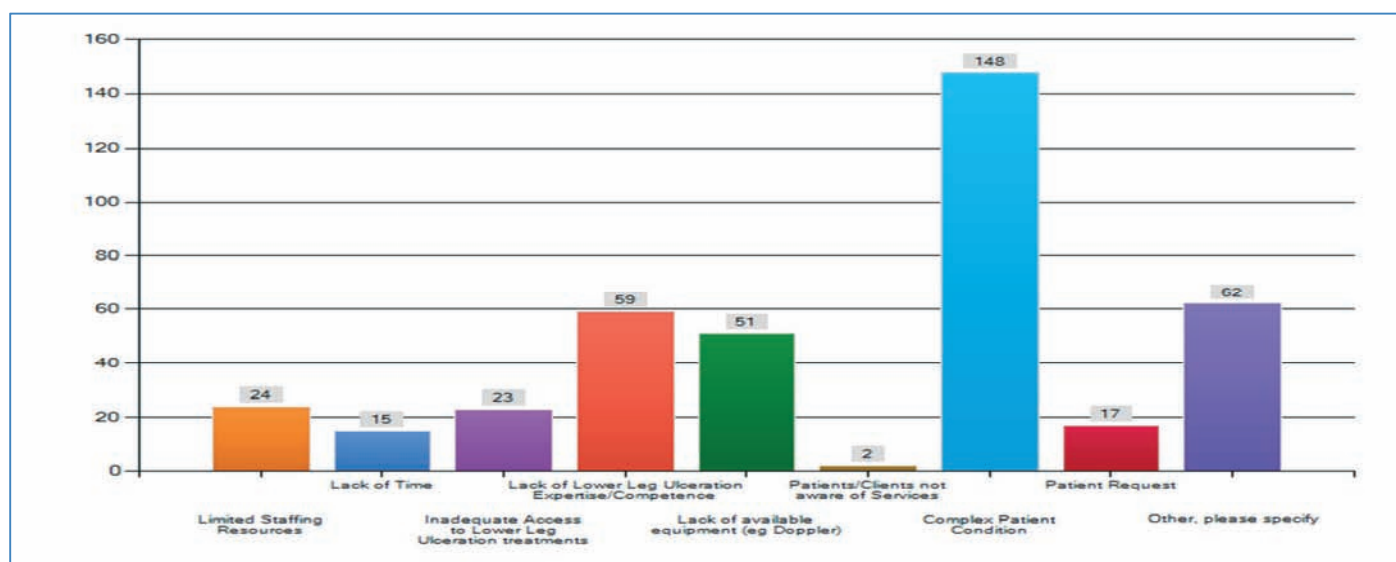
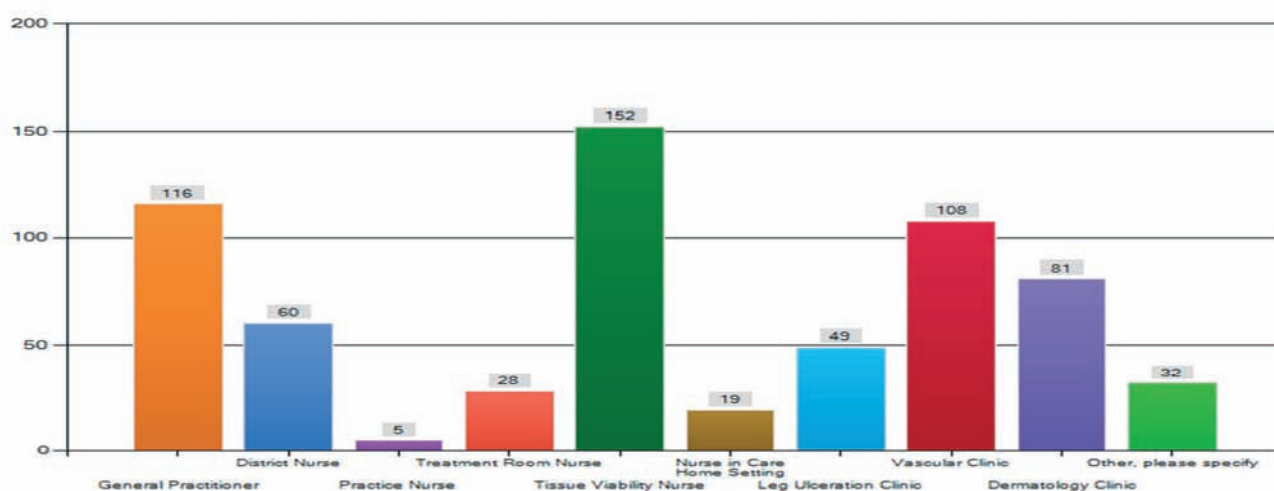


Figure 41 shows that 68% of the 216 respondents to this question (148/216) cited the complexity of the patient's condition as a reason for referring them on to another service. A total of 27% said that a lack of expertise / competency was the reason for referring on (59/216). While a lack of available equipment resulted in 23% of respondents (51/216) saying this was the reason for referring patients to another service. A further 8% of respondents (17/216) stated that the patient requested that they be referred on to another service. Other reasons including "Residential Care not being able to carry out treatment or care", "as per units policy", "to get better / specialist advice" accounted for 29% of respondent answers (62/216).

When asked what other services do you refer patients to, the 216 respondents gave the reasons outlined in Figure 42.



**Figure 42: Details of the other services patients with lower leg ulceration are referred to**



The majority of respondents (70%) referred their patients on to the Tissue Viability nurse (152/216), 53% on to the General Practitioner (116/216). Vascular Clinics was 50% (108/216) and Dermatology Clinics was 37% (81/216). District Nursing received 27% of replies (60/216) and Leg Ulceration Clinic 22% (49/216). Services highlighted in the other replies section were podiatry and lymphoedema services and surgery.

**Table 9: Details of conditions affecting how care is delivered**

Do you feel any of the following instances reflect on how care is delivered in your setting?	Sometimes	Often	Never	Total
Frequent changes of nursing staff in the particular setting means that wound care is sometimes inconsistent.	89 (40%)	25 (12%)	102 (48%)	216
Staff do not have the opportunity to properly wash and moisturise the limb in preparation for redressing.	70 (32%)	31 (15%)	115 (53%)	216
Changes to patient treatment are made because the planned dressing is not available.	97 (45%)	18 (8%)	101 (47%)	216
Changes to patient's treatment plans are made and not communicated to yourself.	62 (29%)	16 (7%)	138 (64%)	216

Table 9 shows that of the 216 respondents 12% (25/216) often felt that frequent changes of nursing staff in their particular setting meant that wound care was inconsistent, while 40% felt that sometimes it had meant that wound care was inconsistent (89/216). This equates to over half of respondents feeling that changes in nursing staff have an impact in consistency of wound care. The remaining 48% felt this did not reflect on how care was provided in their particular setting (102/216).

Unexpectedly 15% of staff felt that often they do not have the opportunity to properly wash and moisturise the limb in preparation for redressing (31/216). In 32% of replies respondents state that this only happens sometimes (70/216). While 53% feel this does not reflect on how care is delivered in their particular setting (115/216).

Interestingly 45% of respondents reported that sometimes changes to patients treatment were made because the planned dressings were not available (97/216), only 8% reported that this



happened often (18/216). The remaining 47% did not feel that this reflected on how care was delivered in their particular setting (101/216).

Respondents reported that communication of changes to patients treatment plans never had an impact on how care was delivered in 64% of replies (138/216). A total of 29% felt that it sometimes had an impact (62/216) while 7% felt that it often had an impact on how care was delivered (16/216).

**Figure 43: Details of the numbers of staff who have received any form of lower leg ulceration Education and Training**

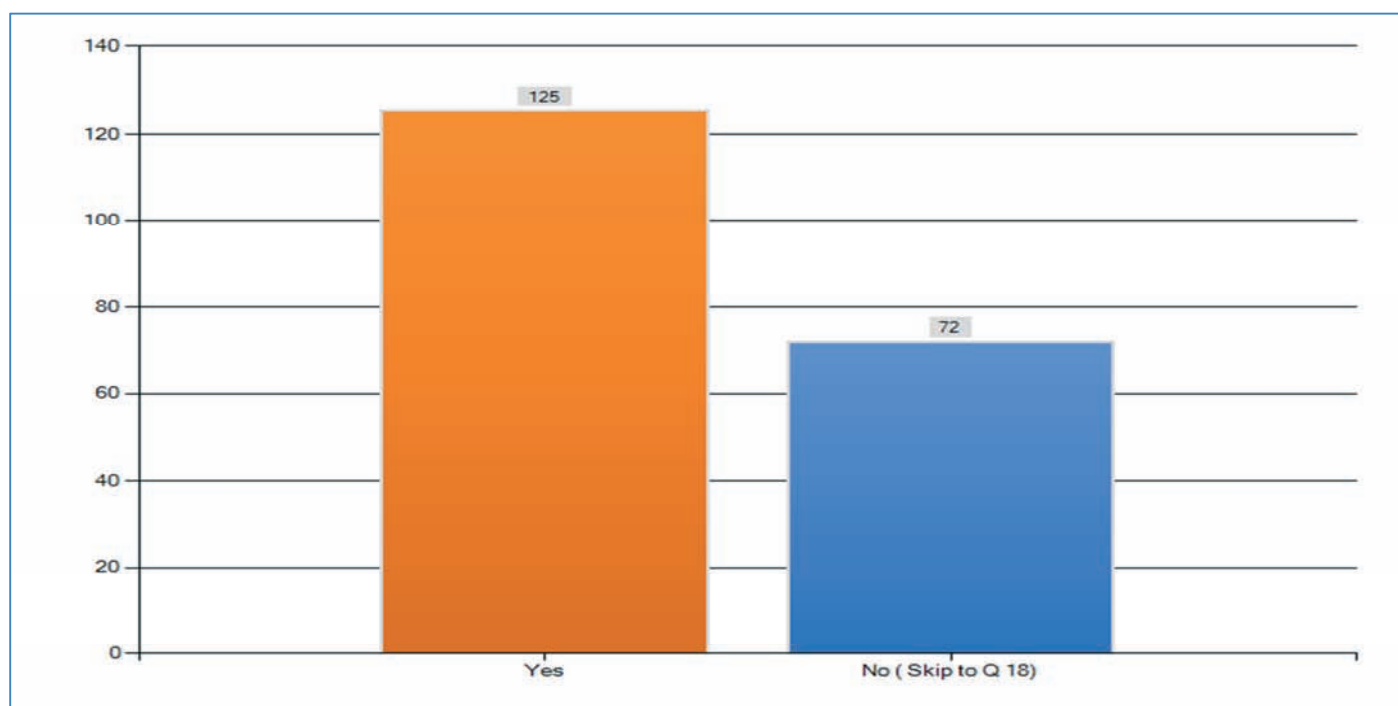


Figure 43 shows that 63% (125/197) of the 197 respondents who completed the question had received some form of lower leg ulceration Education and Training, while 37% stated they had not (72/197).

Respondents were asked where they had completed their training. Of the 125 who stated they had received some form of training, 112 respondents completed the question on where they had completed their training. Table 10 shows the responses.

**Table 10: Details of the location where staff completed their training**

	Response %	Response count	Total answered question
University based training	39%	44	112
Local education provider training (E.G. Clinical Education Centre)	40%	45	112
Local Trust provided training	56%	63	112
Other (Please Specify)	27%	30	112

Over half (56%) of respondents had completed Trust provided training (63/112), while 40% had attended a Local education provider e.g. The Beeches or EDCC (45/112). A total of 39% had

attended a university based course (44/112) and 27% had completed other forms of training (30/112), including training from drug reps and also joining the Tissue Viability nurses on visits.

Staff were asked to identify what their education programme covered and the results are set out in Table 11.

**Table 11: Details of what was included in the education programmes attended**

	Yes	No	Don't know	Response count	Yes %
Pathophysiology of leg ulceration	99	10	9	118	84
Leg ulceration assessment	110	6	2	118	93
The theory and practice of Doppler ultrasound to measure Ankle Brachial Pressure Index (ABPI)	102	13	5	120	85
Normal and abnormal wound healing	103	11	5	119	87
Theory and application of Compression therapy	110	8	2	120	92
Dressing selection	104	10	3	117	89
Principles of debridement	90	20	8	118	76
Principles of cleansing and infection control	107	8	4	119	90
Skin care of the lower leg	103	7	6	116	89
Peri-wound skin care and management	90	13	15	118	76
Psychological impact of venous stasis disease	85	21	13	119	71
Quality of life	90	17	9	116	77
Pain management	97	21	2	120	81
Teaching and support for care provider	72	30	16	118	61
Health Education	97	11	7	115	84
Preventing recurrence	101	9	4	114	89
Principles of nutritional support with regard to tissue integrity	101	12	5	118	86
Mechanisms for accurate documentation and monitoring or pertinent data, including treatment interventions and healing progress	98	13	7	118	83
Criteria for referral for specialized assessment	89	22	7	118	75

The above table breaks down the content of the education programmes attended by respondents. A total of between 114 and 120 respondents completed this question.

### ***Pathophysiology of leg ulceration***

Results show that 84% of respondents reported that this area was covered in the education programme (99/118), 8% of respondents stated it was not covered (10/118) and 8% did not know if it was covered or not (9/118).

### ***Leg ulceration assessment***

Of the 118 respondents to this question, 93% reported that this was covered in their education programme (110/118). Surprisingly 5% said it was not (6/118) and 2% did not know (2/118).

### ***The theory and practice of Doppler ultrasound to measure Ankle Brachial Pressure Index (ABPI)***

85% of respondents reported that the theory and practice of Doppler ultrasound to measure Ankle Brachial Pressure Index (ABPI) was covered in their education (102/120). A total of 11% said it was not (13/120) and 4% did not know if it was covered (5/120).

### ***Normal and abnormal wound healing***

Of the 119 respondents to this question, 87% stated that it was covered in their education programme (103/119). A total of 9% stated that it was not covered (11/119) and 4% did not know (5/119).

### ***Theory and application of Compression therapy***

A total of 92% of respondents reported that this was part of their education programme (110/120) while 7% stated it was not (8/120), while 1% did not know (2/120).

### ***Dressing selection***

From the 117 respondents, 89% stated this was covered in their education programme (104/117). A total of 9% said it was not covered (10/117) and a further 2% stated they did not know (2/117).

### ***Principles of debridement***

Of the 118 respondents who completed this question, 76% stated that this was covered (90/118) while 17% stated that it was not (20/118). A further 7% did not know if it was covered in their education (8/118).

### ***Principles of cleansing and infection control***

A total of 90% of the 119 respondents to this question stated this was covered (107/119). A further 7% said it was not covered (8/119) while 3% did not know (4/119).

### ***Skin care of the lower leg***

89% of respondents to this question stated that this was covered in their education programme (103/116), while 6% stated it was not (7/116). A further 5% stated they did not know if it was covered (6/116).

### ***Peri-wound skin care and management***

Of the 118 respondents to this question, 76% stated this was covered in their education programme (90/118), while 11% said that it was not covered (13/118). A total of 13% said they did not know if it was covered (15/118).

### ***Psychological impact of venous stasis disease***

A total of 71% of the 119 respondents to this question stated that this was covered in their programme (85/119). A total of 18% said it was not (21/119) while a further 11% did not know if it was covered (12/119).

### ***Quality of life***

From the 116 respondents, 77% said this was covered in the programme (90/116), 15% stated that it was not covered (17/116) and a further 8% did not know if it was contained in their education programme (9/116).

### ***Pain management***

A total of 120 respondents replied to this question. Of these 81% said that this was covered in their education programme (97/120), 21% said it was not covered (21/120) while a further 2% did not know (2/120).

### ***Teaching and support for care provider***

Of the 118 respondents to this question, only 61% stated this area was covered in their programme (72/118), a further 25% said it was not covered (30/118) and a total of 14% did not know (16/118).

### ***Health education***

A total of 89% of the 114 respondents to this question stated that it was covered in their education (101/114) while 8% said it was not covered (9/114). A total of 3% did not know if it was covered (4/114).

### ***Preventing recurrence***

A total of 118 respondents replied to this question. Of these 86% stated that this area was covered in their programme (101/118). A total of 10% said it was not covered (12/118) while a further 4% did not know if it was covered in their education programme (5/118).

### ***Principles of nutritional support with regard to tissue integrity***

Of the 118 respondents to this question, 86% stated that this was covered in their education programme (101/118). A total of 10% stated that it was not covered (12/118) while a further 4% said that they did not know if it was covered in their education programme (5/118).

### ***Mechanisms for accurate documentation and monitoring or pertinent data, including treatment interventions and healing progress***

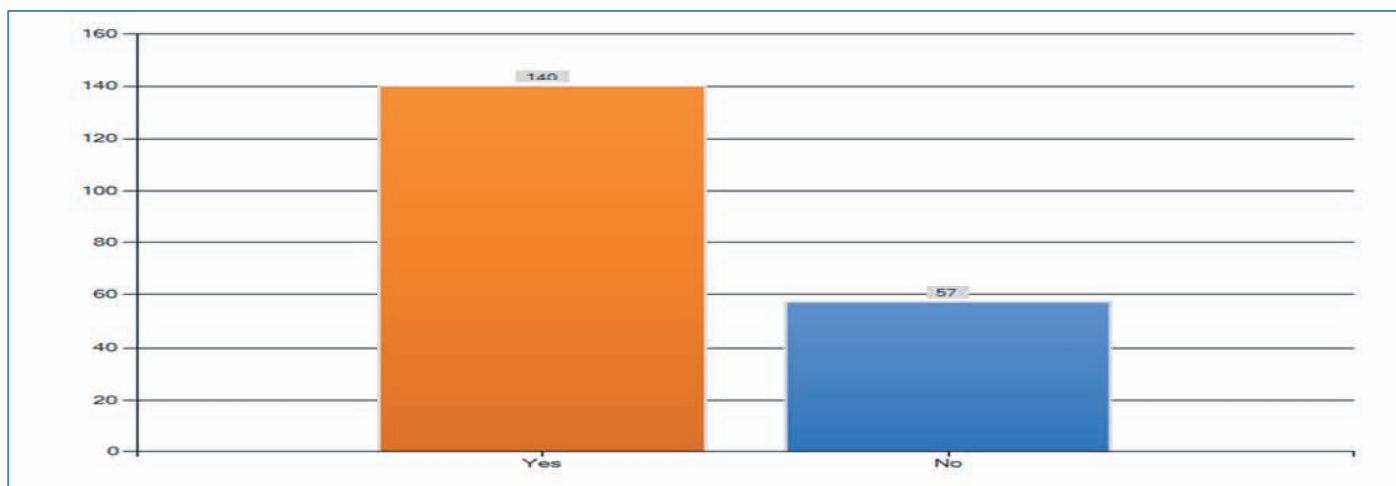
A total of 83% of the 118 respondents stated that this was covered in their education programme (98/118), 11% said it was not (12/118) and a further 6% stated they did not know if it was covered (7/118).

### ***Criteria for referral for specialized assessment***

Of the 118 respondents to this question a total of 75% stated that this was covered in their education programme (89/118). A total of 19% stated that it was not (22/118) while a further 6% stated that they did not know (7/118).

What is of significance and quite alarming is the percentage of staff who do not know if the areas of education in Table 11 were covered in the education programme they undertook.

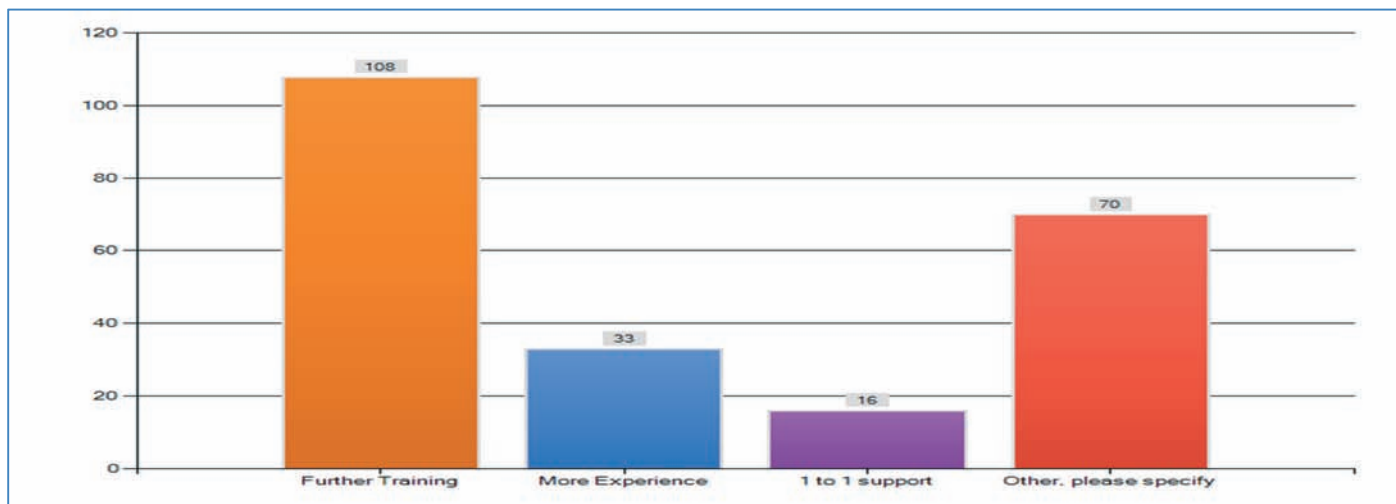
**Figure 44: Details of the numbers of staff who feel competent to manage patients with lower leg ulcerations**



Respondents were also asked to identify if they felt competent to manage patients with lower leg ulcerations. Figure 44 shows that 71% of the 197 respondents (140/197) felt they were competent, while 29% did not (57/197).

For those who did not feel competent, they were asked what would assist them in achieving the required level of competence. Figure 45 shows the results of the 186 respondents who completed the question.

**Figure 45: Details of what would assist you in achieving the required level of competence**



Further Training was the most common response with 58% of respondents (108/186) identifying it as what would assist them most to achieve the required competence. A total of 18% responded that more experience would help (33/186) and 8% identified 1 to 1 support as a way to assist them to reach the required level of competence (16/186). A further 37% identified other measures to assist them in achieving the required level of confidence. These included regular updates, more staff and protected time for training (70/186).

Staff were also asked to comment on what they perceived as barriers to training. Table 12 sets out the responses.

**Table 12: Details of the barriers which may limit staff training time**

	Agree	Disagree	Response count	% Agree
Time	119	56	175	68
Travel to training	58	113	171	34
Cost of training	74	93	167	44
Staff to cover while on training	104	66	170	61
Patient/client scheduling	38	125	163	23

Respondents identified time 68% (119/175) and staff coverage 61% (104/170) as the main barriers limiting staff training time. Respondents cited that they were not allowed time off work to attend training and had to complete training in their own time. Also due to staff shortages and a heavy workload, they were not able to get on training courses.

A total of 44% of the 167 respondents stated that the cost of training was a barrier which may limit staff training (74/167). From the 171 respondents to the travel to training barrier, only 34% identified this as a barrier (58/171). Finally patient scheduling was not seen as a barrier with only 23% of the 163 respondents agreeing that it was a barrier (38/163).

**Objective 4: To determine if HSC Trusts have policies and documentation in place for the treatment of lower leg ulceration**

This was achieved through the completion of an on-line questionnaire in relation to HSC Trust's documentation only.

There are four Tissue Viability Leads in the 5 Trusts with Southern Trust having no actual designated Lead Nurse at this time. Six Tissue Viability nurses from Band 7 to Band 8A were issued with the survey and asked to complete. All six completed the survey.

**Table 13: Details which HSC Trusts have access to Documentation, Guidelines and Training**

	Does your Trust have / use the below in relation to the treatment of lower leg ulcerations?			
	Policies	Guidelines	Access to training facilitated at Trust level	A holistic assessment tool?
BHSCT	Yes	Yes	Yes	Yes
NHSCT	No	No	Yes	Yes
SEHSCT	Yes	No	Yes	Yes
SHSCT	No	Yes	Yes	Yes
WHSCT	No	No	Yes	Yes

Two of the five Trusts have written Policies (BHSCT and SEHSCT) while the other three do not (NHSCT, SHSCT and WHSCT), also two Trusts have written Guidelines (BHSCT and SHSCT) while three do not (NHSCT, SEHSCT and WHSCT). All five Trusts have Access to Training facilitated at Trust Level. All five Trusts use a holistic assessment tool in the management of patients with Lower leg ulcerations. All of the five Trusts have access to University based training, Local Education Provider training and Local Trust Provided training. One Trust responded as having specific training provided by Tissue Viability Specialist Nurses (20%)



## Discussion

From the staff survey we can see that those who completed the questions were experienced staff with 68% stating they had been registered in their profession for over 20 years and a further 17% being registered between 16 and 20 years. The survey also showed that staff had remained in post for a long period of time with 20% being in post for over 16 years and 48% being in post for between 6 to 15 years.

The audit found that 64% of patients notes audited were aged over 70 (319/495), this was a similar position across each of the 5 Trusts. These results were to be expected<sup>3</sup>. Other results indicated that 4% of the audit sample were aged 40-49 (19/495) and 3% were aged 30-39 (12/495).

The audit found that the most common length of time the ulcer had been present was 2 weeks which equates to 16% (59/373) of cases the shortest time an ulcer was first treated was 2 days and the longest was 30 years. In a total of 122 cases the date the ulcer was first treated was not able to be recorded as the records were incomplete. Of the 373 ulcers recorded a total of 28% (105/373) of these were recurrent ulcers. Of the 105 recurrent ulcers, 79% (83/105) had been healed for 1 or more years before the ulceration occurred again.

Of the case notes audited it was found that across the five HSC Trust areas that 92% of patients who attended for treatment had a full clinical history completed. When this was broken down by staff speciality it was found that 87% (136/157) of patients attending District nursing and 86% (114/132) of patients attending Treatment rooms had a full clinical history completed.

Interestingly, throughout the region 99% (488/495) of patients had a full physical examination completed. A total 4 patients in the Treatment room setting and 1 in District nursing settings have not had a full physical examination. This may be explained due to the nature of care within the Treatment room and District nursing setting being short in nature with patients allocated slots of 10-15 minutes.

From the audit it was found that only 71% (355/495) of patients had an open wound assessment chart completed. Of those who had an open wound chart completed at their initial assessment, 77% (122/157) of District Nursing patients, 74% (98/132) of Treatment Room patients, 70% (98/141) of Tissue Viability patients, 50% (9/18) of Consultants patients and 41% (9/22) of Practice nurse patients had an open wound chart completed. However an open wound chart is not always necessary i.e. treatment may have been for varicose eczema, hosiery measurement and fitting.

Results show that only 55% (274/495) of patients across the 5 HSC Trusts had a Doppler ABPI completed at their first assessment visit. Of the 274 patients who had a Doppler ABPI completed at their initial assessment, 49% (134/274) were completed by a Tissue Viability nurse specialist, 25% (68/274) by a District nurse, 18% (51/274) by a Treatment Room nurse and 8% (21/274) at the Outpatient clinic. There is a wide variation across the 5 HSC Trust areas in the professionals who undertake the Doppler assessment. For those 207 patients who didn't have a Doppler completed, it is worth noting that 41% (84/207) attended the District nurse, 37% (76/207) attended the Treatment room, 11% (22/207) attended a Practice nurse. A further 5% (13/207) were seen by a Tissue Viability nurse specialist and 5% (10/207) saw a Consultant. It is important to note that no practice nurse was recorded as having completed the Doppler for any of the patients within this audit. The methodology of the study did not allow for data to be collected on patients who had additional vascular assessment interventions such as waveforms, CT angio or where Doppler assessment was clinically contraindicated.

This asks the question of whether community nursing services are having the appropriate training required to carry out Doppler tests and that they utilise the training in clinical practice, or do they



simply expect that this is the job of specialist nurses. This is a debate that possibly needs to be explored regionally.

The audit found that 85% of patients had their ulcer measured at their initial assessment. The best performing group of staff were the Tissue Viability nurse specialists with 97% (137/141) of the patients they saw having their wound measured.

The Outpatient clinic measured 96% (24/25) of patients seen in that setting, with Practice nurses measuring 59% (13/22) of the patients seen in their setting. Again this is an important measurement to be taken as it assists in knowing how the wound is progressing and if it is getting smaller or becoming larger.

A total of 90% of patients had a pain assessment completed. Tissue Viability nurse specialist performed best with 98% (139/141) of patients who attend their service as having an assessment completed, both District nursing and Treatment room nursing achieved 90% (148/163 and 120/132 respectively). Practice nurses completed 81% (18/22) of pain assessments and Outpatient leg ulcer clinics completed 80% (20/25) of assessments while consultant clinics only completed 44% (4/9) of assessments.

Of the 236 patients who experience pain, there was evidence that 52% (122/236) received analgesia. It should be noted that the notes were audited in isolation i.e. the audit did not look at General Practice notes for each patient along with the audited notes. It is possible that patients went to their GP for pain relief advice and medication.

As you may expect the Tissue Viability nurse specialists were the least likely staff group to refer on to another specialist or service with only 17% (24/151) of the patients they saw being referred on. A total of 56% (10/18) patients were referred on by Consultants.

Tissue Viability specialists were the most common service referred to with 67% (116/174) of patients being sent here. General Practitioners were the least likely staff group to have referrals sent to them for further assessment or treatment with only 2% (3/174). District Nursing and Treatment Room Nursing were the most likely staff group to refer on with a combined total of 71% of onward referrals being sent from here (124 out of 174).

The audit found that 88% (436/495) of patients had their care reviewed while a further 4% (22/495) were discharged after their initial appointment. The audit found that District nurses saw patients most frequently with the majority of their reviews being between three times and twice per week. Treatment room staff also saw patients very frequently with the majority of their reviews being twice weekly or weekly. This was echoed in Practice nursing and the Outpatient clinic. The overwhelming majority of Tissue Viability nurse specialist reviews took place on a monthly basis. However, the audit also reports 19 patients were seen one to two times a week by a specialist nurse.

Of the 495 patients audited, it was found that 51% (253/495) received compression therapy as a treatment option. Tissue Viability nurse specialist were the most likely to use compression therapy with 36% (93/253) while District nursing accounted for 34% (85/253) of cases. Treatment rooms used compression in 19% (48/253) of cases and Practice nurses in 5% (9/253) of cases. The Outpatient leg ulcer clinic used compression in 8% (21/253) of cases and consultants in 2% (6/253). It is recommended that those in compression therapy should be reviewed on a 3 to 6 month basis. In the audit only 194 out of the 253 were eligible for a review the remainder had not been in compression for 3 months or more. Of these 194, the audit found that 86% had been reviewed (167/194). The Tissue Viability nurse specialist saw 40% of these reviews (66/167), District nursing saw 29% (49/167) and Treatment rooms saw 15% (26/167). Outpatient clinics saw 10% (16/167) and Practice nurses saw 6% of reviews (10/167). The consultants did not review any compression therapy. The most common setting for patients to be reviewed was the

leg ulcer clinic with 43% of patients reviewed there and then patients own home setting with 30% (50/167) of patients seen there.

Information on leg ulcer management is vital for patients. The audit found that only 59% (291/495) of patients received information on how to manage their condition. Again The Tissue Viability Nurse Specialist performed best when issuing patient information on Leg Ulceration Management, 95% (134/141) of those who were initially assessed by the Tissue Viability Service received the relevant information. Results drop away to 77% (17/22) of those attending the Practice nurse receiving information. Outpatient clinics issued 60% (15/25) of patients with the relevant information. Consultants issued 55% (10/18) of their patients with information, Treatment Rooms with 40% (53 out of 132), and District Nursing with 39% (62 out of 157).

From the 228 respondents to the staff survey, 75% said they used Tissue Viability nurse service in the management of lower leg ulceration (171/228) and 53% said they used the General Practitioner (122/228). A total of 29% of respondents used other services in their management (67/228). These replies ranged from Treatment Rooms, Dieticians, Vascular and Dermatology Consultants, Podiatry and Pharmacy. Interestingly there was no evidence of respondents getting information on management from outside companies.

Surprisingly a total of 29% (57/197) of staff who responded to the staff survey stated that they did not feel competent in managing patients with leg ulcers. When this is combined with the fact that 68% (148/216) of the respondents when asked why they referred on to another service cited that the complexity of the condition was the reason. Also 27% (59/216) cited lack of expertise/competency as another reason for referring on to another service. This highlights that staff feel under trained and / or the training is not covering the correct areas. A total of 58% (108/186) of respondents to the question of what would assist them in achieving the required level of competence stated that additional training would help achieve competence, a further 18% (33/186) responded that more experienced staff would be beneficial.

Staff cited the main barriers which limit training are time with 68% (119/175) and the availability of staff to cover while training takes place 61% (104/170).

## Conclusion

Due to the fact that leg ulcer clinical guidelines developed by CREST in 1998 have never updated and although superseded by NICE and RCN there is no clear understanding of the best regional model for managing lower leg ulceration. In addition there are a number of professionals involved in delivering leg ulcer provision in Northern Ireland. The involvement of so many professionals frequently results in fragmented and duplication of patient care. By looking at patients notes from a range of professionals we were able to confirm that this has been the case with variations across the region into how patients care was provided.

The audit found that while care was delivered to a high standard, areas of improvement have been identified. Areas of improvement include completion of the open wound charts, recording if patients had been given analgesia for their pain and issuing patients with information about caring for their leg ulcer.

Some key points learned from the audit were that 52% of staff expressed through the survey their concerns that due to the changes of nursing staff, wound care was inconsistent. The survey also found that almost 30% of staff responding did not feel competent in managing leg ulceration. On a more positive note, the audit found that 99% of the patients audited had a full clinical examination carried out at their initial assessment. It also found that at this initial assessment 92% of patients had their full clinical history completed. And a total of 88% of patients had their care reviewed at least once, and the most common review was twice weekly.

Particular focus should be paid to staff training, we have an experienced resource which we should be using to its full potential. Also if a more structured approach is considered regionally, and processes put in place to standardise documentation and guidelines/policies this would ultimately lead to less variation in practices and ensure safe and effective patient centred care.

## Limitations of this audit

- Patients notes were looked at in isolation that is to say the audit did not combine District Nursing notes with the General Practitioner's notes, or the Treatment Room notes with the Tissue Viability Nurses notes etc. In some cases there were references to visits to General Practitioners etc. in the other notes no outcomes were not recorded.
- In some cases there were only the most recent sets of notes available. If a patient had been treated over a sustained period of time there may have been several sets of notes, some of which were in storage and not available at the time of the audit.
- The audit assumed that the patients whose notes were looked at were required to have a Doppler ABPI assessment, unless there were any notes on the chart to say otherwise.
- The scope of the audit did not check if the information given to the patient was verbal or written.
- The breakdown of the aetiology of the notes audited was not determined in the scope of the audit.
- Unfortunately few Practice Nurses participate in the audit and this limitation may require further study.

## Recommendations

### Guidelines and Pathways

1. Trusts should adopt the NICE / RCN guidelines on the management of leg ulcers as best practice.
2. Trusts should consider using a standardised regional leg ulcer assessment form or agree a minimum data set for inclusion in recording patients details and treatments in relation to lower leg ulceration
3. Consideration should be given to the development of a regional pathway for referral to specialist services
4. Tissue Viability nurses should have direct access to Vascular and Dermatology services without making a referral through the General Practitioner

### Clinical

5. There should be a regional standardised written information leaflet which all patients should be given at their initial appointment and this documented in their notes
6. All patients should have a full clinical history taken at their initial appointment
7. All patients should have a full physical examination completed at their initial appointment
8. All patients should have a pain assessment carried out at the initial and review visits and the details documented in their notes
9. For those patients experiencing pain, a record should be kept if they were advised to contact their General Practitioner or if information regarding analgesia was given
10. All patients should have the size of their ulcer measured at the initial assessment and thereafter on a weekly to monthly basis depending on the type of ulcer
11. **Where possible** all patients should have a Doppler ABPI carried out at the initial assessment, before treatment and the results recorded in their notes (if this is unable to be carried out this should also be recorded in the patients notes)
12. If staff are unable to perform a Doppler ABPI it should be clearly recorded in the patient's notes with the reason why
13. Measurement of ABPI should be undertaken by health care professionals trained in leg ulcer management and who should endeavour to maintain their skills
14. All staff who prescribe and fit compression hosiery should understand the concepts, practice and hazards of compression therapy
15. All patients should have their care and treatments individualised to their clinical need
16. Review appointments should be determined on the patients clinical need

17. All patients should have their care and treatment carried out in the most appropriate setting depending on the patients individual need
18. All patients who have an open wound should have an open wound chart completed at the initial and review assessments and the details recorded in the patient's notes
19. Specialist leg ulcer clinics with Tissue Viability input are recommended as the optimal service for treatment of leg ulcers

## **Education**

20. Consideration should be given for all staff who regularly care for patients with lower leg ulcerations to have mandatory training

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## **Glossary**

<b>BHSCT</b>	Belfast Health and Social Care Trust
<b>Doppler APBI</b>	Diagnostic tool to exclude arterial insufficiency
<b>Graduated compression therapy</b>	Layered knitted bandaging used in the treatment of venous ulceration
<b>Holistic Assessment Tool</b>	Assessment used to determine the patient's actual or potential nursing problems
<b>HSC Trust area</b>	The geographical area covered by each of the five Health and Social Care Trusts in Northern Ireland
<b>Lower leg ulceration</b>	An open lesion between the knee and ankle joint that remains unhealed for at least 4 weeks
<b>NHSCT</b>	Northern Health and Social Care Trust
<b>Open wound observation chart</b>	A chart used in the holistic assessment of patients with open wounds
<b>Outpatient Clinic</b>	In the Southern HSCT a Primary Care Nurse led outpatients clinic run in the Newry and Mourne area of the Trust. In the Western HSCT an acute nurse led clinic which is operational in outpatients on Altnagelvin site and Roe Valley site and an independent run clinic run by Dermatology nurses in Tyrone County Hospital
<b>RQIA</b>	The Regulation and Quality Improvement Authority is Northern Ireland's independent health and social care regulator
<b>SEHSCT</b>	South Eastern Health and Social Care Trust
<b>SHSCT</b>	Southern Health and Social Care Trust
<b>Venous leg ulcer</b>	The most common type of skin ulcer
<b>WHSCT</b>	Western Health and Social Care Trust



## Appendices

### Appendix 1



## Case Note Review

Case Note ID No:	
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Patient Demographics	
1.1 HSC Area	<input type="checkbox"/> NHSCT <input type="checkbox"/> SEHSCT <input type="checkbox"/> BHSCT <input type="checkbox"/> WHSCT <input type="checkbox"/> SHSCT
1.2 Gender	Male <input type="checkbox"/> Female <input type="checkbox"/>
1.3 Age	< 16 <input type="checkbox"/> 16-29 <input type="checkbox"/> 30 – 39 <input type="checkbox"/> 40 – 49 <input type="checkbox"/> 50 – 59 <input type="checkbox"/> 60 – 69 <input type="checkbox"/> 70 + <input type="checkbox"/>
1.4 Source of Referral	<input type="checkbox"/> General Practitioner <input type="checkbox"/> District Nurse <input type="checkbox"/> Practice Nurse <input type="checkbox"/> Treatment Room Nurse <input type="checkbox"/> Tissue Viability Nurse <input type="checkbox"/> Nurse in Care Home Setting <input type="checkbox"/> Other <i>specify</i> _____

History	
2.1 How long has the Lower leg ulceration been present?	_____ <input type="checkbox"/> weeks <input type="checkbox"/> months <input type="checkbox"/> years
2.2 If a recurrence, how long since last healed?	<input type="checkbox"/> N/A _____ <input type="checkbox"/> weeks <input type="checkbox"/> months <input type="checkbox"/> years

Section 1: All patients with a non-healing Lower leg ulceration should have a full holistic leg ulceration assessment including a Doppler.	
3.1 Is there evidence that a full Lower leg ulceration assessment (full clinical history and physical examination) was completed at the assessment visit?	<input type="checkbox"/> full clinical history completed <input type="checkbox"/> physical examination completed <input type="checkbox"/> open wound chart completed
3.2 Time from initial presentation to completion of a full assessment	Time of first contact _____ Time of full assessment being completed _____



3.3 Who completed the first assessment of the patient?	<input type="checkbox"/> General Practitioner <input type="checkbox"/> District Nurse <input type="checkbox"/> Practice Nurse <input type="checkbox"/> Treatment Room Nurse <input type="checkbox"/> Tissue Viability Nurse <input type="checkbox"/> Nurse in Care Home Setting <input type="checkbox"/> Leg Ulcer Clinic <input type="checkbox"/> Other <i>specify</i> _____
4.1 Is there evidence that a Doppler ABPI was completed at first assessment visit?	<input type="checkbox"/> Yes <input type="checkbox"/> No
4.2 If yes to Q4.1, who completed the Doppler ABPI assessment?	<input type="checkbox"/> General Practitioner <input type="checkbox"/> District Nurse <input type="checkbox"/> Practice Nurse <input type="checkbox"/> Treatment Room Nurse <input type="checkbox"/> Tissue Viability Nurse <input type="checkbox"/> Nurse in Care Home Setting <input type="checkbox"/> Leg Ulcer Clinic <input type="checkbox"/> Other <i>specify</i> _____
4.3 If no to Q4.2, is there evidence that a Doppler ABPI has been completed for this patient at any subsequent visit?	<input type="checkbox"/> Yes <input type="checkbox"/> No If yes, Time of first contact _____  Time of full assessment being completed _____
5.1 Has the Lower leg ulceration(s) size been measured at initial assessment visit?	<input type="checkbox"/> Yes <input type="checkbox"/> No If yes, date measured _____
5.2 If yes, was this by:	<input type="checkbox"/> Tape Measure <input type="checkbox"/> Mapping <input type="checkbox"/> Photograph <input type="checkbox"/> Length & Width <input type="checkbox"/> Other <i>specify</i> _____
6.1 Has pain assessment been undertaken?	<input type="checkbox"/> Yes <input type="checkbox"/> No
6.2 Is there evidence that the patient experienced pain?	<input type="checkbox"/> Yes <input type="checkbox"/> No
6.3 If yes, did patient receive analgesia?	<input type="checkbox"/> Yes <input type="checkbox"/> No
7.1 Was an onward referral made / patient referred to another specialist?	<input type="checkbox"/> Yes <input type="checkbox"/> No
7.2 If yes, reasons & Date of Referral	Reason: _____ Date: _____
7.3 Referred to:	<input type="checkbox"/> Specialist Nurse <input type="checkbox"/> Tissue Viability Nurse <input type="checkbox"/> General Practitioner <input type="checkbox"/> Vascular Surgeon <input type="checkbox"/> Dermatologist <input type="checkbox"/> Diabetologist <input type="checkbox"/> Other <i>specify</i> _____

Section 2: Patients with active ulcerations should have their Lower leg ulceration care reassessed monthly (or sooner if there is deterioration in the wound) using the appropriate local documentation.	
8.1 Is there evidence that the patient had their care reviewed on a monthly basis?	<input type="checkbox"/> Yes <input type="checkbox"/> No
8.2 If yes to Q8.1, how often on average has the patient been seen for each month they received care?	_____
8.3 Is there evidence that the patient with a deteriorating wound had their care reviewed more often than on a monthly basis?	<input type="checkbox"/> Yes <input type="checkbox"/> No
8.4 If no to Q8.3 how often on average has the patient been seen for each month they received care for their deteriorating wound?	_____
8.5 Is there evidence that appropriate local documentation has been used?	<input type="checkbox"/> Yes <input type="checkbox"/> No
8.6 Has measurement of ulceration(s) size been repeated?	<input type="checkbox"/> Yes <input type="checkbox"/> No

Section 3: Patients in compression therapy should be reassessed formally 3-6 monthly with assessment using Doppler, which is recorded in the patients clinical notes.	
9.1 Is there recorded evidence that the patient is in Graduated compression therapy (Bandaging and hosiery)?	<input type="checkbox"/> Yes <input type="checkbox"/> No (If no, no further details needed)
9.2 If yes to Q9.1, is there evidence that the patient was reviewed formally 3-6 monthly basis?	<input type="checkbox"/> Yes <input type="checkbox"/> No
9.3 If yes to Q9.2, how often on average has the patient been seen for each month they received care?	_____
9.4 Who completed the REVIEW of the patient?	<input type="checkbox"/> General Practitioner <input type="checkbox"/> District Nurse <input type="checkbox"/> Practice Nurse <input type="checkbox"/> Treatment Room Nurse <input type="checkbox"/> Tissue Viability Nurse <input type="checkbox"/> Nurse in Care Home Setting <input type="checkbox"/> Other <i>specify</i> _____
9.5 For this review, which setting was the Patient mostly seen in?	<input type="checkbox"/> Own home setting <input type="checkbox"/> GP clinic setting <input type="checkbox"/> PN setting <input type="checkbox"/> Treatment room setting <input type="checkbox"/> Leg Ulcer Clinic <input type="checkbox"/> Care Home Setting <input type="checkbox"/> Other <i>specify</i> _____
9.6 Is there evidence that a Doppler ABPI was completed at the review visit?	<input type="checkbox"/> Yes <input type="checkbox"/> No

<p>9.7 If yes who completed the Doppler ABPI assessment?</p>	<p> <input type="checkbox"/> General Practitioner  <input type="checkbox"/> District Nurse  <input type="checkbox"/> Practice Nurse  <input type="checkbox"/> Treatment Room Nurse  <input type="checkbox"/> Tissue Viability Nurse  <input type="checkbox"/> Nurse in Care Home Setting  <input type="checkbox"/> Other <i>specify</i> _____         </p>
<p>9.8 Is there evidence that the patient received patient information on Leg Ulceration Management?</p>	<p> <input type="checkbox"/> Yes    <input type="checkbox"/> No         </p>

Is there evidence that the Trust has the following information, services or documentation in relation to the treatment of patients with Lower leg ulceration.

Name of Identified Patient: \_\_\_\_\_

Position in Trust \_\_\_\_\_

Trust ☐ NHSCT  
☐ SEHSCT  
☐ BHSCT  
☐ WHSCT  
☐ SHSCT

Trust Management of Lower leg ulceration	Evidence provided
Policies	Yes <input type="checkbox"/> No <input type="checkbox"/>
Guidelines	Yes <input type="checkbox"/> No <input type="checkbox"/>
Access To Training facilitated at a Trust level	Yes <input type="checkbox"/> No <input type="checkbox"/>
Type of Training (please specify)	University Based training <input type="checkbox"/> Local education provider training (eg Beeches / NEDCC) <input type="checkbox"/> Local Trust provided training <input type="checkbox"/> Other (Please specify) _____
Services Provided	<input type="checkbox"/> District Nurse <input type="checkbox"/> Practice Nurse <input type="checkbox"/> Tissue Viability Nurse <input type="checkbox"/> Leg Ulceration Clinic <input type="checkbox"/> Vascular Clinic <input type="checkbox"/> Dermatology Clinic <input type="checkbox"/> Other <i>specify</i> _____
Holistic Assessment Tool	Yes <input type="checkbox"/> No <input type="checkbox"/>

## Staff Survey

Building an effective Lower leg ulceration management service is essential to providing comprehensive care and services to patients with Lower leg ulceration.

In completing this survey you will assist with ascertaining the number of patients presenting with Lower leg ulceration, assessing the standard of care provided to patients with Lower leg ulceration, the provision and uptake of training amongst health care professionals and determining if HSC Trusts have policies and documentation in place for the treatment of Lower leg ulceration.

As a result of you completing this survey it will help to better serve patients with Lower leg ulcerations in your community.

Please complete as appropriate

Grade of Nurse (if appropriate)	<input type="checkbox"/> Band 5 <input type="checkbox"/> Band 6 <input type="checkbox"/> Band 7 Other please specify
Geographical Location	<input type="checkbox"/> NHSCT <input type="checkbox"/> SEHSCT <input type="checkbox"/> BHSCT <input type="checkbox"/> WHSCT <input type="checkbox"/> SHSCT
Employment Type	<input type="checkbox"/> Trust employed <input type="checkbox"/> GP employed <input type="checkbox"/> Care Home employed
Years registered in your profession	<input type="checkbox"/> 0 – 5 <input type="checkbox"/> 6 – 10 <input type="checkbox"/> 11 – 15 <input type="checkbox"/> 16 – 20 <input type="checkbox"/> 20 +
Years in current post	<input type="checkbox"/> 0 – 5 <input type="checkbox"/> 6 – 10 <input type="checkbox"/> 11 – 15 <input type="checkbox"/> 16 – 20 <input type="checkbox"/> 20 +

**Lower leg ulceration Patient and Services**  
**Can you please provide as accurate information as possible**

Clinic/Agency Questions	Responses/Important Information
1. How many patients have received care here within the <b>past month</b> ?	
1.1 How many of those patients had Lower leg ulcerations?	
1.2 What % of your time do you spend with patients with Lower leg ulcerations?	

2. What percentage of your patients also consults in relation to their leg ulceration:	%	Don't know	Providers don't ask
General Practitioner			
District Nurse			
Practice Nurse			
Treatment room Nurse			
Tissue Viability Nurse			
Hospital			
Nurse in Care Home setting			
other (please specify)			

3. Which of the following services do you use to provide management of Lower leg ulceration?	<input type="checkbox"/> General Practitioner <input type="checkbox"/> District Nurse <input type="checkbox"/> Practice Nurse <input type="checkbox"/> Treatment Room Nurse <input type="checkbox"/> Tissue Viability Nurse <input type="checkbox"/> Nurse in Care Home Setting <input type="checkbox"/> Other <i>specify</i> _____
--	---

4. What barriers do you experience in providing care to patients with Lower leg ulcerations?	<input type="checkbox"/> Limited Staffing Resources <input type="checkbox"/> Inadequate Reimbursement <input type="checkbox"/> Inadequate Access to Lower leg ulceration treatments <input type="checkbox"/> Lack of Lower leg ulceration Expertise <input type="checkbox"/> Lack of Doppler <input type="checkbox"/> Lack of appropriately sized BP cuffs) <input type="checkbox"/> Patients/Clients Not Aware of Services <input type="checkbox"/> Other <i>specify</i> _____
--	--

## Staffing and Referral Patterns

<p>5. Why do you refer patients with Lower leg ulceration on to another service(s)?</p>	<div style="list-style-type: none; padding-left: 0;"> <input type="checkbox"/> Limited Staffing Resources  <input type="checkbox"/> Lack of Time  <input type="checkbox"/> Inadequate Access to Lower leg ulceration treatments  <input type="checkbox"/> Lack of Lower leg ulceration Expertise / Competence  <input type="checkbox"/> Lack of available equipment (eg Doppler)  <input type="checkbox"/> Patients/Clients Not Aware of Services  <input type="checkbox"/> Complex Patient Condition  <input type="checkbox"/> Patients Request  <input type="checkbox"/> Other <i>SPECIFY</i> _____         </div>
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<p>6. What other services do you refer patients with Lower leg ulceration on to?</p>	<div style="list-style-type: none; padding-left: 0;"> <input type="checkbox"/> General Practitioner  <input type="checkbox"/> District Nurse  <input type="checkbox"/> Practice Nurse  <input type="checkbox"/> Treatment Room Nurse  <input type="checkbox"/> Tissue Viability Nurse  <input type="checkbox"/> Nurse in Care Home Setting  <input type="checkbox"/> Leg Ulceration Clinic  <input type="checkbox"/> Vascular Clinic  <input type="checkbox"/> Dermatology Clinic  <input type="checkbox"/> Other <i>specify</i> _____         </div>
--	---

7. Do you feel any of the following instances reflect on how care is delivered in your setting	Sometimes	Often	Never
Frequent changes of nursing staff in the particular setting means that wound care is sometimes inconsistent			
Staff do not have the opportunity to properly wash and moisturize the limb in preparation for redressing			
Changes to patient treatment are made because the planned dressing is not available			
Changes to patient's treatment plans are made and not communicated to yourself			

## Lower leg ulceration Treatment Education and Training

8. Have you received any Lower leg ulceration Education and Training	Yes <input type="checkbox"/> No <input type="checkbox"/> (if no, go to question 11)
--	---

9. Where did you receive this training?	Location	Duration	Date Completed
University Based training			
Local education provider training (eg Beeches / NEDCC)			
Local Trust provided training			
Other (Please specify)			

10. Did the education programmes for healthcare professionals include:	Yes	No	Don't Know
Pathophysiology of leg ulceration			
Leg ulceration assessment			
The theory and practice of Doppler ultrasound to measure Ankle Brachial Pressure Index (ABPI)			
Normal and abnormal wound healing			
Theory and application of Compression therapy			
Dressing selection			
Principles of debridement			
Principles of cleansing and infection control			
Skin care of the lower leg			
Peri-wound skin care and management			
Psychological impact of venous stasis disease			
Quality of life			
Pain management			
Teaching and support for care provider			
Health education			
Preventing recurrence			
Principles of nutritional support with regard to tissue integrity			
Mechanisms for accurate documentation and monitoring of pertinent data, including treatment interventions and healing progress			
Criteria for referral for specialized assessment.			



11. Do you feel competent to manage patients with Lower leg ulcerations?	Yes <input type="checkbox"/> No <input type="checkbox"/>
--	--

If you answered No, go to Q12  
If you answered Yes, go to Q13

12. What would assist you in achieving the required competence?	<input type="checkbox"/> Further Training <input type="checkbox"/> More Experience <input type="checkbox"/> 1 to 1 Support <input type="checkbox"/> Other <i>specify</i> _____
---	---

13. Do you have access to training for Lower leg ulcerations?	<input type="checkbox"/> Yes <input type="checkbox"/> No
---	--

14. What barriers exist that limit staff training time?		
Barriers to training	Explanation	How we might help you overcome this barrier
<input type="checkbox"/> Time		
<input type="checkbox"/> Travel		
<input type="checkbox"/> Cost		
<input type="checkbox"/> Staff coverage		
<input type="checkbox"/> Patient/client scheduling		
<input type="checkbox"/> Other (Please specify)		

## Steering Team

### Membership of the Audit into Lower leg ulceration in Northern Ireland Steering Team

Name	Designation	Trust
<b>Chairperson</b>		
Dr Marina Lupari	Assistant Director Nursing – Research & Development	Northern HSC Trust
<b>Members</b>		
Jonathan Wright	Project Facilitator	NHSCT
Dr Richard Orr	GP Medical Adviser	HSCB
Catriona Campbell	Nurse Education Consultant	Clinical Education Centre
Rose McHugh	Lead Primary Care Nurse	PHA
Mary McElroy	Patient Safety, Quality and Patient/Client Experience Lead Nurse	PHA
Caroline Graham	Tissue Viability Nurse Advisor	BHSCT
Janette Cochrane	Tissue Viability Nurse Advisor	BHSCT
Sharon McKenna	Tissue Viability Nurse Specialist	BHSCT
Dr Nabla McLoone	Consultant Dermatologist	NHSCT
Roisin McSwiggan	Tissue Viability Nurse Specialist Coordinator	NHSCT
Ruth McDonald	Clinical Audit Manager	NHSCT
Fionnuala Gallagher	Tissue Viability Nurse Lead	SEHSCT
Ethna Sloan	Locality Manager	SEHSCT
Frances Hillemand	Tissue Viability Nurse Specialist	SHSCT
Denise McDonagh	Tissue Viability Nurse Specialist	SHSCT
Jennifer Mullan	Tissue Viability Nurse Lead	WHSCT



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