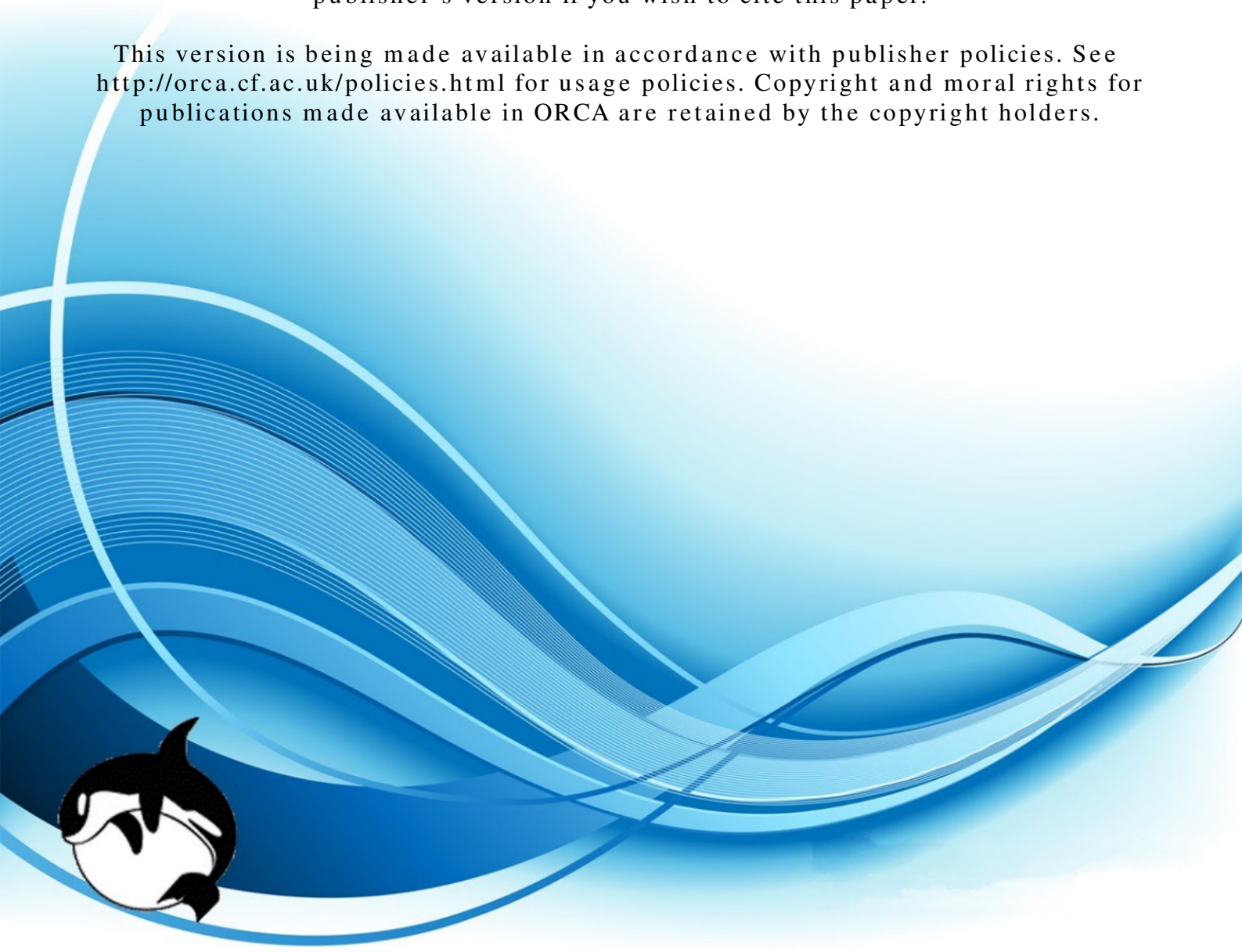


The Lindsay Leg Club Well Leg

Regime: review of available evidence

Abstract

This article aims to review the scarce available evidence on the effectiveness of the Well Leg Programme within the Lindsay Leg Clubs in terms of preventing wound recurrence and improving members' wellbeing. It collates the numerical data on members' wounds and healing rates from the Lindsay Leg Club relational database and members' narratives from a qualitative service evaluation of the Lindsay Leg Clubs to suggest that remaining within the Well Leg regime for several months (or longer) after having had a healed ulcer seems to provide further opportunity to prevent recurrence, and may also provide non-clinical benefits, such as improved wellbeing. Based on the review of available published evidence into the effectiveness of the Well Leg regime, we conclude that there is scope for further studies, including a comparison with other existing treatment and prevention protocols

Keywords

Lindsay Leg Clubs; leg ulcers; Well Leg; wellbeing

Key points

- remaining within the Well Leg regime for several months (or longer) after having had a healed ulcer seems to provide an opportunity to prevent recurrence
- non-clinical benefits of attending the Well Leg Programme include improved wellbeing

Introduction

Leg ulcers are among the most common types of complex wounds in the UK, with one study of a UK city estimating their prevalence at 0.44% per 1,000 of population.[1] Traditional leg ulcer care is costly in terms of individuals' quality of life and wellbeing as well as its financial cost to the NHS. Guest et al. have shown that the cost to the NHS of the management of unhealed ulcers is 4.5 times the cost of managing healed ulcers, largely due to the cost of nurse home visits.[2] Finlayson et al.[3,4] have reported that 50 – 70% of venous leg ulcers (VLUs) can recur after healing, with the highest rates within the first 12 weeks. According to a study by Urwin et al.,[5] the national cost in the UK of treating a leg ulcer was £102 million, with a per person annual cost at £4787.70.

Hall et al.[1] note that survey-based measurements of the scale and impact of leg ulcers overlook the multifaceted consequences they can have on the population of patients that live with them. Indeed, qualitative research has shown that leg ulcers can cause pain, discomfort, reduce mobility and lead to social isolation and loneliness.[6] Therefore, it is important to both improve healing rates and provide ongoing support for people with healed ulcers.

The Lindsay Leg Club model is founded on a social model of care where clinicians, volunteers and members (patients) come together in a non-medical setting that also provides treatment and prevention for leg ulceration and related conditions. A unique feature of this model is its Well Leg regime, where Leg Club members can receive ongoing health advice as well as maintenance of healed ulcers for as long and as often as they consider necessary. The Well Leg regime is, effectively, a leg ulcer prevention programme.[7]

There is anecdotal evidence that the Well Leg model, with its regular health checks, the promotion of positive health beliefs and the support given by nurses and those members whose ulcers have healed, has led to a significant reduction in the incidence and recurrence of leg ulcers. Improving the

overall wellbeing of members and stimulating positive health behaviours may then result in reduced leg ulcer recurrence.[6–8] Although research has already shown the clinical and cost effectiveness of leg ulcer treatment within the Leg Club environment[9,10], comparatively less attention has been paid to the outcomes and effectiveness of the Well Leg regime. This is an important gap that needs addressing in order to fully appreciate the clinical and social impact of the Leg Clubs.

However, it has been recognised that evaluating prevention programmes can be challenging because their objective is to stop adverse situations from occurring, thus requiring extensive time and resources for longitudinal studies. Especially when there is no control group, an evaluation must explain how the programme is implemented and focus on individuals' qualitative experiences of using the programme, the types and outcomes or the services being offered and the logistics of the programme in terms of its costs and outcomes. This may include reviewing existing research and seeking out input from experts in the field.[11]

In this paper we report on the significance and impact of the Well Leg regime on people and their leg health, and its potential as a way to limit and decrease leg ulcer recurrence. We introduce the Lindsay Leg Clubs and define the Well Leg regime as provided by the model before drawing on the Leg Club database to offer contextual data on leg ulcer occurrence and recurrence rates within Leg Clubs. Then we illustrate the combined effect of Leg Club attendance for Treatment and Well Leg programmes before expanding the context of our analysis to review a service evaluation conducted in 2019-2020.

In conclusion we suggest the possible contribution of the Well Leg regime towards reduced leg ulcer recurrence, improved member wellbeing and greater cost effectiveness of leg care within Leg Clubs. Our appendices summarise relevant reports from the Leg Club database.

We use a range of evidence from two sources that have significant implications as an assessment tool within the fields of leg health and wound management; first, the Leg Club database provides information on more than 17,000 members within its UK network of 44 clubs and 266,000 recorded

visits; second, we use observational fieldnotes and paraphrased transcripts from ethnographic conversations with members in specific Leg Clubs (conducted in 2019-20), which serve as members' testimony of the effectiveness and positive impact of the Well Leg regime on their social health and wellbeing.

Lindsay Leg Clubs

The Lindsay Leg Clubs are third-sector community partnerships that involve people with leg concerns (members), community volunteers and healthcare providers from NHS community nursing teams and GP consortia. The Leg Clubs were started in 1995 in Suffolk, with a single social leg ulcer clinic, which was renamed by the attending patients as a Leg Club (who also renamed themselves as members).[12] There are now over 40 Leg Clubs in the UK, with some more Leg Clubs in Germany, Australia, Finland, Italy, the USA and Singapore. Leg Clubs offer a complementary alternative to the traditional provision of specialist leg care delivered by district nurses or at GP or specialist clinics. In Leg Clubs, care is delivered in non-medical community spaces, such as church halls or community clubs, normally once a week. Care and treatment take place in a collective, open space, with members facing each other as their legs are being care for. At the same time, volunteers look after the social dimension of Leg Club attendance, providing refreshments and entertainment to members awaiting to be seen by the nurses. Volunteers organise and run their Leg Club, including finding and funding the cost of club location and the provision of refreshments. Healthcare providers, as well as the medical supplies, are funded by the NHS.

To become a member of a Leg Club, one must be registered with a local healthcare centre and/or GP surgery. Often, GPs and nurses will refer their patients to the Leg Clubs, but members often self-refer and attend the Leg Club upon learning about it through word-of-mouth or advertisements in their local community spaces.

Leg Clubs as a cost-effective approach to leg ulcer care

Researchers continually strive to better evaluate the scale and treatment costs of venous leg ulcers in the UK through available NHS data or targeted surveys.[1,2,5] At Leg Clubs, the NHS nurses maintain

their own records of care, but Leg Clubs also collect information into the database. Records collected over a five-year period have enabled researchers to estimate basic nursing hourly cost, outcomes and performance metrics to be derived.[13] An earlier report from the Leg Club's own database, which looked at nursing skill mix within the Leg Clubs, concluded average nursing time within clubs at just under £30 per hour with no travel time necessary. In other studies, the average cost of 2-week treatment of leg ulceration was approximately £166, with the cost of the community nursing time being over half of this amount, i.e. over £80.[5] This same study found that community nurses' time was the most costly element of leg ulcer care, representing 70.9% of the total community care cost. However, the Leg Club model runs at virtually no extra travel cost, as nurses are already allocated at fixed times to interact with members at the clubs.

In other words, nurses do not have to travel to see each patient. Leg Clubs do not add cost for the NHS as existing staff are able to treat several members sequentially and provide a complete focus on their leg issues within the weekly session while using NHS prescribed dressings as appropriate.

This collective working approach also allows best practice to propagate quickly. When adopting the Leg Club methodology, the database shows that Clubs achieve high healed ulcers outcomes, with 70% of the nurses at NHS grades 4 and 5, where:

· Grades 1 – 4: Nursing Associate

· Grade 5: Qualified Nurse

· Grade 6: Nursing Specialist or Senior Nurse

· Grade 7: Advanced Nurse or Nurse Practitioner

allowing for more expensive senior or specialist nurses to be deployed on other work.[13]

In these two respects, Leg Clubs represent a more focused, cost-effective alternative to traditional care provision, as synergies and efficiencies of nurses working collectively enables them to see more members on any given day than they would be able to see if they had to visit the patients individually at home (larger Clubs typically record up to 50 attendees in a session), and allow nurses to achieve good outcomes at lower nursing grades.

Well Leg Regime

People who register at a Leg Club become members for life, the entry point being either the Treatment Regime (receiving treatment for a leg related condition) or the Well Leg Regime (receiving advice and preventative maintenance). The ethos of the Leg Club model enables members to attend whenever they wish, and when their ulcers are healed and they are transferred out from the active treatment cohort, they are invited to continue to attend for Well Leg maintenance.

This means that members whose ulcers have healed continue to attend on a regular three-monthly basis for full reassessment, support, and advice. A Doppler assessment (performed in line with local NHS provider policy) is made each time to ensure the ABPI remains satisfactory and, prior to prescribing new hosiery, the member is re-measured to ensure that their stocking is correctly fitted.

On conclusion of each Leg Club attendance involving nursing intervention, it is important that a member is advised of the next recommended attendance date for treatment. This could, for example, be in 1 week for a member receiving treatment (in the Treatment Regime) or 3 months or more for a member with healthy legs receiving preventative maintenance (in the Well Leg Regime).

In either case the entry status of a member (Treatment or Well Leg) and ongoing evaluation (whether they have remained in either category or moved from one category to another) is recorded and entered onto the Leg Club database. That way one can assess the development of member status over time, and gain some insights into ulcer duration, healing times or recurrence rates.

A recent audit of the Lindsay Leg Club relational database, which provides information on more than 17,000 members within its UK network of 40 clubs and 266,000 recorded visits, has found that 55%

of Leg Club members attend for advice and maintenance as opposed to active treatment of an ulcer.[13] This is a significant finding, which suggests that the Well Leg cohort profits from extended time with both nurses and other members, for example allowing for informal discussions about available treatments. This may have a beneficial effect of recurrence rates.

Methodology

In order to identify pertinent sources of data for this paper, we built a research group composed of experts on the work of the Lindsay Leg Clubs, who came from a variety of backgrounds, including nursing care and education, statistical analysis, policy and social science.

This collaborative approach enabled us to access and verify the widest range of available evidence in a rigorous way through continued discussions. Specifically, we have chosen two sources of evidence:

I. Numerical data on ulcer occurrence and recurrence captured in the Leg Club database[13] as a proxy of the Well Leg regime's effectiveness in improving leg health.
II. Textual data on members' experience of the Well Leg regime (taken from field notes) captured in a Leg Club ethnographic service evaluation[6] to contextualise the Well Leg regime's effectiveness and engage flexibly with local cases of members' experience to show how the Well Leg regime really works. The 6 Leg Clubs that participated in the study were chosen by the author of the evaluation for practical reasons of access and proximity to her place of work.

Concerning the *first* source, the Lindsay Leg Club database was originally developed in 1995 as a paper-based data collection process. Since 2014 it has been digitised.[13] Anonymised data, focussing on the key measures of healing, recurrence and costs, is collected at individual Leg Clubs and entered into a database that analyses all UK Leg Clubs. The data design and collection process has been fully described elsewhere,[13] but essentially a form is completed by a volunteer who welcomes members at the Leg Club reception followed by the nurse who delivers wound treatment or preventative care.

Basic information including age, gender, referral route and reason for attendance are recorded and then the member has a record sheet of which they become a custodian. The sheet is updated by the volunteer receptionist on each visit, creating a cumulative record of the member's Leg Club attendance. When attending to see a nurse, the member's attendance form is prepared for the nurse's attention. It is filled in by the nurse immediately on completion of Treatment or Well Leg maintenance.

The attending nurse assesses each leg and records the wound by an identification initial: 'S' for Simple ulcer (wound area < 100 cm^2 and/or wound present < 6 months), 'C 'Complex ulcer (wound area ≥ 100 cm^2 and/or wound present ≥ 6 months), 'I' for Injury, 'O' for Other or 'A' if Advice was given. The sheet is marked with the exit status of Treatment or Well Leg (if healing is complete for each wound). Together with the exit status of the membership, this enables a comprehensive view of Leg Club activity and performance to be generated.

The power of a relational database comes from its ability to generate metrics and performance information and to export data in spreadsheets for more detailed assessment and analysis. The large amount of data in the Leg Club database enables a comprehensive view of each member's treatment history together with larger scale trends associated with occurrence and treatment of leg ulcers, enabling comparisons of the Leg Club system with other studies and approaches in lower limb wound management.

The second source was a qualitative ethnographic service evaluation of the Lindsay Leg Clubs, which focused on understanding how various types of social value can be generated in social interaction in the Leg Clubs.[6] The evaluation run between October 2019 and January 2020 and drew on 54 hours of observations of social interaction in 6 UK Leg Clubs as well as ethnographic conversations with 12 Leg Club members and 13 Leg Club volunteers. The qualitative data were recorded in the field diary and analysed thematically. Although the evaluation did not focus specifically on the Well Leg regime, conversations with continually attending members whose leg ulcers had healed, as well as with

members who had never had leg ulcers, provided insights into the effectiveness of the Well Leg regime in improving overall member's health and wellbeing though an opportunity to socialise and have their legs checked by a medical professional to prevent leg ulcer occurrence.

We examined the above evidence to understand how effective the Well Leg Regime is in reducing leg ulcer recurrence and improving the overall health and wellbeing of the members, which may include their positive health behaviours and a sense of belonging, indirectly reducing the risk of (re)developing leg ulcers. Before we present our results, however, we explain the context of leg ulcer occurrence, drawing on the Leg Club database to outline the characteristics of the population likely to develop leg ulcers.

Findings

Occurrence of ulcers within the Leg Club setting

The majority of ulcers (as recorded within the Leg Club database) occur with members in the 80 plus age range, with approximately 25% of them categorised as complex. Naturally there are instances of much younger members experiencing ulcers (for example, in her ethnographic Leg Club research, *[Author's name removed for review]*[6] recalled nurses' stories about a patient in his 20s who attended for successful treatment after injuries sustained during a motorcycle accident).

The database also identifies where scheduled treatment has been delayed by 30 days or more due to illness or other absence. Lower limb conditions often carry additional complications which can adversely affect healing time by as much as 30%. Leg Clubs will experience a mixture of ulcer types and delays in treatment due to ill health, injury and other conditions which will influence overall ulcer healing times.

Age is known to affect outcomes. The data from 22 Leg Clubs was used to examine the percentage of Leg Club members in the 90+ years age range in each Club and compare that with the percentage of

simple ulcers healed within 12 weeks. Clubs with an older population tend to experience less optimal outcomes. This is described in Appendix 1 at the back of this document.

It is well recognised that leg injuries can trigger the onset of leg ulcers. Our report shows that 13% of nurse treatments were for injuries. From a study of 1,187 recorded injuries, 27% were successfully treated within 2 weeks, enabling the members to change their status to Well Leg while the remainder developed into simple ulcers, 70% of which healed within 12 weeks.

It has been reported that the UK average for venous leg ulcers healed in the community was 45% and 70% for those healed in specialist clinics within 6 months.[14] However, it is not known if these ulcers were simple or complex. The Leg Club 5-year average for simple ulcers healed within 12 weeks is 67%, rising to 81% over 6 months. For complex ulcers, the 12-week healing rate is 48% rising to 68% over 6 months and thus compares very favourably with published data on general leg ulcer outcomes.

Recurrence of ulcers within the Leg Club setting

Pertinent studies suggest that once healed, ulcers frequently recur, with between 33 and 57% recurring within 12 months and between 50% and 78% overall.[15] The Leg Club database monitors ulcer recurrence and can determine the percentage of simple and complex ulcers that have recurred within a given time window. Appendix 2 shows the data derived for the 24 most established Leg Clubs over the period 2015 to 2019, with ulcer recurrence times up to 104 weeks. For 2,355 healed ulcers, 38% were recorded as recurred, with 14% recurring within 12 weeks and 31% within 12 months of healing.

Unlike studies where a defined number of patients are monitored over a period of time, in Leg Clubs, new members may join at any time and once their initial ulcer has healed, their information is only collected while the members choose to attend the Leg Club, and there is no follow-up after their last recorded visit. Therefore, looking at the five-year period may not be truly representative of the degree of multiple recurrence.

Looking at a smaller 2018/2019 time frame within the 24 Clubs, a study of 253 members whose last ulcer healed within 2018, and were still attending in 2019, showed that 59% of those members had no recurrence recorded and with 36.4% having one recurrence and 4% having two or more recurrences. The Leg Club mean time to recurrence for those members who had a single recurrence was calculated at 44 weeks. These figures compare well with the literature, with published 12 month recurrence rates of 33%[16] to 50%.[4]

The database records the dates of attendance for each member, together with the status of each leg and therefore, by comparing the last attended date with the date the leg last became healed gives a useful view of how long members keep attending for advice and maintenance in the Well Leg regime. Of the 253 members who had no recurrence, 82% were still attending after 24 weeks and 62% after 48 weeks

Appendix 3 shows the extent of attendance in the Well Leg regime after an ulcer has healed for the 5-year period (2015-2019). Some members chose to only stay for a few weeks, feeling confident in their ability to manage their condition, while a majority of members still attended after 24 weeks. Appendix 3 also suggests that members with recurrent ulcers are more likely to attend for longer periods.

Ulcers can recur right across the age range, with the 80 – 90-year age group being the most populated. Given the cost of NHS treatment, it seems to be of value to monitor and manage ulcer recurrence through the Leg Club Well Leg regime. Appendix 4 shows the process in which treatment history is recorded and illustrates how regular attendance enables problems to be identified and treated promptly, saving costs and facilitating the continued wellbeing of members.

In an earlier study of leg ulcers, Moffat et al.[17] reported that 22% of ulcers were bilateral and therefore it is important to recognise this in the context of ulcer recurrence, as a member may be maintaining one healed leg while experiencing recurrence on the other leg. The Leg Club data accounts for this as treatment for each limb is recorded separately.

Leg Club service evaluation: The individual impact of the Well Leg regime

As the above reporting has shown, there are grounds to believe that the Leg Club Well Leg regime plays a significant role in reducing leg ulcer recurrence. However, the numerical data alone do not allow us to understand the findings in a psycho-social context. To illustrate and contextualise the suspected findings, we incorporate qualitative narratives of members attending the Well Leg regime gathered during *[Author's name removed for review]*[6] service evaluation to engage flexibly with individual members' stories to show how the Well Leg programme might lead to improved health and wellbeing outcomes.

In particular, a member whom *[Author's name removed for review]*[6] spoke to during her Leg Club service evaluation told her that the Leg Clubs addressed individuals' need for wellbeing. When asked her how she understood wellbeing, she explained that 'Wellbeing is about being involved. It is about having commitments. It is about being valued'.

Members whom *[Author's name removed for review]*[6] spoke to during her Leg Club service evaluation pointed to their continued engagement with the Well Leg regime after healing. For example, a male member (a former lorry driver) had had his ulcers healed two years prior, but he told *[Author's name removed for review]*[6] that he had only needed to come in 'every now and then' for 'a check-up'. Another member, who had used to have 'terrible' ulcers, had them cured while attending the Leg Club. He felt so grateful he was regularly visiting for a coffee, bringing flowers and sweets. The reduction in physical and mental discomfort associated with the possibility of recurrence will accompany that. Consequently, this model of care may have a variety of benefits relating to wellbeing.

Discussion and Conclusion

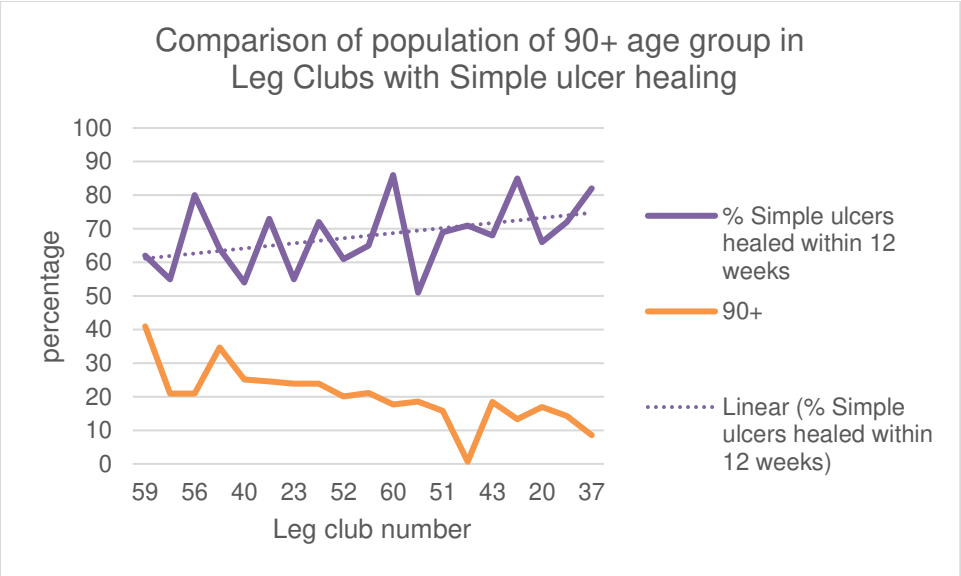
Taken together, the above studies suggest that remaining within the Well Leg regime for several months (or longer) after having had a healed ulcer seems to provide further opportunity to prevent recurrence, and may also provide non-clinical benefits, such as improved wellbeing. We can extrapolate the former from the relatively favourable healing and recurrence rates in Leg Clubs overall in addition to the high percentage of members attending well leg regimes, while the latter point was suggested during the service evaluation.

We additionally believed that it was appropriate to include qualitative information that suggests the specific ways in which the Well Leg regime benefits its members. The regime itself includes important advice on maintaining a healed wound, which will make a patient see themselves as an important agent within the whole process. While we cannot claim the existence of causal relationships, there are grounds to suspect that the social satisfaction with the Well Leg regime translates into improved leg health. As one Leg Club chair, a former district nurse, explained:

"If a patient's head is okay, the rest heals as well."[18]

Clearly there is lots of scope for further studies relating to the Well Leg Regime, including a comparison with other existing treatment protocols. In the meantime, we hope that we have demonstrated its potential in the prevention of leg ulcers and their recurrence.

Appendices



Appendix 1 Comparison of population of 90+ age group in

Leg Clubs with Simple ulcer healing

	Percentage recurrence within 1 - 12 weeks after healing	Percentage recurrence within 13-24 weeks after healing	Percentage recurrence within 25 – 52 weeks after healing	Percentage recurrence within 53 - 104weeks after healing	Percentage recurrence after healing 0verall	No of Ulcers
Simple Ulcer	13	7	10	8	38	1953

Complex Ulcer	19	6	8	6	39	402

Appendix 2 Ulcer recurrence

Attendance time after ulcer heal	**Percentage of members with no recurrence**	**Percentage of members with 1 or more recurrence**
4 weeks	87	92
24 weeks	58	67
48 weeks	42	47
60 weeks	36	43
72 weeks	31	40

Appendix 3 Well Leg attendance

Right leg

Date	Reason for attendance: Ulcer	Other	Exit status
29/10/2015		A	W
02/06/2016		A	W
16/06/2016		A	W
14/07/2016		A	W
28/07/2016		A	W
04/08/2016		A	W
01/09/2016		A	W
22/09/2016		A	W
06/10/2016		A	T
13/10/2016	S		T
27/10/2016	S		T
03/11/2016	S		T
10/11/2016	S		T
17/11/2016	S		W
24/11/2016		A	W
01/12/2016		A	W
22/12/2016		A	W
29/12/2016		A	W
05/01/2017		A	W
26/01/2017		A	W
02/02/2017		A	W
09/02/2017		A	W
23/03/2017		A	W
06/04/2017		A	W

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Appendix 4 Treatment status form

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