The management of chronic wounds has been identified as a national problem and although evidence of an increasing number of chronic wounds and the associated financial burden exists (Posnett and Franks, 2008; Vowden et al 2009); a more recent study has identified this to be a greater problem. The Burden of Chronic Wounds’ Study (Guest et al, 2015), an economic analysis of The Health Improvement Network (THIN) database that collects data from primary care, was published highlighting significantly higher costs associated with managing chronic wounds. This study estimated there to be 2.2 million chronic wounds during the years 2012–2013 in the UK with an annual associated cost of up to £5.3 billion. Following further analysis of the data, Julian Guest suggested the prevalence of chronic wounds could be growing at a rate of 11% per annum and prophesised that if this growth is allowed to continue there could be an estimated 3.7 million patients with a chronic wound in 2017–18 costing in the order of £8–£9 billion per annum (Guest et al, 2017).

Further issues, the study identified, were a lack of evidence of good wound assessment and, in a high number of cases, the underlying aetiology had not been established, which would suggest that the management of some of these wounds may not be appropriate to support wound healing.

NHS England responded to this new evidence with the development of a clinical reference group, which developed into a project board to oversee a number of ongoing workstreams, as part of the Leading Change Adding Value programme. The workstreams aim to address some of the failings highlighted and include an economic case analysis resulting in the publication of ‘Betty’s Story’ (NHS England, 2017), quality indicators for wound assessment 2017–19 (CQUIN framework NHS England 2016a), Minimum Data Set (MDS) for wound assessment (Coleman et al, 2017), advice for commissioners when commissioning for wound care services, recommendations for a minimum level of education for practitioners involved in wound care (in draft) and the development of a framework for lower limb management (Figure 1).

There is evidence to suggest that a high proportion of wounds are on the lower leg. From data received from 4,772 patients, Ousey et al (2013) identified about half had wounds on the lower leg. The authors of Burden of Wounds’ Study found that there was a total 730,000 patients with leg ulcers (1.5% of the adult population) in the study year but that only 278,000 patients had a diagnosis of venous ulceration. This would suggest that there are potentially 420,000 people with unspecified leg ulcers. More worryingly, the authors also suggested that only 16% of patients with a leg or foot ulcer had had a Doppler assessment to establish arterial blood
flow, an essential aspect of lower leg assessment (Guest et al., 2015). ‘Betty’s Story’ (NHS England, 2017) is the fictional account of a 74-year-old lady who, while out walking, scratches her leg on a stile. The story then described two distinct pathways ‘Betty’ could end up on: one following a good effective leg ulcer pathway with early preventative intervention and the other one a poor pathway. On the sub-optimal pathway, ‘Betty’ develops a chronic leg ulcer that takes over two years to heal and is ten times more expensive to manage compared with the wound management on the optimal pathway. When considering the huge number of leg wounds suggested in wound surveys, this could amount to a significant wastage of resources if ineffective care is given to these patients. Anecdotally, there are many reports from tissue viability and vascular nurses of this kind of scenario occurring in different organisations across the country. Furthermore, these may be in areas where good leg ulcer services and pathways exist but for a number of reasons the patient does not access the pathway.

Therefore, an important workstream was to consider the management of leg ulcers, which has resulted in the development of a draft quality framework (Figure 1). The workstream developed the focus to lower limb conditions to encompass a wider remit of prevention and aftercare beyond ulceration.

WORKSHOP AND FOCUS GROUPS

The methodology for the focus groups aimed to involve as many stakeholders as possible through workshop activities during national meetings and by inviting responses from the wider community where possible.

The first workshop was designed as a modified World Café structure where small groups engage in discussing a given question. Information and insights are shared among groups to encourage further discussion (http://www.theworldcafe.com/key-concepts-resources/world-cafe-method/or http://www.theworldcafe.com/wp-content/uploads/2015/07/Cafe-To-Go-Revised.pdf).

The purpose of the discussion was to ascertain and map the current issues, challenges and opportunities in provision of services for people with lower limb problems across a range of care settings. Participants were divided into four groups of six to eight people who were given questions to guide their discussion. Participants were asked to note key areas, which they think need to be addressed in lowerlimb management. These were then collated into broad topic headings to include:

- How a patient may have entered a care pathway, i.e. by visiting a community pharmacist or a practice nurse
- Recognising lower limb problems, such as cellulitis or skin tears, not just focusing on ulceration
- Measuring and reporting the extent of the problem and outcomes
- Describe models of care.

A scribe and spokesperson was identified for each group and time was set for discussion, while key points were recorded on flip chart paper. At the allotted time, the spokesperson moved to the next group and summarised the discussion at their original table while the new group then discussed and recorded additional information on charts. In this way, each group heard and discussed information from two other tables. Sticky notes were used collectively and individually to capture further information where necessary. The spokesperson then returned to their original group and summarised the points raised in the other groups.

Visual aids and all notes from participants were then returned to the facilitation team. The notes were written as raw data and then collated into themes. The themes were circulated to the wider group and further comments were invited and added to the data set. Key headlines from these groups included:

- Commissioning: provider, framework, standards, leadership, communications, health needs, resourcing, management, time
- Staff: who decided diagnosis, ownership, definition, self-care, concordance/adherence, staff (levels/bands etc.), education, knowledge, skills, training, competencies, acceptability
- Audit and metrics: evidence of and for service/care and outcomes
- Care settings: access to service, continuity, relationships
- Pathways: (current ulceration and follow up care), formularies, guidelines, paperwork (and sharing across service/setting), assessment, images.

Focus Group 2 was designed to inform a
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<th></th>
<th>We will promote a culture where improving the population’s health is a core component of the practice of all nursing, midwifery and care staff.</th>
<th>Help people to identify factors in their health and lifestyle that put them at increased risk of lower limb wounds (and related diseases such as diabetes) by promoting health and wellbeing, supporting people to make healthy life choices with diet, physical activity and smoking cessation.</th>
<th>Commissioners should ensure their services are configured to address: (a) Health promotion and prevention of leg ulceration (e.g. At risk / healthy / well legs services) (b) Pathways for people at risk of leg ulcers (c) Pathways for assessment and management of people with lower limb wounds.</th>
<th>Providers should ensure that systems and processes are in place to collect data to measure the quality of care and outcomes for patients with wounds to the lower limb. Unwarranted variation should be assessed and addressed.</th>
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<tbody>
<tr>
<td>1</td>
<td>We will increase the visibility of nursing and midwifery leadership and input in prevention.</td>
<td>People identified with risk factors for leg ulceration will be provided with evidence based explanation of their increased risk profile and relevant information to reduce risk and supported to self-manage where appropriate.</td>
<td>Consider the Right Care Economic Case (<a href="https://www.england.nhs.uk/rightcare/wp-content/uploads/sites/40/2017/01/nhs-rightcare-betty-s-story-narrative-full.pdf">https://www.england.nhs.uk/rightcare/wp-content/uploads/sites/40/2017/01/nhs-rightcare-betty-s-story-narrative-full.pdf</a>) and identify implications for the health care economy and opportunities to create optimal care. Establish benchmarking to assess the implications for healthcare if healing rates remain at current levels.</td>
<td>Providers should provide detailed descriptions of their current pathways and services for prevention of leg ulceration and prevention of leg ulcer recurrence in the light of research evidence.</td>
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<td>2</td>
<td>We will work with individuals, families and communities to equip them to make informed choices and manage their own health.</td>
<td>People can expect to have the advantages and disadvantages of their options for treatment explained so that they are able to make an informed choice in the treatment provision. People should have access to information regarding their wound so that they can be involved in their care.</td>
<td>Commissioners should go to patients and providers of health care to discuss opportunities for reducing variation (for example via focus groups with patients, relatives and health care professionals).</td>
<td>Providers should ensure that patients receive care that is evidence based and acceptable to them.</td>
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<td>3</td>
<td>We will be centred on individuals experiencing high value care.</td>
<td>People are able to receive timely evidence based management appropriate to their diagnosis. There will be a clear criteria in place to ensure that patients are directed to an appropriate pathway of care to meet their needs. Patients can expect to be given potential wound care healing times from their care provider subject to patients being able to adhere to the treatment regime advised.</td>
<td>Commissioners should ensure that commissioned care is in line with the evidence base and this lower limb framework. Unwarranted variation should be assessed and addressed.</td>
<td>Providers should ensure that any patient with a wound to the lower leg that is failing to show signs of healing within a 2 week period (using the wound assessment MDS) is referred for a full holistic leg ulcer assessment including Doppler assessment in order to inform appropriate care and referrals if required. Providers should work towards provision and assessment of healing rate data wherever possible.</td>
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**Figure 1. Framework for lower leg wound management**
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<tr>
<th>NHS England “Leading Change, Adding Value” Commitments</th>
<th>Experience Health and Wellbeing</th>
<th>Better Use of Resources Funding and Efficiency</th>
<th>Better Outcomes Care and Quality</th>
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<td>5 We will work in partnership with individuals, their families, carers and others important to them.</td>
<td>Patients can expect to be involved in outcome of their assessment and will be advised that families and carers can also collaborate in their care where appropriate. Plans/pathways should be agreed by patients and staff.</td>
<td>Commissioners may seek to explore demographics for people with lower limb wounds (incl A&amp;E attendance/Minor Injury Units/Walk-in centres/Hospital admissions/Inpatient/Community Nursing caseloads/General Practice caseloads).</td>
<td>The outcome of the assessment will be discussed with the patient. Where appropriate, family and carers will also be involved in order to promote access to the most appropriate pathway of care. Plans/pathways should be agreed by staff and patients and then implemented and evaluated.</td>
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<td>6 We will actively respond to what matters most to our staff and colleagues.</td>
<td>Patients can expect to receive care that is based on the best practice by staff who have the appropriate training and ability to deliver safe care. Where patients express a willingness to take on higher levels of responsibility for their self-care they should be helped to do so.</td>
<td>Commissioners and clinical experts in provider organisations should work together to explore and articulate the pathways of care for patients with leg ulceration within their health care economies.</td>
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<td>7 We will lead and drive research to evidence the impact of what we do.</td>
<td>Patients should be provided with information on research trials open to recruitment wherever possible.</td>
<td>Providers should seek to recruit patients with lower limb wounds to national research and clinical trials as appropriate. Individual teams or services should benchmark their healing rates/care provision to enable comparison and open discussion to generate improvement.</td>
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<td>8 We will have the right education, training and development to enhance our skills, knowledge and understanding.</td>
<td>Patients will be seen by healthcare partners with the skills, knowledge and understanding to access the correct pathway of care following their initial assessment of health and family circumstances.</td>
<td>Commissioners should consider how the education and competency work stream guidance for “Improving Wound Care” may be used to promote best practice in prevention and management of leg ulceration.</td>
<td>Care providers should ensure that appropriate staff can access education and training / equipment / assessment criteria &amp; documentation to undertake a full holistic lower limb and Doppler assessment. Training records should be available for ongoing audit.</td>
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<td>9 We will have the right staff in the right places and at the right time.</td>
<td>Patients should be assured that wherever they access healthcare for assessment and management of a lower limb wound they will be assessed, treated and then directed to the appropriate pathway of care.</td>
<td>Consider networks to promote improvements in communication between primary care, hospitals and community settings. Consider support for areas with high staff turnover.</td>
<td>Care providers should ensure that all patients with wounds to the lower limb should receive a full wound assessment (Wound Assessment Minimum Data Set). Dependent on outcome of this assessment, this should, where appropriate trigger a full holistic lower limb assessment by the right staff with the right skills and equipment in the right setting.</td>
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<td>10 We will champion the use of technology and informatics to improve practice, address unwarranted variations and enhance outcomes.</td>
<td>Patients should have confidence that wherever they access care they will be supported to access to the correct pathway of care. Services that provide services should explore innovations in diagnostics/telehealth/social media/photography/patient records to enhance outcomes for patients.</td>
<td>Commissioners should work with providers to ensure that commissioned services explore innovation in technology to enhance future provision of commissioned services.</td>
<td>Assessment of current variation in practice should inform future service development and should incorporate plans to embrace new technologies for education and training, patient involvement, assessment and diagnostics and healing rate data.</td>
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</tbody>
</table>
REFERENCES
Guest JF, Ayoub, N, McIlwraith T et al (2015) Health economic burden that wounds impose on the National Health Service in the UK. *BMJ Open* 5:e009283
resource set for clinicians in a range of care settings, commissioners, and for patients and their friends, carers and families. The method of obtaining this information was facilitated by groups at a workshop in February 2017. A draft framework developed by the lower limb project team (further information below) was provided for each group alongside copies of Betty’s story and a variety of leg ulcer management pathways and algorithms from across the UK.

One group was asked to consider key resources that could be included in a toolkit for patients and non-clinical people involved in their care. Another group was asked to design a mapping document for commissioners to consider when reviewing the Right Care Scenario framework (https://www.england.nhs.uk/rightcare/nursing-midwifery-and-care-staff-framework/) against current service provision in their localities.

A third group considered elements of a campaign to raise awareness of lower limb problems that would be aimed at patients and care providers and the fourth group analysed existing service documents to identify key elements and strengths that could be utilised in the new developing framework.

Outputs were collated at the workshop and participants then identified priorities in relation to the feasibility of timeframes and cost.

Key priorities assessed as being possible in the near future at low cost included:
- Pocket guides (including ABI & toe pressure reading guidance)
- Posters and leaflets for staff and patients (including photographs and pathways)
- Awareness campaign for people with lower limb problems.

There were many other service needs identified and these will guide future developments to include audit tools, care pathways and online resources to widen accessibility of information.

When the information was collated it became apparent that there were key standards and important messages emerging that would provide useful information for Commissioners and Providers of Care but also, most importantly for those people with lower limb ulceration to help define expected standards of care.

The Leg Ulcer Forum Standards (Whayman, 2012 http://www.legulcerforum.org/leg-ulcer-standards.html) were incorporated, where appropriate, into the draft framework document together with the output from Workshop One. Leading Change Adding Value builds on “Compassion in Practice” and is aligned to the NHS Five Year Forward View. The aim is to reduce unwarranted variation in care, leading to better outcomes, better experiences and better use of resources. This is known as the “Triple Aim” (NHS England, 2016b). Leading Change, Adding Value also lists 10 aspirational commitments which are relevant to all aspects of care. These commitments (together with the triple aim) were used to provide a structure for the draft quality framework for the lower limb workstream and the outputs of workshop one and two were incorporated into this.

The draft framework was reviewed by commissioners, providers, experts (including patients and service user experts) to produce a quality improvement framework which, for the first time, provides one document which providers, commissioners and service users can all refer to in order to reduce variation in leg ulcer care in the future.

CONCLUSIONS
The NHS workstream for the lower limb benefitted from a wide range of perspectives, including voluntary professional groups, such as the Leg Ulcer Forum and the Tissue Viability Society (TVS), and resulted in a national focus on a quality and person-centred approach to lower limb management that aims to be both strategic and localised. Meetings and workshops enabled links to be made between organisations and specialists from a wide range of areas. A key output from this was the growing swell of enthusiasm for engaging the general public in protecting and managing lower limbs.

To complement and support this increasing focus on the needs of people with lower limb conditions, a new campaign ‘Legs Matter Campaign’, led by the TVS and seven other charitable and not-for-profit healthcare organisations, was started and will be fully launched in April this year.