

# A review of leg ulcer modules at four UK universities

It is essential that practitioners have a sound knowledge of the aetiology and epidemiology of leg ulceration. Leg ulcer educational modules are provided by several universities across the UK. This paper aims to examine the theoretical and practical aspects of four such courses at Glasgow Caledonian University, Hertfordshire University, Cardiff University and Queens University Belfast. It analyses the mode of delivery, module content and how it compares with national guidelines, theoretical and practical aspects of the module and its alignment to the NHS Knowledge and Skills Framework.

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## KEY WORDS

Leg ulceration  
Education  
Leg ulcer modules  
UK universities

With a point prevalence of between 1.1 and 3.0 per thousand (Callam et al, 1985; Cornwall et al, 1986; Baker et al, 1991) and an increase in prevalence with age (Lees and Lambert, 1992), leg ulcers are a major health problem in the UK. Predicted demographic changes suggest prevalence is likely to increase.

Most patients with leg ulcers are treated in the community setting where nurses will carry out a detailed assessment which includes examining the patient's vascular status. They will also diagnose, prescribe and initiate treatment or, where appropriate, refer patients to specialist services.

The majority of leg ulcers are venous in origin (Scottish Intercollegiate Guidelines Network [SIGN], 1998).

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Compression systems improve the healing of venous leg ulcers and are routinely used in uncomplicated venous ulceration (Fletcher et al, 1997; Cullum et al, 2002). Compression treatment of the leg can, however, be hazardous in limbs with occult arterial disease (Callam et al, 1987).

**As nursing practice evolves the continuous professional development courses (CPD) delivered by Higher Education Institutions (HEI) also need to develop to meet the needs of the NHS and the individual practitioner in preparing them for the workplace.**

It is therefore essential that practitioners have a sound knowledge of the complex aetiology and epidemiology of leg ulceration and be highly skilled in leg ulcer assessment and management. As nursing practice evolves the continuous professional development courses (CPD) delivered by Higher Education Institutions (HEI) also need to develop to meet the needs of the NHS and the individual practitioner in preparing them for the workplace.

Leg ulcer modules are being offered in eight HEIs in the UK. The

aim of this article is to review in detail a sample of these modules. Each of the HEIs reviewed offers modules at different academic levels but for the purposes of this paper only level 3 (the equivalent of the third year of a university degree) modules were reviewed.

Glasgow Caledonian University (GCU), Hertfordshire University (HU) Cardiff University (CU) and Queens University Belfast (QUB) were invited to participate to represent each country in the UK. The main areas that were scrutinised were:

- ▶▶ Mode of delivery
- ▶▶ Module content and how it compared with the national leg ulcer guidelines (Clinical Resource Efficiency Support Team [CREST], 1998; Royal College of Nursing [RCN], 1998; SIGN, 1998)
- ▶▶ Theoretical and practical aspects to the module
- ▶▶ Alignment to the *NHS Knowledge and Skills Framework* (NHS KSF), (Department of Health 2004a).

## Mode of delivery

The modules reviewed here are delivered either face to face or they are web-based (Table 1). Traditionally university courses were taught face to face. Recent developments have seen new methods of teaching being introduced such as blended learning which brings together traditional

classes with elements of virtual learning, print-based study or web-based modules. Students' perceptions of the different modes of delivery vary. Hagel and Shaw (2006) surveyed a group of nursing students on their perception of the benefits of face-to-face classes, web-based study and print-based study. Two types of benefit — engagement and functionality — were identified through factor analysis. The respondents rated face-to-face classes highest on engagement and print-based highest on functionality. There was no clear distinction between engagement and functionality between web-based and print-based study. Mentzer et al (2007) compared student learning outcomes and perceptions of satisfaction in two sections of the same class. Students were randomly assigned to either web-based or face-to-face learning. Identical end of semester evaluations were completed by each group.

Findings suggested that the two groups' performance on tests was equivalent, however, final grades were lower in the web-based course due to incomplete assignments. In both sections, students' perception of the course and instructor were generally above average but the face-to-face group rated both variables statistically significantly higher which may indicate there is still a preference for face-to-face delivery. Finally, Ryan et al (1999) compared traditional teaching methods and web-based modules in 96 graduate nursing courses and found conventional methods were rated significantly higher in terms of content, interaction, and participation. IT skills were higher for web materials. Web modules also resulted in higher levels of critical thinking and analysis.

From the studies reviewed here there appear to be advantages and disadvantages with both traditional and web-based learning. Traditional face-to-face teaching was favoured in terms of engagement, interaction and participation. Web-based or print-based study rated higher on IT skills and functionality. Offering students choices in modes of delivery may be

of value as some students will prefer the traditional classroom environment, while work commitments, geographical challenges or a preference for distance learning may make web-based or print-based study more attractive to others.

### Module content and alignment to national evidence-based guidelines

The ultimate goal of nursing is to be clinically effective by delivering the best possible care to patients. Quinn (2000) suggests evidence-based practice/nursing and clinical effectiveness, although often discussed as separate entities, are effectively the same thing. Applying evidence-based nursing to practice can be a huge challenge.

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Flemming (2007) argues that the expectation of reading the vast amount of publications produced and maintaining continuing education requirements alongside ever increasing workloads with diminishing study time makes it difficult to keep practice up to date. Evidence-based guidelines can help to make this task less onerous. In the UK, there are three published national evidence-based guidelines on the care of patients with leg ulceration (CREST, 1998; RCN, 1998; SIGN, 1998). The authors of these documents have extensively reviewed the research evidence and the recommendations of the guidelines are graded from what is considered the most robust form of evidence to the weakest e.g. systematic review or meta-analysis of randomised controlled trials to evidence obtained from expert committee reports. Part of the role of academic institutions is

**Table 1**

Summary of the four universities' course types

University	Mode of delivery	Aligned to KSF
GCU	Face to face	Mapping process underway
HU	Face to face	Mapping process complete
CU	Distance learning	No
QUB	Face to face	No

to ensure that nurses have the skills to practice evidence-based nursing. Logically, relevant evidence-based guidelines should be a central part of the programme offered by an HEI. The academic content of all four modules reviewed here was found to be closely aligned to national guidelines on the care of patients with leg ulcers.

### Theoretical and practical aspects

Bridging the practice-theory gap is frequently identified as a problem in nurse education. Strategies have been developed to reduce the gap by consolidating the student learning experience. Students can be supported in their clinical area so that the theory they learn in the classroom is reinforced through direct application to practice. Mentorship is one such strategy. Quinn (2000) describes the mentor as 'a qualified and experienced member of the practice placement staff who enters into a formal arrangement to provide educational and personal support to a student... the support may involve teaching, supervising, guidance, counselling, assessment and evaluation.'

The objective structured clinical examination (OSCE) was originally developed in Dundee in the mid-1970s in an effort to make exams more valid, reliable and practical (Harden and Gleeson, 1979). The researchers created this test to assess the clinical competencies of trainee doctors. The trainee rotated through a number of 'stations' where

they were assessed individually using precise sets of criteria in the form of a checklist. OSCE has been widely used in medical education since it was developed. Research has shown it to be an effective evaluation tool to assess practical skills for medical practitioners (Sloan et al, 1995). The assessment method is less widely used in nurse education. Khattab and Rawlings (2001) used this technique both formatively and summatively to assess the clinical competence of nurse practitioners. Khattab and Rawlings identified some drawbacks such as it being more expensive to run than administering a traditional examination but argued that the costs are outweighed by the clinical benefit. OSCE may well be a useful method of evaluating nurses' skills in vascular assessment and bandage application.

Clinical competencies frameworks are frequently used as a means of assessing the development of skills, attitudes and knowledge (Swider et al, 2006). Over recent years, several definitions of competencies have been described. Molloy (2006) suggests that confusion in the variety of definitions has contributed to the current difficulties in defining competency and fitness for practice. Inevitably, the competencies developed by different HEIs will vary in content. Standardisation may be enhanced by recent work carried out by Skills for Health. The Sector Skills Council for the health service ([www.skillsforhealth.org.uk](http://www.skillsforhealth.org.uk)) is undertaking the development of national workforce competencies for use within the health sector across the UK. The competencies are developed by working with clinical experts and educationalists. Currently they have developed several competency frameworks and others are in development. To date, however, there is no competency framework for management of patients with leg ulceration. When this framework becomes available, adoption both within healthcare and education would ensure consistency in assessment and development of clinician's skills, knowledge and attitude.

**Table 2**  
Theoretical elements to the courses

**Theoretical elements common to all courses**

- ▶ Aetiology
  - ▶ Epidemiology
  - ▶ Physiology
  - ▶ Surgical aspects
  - ▶ Dermatological aspects
  - ▶ Evidence based practice
  - ▶ Vascular assessment
  - ▶ Wound assessment
  - ▶ Theory of vascular assessment
  - ▶ Theory of bandaging
- ▶ Additional theoretical components**
- ▶ Diabetic foot (GCU)
  - ▶ Psychosocial issues (CU)
  - ▶ Pain (GCU)

The theoretical components common to the four modules and additional components for each course are listed in *Table 2*. All courses were found to be broadly similar in course content.

In integrating theory to practice, different methods were utilised. All provided classroom-based workshops in vascular assessment and the application of compression bandaging. However, differences were observed between the HEIs in how these skills were developed (*Table 3*). GCU and HU used mentorship and a clinical competency framework, QUB utilised mentorship and an OSCE where Doppler and bandaging skills were assessed. CU did not specify a method of assessing skill development.

**Alignment to the NHS KSF**

The KSF was introduced as part of the *Agenda for Change* (Department of Health, 2004b) reforms to link pay and career progression to competencies (Gould et al, 2007). It is an outcome-focused competency framework that has six core dimensions and a further 24 specific dimensions. Although adoption has been slow and problematic (Gould et al, 2007), the project is now well under way within the NHS.

**Table 3**  
A comparison of the methods used to develop practical skills at four HEIs

Developing practical skills	HEI
Clinical competence framework	GCU, HU
Mentorship	GCU, HU, QUB
OSCE	QUB

HEIs who provide education for healthcare workers constantly strive to meet service needs. Aligning courses to the KSF may be beneficial for employers when choosing relevant courses for their staff as well as for the individual practitioner who aims to progress their career.

The skills-based approach to the KSF requires assessment other than those traditionally used on academic courses such as examination, essay, practice portfolio and reflective journals (Jasper, 2001). Methods such as OSCE and competency frameworks with effective assessment should show that the individual is able to perform new skills with practice (Gould et al, 2007). Of the courses reviewed here the assessment methods utilised by GCU, HU and QUB are most closely aligned to the KSF as it recommends OSCE, clinical competencies and mentorship. A further process where the courses are mapped against KSF dimensions and levels of skills to give more detailed information on whether the course is appropriate for prospective students and employers has been completed by HU and is under way at GCU (*Table 1*).

**Conclusion**

It is encouraging that the modules reviewed here are comparable in many ways. The theoretical components vary only slightly from course to course. The mode of delivery differs but this can be seen as beneficial as it offers students the opportunity to have face-to-face classroom teaching or web-based education. Evidence-based

practice plays a central role in the content of all the courses. Bridging the theory-practice gap has been considered by the programme developers for each course with GCU, HU employing a mentorship and competence framework while QUB utilised mentorship and OSCE. All of these methods should help to develop participants' new skills during the module. CU has less of a skill-based component and may be more suitable for students who do not have leg ulcer patients in their general caseload but who wish to have an in-depth understanding of the theoretical aspects of leg ulceration, or alternatively for clinicians who care for leg ulcer patients and are already skilled in vascular assessment and application of compression systems.

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Although there are many similarities in these four courses, further collaboration between all HEIs delivering leg ulcer modules to develop standardised course materials and skills development in line with the national agenda may be of value to inform future curriculum development. **WUK**

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## Key Points

- ▶ It is important that practitioners have a sound knowledge of the aetiology and epidemiology of leg ulceration.
- ▶ Leg ulcer modules from four universities representing each of the UK countries were assessed for their mode of delivery, content, theoretical and practical aspects and alignment to the NHS Knowledge and Skills Framework.
- ▶ Despite different approaches the courses were found to be comparable.
- ▶ Further collaboration between all HEIs delivering leg ulcer modules to develop standardised course materials and skills development in line with the national agenda may be of value to inform future curriculum development.