Wound care: Growing a specialism through education

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Discussing the history of changes in the philosophy underpinning universities, Harriet Swain (2011) cites the German philosopher Wilhelm von Humboldt, who in 1810 proposed that a university encompassed the "whole" community of scholars and students engaged in a common search for truth; while Cardinal Newman in 1852 posited that a university should be a place of teaching "universal" knowledge. More recently, the UK government commissioned a report (Swain, 2011) on the future of higher education (HE) that concluded that universities had four main objectives:

- Instruction in skills.
- Promotion of the general powers of the mind.
- Advancement of learning.
- Transmission of a common culture and common standards of citizenship.

In the same report, Swain provides a user's perspective from the National Union of Students, which suggests the majority of students enter HE to secure a better job and have a successful career.

HIGHER EDUCATION IN THE UK

In the UK, HE includes undergraduate programmes (e.g. bachelor's degrees, foundation degrees and higher national diplomas, and postgraduate programmes) that include master's degrees, MBAs, PhDs, and doctorates. The Quality Assurance Agency (QAA) is responsible for setting the academic standards for HE awards and provides a framework of qualification descriptors that institutions are required to abide by. The main descriptors for level 6 (bachelor's degree) and level 7 (master's degree) are shown in *Box 1*.

Box 1. Descriptors for higher education qualifications at level 6 and level 7.

LEVEL 6	LEVEL 7
Bachelor's degrees with honours are awarded to students who have demonstrated: • A systematic understanding of key aspects of their field of study, including acquisition of coherent and detailed knowledge, at least some of which is at, or informed by, the forefront of defined aspects of a discipline. • An ability to deploy accurately established techniques of analysis and enquiry within a discipline. • Conceptual understanding that enables the student: •• To devise and sustain arguments, and/or solve problems, using ideas and techniques, some of which are at the forefront of a discipline. •• To describe and comment upon particular aspects of current research, or equivalent advanced scholarship, in the discipline. • An appreciation of the uncertainty, ambiguity, and limits of knowledge. • The ability to manage their own learning, and to make use of scholarly reviews and primary sources (for example, refereed research articles and/or original materials appropriate to the discipline.	**Master's degrees are awarded to students who have demonstrated:** • A systematic understanding of knowledge, and a critical awareness of current problems and/or new insights, much of which is at, or informed by, the forefront of their academic discipline, field of study, or area of professional practice. • A comprehensive understanding of techniques applicable to their own research or advanced scholarship. • Originality in the application of knowledge, together with a practical understanding of how established techniques of research and enquiry are used to create and interpret knowledge in the discipline. • Conceptual understanding that enables the student: •• To evaluate critically current research and advanced scholarship in the discipline. •• To evaluate methodologies and develop critiques of them and, where appropriate, to propose new hypotheses.
Typically, holders of the qualification will be able to: • Apply the methods and techniques that they have learned to review, consolidate, extend and apply their knowledge and understanding, and to initiate and carry out projects • Critically evaluate arguments, assumptions, abstract concepts and data (that may be incomplete), to make judgements, and to frame appropriate questions to achieve a solution – or identify a range of solutions – to a problem • Communicate information, ideas, problems and solutions to both specialist and non-specialist audiences. **And holders will have:** • The qualities and transferable skills necessary for employment requiring: •• The exercise of initiative and personal responsibility •• Decision-making in complex and unpredictable contexts •• The learning ability needed to undertake appropriate further training of a professional or equivalent nature.	**Typically, holders of the qualification will be able to:** • Deal with complex issues both systematically and creatively, make sound judgements in the absence of complete data, and communicate their conclusions clearly to specialist and non-specialist audiences. • Demonstrate self-direction and originality in tackling and solving problems, and act autonomously in planning and implementing tasks at a professional or equivalent level. • Continue to advance their knowledge and understanding, and to develop new skills to a high level. **And holders will have:** • The qualities and transferable skills necessary for employment requiring: •• The exercise of initiative and personal responsibility. •• Decision-making in complex and unpredictable situations. •• The independent learning ability required for continuing professional development.

These descriptors relate to institutional awards (i.e. a BSc pathway or master's programme), as well as individual modules that are credit bearing.

WOUND CARE AS A MULTI-DISCIPLINARY SPECIALISM

Evidence from mainland Europe suggests there has been a shift from clinicians in wound care working independently to a multidisciplinary (MD) approach (Gottrup et al, 2001). This change was prompted by the recognition that to provide more effective care for patients with wounds there was an increasing need for specialists with expert knowledge, as opposed to individuals with generalist knowledge, which may be more limited.

In discussing the provision of a clinical service, Gottrup and colleagues (2001) proposed that the ideal wound healing centre would be one that was MD – where clinicians were well educated and had a breadth of knowledge to manage patients with various wound aetiologies from presentation through to wound healing. However, the authors also identified a number of gaps in provision that pose a challenge for such a service (*Box 2*).

Flanagan (2005) also recognised similar educational barriers for implementing evidence-based practice in wound care. Flanagan proposed that in order for educational programmes to be effective they need to use a model of teaching and learning that is based around theory- and practice-based knowledge as this can provide a better approach for integrating research and evidence as practice-based wisdom influences clinical decision-making in the absence of strong evidence.

Subsequently, Gottrup (2004) developed the idea of the MD team further, questioning whether MD refers to a team that cares for patients with all types of wounds or single types of wounds. Existing evidence identifies there are very good examples of specialist vascular services for patients (i.e. the Cheltenham Vascular Unit provided by the Gloucestershire Hospitals NHS Foundation Trust) and also wound healing research units which provide specialist care for patients with wounds (e.g. the Wound Healing Research Unit in Cardiff and also the Bradford Wound Healing Unit in the north of England). Each of these provides a specialist clinical service using a MD approach. The services provided by the wound healing units are examples of specialised wound care concepts that have formed the basis for the provision of MD wound care programmes at HE level.

Box 2. Gaps in clinical practice.

Current gaps in clinical practice (Gottrup et al, 2001)	Barriers to implementation of best practice (Flanagan, 2005)
Standardised wound care treatments	Traditional knowledge/ritualistic practice
Multidisciplinary collaboration	Inappropriate training and support
Evaluation of treatments	Lack of understanding of research process
Knowledge of clinicians, patients, service commissioners and providers	Poor quality research
Structure	Lack of critical appraisal skills
Research/Evidence	Negative attitudes to evidence-based practice
	Information overload

Indications from the USA are that specialised care for patients with recalcitrant wounds has developed over the past 30 years and now has a more robust evidence base (Ennis et al, 2004). However, Ennis et al also argued that in the USA there is a lack of a formal discipline of wound care that may be due to difficulties in defining wound care as a specialised body of knowledge as individuals with a nonhealing wound present with a range of comorbidities.

Both Gottrup (2004) and Ennis et al (2004) propose that in order to provide a wound healing service, clinicians need not only specialist medical knowledge but also business skills to provide a clinical service. This suggests that educational programmes need to include learning outcomes that facilitate both clinical learning but also business acumen. Some progress in the certification of clinicians in the USA has been made – the American Board of Wound Management (ABWM) provides online accreditation by examination for individuals wishing to seek certified wound care associate through to certified wound care specialist physician status (ABWM, 2014). Currently, there is not a similar approach to recognising specialist practice in the UK. However, the principles of what defines an individual as a specialist, according to the ABWM, may be useful to consider.

A leading expert in the UK suggested that in keeping with other medical specialities perhaps the introduction of a field known as "Woundology" may help the progression of a clinical speciality (Harding, 2008). This editorial sets a challenge to clinicians to continue to provide evidence to support the idea that the speciality was growing. However, for wound care to advance as a speciality, investment from public bodies, such as the Department of

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Health (DH) is needed to help specialist services in the UK to grow. While there may be incentives for development in some areas (e.g. positive outcomes for patients with diabetes mellitus [NHS Employers, 2013]) such outcomes are not all-encompassing, which perhaps serves to marginalise other individuals with different wound types.

MULTIDISCIPLINARY WOUND CARE EDUCATION

Examples of multidisciplinary HE wound care programmes are available from the 1990s. Jones (2001) discusses the development of a postgraduate diploma (PG Dip) in wound healing and tissue repair that was established in 1996. This programme was subsequently developed into a master's programme in 1999. Since that time there have been more than 255 individuals who have received an award from Cardiff University, 232 of which have been at either PG Dip or master's level. Figures for the numbers of individuals exiting with similar awards from other higher education institutions (HEI) are not readily available, so perhaps this is an aspect that programme teams could collaborate on nationally to provide a larger dataset to demonstrate the volume of clinicians with an award from a HEI. The currently available wound care education programmes in the UK are detailed in *Appendix I.*

CHALLENGES FOR HIGHER EDUCATION

Flanagan (2005) proposed that the current lack of good-quality evidence in wound care perpetuates negative feelings among clinicians, which can lead to feelings of apathy. However, improving the level of evidence available is not a situation that will be resolved quickly therefore as Flanagan suggests, clinicians need to reconsider the evidence that is available and utilise critical appraisal skills in order to have confidence in making judgements regarding the quality of the evidence. HE can help to provide individuals with these advanced skills as evaluation of evidence is central to the principles of level 6 and 7 programmes of study.

In discussing Lord Darzi's report (DH, 2008), Ousey and Shorney (2009) identified that high-quality care is only possible with high-quality education and training for all staff involved in NHS services. This report also called for there to be stronger links between the NHS, HEI, and industry with the aim being to safeguard quality, as well as to try to stay ahead and forecast when and/or where potential problems may arise in order to develop solutions. In relation to education, the authors suggest that such programmes should be practice-driven and consistently relevant.

Fletcher and Ousey (2010) reiterated the importance of the notion of collaboration, highlighting the changing demographics in wound care where clinicians are increasingly responsible for individuals with long-term (chronic) conditions that require not only effective treatments, but also preventative strategies. The authors argued that for service developments to be realised there needs to be more collaboration with the industry and HEI. They identified that the DH has already provided a framework for collaboration, termed "a joint working agreement" that could facilitate this (DH, 2010). Fletcher and Ousey (2010) provided an example of how this partnering might work between the NHS and the industry, but those working in HEI also need to consider their role in this alliance to help the clinical service develop.

Although educational institutions can adapt to changing healthcare policy to try and meet the priorities for health care, this is difficult to achieve in a short space of time as curriculum planning and approvals to offer programmes of study are planned often years in advance. Current systems cannot change direction at quite the same pace if providers of education wish to offer accredited courses.

AGREEING ON A CURRICULUM

There are many examples of wound care curricula both nationally and internationally. However, agreeing on a required skillset that is essential to provide an adequate level of education poses challenges, particularly for those providing MD education. This is, in part, related to postgraduate training requirements for doctors in the UK, which has led to the development of a foundation programme for newly trained clinicians, which means the individual is required to embark on a training post leading to specialist qualification (General Medical Council, 2014).

In other healthcare disciplines, the range of post-registration educational opportunities is perhaps less restrictive, notwithstanding the issue

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Ousey K, Shorney R (2009) What are quality indicators in wound care? *Wounds UK* 5(2): 53–5

Swain H (2011) What are universities for? *The Guardian* Oct 10. Available at: http://bit.ly/1hdN8xa (accessed 13.02.14)

of funding, which is outside the scope of this discussion. The dilemma of professional versus personal education is important for curriculum development teams that need to balance the needs of the individual clinician while also providing an MD programme at the appropriate level. This may explain why there are examples of programmes exclusively for nurses or doctors as these are targeted at a specific professional requirement to meet the needs for career progression.

The focus of the discussion for this commentary has been on post-registration HE. However, that potentially ignores the dialogue regarding the role of wound care education in pre-registration programmes across health care. While outside the scope of this review, it is worth noting that associations such as European Wound Management Association (EWMA) are now trying to develop consensus agreements on curricula for nursing pre-registration programmes, as well as physicians across Europe. Although some way off from being finalised, this may help to build the case for making wound care a specialist area of practice in the future.

HOW DO WE KNOW EDUCATION MAKES A DIFFERENCE?

There is an assumption that education can make a difference and help reduce costs, however, there is a lack of evidence currently available to demonstrate the effectiveness of HE wound care programmes. Universities in the UK track the progress of graduates through "destination of leavers surveys". The data generated are not always readily available and are difficult to trace back to specific programmes of study. Results from our own surveys at the Cardiff University School of Medicine suggest that HE education can impact on an individual's personal and professional development in a number of ways. Typically, it increases opportunities to:

- Publish articles.
- Become a reviewer for a wound care journal.
- Receive invitations to present at conferences as an invited speaker.
- Become an external examiner for other HEI.
- Join the council or board of a national or international wound association.
- Furthers career progression (i.e. attaining a specialist nurse role or lecturer position in a HEI
- Be invited to act as an expert witness.
- Become part of a curriculum development team as an expert advisor.
- Receive invitations from the industry to be a key opinion leader.

CONCLUSION

Wound care as a science is developing rapidly and an increase in research activity is aiding this. As a specialism wound healing lends itself to MD working. However, MD education is challenging as it needs to include recognition of the strengths that each discipline can offer. It requires an MD faculty with a curriculum that includes a range of relevant topic areas, which also incorporates a problem-solving approach to facilitate self-directed learning, all of which evidence-based (Jones, 2001).

In contrast, Flanagan (2005) suggests that educational strategies need to target different professional groups and levels of expertise to create role models for colleagues. On a wider level, many authors agree that in order to move wound care forwards there does need to be improved collaboration between clinicians, industry, wound care organisations, and HEI to raise the profile of wound care. This, in turn, may help to strengthen its position as a speciality.

Those working in HEI need to consider the aim of HE in wound care and think about whether programmes are designed to generate a defined group of professionals with expert knowledge (e.g. a HE course for nurses on leg ulcer management) or is it to bring together a group of clinicians with different skills that can work together as a team (e.g. a MD master's programme). A further consideration for curriculum development teams is to examine whether they are responding to learning needs in terms of "reactive education", for example responding to a practical need or a target, such as a quality and outcomes framework target

Conversely, there is also a need for proactive education that considers the fundamental skills and knowledge that a clinician needs in order to provide safe and effective care. It could be argued that there is a requirement for both approaches to meet the needs of the current healthcare system. This review has identified that, overall, HEI appear to be delivering proactive education in terms of award-bearing courses. WUK

Appendix I. The currently available wound care education programmes in the UK.

Higher education institution	Wound care education courses	Level of study/award	Available since (if known)
Birmingham City University	Dimensions in Health Care Degree of Postgraduate Diploma (Tissue Viability Degree Level Pathway)	Level 6/Level 7	2003 (in present format)
Bucks New University	Wound Management (Tissue Viability) Module (30 credits)	Level 6 and 7	2006
Cardiff University	PG Cert/PG Dip/MSc in Wound Healing and Tissue Repair Wound Healing Foundation Modules (DFU, LU, PU)	Level 6 (2 modules)/Level 7 (6 modules plus dissertation) Level 6	2006
Edinburgh Napier University	Tissue Viability (20 credits)	SCQF Level 9	1995
Glasgow Caledonian University	Wound Assessment and Management (20 credits) Pressure Ulcer Prevention and Management (20 credits) Leg Ulcer Assessment and Management (30 credits) Lymphoedema; Preliminary Recognition and Assessment (10 credits) Burns and Plastic Surgery Care for Adults and Paediatrics Specialist Lymphoedema Management Advanced Lymphoedema Management	SCQF Level 9 SCQF Level 9 SCQF Level 9 SCQF Level 9 Graduate Certificate Graduate Certificate (60 credits) Graduate Diploma (120 credits) Postgraduate Certificate (60 credits)	 2010 2012 2012 2012
Kings College London	Tissue Viability Course (15 credits) Leg Ulcer Management Course (15 credits)	Level 6 and 7 Level 5 and 6	2002 Not currently running
Kingston University London	Diploma in Healthcare Practice (Tissue Viability) or BSc (Hons) in Healthcare Practice (Tissue Viability) to include: Principles of wound healing and tissue repair (15 credits) Tissue Viability (30 credits) Managing Acute and Chronic wounds (30 credits) Prevention and Management of Pressure Ulceration (15 credits) Developments in Leg Ulcer Management (15 Credits) Management of Diabetic Patients with Foot Problems (15 credits) Infection Control and Transmissible Infections (15 credits)	 Level 5, 6 and 7 Level 5 and 6 Level 5 and 6 Level 5 and 6 Level 5 and 6 Level 5 and 6 Level 5 and 6 Level 5 and 6	 Early 1990s (blended/e-learning from 2000) 2000
Liverpool John Moores University	Certificate of Professional Development Course (Advancing Tissue Viability) (15 credits x 2 modules)	Level 6	Originally offered as an ENB Short Course in 1997. Running in current format since 2013
Queen's University Belfast	Diploma/MSc in Health Studies (Tissue Viability or Dermatology) (20 credits / module) Tissue Viability Tissue Repair and Regeneration Lower Limb Ulceration & Associated Conditions Prevention & Management of Pressure Ulcers Biomedical and Behavioural Sciences in Dermatology Skin Disorders and Delivery of Care in Dermatology Surgical Issues in Dermatology and Tissue Viability	 Level 6/7	 1997 1998 2001
Robert Gordon University	Wound Care (15 credits)	SCQF Level 9	2005
Staffordshire University	Tissue Viability (15 credits) Leg Ulcer Management (15 credits)	Both level 6	2004 (in present format)
University of Bradford	Certificate of Tissue Viability (3 modules, 20 credits each) Wound Debridement	Level 6 and 7 Level 7	1999 (level 6) 2008 (level 7) 2008
University of Central Lancashire	Introduction to Lymphoedema Management (Double module) The Principles and Practice of Tissue Viability	Level 6 CPD**	 2001
University of Glasgow	Specialist Lymphoedema Management Burns and Plastic Surgery for Adults and Paediatrics	Graduate Certificate (60 credits) Graduate Diploma (120 credits) Postgraduate Diploma Graduate Certificate	1994 2008
University of Huddersfield	Leg Ulcer Management (Distance Learning, 30 credits) Tissue Viability and Wound Management (Distance Learning, 30 credits)	Both level 7	Have run for over 10 years. Available as Level 7 since 2010
University of Hertfordshire	Postgraduate Medical School PG Cert/PG Diploma / MSc Skin Integrity and Tissue Repair School of Nursing Tissue Viability Courses for BSc or MSc Contemporary Nursing (choice of 4 modules as stand-alone or part of pathway)	Level 7 Level 6 and 7	2009 1994
University of Nottingham	Tissue Viability Pathway (120 credits)	Level 6	2006
University of South Wales	Principles of Wound Care Module (40 credits)	Level 5 and 6	1997
University of Stirling	Principles of Tissue Viability Module Foundation in Dermatology (44 credits) Nursing Assessment & Management of Leg Ulceration	SCQF Level 9 SCQF Level 9 SCQF Level 9	All 2008
University Campus Suffolk	Tissue Viability and Wound Care Module (20 credits)	Level 5, 6 and 7	1999
University of Worcester	The Assessment and Management of Acute and Chronic Wounds (20 credits) The Assessment and Management of Leg Ulcers (20 credits)	Level 6 Level 6	Both 2000

*As listed on http://www.wounds-uk.com/courses. CPD, continuing professional development; SCQF, Scottish Credit and Qualifications Framework.