Wound care competence is an essential component of clinical nursing. However, practice in this area can be determined by tradition rather than evidence. This may be one of the drivers for nurses to enrol in further formal wound care education. This mixed methodology study explores nurses’ perceptions of the impact, both personal and professional, of undertaking an online post-registration wound care module. The evidence from this study will add to the knowledge base in this area.

Since 2006, Robert Gordon University has been offering an online WC module for qualified health professionals’ professional development portfolio. This level 9, 15-credit module (Scottish Credit Qualification Framework, 2015) is designed for practitioners wishing to enhance their skills. A new team updated the module in collaboration with NHS tissue viability experts to ensure accuracy (Watret, 2005). Further online interactivity was added to the module to engage and encourage students to take control of their own learning rather than passively receive information (Huang, 2002; Clarke, 2008).

Many of the students who undertake this module are returning to education. Students chose to study this topic as a first step back into academic learning, suggesting that its practical, tangible links to evidence-based practice appeared less daunting than some other topics. Flexible online learning offers convenience that enables health professionals to fit studying into their busy work–life schedules (Atack, 2003; Pullen, 2006; Clarke, 2008; Holly, 2009), and provides easy access to information (Buckley, 2003). Nurse satisfaction with them relates to this flexibility (Gerkin et al, 2009). Online learning also allows nurses to meet their continuing professional development requirements (Ng et al, 2014). Learners see creating and sharing online material as a positive and enjoyable experience (Potts, 2011).

Although today’s qualified nurses must undertake online courses, this is a new way of learning for many and involves a major change from traditional class-based approaches. As developing the skills for online learning alongside mastering the subject can be challenging (Dorrain and Wache, 2009), care must be taken to support nurses to learn online (Atack,
2003; Purkis and Gabb, 2013) and to embed critical thinking skills into the content (Hoily, 2009). Ng et al (2014) conclude that further research is needed around nurses learning online.

This paper discusses former Robert Gordon University WC course students’ evaluation of their learning outcomes in order to guide future curriculum updates. The financial implications of completing the module were not explored.

METHODS
Ethical approval was gained from the Robert Gordon University School of Nursing and Midwifery Ethical Review Panel. Initial consent to participate was assumed by return of a completed questionnaire, the final question of which requested participants indicate their willingness to participate in a recorded telephone interview lasting up to 20 minutes, at a time convenient to them. Written consent was obtained from those who agreed. Anonymity was protected by using study numbers, password-protected PCs, and non-identifiable quotations.

This study used a mixed methods approach as this enables the researcher to uncover information (Cohen et al, 2011), and explore processes and reasoning behind the information (Densome, 2008). The investigators developed an online questionnaire to ascertain the students’ perceptions of the impact of undertaking the WC module. The questionnaire used a mix of closed- and open-ended questions, with text boxes for further information. These questions were set according to Kirkpatrick’s (1994) levels 1–4 model of evaluation: reactions, learning, transfer and results. Participants were asked to identify any changes in the following areas: clinical practice when providing care for patients with wounds; confidence in caring for patients with wounds; career progression; initiating further studies or engagement in research; and fulfilling professional obligation to lifelong learning.

An expert panel of academic staff assessed the questionnaire and interview schedule for face and content validity, which led to further refinements (Parahoo, 2006). While this is a weak form of validity testing, it is a useful starting point (Jones and Rattray, 2010). A pilot study was not carried out since this would have reduced the number of participants eligible for the main study (Parahoo, 2006).

Purposeful recruitment was undertaken in this study. The primary researcher emailed all former students with the study’s participant information sheet, and gave them the opportunity to ask questions about the study before participating. Participants who agreed to it were contacted by telephone for an interview, to enable full investigation of questionnaire data and explore the impact the course had on their practice. The study also examined whether students had subsequently undertaken further courses, or achieved promotion.

Questionnaire results
The questionnaire response rate of seven out of 53 potential participants was very poor. The literature suggests response rates to questionnaires are often poor (Parahoo, 2006). Of the seven respondents, only three agreed to participate in a telephone interview. Due to the scarcity of literature on the impact of completing a wound care course, the results of this study are still interesting and worth reporting.

Of the seven students who responded to the questionnaire, all reported that the module had been either very useful (four) or extremely useful (three). All respondents reported an increased wound care knowledge base, and five reported
a self-perceived improvement in their evidence-based approach to clinical wound care practice. Figure 1 shows respondents’ perceptions of the impact of completion of the wound care module.

The participants were asked what had motivated them to take part in a completely online wound care course. The most commonly reported reasons were flexibility (four respondents), difficulty getting time off (three respondents) and childcare (two respondents).

The participants were asked about the positive aspects of the module and areas for potential improvements (Table 1). The participants stated that the most important positive factor was being able to set their own work pace, but they also placed importance on the structured layout of the course, with its deadlines that helped motivate returners to learning. Interestingly, respondents placed less value on videoed or voice-recorded presentations than on the course’s structure. The areas for improvement reflected personal preference and speciality.

**Summary of themes from telephone interview**

Three themes emerged from the interviews: learning, change in clinical practice, and benefits of the structured learning approach and online delivery.

**Learning**

Learning on the course was perceived as very good, with participants feeling they had good access to academic staff via email or online chats, and that they learnt a lot from them. Learning also came from other students on the course who were able to answer the questions they posted. Participants reported having a greater understanding of acute and chronic wounds, taking a holistic approach to patient assessment and being more research aware after the course:

“The case study assessment was good as it really made you think.”

Participants reported an enhanced knowledge on particular types of dressings, and more up-to-date knowledge of prevention and treatment of pressure ulcers. Participants also reported feeling more confident in their approach to wound care after completing the course:

“Definitely has given me far more confidence on current practice and makes me now investigate new products.”

**Change in clinical practice**

This aspect of the questionnaire elicited a very positive response. Participants felt much more confident in their decision making abilities and ability to initiate changes in clinical care, especially for non-healing wounds or underperforming dressings. Participants reported undertaking research into wound care products, and using a wider range of dressings after the course. They also reported considering the wider factors involved in wound healing, including psychological health; viewing the situation “through the patient’s eyes” was mentioned thus enabling participants to “work better with patients.” Participants also reported advice being sought from colleagues and being able to influence colleagues positively to use more suitable and up-to-date products.

**Benefits of structured approach and online delivery**

All of the participants reported that online course delivery was beneficial to them as it fitted in with their lifestyles and work commitments. As all students were working while studying, online learning enabled working nurses to undertake post-registration studies. Advantages were being able to stay at home and learn at times that suited them. Participants also liked the course’s interactivity:

“This let you brainstorm and share challenges or problems.”

Participants liked the fact materials could be posted online and shared with everyone:

“When you were so focussed on your one area it was good to be able to learn from the others about their chosen areas of wound care.”

Online chats were seen as supportive, although
one participant stated that it could be hard to participate when working 12-hour shifts.

The structured approach to the delivery of the course was seen as an asset. Participants particularly liked having clear guidelines on each week’s activity so they could plan their work and take a step-by-step approach to their studies.

Not all students were familiar with studying online, with one describing it as ‘a huge but enjoyable learning curve’. Also identified was the fact that they did not meet up with other students, with one participant feeling that she ‘missed the contact with people’. There was a feeling that having at least one face-to-face study day for people to meet would have been beneficial.

**DISCUSSION**

Changing and improving clinical practice can be a major challenge for nurses. As up-to-date research evidence and clinical guidelines alone can’t always facilitate best practice, training may also be required (National Institute for Health and Clinical Excellence, 2007). While evaluating the effectiveness of such courses is complex, improved clinical practice is the hallmark of successful continuing professional education (Peden et al, 1990; Perry, 1995). Flanagan (2008) advocates using direct observation of practice to ascertain improvements in clinical practice, but this was not feasible within the remit of this study.

Nevertheless, the data obtained from the study’s questionnaires and interviews suggests the WC module was successful in empowering students to provide evidence-based wound care. The course demonstrated students’ ability to find, evaluate and apply research evidence to a real problem in practice through the assessment using a case study. Taking this approach appears to be valued by the students as: the formal academic assessment is tangible; taken from the students’ own experience of practice; and based on a real patient from the students’ own clinical area. Applying research evidence to a real problem also involved complex critical thinking (Lorenzo and Dziuban, 2006; Jenkins, 2007).

After completing the course, participants reported sharing their new wound care knowledge with colleagues. Patients and staff now saw them as a source of wound care expertise, linking to level 4 of Kirkpatrick’s (1994) model of evaluation — influencing those in the organisation. All interviewees referred to this, either directly or indirectly during their conversation, as significantly enhancing their confidence. In this respect, their learning had been transformative. Transformative learning can be described as a process of critical reflection, which also involves changes in understanding of self and developing new belief systems. In order to be truly transformative, these changes in beliefs need to be put into practice, which appears to have happened.

Participants indicated that the impact of completing the course had not been limited to theoretical learning — they reported changes to their practice. Clarke (2008) posits that online courses can facilitate closer application of theory to practice when learning activities allow students to draw on their own clinical practice experiences. This allows participants to study and challenge practice simultaneously (Keyte and Richardson, 2011). However, Cercone (2008) and Purkis and Gabb (2013) point out that while it offers flexibility, online learning should not be seen as the panacea to supporting continuing professional development. Despite the challenges of online learning, participants appear to have reached levels 3–4 in Kirkpatrick’s training evaluation.
model (1994) — influencing others in their organisation to practice more evidence-based wound care.

Participants rated the structured approach of weekly activities and deadlines highly. The 12 weeks of activity is outlined at the beginning of the module, to clarify expectations. Purkis and Gabb (2013) highlighted that clear instructions and structured timelines help online learners to remain motivated.

**Limitations**

As participants completed the wound care course during the 7 years preceding this study, a limitation is that recall may vary between recent students and those who completed it some time ago. This also may have affected the poor recruitment to the study.

**CONCLUSION**

Nurse educators are often faced with the challenge of providing suitable and attractive courses for qualified staff who are usually working full time and are unlikely to gain leave to attend university. Wound care is a key aspect of nursing practice pertinent to different clinical locations and professional development. Although participant numbers were small, this study provides valuable information on the advantages of undertaking an online post-registration wound care course. The main benefits were flexibility of study; increased knowledge; confidence to influence practice; using the course as a stepping stone to or part of further study; and as a route to promotion. Importantly, the resultant knowledge and ability gained from completing this course should improve the quality of nursing care for patients.

**REFERENCES**


Box 1. Recommendations

- Continue to offer an online wound care module.
- Consider implementing one face-to-face study day to complement the module.
- Have ongoing evaluation of student cohorts and adaptation of learning materials as necessary.
- Further research is required to assess the impact of wound care education in clinical practice.

**WOUND CARE**