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# An international eDelphi study identifying the research and education priorities in wound management and tissue repair.

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An International eDelphi study identifying the research and education priorities in wound management and tissue repair.

Short title: eDelphi study on education and research priorities in wound management.

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**ABSTRACT**

**Aim:** To incorporate an international and multi-disciplinary consensus in the determination of the research and education priorities for wound healing and tissue repair.

**Background:** A compelling reason for the study is the lack of an agreed list of priorities for wound care research and education. Furthermore there is a growth in the prevalence of chronic wounds, a growth in wound care products and marketing, and an increase in clinician attendance at conferences and education programmes.

**Design:** The study utilized a survey method.

**Methods:** A four round eDelphi technique was utilised to collect responses from an international population of health professionals across 24 countries.

**Results:** Responses were obtained from 360 professionals representing many healthcare settings. The top education priorities related to standardization of all foundation education programmes in wound care; the inclusion of wound care in all professional undergraduate and postgraduate education programmes, selecting dressings and the prevention of pressure ulcers. The top research priorities related to the dressing selection, pressure ulcer prevention and wound infection.

**Conclusion:** Professionals from different backgrounds and countries who are engaged in wound management share a common set of priorities for research and education. Most notably the priorities identified relate to long established clinical challenges in wound care and underpin the principles of good patient care practices. The priorities are closely allied to an ageing population and identify the many challenges ahead for practitioners engaged in wound management services.

**Relevance to practice:** The provision of wound care is a major investment of health service resources and remains a clinical challenge today. Research is essential to building evidence based practice and fundamental to the development of quality in standards of

practice; education is central to achieving competence in order to deliver effective care. The determination of research and education priorities is therefore an absolute requirement in developing services.

**Key words:** Wounds, pressure ulcer, diabetic foot, education, research, priorities, eDelphi

**Contributions:**

Study design: SC, GG, EC, ZM, GC, JJOB, NML, HS

Data Collection: GG, EC

Data Analysis: GG, EC, ZM, GC, JJOB, NML, HS

Manuscript Preparation: SC, GG, ZM

Word Count

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## **BACKGROUND**

The huge social and economic impact of wounds on the individual, the health service and society warrants continued efforts to explore means of improving outcomes (Posnett et al 2009). The prevalence of wounds is seen at both ends of the age spectrum and is estimated to affect 1-1.5% of the population at any point in time (Gottrup 2004). A recent review of the resource impact of wounds within Europe reported prevalence of persons with wounds of 0.37% (Drew et al. 2007, Posnett et al. 2009, Vowden et al. 2009). As the prevalence of chronic wounds is strongly related to increasing age, demographic trends indicate that the number of people with chronic wounds such as pressure ulcers, leg ulcers, and diabetic foot ulcers will increase substantially in the future (Jeffcoate & Harding 2003, Moffatt et al. 2004, DoHC 2007, Vanderwee et al. 2007).

Today the wound care commercial market has seen a double digit growth over the past five years, with a global valuation of US\$4.9 billion in 2008 (Tibballs 2009). Negative pressure wound technology is continuing to grow and this market alone is expected to exceed US\$2 billion by 2013 (Tibballs 2009). Overall, in Western countries the provision of wound care is estimated to account for up to 4% of total health care expenditure (Bennett et al. 2004, Posnett & Franks 2007). Most wounds are treated in the community and may account for up to 68% of a community nurses time, while 4% of the active caseload of community nurses is for patients with wounds (Moore & Cowman 2005, O’Keeffe 2006, McDermott-Scales et al. 2009, Posnett et al. 2009).

Commensurate with the health care challenges and the related market growth in wound care products there has been increased participation among health professionals in wound related education and research activities. Third level educational institutions have developed specialist post graduate wound healing programmes. Annual conferences dedicated to wound healing commenced around the 1990s and today the majority of the international conferences are held with the strong support of wound care commercial companies. A tentative web search for wound care conferences in 2009 identified at least 30 international conferences with a multiplicity of national and local conferences.

Additionally, there are many education evenings, study days, and short courses provided by wound care organisations and industry. Attendance at educational events represents tens of thousands of working days dedicated to the advancement of knowledge related to wound care. The research agenda has evolved in parallel to the education agenda and has moved from solely pharmaceutically funded clinical trials to an increased number of health professionals undertaking research dissertations as part of MSc and PhD studies (Gethin & Cowman 2009, Moore & Cowman 2009).

Clinical nurse specialists in wound management have evolved in response to the requirement for specialist practice, for example nurses now occupy positions in specialist tissue viability and wounds, ostomy and continence care. There is a growth in national and international wound organisations which are contributing to standards and policy. Examples of such organisations include the Wound Management Association of Ireland (WMAOI), European Wound Management Association (EWMA), the Australian Wound Management Association (AWMA) and the National Pressure Ulcer Advisory Panel (NPUAP).

Given the developments in knowledge of wound healing in recent decades, the enormity of the wound health care agenda, the ad hoc nature of the wounds education and research agenda, and the growth in wound care markets there is a need to evaluate the current priorities for research and education from the perspective of all those involved. An additionally important factor is the economic climate of recession and ensuring targeted funding and value for money.

There are two major assumptions that underpin any study of research priorities (NCNM 2005). Firstly, is the belief that research and education issues can be prioritized and a consensus can be reached about such prioritisation. Secondly, is the imperative that those who use the knowledge gained from research and education that is clinicians, managers and educators play a vital role in the development of the list of education and research issues applicable to their practice (NCNM 2005). In essence, the users of the knowledge

should be the creators of the priorities for research and knowledge development; in other words they should set the agenda.

## **METHODS**

### **Design**

This study aimed to incorporate an international and multi-disciplinary response in the determination of the research and education priorities for wound healing and tissue repair through the use of a four round eDelphi technique.

The Delphi technique seeks to gain consensus on the opinions of ‘experts’ through a series of structured questionnaires (Hasson et al. 2000). Through a Delphi technique, experts communicate their opinions anonymously, observe how their evaluation of the issue aligns with others, and if desired change their opinion after reconsideration of the findings of the groups’ work (Powell-Kennedy 2004).

There are no universally agreed criteria for the selection of experts, and no guidance exists on the minimum or maximum number of experts on a panel; rather it appears to be related to common sense and practical logistics (Keeney et al. 2006). Experts in the clinical field may include clinicians, researchers and patients/lay people who have expertise by virtue of having experienced the impact of a condition or intervention (Powell 2003). Alternatively McKenna and Keeney (2004) suggest that rather than the term ‘expert’ one could use ‘knowledgeable participants’. We defined ‘expert’ as those people with a declared interest in wound healing as evidenced by membership of wound care organisations and attendance at wound care conferences. We aimed to include clinicians, academics, scientists, pharmacists, and economists in the study.

A key issue in using the Delphi technique is what percentage of agreement a researcher would accept as synonymous with consensus. Yet, the literature fails to provide clear guidelines on what level of agreement to accept (Keeney et al. 2006). Through a process

of group discussion, consideration of the objectives of the study and a review of previous Delphi studies a level of consensus at 70% was agreed for the study.

Ethical approval was granted by the Research Ethics Committee of the Royal College of Surgeons in Ireland (RCSI).

## **Data Collection**

### *eDelphi research approach*

Data were collected using a commercially available online survey tool (<http://www.surveymonkey.com>). The tool was hosted off site from the server of the host academic institution, with the questionnaire design and analysis of the full data set being available to one named administrator (EC).

While the Delphi technique involves people from diverse locations it has traditionally been based on a postal exercise. Consistent with the use of email, internet and eLearning, the potential use for such technology to conduct research has been realised. The eDelphi technique is particularly suited to this approach as it is quick, reaches diverse locations, avoids overuse of paper and saves on time required for preparing rounds for postage, data collection and collation.

An email of introduction was sent to 37 wound care organisations internationally and to 70 known wound care contacts. The organisations were requested to forward the email to each of its members. Upon receipt of the email each individual could decide if they wished to participate by clicking on the URL link to the study provided within the email, therefore self selecting themselves for the study. A limit to the number of participants was not set. This link included instructions on how to complete the study with a further link to the research ethics approval documents.

Once the URL link was activated the participant was directed to the study which had three screens (pages). Participants entered demographic details including; area of work, percentage of work time dedicated to wound management; professional occupation and

country of residence. To encourage the identification of a wide array of views, the first round of a Delphi study is generally qualitative in orientation thus generating a large number of widely divergent statements (Keeney et al. 2006). Participants were therefore, asked to list their opinion on the topic in question and to donate as many opinions as possible so as to maximize the chance of covering the most important opinions and issues (Hasson et al. 2000). Provision was made for participants to provide additional comments. The study was also available in Spanish. Six language translators were available to the study to facilitate interpretation and analysis of data. Cross checking of translations was performed among the six translators. Reminders were sent to all organisations after 10 and 17 days.

### **Data analysis**

Results of round 1 were collated and all email addresses and unique identifiers removed. The various lists of statements from participants, together with comments were then distributed to members of the research team (authors of this paper). Thematic content analysis of the data was commenced by each member working independently using the format as proposed by Hasson et al. (2000). Data were analyzed by grouping similar items together. Where several items were identified to relate to the same issue, the researchers grouped them together to provide one universal description. The results of round one, including descriptors and groupings were verified at a meeting of the research team, so as to ensure agreement on analysis and representation of data. The research team agreed on a list of 35 research priorities and 30 education priorities based on the statements within the themes as proposed by the participants.

As suggested by Powell (2003), the second and third eDelphi rounds were more specific, with the questionnaires seeking quantification of earlier findings, through ranking techniques. Through the use of successive questionnaires, opinions were considered in a non-adversarial manner; with the current status of the groups' collective opinion being repeatedly fed back (Hasson et al. 2000). These rounds were analyzed to identify convergence and change of respondents' judgment or opinions through the use of descriptive statistics (Hasson et al. 2000). Descriptive statistical analysis of the

quantitative element of rounds two and three was conducted using SPSS V15. Agreement with priority statements were summarized using mean, median and measures of dispersion.

In round 2 the list of 35 research and 30 education priorities from round 1 were sent via email back to respondents. These individuals were invited to rank each statement individually on a seven point likert scale. Seven represented 'top priority' while 1 represented 'not a priority'. Reminders were sent after 10 and 17 days to all participants.

In round 3 the same lists as in round 2 were returned to participants but with the group mean score attached. Participants were invited to review the statement with knowledge of the group mean and rank the priorities, respondents had the opportunity to change their ranking score from round 2, if they wished. Reminders were sent after 10 and 17 days.

Results of round three were grouped into four distinct categories within a seven point scale, a score of 1 represented not a priority; scores of 2-3 represented the category of low priority; scores of 4-5 represented the category of high priority; scores of 6-7 represented the category of top priority.

In the fourth and final round a summary of the findings was forwarded to all participants. No further analysis was performed.

Prior to the main study the data collection process was pilot tested with 20 individuals anonymous to each other. An 80% response rate suggested no difficulties were encountered with the execution of the study.

## **RESULTS**

Data collection was conducted between November 2008 and April 2009. The flow of participants across eDelphi rounds is presented in Figure 1.

## INSERT FIG 1

Of the 360 people who commenced the survey in round 1, 81% (n=293) were nurses. The job titles of nurses varied across countries but 50% were working as specialist practitioners in wound management. Many other nurses had dual roles such as nurse/lecturer or nurse/podiatry. Other areas of speciality for nurses included community care, management, nurse scientists, diabetes care and infection control. The professional background of other respondents included podiatry 7% (n=26), academia 3% (n=11), medical doctors 3% (n=11), surgeons 3% (n=10), microbiologists 1% (n=3) and one respondent each in health economics, dietetics and health research, there were missing data for 1% (n=3). Ten responses were excluded from any further analysis as no follow up details were provided or the survey was incorrectly completed. Thus 350 replies, from 24 countries were available for further analysis (Table 1).

## INSERT TABLE 1

It is noteworthy that 33% (n=117) of respondents worked in primary care and 31% (n=111) worked in acute hospitals. Other areas of work included; community hospitals/nursing homes 20% (n=70), academia 7% (n=26), administration and policy divisions 3% (n=11) and industry 3% (n=11), missing data 1% (n=4). Twenty seven percent of respondents (n=94) spent up to 25% of working time dedicated to wound management; 30% (n=105) spent 26-50%; 21% (n=72) spent 51-75% and 23% (n=79) spent > 75%. The vast majority, 85% (n= 298) had completed a course of education related to wound management while 45% (n=159) had participated in a research study related to wound management and tissue repair. It was noted that 55% (n=191) of respondents had not previously participated in wounds research.

The statements from round 1 identified a significant replication of the items deemed to be priority issues. A total of 1830 research priorities and 934 education priorities were listed. Thematic content analysis identified 35 research and 30 education priorities for inclusion in round 2.

Importantly two hundred and five (59%), of the valid replies from eDelphi round 1 provided an email address for inclusion in eDelphi round 2. A response rate of 79% (n=162) was achieved for eDelphi round 2. The mean score for priority items from round two was then returned to participants for rating in eDelphi round 3. No alteration was made to the statements or the order in which they were presented for eDelphi round 3. A response rate of 49% (n=80) was achieved for eDelphi round 3. Following round 3 when scores were grouped to represent the categories of not a priority; low; high; and top priority, the top ten research and the top ten education priorities that achieved a 70% level of consensus are presented in Tables 2 and 3.

INSERT TABLE 2 and TABLE 3

The top research priorities included: pressure ulcer management; the cost of dressings and how dressings work and their role in pain management; management of wound infection, impact of wounds on quality of life and assessment of the wound bed (Table 2). The top education priorities included pain management; prevention of pressure ulcers; wound bed assessment and selection of dressings. Standardization of all foundation education programmes in wound care and the inclusion of wound care in all professional undergraduate and postgraduate education programmes was also identified as a priority. (Table 3).

## **DISCUSSION**

This is the first international, multi disciplinary study to identify the research and education priorities in wound management and tissue repair and represents an important step in guiding education and research priorities in wound management. The results are likely to provide relevant information to clinicians, researchers, academics, industry and policy makers.

Given the diversity in professional affiliations, care settings and country of origin it is notable that the items which came to the fore during all rounds of the eDelphi related to

clinical issues. The top items which were consistently ranked in both research and education as priority areas included; pressure ulceration, diabetic foot ulceration, dressings and wound infection.

The prioritisation of pressure ulcers is noteworthy, as pressure ulcers have presented the most challenging preventable problem to clinicians for centuries (Baruteu 2009). However it would appear that clinicians are still struggling to understand the means by which to prevent and manage pressure ulcers. Ironically, despite the widespread use of risk assessment tools for assessing those individuals at risk of pressure ulcer development, there is little evidence available to specifically guide practice (Moore & Cowman 2008).

Campaigns aimed at reducing the incidence of pressure ulcers have seen significant improvements when a multi-faceted approach has been implemented (Orstead & Rosenthal 2007, Lyman 2009). Multifaceted approaches included education sessions, audit and feedback, national campaigns and financial penalties. In addition to such measures, the role of guidelines in prevention should be recognized. Our study coincides with the publication of new international guidelines from EPUAP and NPUAP for pressure ulcer prevention ([www.epuap.org](http://www.epuap.org)). These guidelines outline strategies for prevention of pressure ulcers which includes risk assessment, nutritional support, repositioning and use of support surfaces together with identifying the need for on-going education and training.

Identifying the 'at risk diabetic foot' was a research priority. The population demographic trend of an older age profile with an accompanying increase in chronic illness, including diabetes, means that identifying the 'at risk' diabetic foot must be a key objective for the health sector (EURO 2006, DoHC 2007). The International working group on diabetic foot (IWGDF) estimates the global prevalence of diabetes at 200 million and this is predicted to increase to 333 million by 2025 (IWDGF 2007). In persons with diabetes the prevalence of foot ulcers is 4% to 10%, the annual population based incidence is 1.0% to 4.1% and the lifetime incidence may be as high as 25% (Singh et al. 2005). Worldwide,

over one million lower leg amputations are performed each year as a consequence of diabetes (IWGDF 2007). Such statistics present us with challenges as educators, researchers, clinicians, policy makers and industry to actively research means by which we can improve intervention strategies to prevent the onset of foot disease and minimise the likelihood of amputations in persons with diabetes.

Prevention starts with early detection for risk status and the institute for healthcare improvement (IHI) '5 million lives campaign' ([www.ihl.org](http://www.ihl.org)) and the IWGDF has set targets for over 90% of people with diabetes to have a documented foot examination at least annually and in those with identified risk this may be more often (Singh et al. 2007).

A key finding of our study surrounds the issue of wound bed assessment and wound dressings, and to better understand how dressings work and how to select dressings. Such a deficit was raised by Moore and Cowman (2005) who identified that 45% of respondents used a company representative to advise on wound management, which was almost as often as advice was sought from the patient's medical consultant (47%) who was responsible for the care of the patient. With the year on year growth in the advanced wound care market it is incumbent on employers, industry, researchers and academics to advance clinicians' understanding of wound bed assessment and the choice and use of appropriate wound care products. Noteworthy, recent systematic reviews have concluded that any one dressing does not demonstrate superiority over another in some aspects of wound management (Palfreyman et al. 2006, Vermeulen et al. 2007).

Assessment of the wound is often based on subjective interpretation with little recourse to objective measures (Gethin & Cowman 2006). Studies have demonstrated the role of continuous measurement and surface pH monitoring in objective assessment, greater use of which may contribute to improved dressing selection and patient outcomes (Gethin & Cowman 2006; Gethin et al. 2008).

The management of wound infection was a priority in both research and education. Infection, its recognition and management, continues to pose challenges in wound

management. Early identification of infection can be problematic in chronic wounds and research has shown that increase in pain and increase in wound size are positively correlated with infection in chronic wounds (Gardner et al. 2001).

In 2002, the EWMA position document: *Pain at wound dressing changes* called for future research to define the type and nature of pain in patients with chronic wounds (EWMA, 2002). It is notable therefore that participants within our study have placed pain management as the number one priority for education. Wound related pain is a multidimensional problem and has significant psychological and physiological impact on the patient. A recent survey noted that 43.3% (n=103) of clinicians recorded wound-associated pain 'only if the patient complains of pain' (Lloyd Jones et al, 2010). In this latter survey just under half (48.7%, n=116) felt that wound-associated pain is addressed sufficiently. All of these studies combined underscore the need to place pain management as a priority for education so as to improve the wound management experience for the patient and to promote better patient outcomes.

This study supports the need for all health professionals to achieve a basic level of education on wounds in all undergraduate and postgraduate education programmes. A concern raised by respondents related to a lack of standardised foundation education programmes which contribute to poor wound management and poor patient outcomes. It is incumbent on all third level education institutions, wound care organisations and regulators to pursue wound care educational objectives. The international community and in particular the EU has a responsibility in pursuing harmonization of wound care education programmes across national frontiers in the interest of patient care standards, regulation of professional practice, and health economics.

### **eDelphi**

As a research instrument the eDelphi technique was appropriate, efficient and effective in determining priorities. A review of the Delphi technique by Yousef (2007) found that one of the major advantages of using Delphi as a group response is that consensus will

emerge with one representative opinion from the experts. While we have gained consensus on the priority issues for research and education in wound healing it is important to note that this is just the opinions of the group of experts. Indeed, it is argued that the information obtained by this technique is only as good as the experts who participate in the study (Yousef, 2007). The profile of respondents suggests that the opinion of a multi-disciplinary, expert panel, representing all care settings was achieved. While the initial mailing could not ascertain how many individuals received the URL link from their representative organization, 360 replies from 24 countries represent the largest sample size for an eDelphi study in this specialist area of practice.

It is possible that the inclusion of such a diverse range of professionals may have mitigated against any one priority emerging above all others as priorities for each profession is undoubtedly influenced by their own perspective. Notwithstanding these factors, it is important to emphasise that the priorities listed in tables 2 and 3 are global issues and represent the first attempt to bring to the fore what the key areas are for future research and education. Respondents opinions may have been based on previous knowledge or experience of the topic, professional affiliation or local and National Health Service issues. It is possible that replication of the study among a single profession may produce different results.

It was particularly interesting to note the variances in response rates based on country. Ireland and Northern Ireland had a high rate, possibly attributable to the research group being based in Ireland. The highest participation rate came from Spain contrasting to the USA in which only 4 people participated. Yet, the survey was sent to 4 major wound care organisations in the USA. It does however, raise the possibility that single replies were actually completed by groups but were only registered as one. None of the comments suggest that opinions were group opinions as opposed to individual ones.

The eDelphi approach has obvious limitations as only those with access to email can participate. Indeed participants from South Africa commented that the majority of its members did not have email access. As an international study it was only accessible in

two languages; English and Spanish. It is notable that analysis of round 1 showed that after only reading 20% of statements saturation level was becoming evident by repeated comments on the same subjects. Therefore there was little to suggest that topics such as prevention of pressure ulcers and provision of education to all health professionals were different among countries. We believe we did obtain a representative international opinion.

A limitation which may be applicable to any Delphi study surrounds the lack of understanding of which factors participants took into account or ignored when making their judgments. This makes it difficult for users of the ratings to understand their meaning and therefore, according to Hicks (1994) the process to gain consensus, although systematic, remains highly subjective.

## **CONCLUSION**

This study, designed to identify the research and education priorities in wound management and tissue repair was completed at a time of global economic constraint and with a rising age profile of the population. It is the first study to gather the opinions of all disciplines involved in wound management representing a global perspective.

Ten priority issues have been identified in each category which will serve to guide the development of research and education programmes and provide topics for debate on the future direction of wound management and tissue repair. Significantly, the priority issues identified were closely related to an ageing population with increased risk of chronic illness and wound care requirements and should serve as an important consideration when health strategies are being formulated to meet the needs of this group.

## **RELEVANCE TO CLINICAL PRACTICE**

Wounds and their associated problems have challenged clinicians for centuries, yet despite this longevity, neither the incidence nor prevalence of the problem is reducing.

The research and education priority areas identified in this study clearly reflect the clinical challenges faced in the day-to-day wound management practices. Furthermore, they are also linked to the projected changes in demographics, suggesting that attention to these priorities must be a consideration for health policy decision makers.

This study has provided a unique insight into the priorities for wound management and tissue viability as identified by those most closely aligned to the practice of wound care. Understanding the priorities from the perspective of those delivering services will enable the development of an appropriate culture for research and education where it is most needed - at the patient clinician interface. Focusing on the patients clinician interface will contribute to the development of cost effective, efficient clinical care delivery, thereby impacting positively on patient outcomes and in developing an evidence based practice approach, within the constraints of limited health budgets.

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Table 1: Round 1 Participating countries and number of respondents

<b>Country</b>	<b>Number of participants</b>
Algeria	1
Argentina	2
Australia	17
Brazil	2
Canada	1
China	4
Colombia	1
Ecuador	1
England	20
Ireland	70
Italy	1
Latin America	15
Macao	1
Malaysia	1
Netherlands	3
New Zealand	2
Northern Ireland	27
Portugal	2
Scotland	2
South Africa	4
Sweden	2
Spain	163
USA	4
Wales	4
<b>TOTAL</b>	<b>350</b>

(10 responses were excluded from analysis due to incorrect completion of Round 1 survey and no follow up details)

Table 2: Top Research Priorities

Rank		Not a Priority N(%)	Low Priority N(%)	High Priority N(%)	Top Priority N(%)
1	Efficacy of support surfaces in PU management	0	3(4)	7(9)	69(86)
2	The cost effectiveness of dressings	0	4(5)	10(13)	68(85)
3	Understanding how dressings work	0	3(4)	8(10)	68(85)
4	How do we prevent pressure ulcers	0	2(3)	8(10)	68(85)
5	The role of dressings in pain management	1(1.3)	3(4)	7(9)	68(85)
6	How to assess the wound bed	1(1.3)	6(8)	5(6)	67(84)
7	Impact of the wound on the quality of life of the individual	1(1.3)	5(6)	6(8)	66(83)
8	Management of wound infection	1(1.3)	5(6)	5(6)	66(83)
9	How to identify the at risk diabetic foot	1(1.3)	6(8)	7(9)	65(81)
10	The development of wound diagnostics	1(1.3)	4(5)	10(13)	63(79)

Items are rank ordered according to 'top priority' ratings

Table 3: Education Priorities

Rank		Not a Priority N(%)	Low Priority N(%)	High Priority N(%)	Top Priority N(%)
1	Pain management	0	2(3)	3(4)	71(89)
2	How to prevent pressure ulcers	0	2(3)	7(9)	69(86)
3	Wound Bed Assessment	1(1.3)	1(1)	14(18)	63(79)
4	How to select dressings	0	3(4)	14(18)	62(78)
5	Standardization of all foundation education courses	0	3(4)	13(16)	62(78)
6	Education of all health professionals in undergraduate courses	1(1.3)	2(3)	15(19)	61(76)
7	Education of all health professionals in post-graduate courses	1(1.3)	2(3)	15(19)	61(76)
8	Education of patient and carer in wound management	0	2(3)	15(19)	61(76)
9	Infection control measures in wound management	0	2(3)	17(21)	59(74)
10	Skills development in debridement	0	4(5)	8(10)	57(71)

Items are rank ordered according to 'top priority' ratings

Fig 1 Flow of Participants across eDelphi Rounds

