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## Short report

## Alienating evidence based medicine vs. innovative medical device marketing: A report on the evidence debate at a Wounds conference

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## ABSTRACT

Wound care management is one of the largest segments of the UK medical technology sector with a turnover exceeding £1bn in 2009 (BIS, 2010). Using data derived from participant observation, this article examines the antagonistic relationship expressed by wound care clinicians towards evidence based medicine in the context of the 2010 United Kingdom (UK) *Wounds UK* conference/trade show, where evidence based medicine is positioned in opposition to clinical knowledge, as an obstacle to innovation and as a remover of solutions rather than a provider of them. The article is written in the context of the trend towards increasing marketization and privatization in the UK National Health Service (NHS).

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## Introduction

This article employs a case study method which uses participant observation to produce content analysis of a United Kingdom (UK) health care conference. It is a method that has been used in medical anthropology to report on similar sites of social contact in the United States of America (USA) where medicine and marketing come together (Applbaum, 2004; Sufrin, 2008). David Gray, Clinical Nurse Specialist in Tissue Viability and Clinical Director of *Wounds UK* identifies the “vital” role the annual *Wounds UK* conference plays in bringing together medical device companies and wound care clinicians because, “the field we work in is hugely driven by innovation, which comes from industry” (Gray, 2010: np). The conference is therefore a key site of what Lakoff (2007: p. 156) terms in his ethnographic work on forms of knowledge in psychiatric practice in Argentina, “high contact”. That is a site for, “the intensification of relations between pharmaceutical [medical device] companies and doctors [nurses]” (Lakoff, 2007: p. 156).

After a description of its methods, the article begins by outlining the background to wound care in the UK and the current context of clinical uncertainty. It describes the marketing of “innovation” and the construction of the “evidence debate” at the *Wounds UK* 2010 conference. It then provides an analysis of observations made at

this “high contact” event Lakoff (2007: p. 156), raising concerns about the extent of industry influence in knowledge production and the positioning of evidence based medicine in opposition to clinical knowledge and as an obstacle to innovation. The analysis draws on work in the anthropology of medicine, the sociology of science and technology and the sociology of expectations.

## Methods

The study emerged as part of a five-year programme of work funded by the UK National Institute for Health Research (RP-PG-0407-10428) (Lamb, Stubbs, Dumville, Cullum, & O'Meara, 2011). Permission was granted for this aspect of the programme through peer review and ethical scrutiny at the University of York. Observations of the conference were confined to formal events rather than social gatherings. No formal interviews were conducted. All statements recorded were made in a public forum. The author attended and introduced herself to others at the conference as a researcher in the field trying to better understand the contemporary context of wound care, aiming not to deceive or compromise the privacy of those observed and interacted with (c.f. Shils, 1982; Spicker, 2011). Contemporaneous field notes and conference documents form the core of the data set for this article (Emerson, Fretz, & Shaw, 1995). Field notes were written unobtrusively over three days as part of the normal activity of a conference-goer. Notes on interactions were written from recall shortly after the events took place. Commentary and reactions were bracketed in field

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notes to distinguish these from observations. Hand written field notes were later word processed and narrative description expanded. Separate analytic notes were made during transcription to identify themes and map fields of argument. All transcribed and collected data were then reviewed and an additional set of summary notes made. The author's analysis is inevitably informed by other aspects of the programme including interviewing patients, shadowing clinicians, discussions with colleagues and an immersion in the literature.

## Background

Chronic, complex wounds, such as leg ulcers, pressure ulcers and diabetic foot ulcers are common in the UK and throughout the western (post-) industrialised nations (Graham, Harrison, Nelson, Lorimer, & Fisher, 2003; Kaltenthaler, Withfield, Walters, Akehurst, & Paisley, 2001; Reiber, 1996). The prevention and management of wounds poses a costly, unsolved health care challenge for these economies. Ageing populations living with chronic conditions such as diabetes or venous disease which can lead to chronic wounds, and those living with various degrees of immobility, present a growing market for pharmaceutical and medical device companies (Joyce & Loe, 2010). Direct to patient advertising of prescription based products is illegal in the UK, so medical device marketing strategies are targeted on clinicians (c.f. Browne, Grocott, & Cowley, 2004).

Most of the care of people with chronic wounds in the UK is undertaken by nurses with involvement from a wide range of health and social care services and specialisms including tissue viability, surgery, dermatology, care of the elderly, podiatry, physiotherapy and occupational therapy. Wound management devices prescribed in the UK National Health Service (NHS) are predominantly dressings but also include pressure relieving surfaces, compression bandages, negative pressure devices and new synthetic and bioengineered products such as tissue-engineered skin substitutes. In what was once considered a “technologically mature segment”, the wound care market is becoming a “hotbed of innovation” as companies strive to develop products designed to accomplish more than those already available in formularies (Smith, 2009). This applies to ‘mundane’ technologies like dressings which might be perceived as cheap and inert interventions. For example, antimicrobial dressings containing silver ions which have come to prominence over the last 10 years, and advanced wound dressings designed to control the environment for wound healing; to donate fluid (hydrogels), maintain hydration (hydrocolloids), or absorb wound exudate (alginates, foams) (BNF, 2011).

The 2009 prescription costs in England (community spend only, i.e. not including hospital prescriptions) for products from the wound management and dressing section of the British National Formulary (BNF) were £138 million (DH, 2009). This puts expenditure on dressings and elastic bandages in the community setting above that for vaccines/sera or drugs for dementia. Such large costs are due to volume of use and the incorporation of increasingly complex and expensive materials into dressings, for example silver dressings on which £26 million was spent in 2009 (DH, 2009). However, the extent to which the commodification of medical technologies in wound care is providing innovations that lead to better health outcomes for patients remains uncertain and evidence of the effectiveness of these interventions remains limited. In addition, despite the financial, social and personal costs of chronic wounds, little is known about their number, nature and care. Good quality up-to date epidemiological data are lacking (Firth, Nelson, Hale, Hill, & Helliwell, 2010; Graham et al., 2003).

Clinical guidelines for wound care state that clinical judgement must be used in the selection of the appropriate wound product

(e.g. Steed et al., 2007). It is this clinical judgement that medical device marketing and evidence based medicine seek to inform and influence. The wound product supply chain is complex with local providers developing their own formularies from those competing products available in the BNF (e.g. Browne et al., 2004). A comprehensive guide to product selection in wound care is produced by the Mark Allen Group (a company involved in publishing and communications in the health care, education, consumer and business-to-business sectors) in association with the *Journal of Wound Care*. Interspersed with advertising from manufacturers, this 258 page “bible of wound care” (Cowan, 2010: p. 5), lists the products on the market with guidance on usage with the caveat that its information is not a substitute for detailed product knowledge: “Anyone working with wound care products has a responsibility to familiarise themselves with the manufacturer's instructions and the most up-to-date-evidence regarding their use” (Cowan, 2010: p. 5).

Yet, research evidence to support clinicians' choice of the proliferating range of products available is scant (Polak, Clift, Bower, & Sprange, 2008). Systematic reviews in wound management which identify, critically appraise, and synthesize the evidence produced in primary research, reveal a lack of high quality studies and a predominance of small, underpowered and methodologically flawed randomized controlled trials (RCTs). One reason for the lack of trials demonstrating treatment effectiveness in this area is because most treatments for chronic wounds are classified as devices rather than medicinal products. Unlike medicines, devices are not automatically subject to a clinical trial. Under the current European regulatory framework for evaluating and regulating medical devices (CE marking), manufacturers are only required to demonstrate safety and fitness for purpose (Cohen & Billingsley, 2011; MHRA 2011). The evidence-base informing clinical decision making is therefore very limited. There are exceptions, for example it is recognised that compression bandaging is an effective treatment for leg ulcers (O'Meara, Cullum, & Nelson, 2009) and that people at high risk of developing pressure ulcers should use higher-specification foam mattresses rather than standard hospital foam mattresses (McInnes, Jammali-Blasi, Bell-Syer, Dumville, & Cullum, 2011).

As the end-payer for the NHS, the UK government has a strong interest in medical device product and price regulation. At the same time, the ideological trend is towards increased marketization and privatization of health care (DH, 2011). Pharmaceutical and medical devices companies are a significant part of UK manufacturing industry and there is powerful lobbying against additional regulation (Abraham, 2002; Abraham & Davis, 2006; Di Mario, James, Dudek, Sabate, & Degertekin, 2011). For example, in 2005, a UK House of Commons Health Committee report on the influence of the pharmaceutical industry reported that: “The Department of Health has for too long optimistically assumed that the interests of health and of the industry are as one. This may reflect the fact that the Department sponsors the industry as well as looking after health. The result is that the industry has been left to its own devices for too long” (Health Committee, 2005: p. 3). In a recent bid to, “capitalise on the [Coalition] government's encouraging noises about the sector” (InPharm.com, 2011), LifeSciencesUK has been launched as a new lobbying group to improve joint working between pharma, biotech, medical devices and diagnostics companies.

Wound care management is one of the four largest segments of the UK health technology sector, having fallen from its 2009 position as the top health technology segment to 4th place in 2010 as a consequence of a 14% drop in UK turnover in the wound care market (BIS, 2010). It is nevertheless seen as part of a resilient sector of the UK economy which exhibits strong export

performance (BIS, 2010). The wound care segment employs over 4000 of the UK health technology sector's 55,000 workers. Employment in the wound care segment increased by 6% during 2009–2010 (BIS, 2010).

### Marketing innovation

Key opinion leaders and tissue viability nurses working closely with wound management companies has been identified as a major factor driving the uptake of advanced wound management products (Faulkner, 2009: p. 79). Medical devices companies have developed close relationships with nurses in the UK through the sponsorship of conferences and continuing professional development education and training. Manufacturers work with wound care practitioners to raise awareness of products and their use, promote higher standards and advise on meeting the quality and productivity challenges set by health care reforms (e.g. Shorney & Rush, 2006; Whiting, Gleghorn, & Shorney, 2008).

*Wounds UK* describes itself as a wound care education company providing conferences, events, roadshows and journals to clinicians. It is part of Schofield health care media which is in turn part of Schofield Media Group, an international business-to-business media company. Business-to-business marketing operates between businesses rather than direct to the consumer. It involves the promotion of goods and services that will help other companies run. Wound care conferences are large, well attended events with strong industry sponsorship and presence. The 2010 *Wounds UK* conference includes a large exhibition with over 80 stands displaying existing and new technologies in wound care prevention, diagnostics and treatment. Plenary sessions, champagne receptions and conference gala dinners are sponsored by medical device companies.

Academic and medical conferences are fora for the rapid dissemination of research findings, provide opportunities for networking and are sites of argumentation. Argumentation is a social and cooperative activity through which participants seek truth (or victory) and resolve (or provoke) conflict (Walton, 2006). Whatever their power plays, presenters and attendees at conferences test their own and each other's reasoning with doubt. Papers are peer reviewed and publication, often the only tangible evidence that research has been done, is sought. Publications should provide sufficient information to allow full evaluation of presented data (Langley & Parkinson, 2009). An investigation into the publication of research from international wound care conferences has shown that publication is highly unlikely and less likely compared with other medical specialities (Dumville, Petherick, & Cullum, 2008). Lack of publication from wounds conferences raises questions about methodological quality and selective presentation bias (Dumville et al., 2008).

Industry led conferences engaged in business-to-business marketing (the businesses being medical device companies and the NHS) have a vested interest in promoting products. The marketing bias at the 2010 *Wounds UK* conference is evident in the selection of presentations at company sponsored plenary sessions which seek to present particular products in the best possible light, with clinician satisfaction standing as evidence of effectiveness. There are plenary sessions promoting hosiery for compression, "pain-free" dressings, low frequency ultrasound therapy, and most frequently, innovations in the diagnosis, treatment and assessment of wound infection.

For example, observed at this conference in a plenary promoting devices for delivering, "safe and innovative choice for patients less tolerant of compression", a clinical nurse specialist in cellulitis describes, "a duty to evaluate new bandages that come along", and her use of a new two layer reduced compression kit. The kit is

explained to an audience aware of the evidence that compression helps improve venous return and so treats the venous insufficiency that contributes to ulcer formation. Current systematic reviews and clinical guidelines recommend four layer bandaging as the most clinically effective bandaging treatment for venous leg ulcers in those that can tolerate high compression (O'Meara et al., 2009). Newer two layer bandaging systems like this kit have become available but there are as yet no RCTs to show that these are as effective as, or more effective than, the standard treatment. The presenting nurse specialist explains that the new kit was "trialled" on six patients with the help of a company rep. On the basis of her satisfaction with the product, she does not identify the need for more substantive research but urges the audience to go to the stand to read all the (market) research they have available and to, "ensure formularies don't remain static" (Beasley & Blenman, 2010: np). In support of the same product another nurse speaker claims to be a sceptic who had said she would eat her hat if the new bandaging system worked. After a show of slides demonstrating changes in wounds she has treated with the kit, she brings out a little edible hat and takes a bite out of it (Beasley & Blenman, 2010: np).

As well as presentations demonstrating success in the hands-on use of the device promoted, there are presentations to show that "fundamental studies" (laboratory work) can help gain a better understanding of how products work. For example, a speaker presents "highly controlled" in vitro experiments which find that the dressing being promoted compares favourably against two other named dressings (Davies, 2010: np). Questions from the floor at the end of these plenary sessions do not address methodological issues. Rather than conference presentations where reasoning is subject to scrutiny and doubt, such presentations are more like infomercials, advertisements that with the exception of hat-eating, downplay the obvious features of advertising in favour of a more technical information giving genre.

New alternatives to antimicrobial silver dressings are promoted in the wake of the publicly-funded VULCAN trial (Michaels et al., 2009) which found no evidence of a difference in healing efficacy between silver dressings and low adherent, non-antimicrobial dressings in venous leg ulcers. Plenary speakers state that clinicians have been criticised for their over-use of antimicrobials but that it is not the products (or the clinicians) that are at fault. They go on to say that there are more treatments in wound care than clinicians know what to do with, but what is missing are diagnostic and assessment tools that can better direct the choice of what product to use at which point in the wound healing process.

Diagnostics in wound care are described as currently a matter of, "reading signs and symptoms", "eyeballing and guessing", "a process of elimination" and "stabs in the dark" (Snyder, Harding, & Barrett, 2010: np). The development of diagnostic tools promises more professional credibility; "we need to move our game upwards" (Snyder et al., 2010: np). The production of these tools rests on an understanding of wound healing at a cellular level and identifying markers or indicators of infection. This hinges on a yet to be evidenced argument that infection and biofilms (the idea that bacteria aggregate to form a tough resistant layer) play an important part in chronic or, "non-healing" wounds.

As in the marketing of pharmaceuticals, there are few genuinely paradigm busting wound care device innovations and many product-line extensions which are 'innovative' only in that they work to differentiate a product from others on the market (Angell, 2005). These introduce small deviations of what is essentially the same product, changing little more than surface features or minor attributes. When there are few new ideas and few proven marginal benefits in a commercial sector, one response is more marketing (Sharp & Dawes, 2001). The conference is saturated with wound treatment advertisements many of which have been shown to be

misleading in their use of research evidence to support claims made. For example, where research is cited in wound treatment adverts, 56% of claims made were not supported by the cited research article (Dumville, Petherick, O'Meara, Raynor, & Cullum, 2009).

### Sugared solutions

Once the exhibition has opened, conference goers must walk through the entire show-room area in order to reach tea, coffee and lunch. Alternatively, it is possible to stop off and have tea, coffee and cakes at many of the wound product marketing stands that are staffed with baristas. Or, there are stands with juice bars, ice cream machines and chocolate fountains. Many offer sweets and one is fully dressed as a sweet shop.

Clinicians (predominantly nurses) have been encouraged by speakers at the conference to exercise their duty to make an informed choice on behalf of their patients and this is a chance to do so. The exhibition addresses its attendees through rational, emotional and sensual means. There is a lot to look at and touch. There are free samples, educational brochures and opportunities to have a massage or a manicure; eat ice-cream and sweets; admire the stockings on dancing can-can mannequin legs, or the muscles on a be-glittered blue genie, or spot Elvis: "Beware of imitations. There's only one Elvis and only one range of ...products". This is a much more informal, sociable site of "high contact" than the conference auditorium (Lakoff, 2007: p 156). Sales reps take over from sponsored conference speakers as they "sell without selling" (Oldani, 2004: p. 334). No money changes hands but there are lots of free samples in boutique style shopping bags. Visitors to exhibition stands are asked about their use of the product on display and are offered samples, support and encouragement to try something new.

The stimulus to 'buy' is perhaps to ease the distress of the painful recalcitrant wounds that clinicians have to deal with every day, which have been represented so graphically throughout the conference in case studies accompanied by close-up photographs of wounds. Patients are not present at the conference but patient success stories are at the heart of the exchanges between clinicians and reps. Individual stories of difficult cases and obstacles to be overcome are exchanged in one-on-one encounters in stands that market material solutions for use in practice.

### Alienating evidence based medicine

*Wounds UK* have attempted to invite specialists in the field of wounds evidence from the Cochrane Wounds Group, part of the Cochrane Collaboration, an international non-profit, independent research publishing organization that aims to improve access to health care research findings (CWG, 2011), to speak at a research/audit session titled: "What is acceptable evidence for medical devices in the wound care field" (Harding, White, & Jeffrey, 2010: np). Nobody was available to attend. The chair of the session invites the audience to make their own judgement on the significance of this absence, represented by two empty seats which have been left on the speakers' platform. The evidence debate is introduced as central to the conference because it affects which products will be available to clinicians. The session contains presentations critical of, "an academic led approach with Cochrane Wounds Group in the vanguard; an unelected body to advise and pontificate to you, the practitioners" (Harding et al., 2010: np). For example, speakers are unimpressed by the findings of a systematic review (Chaby et al., 2007) which is said to dispute a central tenet of modern wound care, moist wound healing.

Rather than allowing wounds to dry out and form scabs to promote healing, George D. Winter (1962) found that wounds in

pigs healed faster if kept moist. Many dressing products on the market are therefore developed for the healing of chronic wounds through moist wound therapy. However, the Chaby et al. (2007) review found only weak evidence on the clinical efficacy of modern dressings, except hydrocolloids, for healing wounds in comparison with saline or paraffin gauze. In terms of general performance, none of the modern dressings were found to be any more effective than any other, including saline or paraffin gauze.

In the light of this review, one speaker asks whether we are going forward or backwards, especially given that silver dressings are also, "under considerable attack". He states that the work of key figures in evidence based medicine has helped to place RCTs at the top of the hierarchy of evidence but, "what about non-RCT evidence? Is it irrelevant? Who is influencing policy? Who is influencing you?" (Harding et al., 2010: np). The speaker cites Michael Rawlins (2008) as saying hierarchies of evidence are illusory, observations are as important and judgements are an essential ingredient. It is not enough to, "type in wound care in PubMed and think that's OK, that's enough" (Harding et al., 2010: np).

All speakers in the debate argue that high level statistical analysis is being prioritised over clinical experience and that the broader evidence base and the real needs of clinicians and patients are being side-lined. They discuss guidelines for clinical practice that provide a grading system for the quality of evidence on which guidance is based, the GRADE (2004) system and the AGREE system (2001).

AGREE (Appraisal of Guidelines Research & Evaluation) is an international collaboration of researchers and policy makers seeking to improve the quality and effectiveness of clinical practice guidelines by establishing a shared framework for their development, reporting and assessment. The AGREE system arose as a response to finding many clinical guidelines to be industry sponsored with limited objectivity. The developers of the GRADE (Grades of Recommendation, Assessment, Development and Evaluation) system wanted to emphasize consistency in the rating of guidelines, as well as incorporating and distinguishing between, the 'strength' of each guideline and the 'quality' of the underlying studies upon which it is based. Both systems rank 'very low' any evidence other than randomized trials and observational studies.

The conference is told that there will not be rapid product development if companies have to do RCTs, but nevertheless companies must provide evidence that yields high strength recommendations in the GRADE system, otherwise clinicians will be left with the least costly dressing, as has been recommended in the recent National Prescribing Centre *MeRec Bulletin* (2010). This refers to a NHS document that states:

There is no robust clinical evidence that dressings containing antimicrobials (e.g. silver, iodine or honey) are more effective than unmedicated dressings for the prevention or treatment of wound infection (MeRec, 2010: p. 1).

Unless the use of a specific dressing can be adequately justified on clinical grounds, it would seem appropriate for NHS health professionals to routinely choose the least costly dressing... (MeRec, 2010: p. 1).

One speaker describes the "evidence pyramid", stating that, "in wounds, real life is at the bottom of the pyramid" (Harding et al., 2010: np). He claims that all evidence other than RCTs is being ignored and that one does not have to have any clinical knowledge to conduct systematic reviews. He states that they are often written by epidemiologists and statisticians with no day to day knowledge and experience of clinical practice; "clinical knowledge is a detriment" (Harding et al., 2010: np). References to the "real world" of clinical practice get applause. He reminds the audience that

absence of evidence is not the same as evidence of ineffectiveness and also advocates the GRADE (2004) system which states that it is possible to make strong recommendations from low quality evidence. Cochrane reviews are criticised for merely reiterating that there is, “not enough evidence” and for asserting that the only measure of success is a healed wound: “some of my patients never heal...each patient is a one-on-one experiment. Cochrane [Wounds] Group don’t accept these patients exist” (Harding et al., 2010: np).

There follow questions and comments from the floor which express concerns about lack of funding for products and services on the basis of lack of evidence: “Cochrane are constraining what we get”. One of the panel speakers replies that evidence based medicine is backfiring. Cochrane is a hindrance. Many different products have been developed over the years, but how are clinicians to get these into their formularies if the evidence is not there? Clinicians need “tools not rules” (Harding et al., 2010: np). Other concerns from the floor are the professional credibility of tissue viability nursing, the need to attend to the subjective as well as the scientific, patients in RCTs not being representative of typical wounds patients and the difficulties of getting informed consent from elderly people. The panel comments on the difficulty of designing trials in wound care and their experience of research governance as an obstacle, “it’s enough to make you give up on RCTs.” The session ends with a caution against squashing innovation and an ameliorating comment from David Gray, the Clinical Director of *Wounds UK* urging the conference not to, “bash Cochrane; teach them how to do it properly”.

## Conclusion

Concepts of scientific research, market commodity and commercial competition inform the marketing strategies on which claims about wound product safety and efficacy are based. It is perhaps a category mistake to approach this event as one would an academic conference when it is in effect a trade fair. There are no alternative, industry-free scientific conferences in this sector. Despite the centrality of the exhibition and claims about cost effectiveness, the economic end points of the conference are downplayed. The yield of marketing interactions is profit but the treatments that profit industry may not provide the outcomes that mean most to patients.

Those attempting to promote marketing practices for use within the NHS as part of increasing patient choice acknowledge that for clinicians the practice of marketing is often viewed as, “anathema to the ethos of the NHS” (*The Chartered Institute of Marketing*, 2008: p. i; see also Leys & Player, 2011). Although there may be fewer “high contact” sites in the publicly-funded UK National Health Service (NHS) than in more heavily commercialised health services, the UK policy trend is towards increasing competition, commercialisation and marketization (Pollock, 2004). Clinicians are intermediaries in the medical device marketing channel that delivers products to patients (Applbaum, 2009). In order to keep products moving, industry must negotiate the barriers that divide conventions in medical research and practice from marketing objectives (Applbaum, 2009). It is important to note that the embracing of industry involvement at this conference may not be representative of the whole sector; clinicians who are critical may stay away.

The knowledge, innovation and ‘education’ produced and imparted at the conference are not disinterested. Although there are references to ‘holistic’ assessment in presentations by nurses, the idea that patient health might depend on a host of factors outside medical technology and pharmaceutical innovations is not aired. The focus is firmly on mechanical and pharmaceutical solutions to wound care problems through medical device innovation.

The conference and its exhibition can be seen as part of, “the business of expectations” (Brown, Rappert, & Webster, 2000; Pollock & Williams, 2010). The conference and its exhibition give life and meaning to products that provide hope, if not proof, of effectiveness and fuel expectation (a market) in future technological solutions.

Clinicians attending the conference state that they are undervalued and seek to have their practical expertise acknowledged. The development of professionalism through the hopeful and heroic use of unproven but innovative treatments takes place against a backdrop of late capitalist, post-credit crunch austerity; a time of uncertainty about what the future holds for clinicians who face job insecurity, health service rationing and reorganisation and growing levels of demand. Systematic reviews that find that there is a lack of evidence of treatment efficacy are not an answer to the immediate needs of clinicians called on to deliver solutions for patients and are associated with rationing. Having a renewable range of therapies available in the cupboard means that at least clinicians are able to provide some form of purported solution for any patient at any given time.

Evidence based medicine has been perceived as promising/threatening to standardise clinical decision making and so challenges the clinical tradition of professional autonomy (Timmermans & Berg, 2003). It has been seen as part of the displacement of trust in experts by trust in processes, procedures and statistical measurement because, although clinical judgement is involved (Sackett, Rosenberg, Muir Gray, Haynes, & Richardson, 1997), judging treatment effects in trials is fundamentally statistical and epidemiological (Porter, 1995). The audible consensus at this conference positioned those who insist on RCTs and systematic reviews as non-clinical technocrats and obstacles to innovation. Whereas, *in vitro* knowledge produced in laboratories is presented as fundamental and easily transferable to clinical practice (e.g. Davies, 2010; Wiegand, 2010), knowledge produced in RCTs and systematic reviews is presented as unrelated to the ‘real world’ of clinical practice.

The Cochrane Collaboration is portrayed as in the service of ration-focused ‘paymasters’ and those who would proscribe or curtail individual powers of clinical decision making. Systematic reviews highlight that the most knowledgeable and experienced clinicians in wound care are faced with an evidence gap. Where clear evidence does not exist, clinicians are left with uncertainty and are reliant on expert consensus. Such consensus is informed by clinical experience of using pharmaceutical and technological tools. Even with the acknowledged need for evidence and limitations of “eyeballing and guessing”, little critical attention is paid at the conference to the problem that clinical observations can be misleading. Conference plenary presentations, posters and leaflets are replete with claims of efficacy. However, in the absence of rigorous independent peer review and publication, many of these can be seen as artefacts of what Sismondo (2009) calls “corporate science”, the production of investigations designed to look like academic work in order to further marketing messages.

Meanwhile wound care treatments are not being adequately researched for effectiveness. Clinical guidelines in areas of wounds research have been based on the results of animal studies (Robson et al., 2006) and there have been calls for the abandonment of the RCT and of systematic reviews in wound care (Gottrup, 2006; Leaper, 2009). Instead of filling the evidence gap with evidence, medical device companies market the promise of solutions through endless wound management innovation. Once a device is launched onto the market, the incentives to conduct quality research on clinical use are reduced because research is expensive and seeking proof of efficacy threatens to remove lucrative products/solutions from the market.

The conference promotes a market in ‘advanced wound care’. Pricing for innovative new-generation products represents a significant premium compared to existing wound care products. As consumers we are already attuned to the ideas that ‘you get what you pay for’ and that new is improved and therefore better. Unfortunately, until efficacy is proven, new technologies are as likely to be inferior as they are superior to existing technologies (Chalmers, 1995). The term ‘innovation’ requires interrogation (Abraham & Davis, 2011; Van Lente, 2000) and in particular the extent to which innovation is present in the potential of a technology and/or in the marketing strategy used to promote it. For example wound dressings which usefully manage symptoms such as wound exudates or odour can be marketed and priced as curative solutions. Chronic wounds can be seen as symptomatic of underlying conditions and perhaps research might be better focused on tackling these underlying conditions and less on innovations for symptomatic wound care.

The General Medical Council has guidance which insists that doctors must work with colleagues and patients to help “resolve uncertainties about the effects of treatments” (GMC, 2010: 14f). It is perhaps a case of shooting the messenger to blame reviewers rather than clinicians, researchers, medical device companies and other stakeholders in this area for the lack of well reported, methodologically sound trials and other high quality research. The idea that wound care RCTs are uniquely difficult to undertake has been disputed by those who have successfully conducted trials in this area (see Ashby et al., 2010); wounds are not rare and the outcomes are observable.

Conferences in the wounds sector are industry led sites of “high contact” (Lakoff, 2007: p. 156). Studying high contact sites can provide an insight into how ‘the real world’ of clinicians is engaged with and utilised in ‘market logics’. Successfully marketing product innovations to clinicians requires an understanding of “how doctors [and nurses] think” (Montgomery, 2006). A systematic review of the diffusion of innovations in service organisations highlights the importance of understanding social influence and the networks through which it operates (Greenhalgh, Robert, Macfarlane, Bate, & Kyriakidou, 2004). Research from the USA indicates that nurses view marketing activities as educational and beneficial. They perceive other providers, but not themselves as being susceptible to influence (Crigger, Barnes, Junko, Rahal, & Sheek, 2009). However, there is evidence that promotional activity does influence doctors’ prescribing behaviour (Elliott, 2010; Oldani, 2004; Prosser, Almod, & Walley, 2003; Wazana, 2000). There is a need for further research on the influence of marketing and potential conflicts of interest within UK wound care. There is little social scientific work in this field. The gendered marketing of technology in this sector and the “doctor-nurse game” (Radcliffe, 2000; Stein, 1967) played out between predominantly male doctor opinion leaders and predominantly female nurses also warrant critical attention.

In addition perhaps the problems that wound care clinicians face in attempting to operate in a research-informed fashion are not being sufficiently addressed (c.f. Oswald & Bateman, 2000). For example, Haynes (1990) and Lomas (2007) have argued that much of the biomedical literature for clinical decision making is designed for communication between scientists and not for dissemination of practicalities. Efforts are being made to enhance and promote “evidence based nursing” (e.g. Thompson, Cullum, McGaughan, Sheldon, & Raynor, 2004) and clinician statistical literacy (c.f. Gigerenzer, 2002). Given the positioning of clinicians as gatekeepers in the commercialisation of health care, citizens may also like to see clinicians equipped with training in skills to critique the marketing strategies and materials targeted at them.

Wound care by itself does not really exist as a clinical speciality. Through this clinician focused conference and its trade

publications, the medical device industry brings a disparate market together. Significant time, resources and skills are put into developing and supporting that market and in communicating marketing messages. As well as products to use with patients, the conference provides pressurised and undervalued clinicians with light relief in the form of some banter, a cup of coffee, a massage, a manicure, sweets, attention, ‘care’. However, the short term comforts of clinician sugar may not result in long term patient health gain.

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