

Non-medical independent prescribing: Podiatrists to take the next step

Louise Morris

Citation: Morris L (2014) Non-medical independent prescribing: Podiatrists to take the next step. *The Diabetic Foot Journal* 16: 146–50

Article points

1. The incidence of diabetes is set to rise, bringing with it an increased prevalence of diabetic foot disease, requiring specialist care.
2. Podiatrists have established their position as clinical leaders and champions in the management of the diabetic foot.
3. Non-medical independent prescribing brings opportunities for “Diabetes Specialist Podiatrists” to improve outcomes for patients.

Key words

- Diabetes specialist podiatrist
- Independent prescribing
- Non-medical prescribing

Author

Louise Morris is Principal Podiatrist, Trafford Provider Services, Pennine Care NHS Foundation Trust, Manchester.

Following an announcement by the Department of Health on 20 August 2013, advanced podiatrists in the UK are preparing to become the first in the world to independently prescribe for their patients (Department of Health, 2013). With the twin aims of improving timely access to medicines (particularly for those with chronic disease) and freeing up doctors’ time, the management of diabetic foot ulceration has been specifically indicated by the Department of Health as an area where independent prescribing by podiatrists could prove beneficial. This article discusses why diabetes specialist podiatrists are fit for purpose to prescribe and looks at recent and future developments of non-medical independent prescribing for podiatrists managing the diabetic foot.

Of the long-term conditions, diabetes is set to provide major challenges to the NHS where, as a consequence of an ageing and increasingly obese population, the incidence of diabetes is projected to rise significantly, to over 5 million by 2025 (Diabetes UK, 2011). This brings with it an increased prevalence of diabetic foot disease (Boulton et al, 2005; Young, 2006).

The magnitude of the problem is considerable; in England alone it is predicted that 7000 diabetes-related amputations will take place in 2014–15 (Diabetes UK, 2013). This figure is unsurprising given that a major precursor for lower-limb amputation is known to be foot ulceration (Pecararo et al, 1990). There are reported to be approximately 61 400 people with active foot ulceration in England at any one time (Kerr, 2012). The associated costs to the NHS are substantial (Kerr, 2012), while diabetic foot disease is known to impair an individual’s quality of life, and increase morbidity and mortality (Ragnarson Tennvall and Apelqvist, 2004; Jeffcotate et al, 2008).

The predicted rise in diabetes will have a significant impact in further increasing the number of people with diabetic foot disease requiring access to rapid and intensive treatment offered by specialist multidisciplinary foot care services in which podiatrists increasingly play a key role (Edmonds,

1986; NICE, 2004; Baker, 2006; Edmonds and Foster, 2006). Traditionally, care has been organised by a physician-led multidisciplinary team (MDT). Hailed as the gold standard, such teams have been demonstrated to be effective in reducing the incidence of major complications of foot wounds (Edmonds et al 1986; Boulton et al, 1999). However, these teams are already feeling the strain and, when combined with the evidence that some areas are struggling to provide appropriate services, there will be a significant shortfall in the specialist care required across the UK (Kerr, 2012; Diabetes UK, 2013). Non-medical independent prescribing by podiatrists offers a beacon of hope for the workload of these overstretched, essential services.

The diabetes specialist podiatrist is fit for purpose

As the need for prescribing responsibility to devolve to non-medical professionals increases, the justification for the diabetes specialist podiatrist to provide patients with medicines at the point of care becomes stronger. Over the past decade, podiatrists have established their position as clinical leaders and champions in the management of the diabetic foot (Stuart et al, 2007; McInnes, 2012). The evolution of knowledge and skills in this area has led to the emergence of the “Diabetes Specialist Podiatrist”. Although the path

to attaining this title is not currently standardised, (Stuart and McInnes, 2011; Bacon and Borthwick, 2013) it is a role which has a recognised and vital place at the heart of the multidisciplinary foot care team (International Diabetes Federation, 2005; Edmonds and Foster, 2006; Kerr, 2012).

The creation of the advanced practitioner and the consultant allied healthcare professional roles is part of the NHS modernisation agenda. Such clinicians have highly developed clinical skill sets that allow the treatment of patients with complex needs (Department of Health [DH], 2003; 2008). With such roles comes increasing responsibility for medicines management and, ultimately, non-medical prescribing (DH, 2000a; b). When benchmarked against the *National Minimum Skills Framework For The Commissioning Of Foot Care Services For People With Diabetes* (Foot in Diabetes UK, 2006) and the *Podiatry Competency Framework for Integrated Diabetic Foot Care* (TRIEPod-UK, 2012) the diabetes specialist podiatrist is able to demonstrate that they are fit for purpose.

The podiatrist as a key practitioner, often working across organisational boundaries is well placed to manage the diabetic foot and supply patients with medicines. This is particularly true of the management of infection; specialist podiatrists have highly developed skills in assessment, diagnosis and treatment planning. Early aggressive intervention with appropriate antibiotics by the podiatrist could help to improve outcomes for patients, reduce the number of hospital admissions and amputation rates.

Mechanisms for the supply and administration of medicines available to podiatrists

Currently, podiatrists have access to various mechanisms for supplying medicines to patients.

Patient Group Directions

Patient Group Directions (PGDs) permit the supply of specific prescription-only medicines (POMs) to groups of patients, under certain circumstances, without individual prescriptions. PGDs provide rapid access to medicines, and were designed with emergency medicine in mind. PGDs are most appropriate for one-off events and not for the ongoing management of individuals with chronic conditions (Medicines and Healthcare Products Regulatory Agency [MHRA], 2013).

Patient Specific Direction

This Patient Specific Direction (PSD) is an instruction given by an independent prescriber to another professional to administer a medicine to a specific patient under a certain set of circumstances. As with PGDs, PSDs were designed for one-off events and are not suitable for the management of the diabetic foot (MHRA, 2014).

Exemptions to prescription-only medicines

Legislation provides a number of specific POM exemptions for named groups of healthcare professionals in order that they can supply or administer to patients. Although some antibiotics are included in the exemptions, they are too limited for managing patients with complex needs (MHRA, 2011).

Supplementary prescribing

Supplementary prescribing works when a voluntary partnership is established between the independent prescriber (doctor or dentist) and supplementary prescriber with the agreement of the patient. Supplementary prescribing status was extended to podiatrists in 2005 through the non-medical prescribing agenda and allows the podiatrist to implement an agreed patient-specific clinical management plan (DH, 2006).

The clinical management plan (CMP) is the foundation stone of the supplementary prescribing framework as it sets the parameters for prescribing by the supplementary prescriber on an individual patient basis. The CMP must contain specific information, namely; details of the conditions which can be managed, the medicines to be prescribed, including doses and length of treatment, sensitivities and allergies, a review date and criteria for referral back to the independent prescriber. It is obligatory for the agreed CMP to be in place before any supplementary prescribing can commence (DH, 2005).

Although supplementary prescribing is patient specific, with no restriction on what can be prescribed for patients under this arrangement, uptake by podiatrists has remained low. As there is a paucity of research available for the low uptake of supplementary prescribing among podiatrists, it may be instructive to look at the literature on nursing and pharmacist prescribing. Possible reasons for low uptake include: difficulties relating to the governance

“The podiatrist as a key practitioner – often working across organisational boundaries – is well placed to manage the diabetic foot and supply patients with medicines.”

“The development of the clinical management plan (a key element of the supplementary prescribing framework) has caused much controversy, being described as “restrictive” and “time consuming to complete” and agreed by many to be a major barrier to the successful implementation of supplementary prescribing.”

of supplementary prescribing and the framework itself; lack of national promotion and local implementation; and issues relating to attitudes and resistance to change (Warchal et al, 2006; Courtenay et al, 2007).

The development of the clinical management plan (a key element of the supplementary prescribing framework) has caused much controversy, being described as “restrictive” and “time consuming to complete” and agreed by many to be a major barrier to the successful implementation of supplementary prescribing (Courtenay et al, 2007; George et al, 2007). Supplementary prescribing is also perceived to be more difficult to implement in the community setting, where practitioners are working without the day-to-day support of medical colleagues and have difficulties in accessing patient records (Hall et al, 2006).

It has been reported that the implementation of supplementary prescribing for pharmacists was poorly planned by their own organisations and even on a national level (Warchal et al, 2006). This echoes the podiatry experience, where anecdotal reports suggest that supplementary prescribing has hindered the clinician in providing rapid access to medicines during the management of acute episodes of foot disease, with negative implications for the patient. The ability for podiatrists to independently prescribe in the future will help bring an end to such scenarios and provide patients with appropriate and timely treatment.

Independent prescribing for podiatrists

Following agreement by ministers on 24 July 2012, the Human Medicines (Amendment) Regulations 2013 allowing podiatrists to independently prescribe came into force on 20 August 2013.

In support of changes to prescribing law, the Health and Care Professions Council (HCPC; 2013) has published standards for prescribing for both education providers and individual prescribers. Higher education institutes are now tasked with ensuring their training programmes meet the necessary standards before HCPC approval will be granted and the courses can commence. These standards were produced in partnership with the single prescribing competence framework for all prescribers (NICE, 2012), which underpins prescribers’ responsibilities, regardless of profession.

For the individual, the new standards define the skills and knowledge that a qualified supplementary or independent prescriber must demonstrate. As formularies, knowledge, and prescribing trends change, continuing professional development will need to be undertaken by independent prescriber podiatrists to ensure they continue to be up to date and compliant.

It is expected that the first validated courses will be available early in 2014. Courses offered will fall into two categories: those that train podiatrists as new independent / supplementary prescribers; and conversion programmes to prepare existing supplementary prescribers for independent prescribing status.

The training programme for new independent / supplementary prescribers is likely to comprise 26 days theoretical learning and a minimum of 90 hours practice-based learning alongside a medical supervisor. The supplementary-independent conversion course, will require 2 days taught theory and at least 2 days in clinical practice (Allied Health Professions Federation [AHPF], 2013a; b).

The entry requirements specify that podiatrists embarking on the course must demonstrate competence in a clinical speciality and evidence that prescribing will support high level clinical practice (AHPF, 2013a). For existing supplementary prescribers, entry onto the conversion course is dependant on the individual providing evidence of supplementary prescribing for ≥ 6 months prior to the start of the course (AHPF, 2013b). This may prove difficult for those podiatrists who have been unable to get supplementary prescribing off the ground due to the complexities of the supplementary prescribing framework or other local implementation barriers.

Will supplementary prescribing become obsolete?

When the key components of supplementary prescribing are in place and easily accessible (namely, accessibility of the independent prescriber leading to agreement and development of the clinical management plan, while accessing the shared medical record), then supplementary prescribing has been shown to flourish (Smalley, 2006; Courtenay and Carey, 2008). But where any of these elements are missing, the supplementary prescribing process fails (Carey et al, 2007; Tully

et al, 2007). So with independent prescribing status for podiatrists now within reach, has supplementary prescribing become obsolete?

In attempting to answer this question, one needs to be mindful of the complex nature of managing patients with diabetic foot disease, their manifold comorbidities, and the benefit that these patients gain from an MDT approach to care.

Supplementary prescribing has been shown to be most beneficial for the management of complex, chronic conditions, such as diabetes, where nurses managing this group of patients have used the supplementary prescribing framework instead of using their independent prescribing authority to supply medicines (Courtenay and Carey, 2008). This indicates that supplementary prescribing has advantages for the management of patients with complex care needs, which has earned it an important place in the prescribing tool box. Supplementary prescribing could also be viewed as an apprenticeship on which to build prescribing expertise, where its supported nature can aid the non clinician to feel confident and competent in their prescribing (Bradley, 2008).

The future of NMP for diabetes specialist podiatrists

Access to both independent and supplementary prescribing will provide podiatrists working with the foot in diabetes with the necessary tools to improve outcomes for patients by transforming services to become more innovative and responsive to local need. As with nurses, there are benefits for the podiatrist to utilise a mixture of prescribing practices dependant on the complexities of the patient and their condition, and the confidence and competence of the podiatrist to prescribe for them.

Prescribing for infection and painful neuropathy, dressings and offloading devices supported by local, national and international guidance are just some of the areas where podiatry prescribing in diabetes foot management will reap the benefits (Lipsky et al, 2012; NICE, 2012).

Drawing on the experience of nursing and pharmacy colleagues, evaluations have demonstrated independent prescribing to be working safely and effectively, and valued by patients (DH, 2011; Latter et al, 2012).

Conversely, a lack of clinical knowledge and competence has also been cited in the nursing literature as a barrier to prescribing (Courtenay and Carey, 2008). Therefore, strategies for support (including external training, supervision, mentorship, peer support and the need for the development of supportive networks and competency frameworks) are deemed essential for non-medical prescribing to be successful (Hobson and Sewell, 2006; Carey et al, 2007; Stewart et al, 2009). The recent announcement by NHS England that Helen Marriott has been seconded as Allied Health Professions (AHP) Medicines Project Lead for 2 years to support the non-medical prescribing agenda is encouraging (NHS England, 2013) and in the north west of England, the AHP non-medical prescribing network is to be resurrected – the value of which cannot be underestimated.

Non-medical prescribing is more than writing a prescription

The constant evaluation of non-medical prescribing by podiatrists will be required to measure its impact. Unfortunately, prescribing activity is still measured by the number of prescriptions issued, however, it must also be considered that prescribing is not just about producing a prescription to provide a patient with medication; on the contrary, the writing of a prescription is a late event in the prescribing process – if required at all – and is dependent on the clinician making a range of decisions. These include: making an accurate diagnosis, assessing the balance of benefit to harm, choosing the right drug among a range of alternatives and the right dose regimen, and discussion with the patient about proposed treatment and potential beneficial and adverse effects (Aronson, 2006). This message is important when examining the impact of both supplementary and independent prescribing, because by undertaking non-medical prescribing clinicians are gaining skills in medicines management whether they proceed to writing prescriptions or not. Medicines management through non-medical prescribing could provide benefits to patients with diabetes in education and concordance, and also be key in achieving optimum cardiovascular risk management in those with diabetic foot ulceration to increase patient survival rates (Young et al, 2008).

“Medicines management through non-medical prescribing could provide benefits to patients with diabetes in education and concordance, and also be key in achieving optimum cardiovascular risk management ...”

“Non-medical prescribing presents an opportunity for diabetes specialist podiatrists to step up to the challenge in taking leadership for first-line management of diabetes, as treatment provided for the foot in diabetes outside the specialist team is often inadequate, resulting in avoidable complications.”

Conclusion

The culture of the NHS is changing with the emphasis on seamless care and integration to bring direct benefits for patients (DH, 2008; 2009; 2010). Non-medical prescribing presents an opportunity for diabetes specialist podiatrists to step up to the challenge in taking leadership for first-line management of diabetes, as treatment provided for the foot in diabetes outside the specialist team is often inadequate, resulting in avoidable complications (Boulton et al, 2005).

As there are very few consultant physicians currently providing outreach care into the community it is time for the specialist podiatrist to pick up the gauntlet to work across organisational boundaries to deliver whole systems of care. Careful audit of the introduction of independent prescribing will be required to measure the impact of this new activity and provide the justification for extending independent prescribing powers to podiatrists.

The vision appears clear that more so than ever the diabetes specialist podiatrist now has the opportunity through non-medical prescribing to become truly autonomous practitioners, offering one-stop management for people with diabetes-related foot complications. ■

Allied Health Professions Federation (2013a) Outline curriculum framework for education programmes to prepare physiotherapists and podiatrists as independent/supplementary prescribers and to prepare radiographers as supplementary prescribers. Available at: <http://bit.ly/KxPfaK> (accessed 08.01.2014)

Allied Health Professions Federation (2013b) Outline curriculum framework for conversion programmes to prepare physiotherapist and podiatrist supplementary prescribers as independent prescribers. Available at: <http://bit.ly/1igZcyW> (accessed 08.01.2014)

Aronson JK (2006) A prescription for better prescribing. *Br J Clin Pharmacol* **61**: 487–91

Bacon D, Borthwick AM (2013) Charismatic authority in modern healthcare: the case of the ‘diabetes specialist podiatrist’. *Social Health Illn* **35**: 1080–94

Baker N (2006) Practical issues in diabetes foot care; podiatry - linking primary and secondary care. In: Boulton AJM, Cavanagh PR, Rayman G (eds) *The Foot in Diabetes* (4th edn). Wiley and Sons, Chichester: 424–30

Boulton AJ, Meneses P, Ennis WJ (1999) Diabetic foot ulcers: A framework for prevention and care. *Wound Repair Regen* **7**: 7–16

Boulton AJ, Vileikyte L, Ragnarson-Tennvall G, Apelqvist J (2005) The global burden of diabetic foot disease. *Lancet* **366**: 1719–24

Bradley E (2008) Nurse prescribing experienced. In: Bradley E, Nolan P (eds) *Non-Medical Prescribing: Multidisciplinary Perspectives*. Cambridge University Press, Cambridge: 73–88

Carey N, Courtenay M, Burke J (2007) Supplementary nurse prescribing for patients with skin conditions: a national questionnaire survey. *J Clin Nurs* **16**: 1230–7

Carey N, Courtenay M (2008) Nurse supplementary prescribing for patients with diabetes: a national questionnaire survey. *J Clin Nurs* **17**: 2185–93

Carey N, Courtenay M, Burke J. Supplementary nurse prescribing for patients with skin conditions: a national questionnaire survey. *J Clin Nurs*. 2007 Jul;16(7):1230-7

Courtenay M, Carey N, Burke J (2007) Independent extended and supplementary nurse prescribing practice in the UK: a national questionnaire survey. *Int J Nurs Stud* **44**: 1093–101

Courtenay M, Carey N (2008) Nurse independent prescribing and nurse supplementary prescribing practice: national survey. *J Adv Nurs* **61**: 291–9

Department of Health (2000a) The NHS Plan: a plan for investment, a plan for reform. Available at: <http://bit.ly/1dwAwPs> (accessed 16.01.14)

Department of Health (2000b) Meeting the challenge: a strategy for the allied health professions. Available at: <http://bit.ly/1jIBqay> (accessed 16.01.14)

Department of Health (2003) The Chief Health Professions Officer’s ten key roles for allied health professionals. Available at: <http://bit.ly/1d9V5PQ> (accessed 16.01.14)

Department of Health (2005) Supplementary prescribing by nurses, pharmacists, chiropodists/podiatrists, physiotherapists and radiographers within the NHS in England: a guide for implementation. Available at: <http://bit.ly/1dBAwqh> (accessed 17.01.14)

Department of Health (2006) Medicines matters: a guide to mechanisms for the prescribing, administration and supply of medicines. Available at: <http://bit.ly/1fBEo06> (accessed 16.01.14)

Department of Health (2008) Framing the contribution of allied health professionals: delivering high-quality healthcare. Available at: <http://bit.ly/1gQ69G5> (accessed 16.01.14)

Department of Health (2009) Transforming community services: enabling new patterns of provision. Available at: <http://bit.ly/1d9VW2Q> (accessed 16.01.14)

Department of Health (2010) Liberating the NHS - White Paper. Available at: <http://bit.ly/1m1bYN> (accessed 17.01.14)

Department of Health (2011) Evaluation of nurse and pharmacist independent prescribing. Available at: <http://bit.ly/1gDSxhG> (accessed 08.01.14)

Department of Health (2013) Millions of patients to benefit from easier access to medication and fewer trips to hospitals. Available at: <http://bit.ly/1R7BB> (accessed 08.01.2014)

Diabetes UK (2011) Diabetes in the UK 2011/2012: key statistics on diabetes. Available at: <http://bit.ly/1lUj1yL> (accessed 08.01.14)

Diabetes UK (2013) Putting feet first: fast track for a foot attack: reducing amputations. Available at: <http://bit.ly/1aetaBO> (accessed 08.01.14)

Edmonds ME, Blundell MP, Morris ME et al (1986) Improved survival of the diabetic foot: the role of a specialized foot clinic. *Q J Med* **60**: 763–71

Edmonds ME, Foster AVM (2006) Practical aspects of establishing a multidisciplinary diabetic foot clinic. In: Boulton AJM, Cavanagh PR, Rayman G (eds) *The Foot in Diabetes* (4th edn). Wiley and Sons, Chichester: 418–23

Foot in Diabetes UK (2006) National minimum skills framework for the commissioning of foot care services for people with diabetes. Available at: <http://bit.ly/1a0SMSA> (accessed 08.01.14)

George J, McCaig D, Bond CM et al (2007) Benefits and challenges of prescribing training and implementation: perceptions and early experiences of RPSGB prescribers. *International Journal of Pharmacy Practice* **15**: 23–30

Hall J, Cantrill J, Noyce P (2006) Why don’t trained community nurse prescribers prescribe? *J Clin Nurs* **15**: 403–12

Health and Care Professions Council (2013) Standards for prescribing. Available at: <http://bit.ly/1hVqAS> (accessed 08.01.14)

Hobson RJ, Sewell GJ (2006) Risks and concerns about supplementary prescribing: survey of primary and secondary care pharmacists. *Pharmacy World and Science* **28**: 76–90

International Diabetes Federation (2005) Time to Act. Available at: <http://bit.ly/1cBcbt1> (accessed 08.01.14)

Jefcoate WJ, Lipsky BA, Berendt A et al (2008) On behalf of the three systematic review working parties of the International Working Group on the Diabetic Foot, 2008. Unresolved issues in the management of ulcers of the foot in diabetes. *Diabet Med* **25**: 1380–9

Kerr M (2012) Foot care for people with diabetes: the economic case for change. Available at: <http://bit.ly/1jCR9ho> (accessed 08.01.14)

Latter S, Smith A, Blenkinsopp A et al (2012) Are nurse and pharmacist independent prescribers making clinically appropriate prescribing decisions? An analysis of consultations. *J Health Serv Res Policy* **17**: 149–56

Lipsky B, Berendt AR, Cornia PB et al (2012) 2012 Infectious Diseases Society of America clinical practice guideline for the diagnosis and treatment of diabetic foot infections. *Clin Infect Dis* **54**: 132–73

McInnes A (2012) 100 years of diabetic foot care. *Podiatry Now* **15**: 16–20

Medicines and Healthcare Products Regulatory Agency (2011) Chiropodists and podiatrists: exemptions. Available at: <http://bit.ly/1a8QqB8> (accessed 08.01.14)

Medicines and Healthcare Products Regulatory Agency (2013) Patient group directions. Available at: <http://bit.ly/1gE0Mu8> (accessed 08.01.14)

Medicines and Healthcare Products Regulatory Agency (2014) Frequently asked questions: patient specific directions. Available at: <http://bit.ly/1eN6cmx> (accessed 16.01.14)

NHS England (2013) Allied health professionals bulletin: September 2013. Available at: <http://bit.ly/1bRhfJQ> (accessed 08.01.2014)

NICE (2004) Type 2 diabetes prevention and management of foot problems (CG10). Available at: <http://guidance.nice.org.uk/CG10> (accessed on 27.09.13)

NICE (2012) A single competency framework for all prescribers. Available at: <http://bit.ly/KDC4z1> (accessed 08.01.14)

Pecoraro RE, Rieber GE, Burgess EM (1990) Pathways to diabetic limb amputation: basis for prevention. *Diabetes Care* **13**: 513

Ragnarson Tennvall G, Apelqvist J (2004) Health-economic consequences of diabetic foot lesions. *Clin Infect Dis* **39**(Suppl 2): S132–9

Smalley L (2006) Patient’s experience of pharmacist-led supplementary prescribing in primary care. *Pharmaceutical Journal* **276**: 567–9

Stewart DC, George J, Bond CM et al (2009) Views of pharmacist prescribers, doctors and patients on pharmacist prescribing implementation. *Int J Pharm Pract* **17**: 89–94

Stuart L, Fox M, McInnes A (2007) The podiatrist in diabetes: what has changed in 10 years. *The Diabetic Foot Journal* **10**: 208–9

Stuart L, McInnes A (2011) Diabetes specialist podiatrists in the UK: ensuring a competent, adequate workforce. *The Diabetic Foot Journal* **14**: 102–6

TRIEPodD-UK (2012) Podiatry competency framework for integrated diabetic foot care. Available at: <http://bit.ly/1aetaBO> (accessed 08.01.14)

Tully MP, Latif S, Cantrill JA, Parker D (2007) Pharmacists’ changing views of their supplementary prescribing authority. *Pharm World Sci* **29**: 628–34

Warchal S, Brown D, Tomlin B, Portlock J (2006) Attitudes of successful candidates of supplementary prescribing courses to their training and their extended roles. *Pham J* **276**: 348–52

Young RJ (2006) The organisation of diabetic foot care: evidence-based recommendations. In: Boulton AJM, Cavanagh PR, Rayman G (eds) *The Foot in Diabetes* (4th edn). Wiley and Sons, Chichester: 398–403

Young MJ, McCaig JE, Randall LE, Barclay JI (2008) Improved survival of diabetic foot ulcer patients 1995-2008: possible impact of aggressive cardiovascular risk management. *Diabetes Care* **31**: 2143–7