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LETTERS

PREVENTING FALLS AMONG OLDER PEOPLE IN HOSPITAL

Interpreting the null result

Evidence that multifaceted interventions in acute hospitals are ineffective is limited,¹ with most studies based on rehabilitation units² and only one other large cluster randomised controlled trial in an acute setting.³ This showed a significant reduction in falls after the introduction of multifaceted interventions, as did other large acute hospital studies of before and after design.⁴ So what explains the disparity in the results? It is hard to fault the quality of design in this study, so unpacking the "black box" of the intervention is crucial in understanding the null result.

Firstly, as the authors point out, control wards in their study may have introduced some or all of the interventions too—hopefully control ward patients were also provided with "appropriate walking aids." Osmosis is particularly likely, given the study duration of three years and interventions based on guidance issued in 1998.⁵ It is harder to effect a difference if good practice is already embedded.

Secondly, the intervention was focused on all admitted patients; concentrating efforts on the patients most vulnerable to falling³ might have been more effective.

Thirdly, the actual interventions applied may be critical. These are not clearly described, but other than exercise (never shown in any falls prevention study to be effective within one week) seem to centre on good practice suggestions to ward staff, related to medication and delirium. The effect on team dynamics of a research nurse who completes an assessment and hands over implementation might result in less ownership

of interventions; the authors rightly comment that falls prevention programmes led by ward staff themselves may be more effective.¹ Most importantly, we do not know whether the suggested interventions were actually carried out and adhered to, or whether there was instead a focus on documentation.

Whether multifaceted interventions in acute hospitals are (in)effective⁴ is likely to depend on the relevance of the interventions to an acute hospital population—and in acute settings seeking and treating medical causes of falls may be of particular value³—and most importantly, whether interventions are implemented, rather than just recommended.

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- 1 Cumming RG, Sherrington C, Lord SR, Simpson JM, Vogler C, Cameron ID, et al. Cluster randomised trial of a targeted multifactorial intervention to prevent falls among older people in hospital. *BMJ* 2008;336:758-60. (5 April.)
- 2 Coussement J, De Paepe L, Schwendimann R, Denhaerynck K, Dejaeger E, Millisen K. Interventions for preventing falls in acute- and chronic-care hospitals: a systematic review and meta-analysis. *J Am Geriatr Soc* 2008;56:29-36.
- 3 Healey F, Monro A, Cockram A, Adams V, Heseltine D. Using targeted risk factor reduction to prevent falls in older in-patients: a randomised controlled trial. *Age Ageing* 2004;33:390-5.
- 4 Von Renteln-Kruse W, Krause T. Incidence of in-hospital falls in geriatric patients before and after the introduction of an interdisciplinary team-based fall-prevention intervention. *Am Geriatr Soc* 2007;55:2068-74.
- 5 Shanley C. *Putting your best foot forward: preventing and managing falls in aged care facilities*. Sydney: Centre for Education and Research on Ageing, 1998.

Results are not surprising

The fact that an intervention of about seven days' duration was ineffective in improving fall resistance should not be a surprise.¹ All falls have a mechanical cause that accelerates the centre of mass in a way that the subject is unable to counter effectively to maintain balance. There are indications that the hip abductor and adductor muscles have a major role in controlling the pelvis during balance perturbing events, and that improving strength and endurance in these muscles could improve fall resistance (A Walmsley, M A Brodie, *Biomechanics of the lower limb in health, disease, and rehabilitation*, Salford, September 2007). However, strength

gains take several weeks to manifest, and the early gains are largely an expression of improved neuromotor coordination. As a consequence, patients would be no better able to combat the mechanical events that trigger falls after a short intervention, even though it included some strength training.

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- 1 Cumming RG, Sherrington C, Lord SR, Simpson JM, Vogler C, Cameron ID, et al. Cluster randomised trial of a targeted multifactorial intervention to prevent falls among older people in hospital. *BMJ* 2008;336:758-60. (5 April.)

LEPROSY CHEMOPROPHYLAXIS

What's the need?

The study reported by Moet et al found benefit at two years after rifampicin, but did not find any significant difference between rifampicin chemoprophylaxis and placebo treatment in the third and fourth years after rifampicin treatment.¹ *Mycobacterium leprae* multiplies very slowly, and the incubation period of leprosy is about five years but can be up to 20 years (www.who.int/mediacentre/factsheets/fs101/en/index.html). Whether the absence of clinical cases of leprosy at two years after rifampicin treatment is due to rifampicin chemoprophylaxis or just due to subclinical infection within the incubation period can therefore not be established.

Any benefit of rifampicin chemoprophylaxis would not exceed 50% under routine conditions.² In the absence of any long term benefit, individuals at high risk could immediately be reinfected with *M leprae* as long as transmission persists after the immediate benefit has waned.³

The finding¹ that patients with low risk for leprosy, on the basis of physical distance, genetic relationship, age, and leprosy classification,⁴ benefited more from rifampicin chemoprophylaxis is not surprising because contacts who are not at close physical distance from the patient are not close contacts at all. Leprosy is not highly infectious (www.who.int/topics/leprosy/en/); transmission occurs through droplets from the nose and mouth of untreated patients with severe disease. The contribution of close household contacts to the total number of new leprosy cases in a population is about 30%, and the



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chemoprophylaxis benefit of these household contacts is only 15%.² To prevent a single case of leprosy, hundreds or even thousands of contacts need to be treated.² The cost and operational difficulties to apply chemoprophylaxis to a large population will be extremely high, although the yield will be limited.²

The World Health Organization's strategy of promoting early detection, diagnosis, and treatment of leprosy, not chemoprophylaxis, seems right at this time.

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- 1 Moet FJ, Pahan D, Oskam L, Richardus JH, for the COLEP Study Group. Effectiveness of single dose rifampicin in preventing leprosy in close contacts of patients with newly diagnosed leprosy: cluster randomised controlled trial. *BMJ* 2008;336:761-4. (5 April.)
- 2 Noordeen SK. Prophylaxis—scope and limitations. *Leprosy Rev* 2000;71:S16-20.
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REDUCING NHS CARBON FOOTPRINT

Time for a culture change

One problem that besets the NHS is a culture which assumes that everyone can and should travel everywhere by car.¹ Many NHS organisations provide travel directions for visitors that are of use only to car drivers, and many NHS job descriptions stipulate car ownership as a matter of course when it is patently unnecessary.

Senior managers who make decisions around travel policies generally don't use public transport, cycle, or walk. As a result they don't understand the alternative transport agenda or the benefits that promoting sustainable

transport can bring. There is a knee-jerk reaction that assumes sustainable development will cost money, whereas many initiatives, especially transport related ones, can actually save the NHS money, while also benefiting employees and the community through reduced pollution. Only corporate inertia prevents these ideas from taking root in NHS culture.

A recent survey by Spokes—the NHS Cycling Network—showed that 56% of NHS trusts pay only the bare minimum (AfC/Whitley required) cycle mileage rate to employees who use their bicycles for work journeys, although this is less than a third of the government's tax-free limit (6.2 p/mile as opposed to 20 p/mile) (www.networks.nhs.uk/networks/page/1170). Furthermore 22% of NHS trusts pay below the minimum, apparently unsure what "minimum" means. Many trusts are reluctant to instigate the government's "Cycle to Work" scheme for tax-free bicycle purchases, despite requests from staff. Promoting cycling among staff is one of the simplest, cheapest, most cost effective measures that any trust can take to reduce its carbon footprint, yet many are resistant to the idea, still viewing employees who cycle as some sort of eccentric fringe.

Until promotion and support of sustainable development is made a centrally imposed requirement of NHS employers, such incentives as exist (minor things like saving money and promoting public health) will have little effect.

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- 1 Mayor S. NHS should bring in measures to reduce its carbon footprint, BMA says. *BMJ* 2008;336:740. (5 April.)

THE WOMAN QUESTION

Why is this news?

The debate that there are "too many women" in medicine and that this in turn is bad for the profession is indeed disheartening.¹

Many women in the NHS have successfully balanced family life against long, often unsociable hours.¹ No one seems to complain that a mostly female workforce is bad for nursing.

British society burdens women with the combined pressure of employment and family life. Despite the gains made by the feminist movement, men are allowed only a fraction of the parental leave allocated to women after the birth of a child, sending the message that raising an infant is clearly a woman's responsibility and for no valid, logical reason. The problem is not that there are too many women, but that women are faced with archaic

burdens that need to be shared.

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- 1 Dacre J. Are there too many female medical graduates? No. *BMJ* 2008;336:749. (5 April.)

Sweden is a good model

Since my return to England after 10 years in Stockholm, I have been disappointed that progress has been comparatively slow in supporting women in their careers in the UK.¹ The resultant loss of talent is regrettable. There are many women who are unable to work as much as they would like.

Sweden is a good model, as a culture of men also being responsible for looking after their children is emerging there. This has been gradually built up through the provision of excellent affordable child care and an expectation that women with young children will continue with their careers and work flexibly. The result is the highest birth rate in western Europe, tempering the ageing of the population.

Despite (or perhaps partly because of) this flexibility, healthcare provision in Sweden is of an extremely high standard.

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- 1 Dacre J. Are there too many female medical graduates? No. *BMJ* 2008;336:749. (5 April.)

Change in attitude is required

McKinstry implies that the increasing proportion of women in some specialties will lead to reduced service provision as more women than men currently work flexible hours.¹ A redundant argument, given that the forthcoming requirement of a 48 hour working week will mean that all doctors will work fewer hours than is currently the case.

Rather than acknowledging that a change in attitude within the profession to training and practice is required, he suggests instead a "balanced" approach to recruitment—which in this context appears to be Orwellian double-speak for "don't hire women."

Women in Surgery (WinS) is working to change institutional barriers to attract more women to surgery. Such activities will allow all medical specialties to take advantage of the diversity in the NHS and will highlight better working practices.

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