

Winter mortality in elderly people in Britain

Action on outdoor cold stress is needed to reduce winter mortality

EDITOR—The paper by Wilkinson et al, on people aged over 75, makes a useful addition to the evidence that winter mortality in Britain is now not caused primarily by deprivation and failure to heat homes.¹ In addition to other evidence they quote, a recent study on younger people provides positive indications that cold exposure outside the home causes winter mortality regardless of economic status.²

Manual workers (social class 5) of working age (50–59) in Britain had low cold related mortality compared with any other class. This was not the case with their wives of similar age or for men of the same class after retirement age (65–74). It implies that internal heat production from manual work protected class 5 men of working age against daytime cold stress and consequent mortality. Elderly people in sheltered housing that was fully heated, but who often went outdoors, had as much winter mortality as the general elderly population.³

Despite considerable evidence, reduction of outdoor cold stress has been largely ignored in official campaigns to control winter mortality. Heating of waiting areas for public transport, and at least windproof shelters on bus routes subject to unscheduled delays, are obvious measures that would help. Another is to broadcast warnings when cold weather is forecast, that dressing warmly, with hats and with windproofs and waterproofs when necessary, can prevent not only discomfort but often illness and death. To keep moving while outdoors is also important.

Surveys in Europe and Siberia provided statistical evidence that such behaviour, as well as warm homes, is associated with low winter mortality.^{4,5} We have found advice on these lines to avoid outdoor cold stress, given via the media, well received by elderly people, provided that they are also given the evidence that outdoor cold

accounts for much of Britain's winter mortality.

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Competing interests: None declared.

- 1 Wilkinson P, Pattenden S, Armstrong B, Fletcher A, Kovats RS, Mangtani P, et al. Vulnerability to winter mortality in elderly people in Britain: population based study. *BMJ* 2004;329: 647-0. (18 September.)
- 2 Donaldson GC, Keatinge WR. Cold related mortality in England and Wales; influence of social class in working and retired age groups. *J Epidemiol Community Health* 2003;57:790-1.
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Outdoor exposure and effect of windchill should be taken into consideration

EDITOR—The study by Wilkinson et al, reporting a lack of effect socioeconomic gradient on excess winter mortality, contributes much to the debate seeking the best means to address this major public health issue.¹ Currently, the UK government make a substantial financial payment to elderly people, the “winter fuel payment,” in an attempt to address fuel poverty, but it is becoming increasingly clear that other personal factors, such as outdoor exposure to low temperature, may play a large part in determining risk.

I have two hypothetical questions.

Firstly, could the excess mortality in women be related to their being more likely to spend time outdoors in low temperatures, as in this age group it is still likely that they would bear the brunt of domestic tasks such as shopping?

Secondly, does the measure of air temperature used accurately reflect the temperature experienced by the individual, given that windchill is a major component of environmental exposure? If the data were

re-analysed to include windchill effects for each region, how would this affect results?

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Lack of social gradient in winter excess mortality is obvious in Denmark

EDITOR—Despite smaller fluctuations in seasonal mortality in general,^{1,2} we obtained similar results for our analysis of excess winter mortality in Denmark to those that Wilkinson et al found for Britain³: an increase of seasonality with age, higher excess winter mortality for women—especially for respiratory diseases—and a lack of a social gradient related to mortality in winter.

Our analysis used Danish register data and was based on all women and men aged 65 and older in Denmark between 1980 and 1998. These 1.8 million people survived on average about 100 months during the observation period (186 271 440 person months lived). Using logistic regression, we obtained the following results: the odds ratios showed that winter mortality from all causes was 17.9% higher for women and 15.7% higher for men than during summer. The disadvantage of women was even more pronounced for respiratory diseases, with an excess of 55.4% (men: 36.5%). The increase of seasonality with age was similar for women and men until the age group 85-89 years. At higher ages, men surpassed women in

excess winter mortality. We could not detect any social gradient in vulnerability to excess winter mortality—regardless of whether socioeconomic status was measured as highest completed education or wealth on the family level. We found, however, that people living alone faced higher excess winter mortality than women and men who shared their household with at least one more person.

Our results thus support the findings of Wilkinson et al that fighting fuel poverty might not significantly reduce the annual,



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cold related death toll.³ Policies aimed at reducing winter excess mortality as suggested by Keatinge et al should aim at all elderly people, in particular women and people who are living alone.⁴

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Competing interests: None declared.

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Author's reply

EDITOR—Keatinge and Donaldson and Woodall point out the important evidence that winter and cold-related mortality may be caused by outdoor exposures to cold. We strongly support their view that to date public health strategies to reduce winter mortality have paid insufficient attention to reducing outdoor cold stress.

However, our study on winter death in elderly people should not be interpreted as providing evidence against indoor temperatures as important. The results have little bearing on this and are entirely compatible with indoor cold as an important or even dominant factor. Inadequate home heating remains a probable key determinant of winter death.

Our conclusion that tackling fuel poverty may be insufficient reflects the simple observation that the risk of excess winter death seems to be widespread, and not simply concentrated in the poorer socioeconomic groups targeted by fuel poverty strategies. Intuitively, a lack of socioeconomic gradient might seem contrary to the expected distribution of cold homes, but it is in fact consistent with limited evidence that low indoor temperatures are not confined to poor households.¹ Cold exposure through such activities as standing at an unshielded bus stop might also be expected to have a socioeconomic gradient, so the lack of one, which Rau also reports in an analysis of Danish data, points to a more complex distribution of risk.

Woodall's conjectures on the importance of windchill and the activity patterns of women are interesting, and remind us that there remain many questions about determinants and mechanisms.

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- 1 Wilkinson P, Landon M, Armstrong B, Stevenson S, McKee M. *Cold comfort: the social and environmental determinants of excess winter death in England, 1986-1996*. York: Joseph Rowntree Foundation, 2001.

Bioterrorism and compulsory vaccination

United States continues vaccinating to keep troops healthy

EDITOR—Jefferson questions military use of anthrax and smallpox vaccines licensed as safe and effective by the US Food and Drug Administration (FDA).¹ The Department of Defense is concerned about the safety of US service members, so we vaccinate them to keep them healthy. Vaccination provides the only round the clock protection against the malicious use of microbes as weapons.

Our vaccination programmes are based on a credible military threat, recognised by multiple government agencies and administrations. Given that a few cubic metres could hide a grievous quantity of anthrax spores or variola virus, the unsuccessful hunt for weapons of mass destruction in Iraq has done little to reassure us. That anthrax and smallpox infections are not circulating naturally is irrelevant when these microbes can be targeted wilfully at our troops. Anthrax spores are all too easy to deliver, as our nation learnt in fall 2001.

The values of anthrax vaccine and smallpox vaccine are established in the medical literature, which is more extensive and more accurate than cited in the editorial. The National Academy of Sciences published a comprehensive review of anthrax vaccine safety and efficacy in March 2002.² The FDA recently affirmed that human and animal evidence show that anthrax vaccine protects regardless of route of exposure.³ The modern military safety surveillance system first identified the rare risk of myopericarditis after smallpox vaccination,⁴ something otherwise unrecognised in America, and then described the extent of recovery from this condition.⁵ The rigorous screening programme adopted in the US civilian and military smallpox vaccination programmes resulted in serious adverse event rates at or below historical expectations.^{w1 w2}

Until improved vaccines are licensed we will not risk our troops' lives against lethal biological weapons. We use today's vaccines to shield our service members so they can succeed in their mission to protect our nation, and return home healthy.

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- 1 Jefferson T. Bioterrorism and compulsory vaccination. *BMJ* 2004;329:524-5. (4 September.)
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P+ Additional references w1 and w2 are on bmj.com

Author's reply

EDITOR—Winkenwerder and Grabenstein question the scientific basis of my editorial. I repeat my statement that the only available field evidence in humans comes from a badly reported 1950s trial of a vaccine similar to adsorbed anthrax vaccine (AVA). This vaccine was probably effective against cutaneous anthrax but the researchers specifically concluded that no such claims could be made regarding inhalation anthrax.

The Institute of Medicine report cited by Winkenwerder and Grabenstein concludes that such evidence exists as follows:

"Finding: The committee finds that the available evidence from studies with humans and animals, coupled with reasonable assumptions of analogy, shows that AVA as licensed is an effective vaccine for the protection of humans against anthrax, including inhalational anthrax, caused by any known or plausible engineered strains of *B anthracis*."¹

In other words, as I said in my editorial, currently no field evidence exists of AVA's effectiveness against inhalation anthrax in humans. In my view no amount of political window dressing can change this fact.

Winkenwerder and Grabenstein believe that laboratory evidence from animals and humans using surrogate outcomes such as antibody responses coupled with "reasonable assumptions" are enough to justify forced vaccination of 2.4 million souls.

It is unclear to me whether informed consent is being obtained from military personnel prior to immunisation and if so on what basis. As evidence from field trials is lacking it seems that US military personnel are being used as involuntary guinea pigs.

I also note that neither author has declared competing interests. Does being politically responsible for an immunisation programme not create a conflict of interest when the basis for decision making is questioned?

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I thank Enrico Materia for his help with my editorial. Content and opinions remain my sole responsibility. Competing interests: None declared.

- 1 Institute of Medicine. *The anthrax vaccine. Is it safe? Does it work?* <http://books.nap.edu/books/0309083095/html/10.html#pagetop> (accessed 25 Sep 2004).

Arguments for current vaccines are based on inadequate support for older vaccines

EDITOR—Jefferson discussed some of the major flaws of the study by Brachman et al with respect to policies making certain vaccines compulsory in the US military.^{1 2} Additional shortcomings of the study by

Brachman et al have been described in fuller detail elsewhere.³⁻⁵ For example, the often reported rate of 92.5% effectiveness for the anthrax vaccine sounds impressive but should be considered against the actual results in which 99.7% (378/379) of vaccinated workers avoided anthrax infection compared with 96.4% (399/414) of placebo workers. Thus the vaccine protected only an additional 3.3% of workers compared with no treatment.

Moreover, officials from the Department of Defense continue to ignore criticism of the 2002 Institute of Medicine report on the anthrax vaccine.^{w1 w2} At least three major studies in England, Canada, and the United States had found problems with the anthrax or other vaccines among military veterans.^{w1} The report mentioned on page 93 some of those studies but seems to have dismissed them largely because they were based on self reports or cross sectional data.^{w2} Yet, the same report hails the millennium cohort study, based largely on self report, as an important asset for studying the long term safety of the anthrax vaccine, even though relatively little information has been asked about anthrax vaccination in that study.

Furthermore, the RAND Corporation's report on immunisations as a factor in Gulf war illness had been due out in 2002^{w1} but as of early October 2004 had not yet been published. It is not clear why, other than for political reasons, it would take so long for the defense department to approve the release of a scientific text on vaccines and Gulf war illness, especially when it was being published by extraordinarily capable and distinguished scientists affiliated with the RAND Corporation. Perhaps the best approach to vaccine education is not to be found in pretending that certain scientific results are irrelevant merely because they do not fit the desired paradigms, political or otherwise. Given such considerations and uncertainties, until better evidence is available, I agree with Jefferson—the choice of whether to be vaccinated or not should be left to the individual.

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Competing interests: WRS at age 60 (2011) will be in receipt of retired pay from the US Department of Defense for his 30 years of service in the US Army Reserve and Army National Guard (1972-2002). WRS provided expert testimony on behalf of the plaintiffs in the case of John Doe #1 et al v Donald Rumsfeld et al (US District Court for the District of Columbia, Civil Action No 03-707) as did Dr Winkenwerder and Colonel Grabenstein on behalf of the defendants.

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inadequate support for older vaccines. *bmj.com* 2004. <http://bmj.bmjournals.com/cgi/eletters/329/7465/524#76147> (accessed 6 Oct 2004).

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P+ Additional references w1 and w2 are on *bmj.com*

Preventing the spread of MRSA

All frontline staff need to be involved ...

EDITOR—Few would challenge Voss's assertion that the control of methicillin resistant *Staphylococcus aureus* (MRSA) is and will continue to be of the utmost importance to the infection control community.¹

Yet this assertion contains hidden within it one of the greatest challenges to be faced by the infection control community in the United Kingdom today, for, until the control of MRSA is of the utmost importance to all frontline NHS staff, attempts at control are doomed to failure. Instilling this simple truth in the minds of clinical staff is of the highest priority. The all too prevalent perception that MRSA control is the responsibility and sole provenance of infection control professionals is outdated and if perpetuated will prove detrimental to achieving control of MRSA in NHS hospitals.

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... the epidemiological nature of the problem should be tackled ...

EDITOR—The attitude towards methicillin resistant *Staphylococcus aureus* (MRSA) in the United Kingdom is a case of shutting the gate after the horse has bolted. Voss says that in Scandinavia and the Netherlands, where the prevalence of MRSA is low, a screening and decolonisation policy for healthcare workers is advocated.¹

My experience of working outside the United Kingdom (in Australia) was that people are unable to work with patients without being screened and cleared. Having worked in England in medicine for over 12 years I have never once been screened. Surely we should at least be adopting this policy to help combat the problem?

Patients themselves must shoulder some of the blame for bringing MRSA into hospitals. It would be a mammoth task to screen the entire hospital population, but a staggered approach would be a start. Screening elective surgical patients before

admission could be the first step, then perhaps people attending general practice.

I appreciate that in the short term there is a financial implication (how much and by whom?) to be considered in screening for and decolonising MRSA from the general population. In the long term stopping MRSA being brought in at the front door, so reducing lengthy hospital stays, expensive drug treatment, and potential litigation, will be more cost effective.

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... and the role of practices such as phlebotomy is worth considering

EDITOR—The spread of methicillin resistant *Staphylococcus aureus* (MRSA) has been wholly apportioned by the mass media to poor handwashing techniques by doctors and nurses.¹ Although handwashing techniques must be improved, other quite blatant modes of transmission are swept aside.

Every healthcare professional will be aware of the prevalence of MRSA in the community, yet the media never consider that the relatives and friends of patients may well be an important factor in the spread of MRSA

in the hospital setting. However, after observing phlebotomists at work I have come to realise a far more obvious mode of transmission—the tourniquet.

No junior doctor would be without phlebotomists, who make the busy house officer's working life so much easier. They graciously attend all the wards in the hospital and thanklessly take blood. In doing this however, they may well be giving MRSA the helping hand it needs. The same tourniquet is used on all the patients on all the wards throughout the hospital, no doubt ensuring a spread of MRSA throughout. To overcome this risk of transmission the tourniquet must be disposed of after each use.

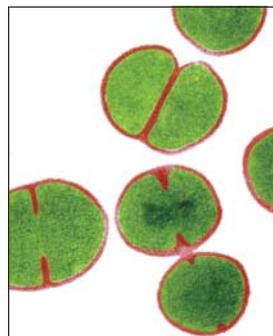
During my training I was always taught not to use a glove as a tourniquet for fear of leaving it on the patient. However, the glove does provide a cheap, easily accessible, and, most importantly, disposable tourniquet that may well help cut down the transmission rates of MRSA in hospitals.

Although this seems quite a simple idea, I believe simple techniques will help reduce transmission rates of MRSA nationwide.

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- 1 Wilson P. The tabloid fixation on superbugs. *BMJ* 2004;329:578. (4 September.)



Treatment of impetigo

Paint it blue

EDITOR—Koning and van der Wouden in their editorial on treatment of impetigo discuss the relative merits of systemic and topical antibiotics that were reported in their recent Cochrane review and add that they have no evidence to support the therapeutic value of disinfecting agents, which they note have hardly been studied.¹ They comment that studies establishing the value of disinfecting agents are therefore most welcome.

Generations of general practitioners have treated impetigo with gentian violet, and although there has been some trial evidence that its effectiveness extends to methicillin resistant *Staphylococcus aureus*,² the main support for its use is clinical experience passed on from one practitioner to the next and reinforced by the rapid resolution they see when failures with more cosmetically acceptable topical antibiotic preparations lead to a trial of gentian violet.

The processes developing evidence based practice must be able to promote those treatments that have been reliably proved while somehow preventing the loss of longstanding effective remedies for which there will never be a commercial imperative to fund trials. Surveys that aggregate the collective experience of practitioners and identify treatments that are perceived as effective but have not been evaluated should trigger investigation, perhaps through the health technology assessment route, rather than lead to abandoning the treatment and sending another baby down the plug hole with the bath water.

For those who might be stimulated by this letter to try gentian violet for impetigo, the agent must be kept away from the cornea.³

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Competing interests: None declared.

- 1 Koning S, van der Wouden JC. Treatment for impetigo. *BMJ* 2004;329:695-6. (25 September.)
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Save mupirocin

EDITOR—Koning and van der Wouden write that guidelines may contain policies to reserve certain antibiotics for the treatment of other, more serious infections.¹ For example, systemic fusidic acid is considered to be crucial in treating severe bone infections, and mupirocin is a cornerstone in eradicating the carriage of methicillin resistant *Staphylococcus aureus* (MRSA).

The Swedish Medical Products Agency would probably agree. It recommended that Swedish doctors and nurses should use neither fusidic acid nor mupirocin topically. Fusidic acid resistant *S aureus* has rapidly

spread in Sweden, and we in Sweden are anxious to save mupirocin to help us maintain our favourable MRSA situation. Impetigo should be treated with soap and water, or with oral antibiotics, according to the Swedish Medical Products Agency.

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- 1 Koning S, van der Wouden JC. Treatment for impetigo. *BMJ* 2004;329:695-6. (25 September.)

Health needs of Zimbabweans are poorly recognised in UK

EDITOR—In 2002 Zimbabweans were the second largest group of asylum seekers coming to the United Kingdom, 7695 asylum applications having been made,¹ and they constitute one of the largest migrant groups of English speaking peoples from a developing country for 25 years. The lack of language barriers may help this community to use the NHS more effectively than earlier migrants, but they may face discrimination nevertheless. What is known, and what needs to be known about the healthcare needs of Zimbabweans?

We found that most published work focuses on HIV and sexual health. The prevalence of HIV seropositivity in Zimbabwe is estimated to be 25%. The proportion of all reported HIV cases in the United Kingdom acquired in Africa (90% heterosexually) is over 20% and growing.² Several factors may pose problems when treating Zimbabweans with HIV: patients may present late³ and they are highly mobile (partly because of the government's policy of dispersal for asylum seekers), making follow up and contact tracing difficult. These problems are not confined to Zimbabweans. Coinfection with tuberculosis is a major concern, raising the question of whether Zimbabwean babies should be vaccinated with BCG.

In some towns the incidence of HIV has risen considerably. Many primary care trusts, local genitourinary services, and individual general practices are struggling to cope with increasing demand (our two practices in Luton together serve over a hundred HIV positive patients).

However, an inordinate focus on HIV may divert attention from other health needs of Zimbabweans. Anxiety, depression, and mental distress are to be expected among a population that has suffered rapid impoverishment and family separation. People have more mundane health problems, such as hypertension and diabetes. These have often been poorly controlled, and Zimbabweans may overlook these if health professionals are preoccupied with the risks of HIV. Only by integrating primary and specialist care can earlier diagnoses and improved access be delivered—and the pub-

lic health interests of the whole population be addressed.

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- 1 Refugee Council. *Country information. Zimbabwe*. www.refugeecouncil.org.uk/infocentre/country/zimbabwe.htm (accessed 22 Sep 2004).
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Private sector needs incentives for AIDS vaccine

EDITOR—Tucker and Mazithulela are right to identify the need to increase involvement of the private sector in the quest for a preventive vaccine for HIV/AIDS.¹ Pharmaceutical companies are best placed to come up with vaccines and crucial new treatments for AIDS and other conditions for which no treatment exists, but as the major markets for such products are the poorest countries on the planet, there is little likelihood of a reasonable return on investment.

We therefore need to develop incentives that will bring the private sector into the hunt for a vaccine; these may include tax incentives on vaccine research, guaranteed volume sales, tiered pricing alongside anti-reimportation measures, public and intergovernment subsidies and philanthropic donations, and perhaps patent extensions could be offered on other products.

Big Pharma needs such carrots if it is to commit to HIV/AIDS busting vaccine research and development, rather than being damned if they do and damned if they don't—the current activist approach.

Another problem remains: the trickle-down pattern whereby product development is followed by the recouping of costs through profits in industrialised countries, after which prices drop and become affordable in poor countries decades later, is not viable for HIV/AIDS.

The rapid transport to and effective distribution of doses to the depths of sub-Saharan Africa—where about 27 million are living with HIV, and presenting a risk to countless millions of others—will take unprecedented commitment from and cooperation between civil society, which includes the private sector, and politicians.

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Competing interests: None declared.

- 1 Tucker TJ, Mazithulela G. Development of an AIDS vaccine: perspective from South African AIDS Vaccine Initiative. *BMJ* 2004;329:454-6. (21 August.)