# Letters

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## Global voices on HIV/AIDS

### Unfairness of social and economic structures affect AIDS in Africa

EDITOR—The fact that health is fragile and determined less by health services than by the relative fairness of social and economic structures was missing from the debate on global AIDS.[1] Sub-Saharan Africa contains 10% of the world's population and bears 70% of the global burden of HIV/AIDS. It also exists on 1% of the global economy and, with the recent economic slump, this figure is falling. In January Zambia heard that the mining group AngloAmerican is pulling out of copper production (which accounts for 75% of the country's export earnings). The mines are likely to close in the next 10 months, putting 9500 miners and 1600 other workers out of work. These men will migrate in search of new work—one of the many social factors contributing to the epidemic.

HIV has gained the biggest foothold in poor countries with rising unemployment and declining health and educational services. Over the past 20 years the World Bank and the International Monetary Fund have conducted a massive social experiment in poor African countries. It is called structural adjustment and has encouraged privatisation of industry, such as Zambia's copper mines, increased unemployment, cut food subsidies, and introduced charges for health and education. The ideology of structural adjustment has recently been repackaged and renamed poverty reduction strategy and programmes with the intention of giving countries ownership of reducing poverty. But the basic macroeconomic programme is not for discussion.

Africa urgently needs a realistic evaluation of the continuing effects of debt and neo-liberal economic prescriptions on the health of its people. It also needs increased aid. The Global Fund for AIDS, Tuberculosis, and Malaria must be supported by new money: the United Kingdom's pledge of £75m ($108m; €123m) is to be taken from money already earmarked for aid. The money must be used to boost health services as a whole. AIDS will not be controlled in the long term by antiretroviral drugs, or even by a vaccine, without examination of the wider social, political, and economic factors that create disease and conditions of risk.

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1 Yamey G, Rankine WW. AIDS and global justice. *BMJ* 2002;324:181-2. (26 January.)

### We all have AIDS

EDITOR—In Editor's choice for the theme issue on global AIDS I would replace "granddad" with "President X."[1] Then I would answer the question on behalf of too many African presidents: "I held conferences, I addressed the United Nations, I complained vociferously about the large international corporations who denied us drugs, I formed committees and commissions and advocated tirelessly. But now I realise that instead of asking everyone else to give, I should have given first. I should have held their hands and shaken fewer hands. I should have spent less money on arms and more money on drugs, less money on soldiers and more money on nurses, less money on buildings and more money on people."

Big pharmaceutical companies are run by businessmen who are very good at what they do. African countries are run by politicians who aren't. How can I look Richard Sykes in the eye and demand free drugs from some morally superior point of view, when I cannot look President Obasanjo of Nigeria in the eye and ask him why he is willing to spend more building the country's second national stadium than he is willing to allocate as its health budget? In May 2001 Nigeria agreed to purchase enough antiretroviral drugs from Cipla, India, to treat 15 000 people (for an unspecified duration). To this day not one tablet has been dispersed. Had GlaxoSmithKline given the drugs for free, I think that we can safely assume, that they would still be sitting at the port . . . expiring.

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1 Editor's choice. What did you do in the war against AIDS, granddad? *BMJ* 2002;324:(7331). (26 January.)

### Pasteurised human breast milk should be considered

EDITOR—McIntyre and Gray discussed how to reduce the transmission of HIV from mother to child.[1] In Oshakati, northern Namibia, we are being ravaged by HIV. At least a third, maybe half, of the mothers delivering here are infected with the virus. Every day in our paediatric wards infants are dying of AIDS; prolonged courses of expensive intravenous antibiotics have little or no effect. Each day that we delay implementing the short course perinatal antiretroviral treatment we are denying the possibility of life to another handful of children.[2]

A recurrent stumbling block to implementing the programme has been agreeing a policy of what advice we should give regarding the best method of feeding. The population here is largely rural, most have no running water in the home, and few can afford formula feeding. Breastfeeding rates are exceedingly high and probably remain the best option for most infected mothers. But in attempting to give an informed choice in infant feeding methods, the information that breast milk can transmit the virus to the baby dissuades some from what statistically is the safest method.

At the risk of complicating matters further, let us remember an alternative: pasteurised human breast milk. A simple method has been described that could be employed in every home.[3] A bottle of milk can be effectively pasteurised by standing it in a pan of water that has been brought to the boil, providing an economical and possibly safer alternative to either breast or formula feeding. In combination with antiretroviral treatment at birth a well

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supported, well motivated family would, in theory, be able to offer their child chances of survival approaching those of one born in the developed world. This warrants a large scale trial to explore the feasibility of such a method.

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1 McIntyre J, Gray G. What can we do to reduce mother to child transmission of HIV? *BMJ* 2002;324:218-21. (26 January.)
2 Guay LA, Musoke P, Fleming T, Bagenda D, Allen M, Nakabiito C, et al. Intrapartum and neonatal single-dose nevirapine compared with zidovudine for prevention of mother-to-child transmission of HIV-1 in Kampala, Uganda: HIVNET 012 randomised trial. *Lancet* 1999;4;354:795-802.
3 Jeffery BS, Mercer KG. Pretoria pasteurisation: a potential method for the reduction of postnatal mother to child transmission of the human immunodeficiency virus. *J Trop Pediatr* 2000;46:219-23.

### Heterosexual transmission of HIV in Africa is no higher than anywhere else

EDITOR—According to Lamptey, in Africa slightly more than 80% of infections are acquired heterosexually.[1] The high rates of heterosexual infection in Africa have been generated by actuarial models and antenatal data.[2] These high rates are not supported by data originating from prospective epidemiological studies.

In 1997 Padian et al published the results of a 10 year study on heterosexual transmission of HIV in northern California.[3] The data were divided into two parts, cross sectional and prospective. From the cross sectional study it was estimated that infectivity for male to female transmission is low, approximately 0.0009 per contact, and approximately eight times more efficient than female to male transmission. Using this estimate of male to female transmission, it would take 770 or 3333 sexual contacts respectively to reach a 50% or 95% probability of becoming infected. If sexual contact were to take place repeatedly every three days this would require a period of 6.3 and 27.4 years respectively. Based on the estimate of female to male transmission by Padian et al it would require 6200 and 27 000 contacts and a period of 51 and 222 years, respectively (table).

In 2001 a community based study was reported from Uganda, where 174 monogamous couples, in which one partner was HIV-1 positive, were retrospectively identified from a population cohort involving 15 127 people.[4] The probability of transmission per sexual contact was 0.0009 for male to female and 0.0013 for female to male respectively (table). The authors concluded that the probability of HIV transmission per sex act in Uganda is comparable to that in other populations, suggesting that infectivity of HIV subtypes cannot explain the explosive epidemic in Africa (R H Gray et al, eighth conference on retroviruses and opportunistic infections, Chicago 2001). In other words, there is no more heterosexual transmission of HIV in Africa than anywhere else, including Britain, the United States, Australia, and Europe.

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1 Lamptey PR. Regular review: Reducing heterosexual transmission of HIV in poor countries. *BMJ* 2002;324:207-11. (26 January.)
2 Dwyer SW. President Mbeki might have a case on rethinking AIDS. *BMJ* 2002;324:237. (26 January.)
3 Padian NS, Shiboski SC, Glass SO, Vittinghoff E. Heterosexual transmission of human immunodeficiency virus (HIV) in northern California: results from a ten-year study. *Am J Epidemiol* 1997;146:350-7.
4 Gray RH, Wawer MJ, Brookmeyer R, Sewankambo NK, Serwadda D, Wabwire-Mangen F, et al. Probability of HIV-1 transmission per coital act in monogamous heterosexual, HIV-1 discordant couples in Rakai, Uganda. *Lancet* 2001;357:1149-53.

Numbers of years to attain 50% and 95% probability of transmission of HIV in United States and Uganda assuming sexual contact once every three days

| | Probability per contact | No of years for 50% probability | No of years for 95% probability |
|---|---|---|---|
| **United States** | | | |
| Male to female | 0.0009 | 6.3 | 27.4 |
| Female to male | 0.0001125 | 51 | 222 |
| **Uganda** | | | |
| Male to female | 0.0009 | 6.3 | 27.4 |
| Female to male | 0.0013 | 4.4 | 19.5 |

### Important facts about global fund were missed

EDITOR—The editorial by Yamey and Rankin on AIDS and global justice refers to the Global Fund to fight AIDS, Tuberculosis, and Malaria and made many points with which we agree but also missed some important facts about the fund.[1]

In a period of about one year the global fund has evolved from an idea into a reality. The fund has raised US$1.9bn (€2.2bn; £1.3bn) to date, and will soon provide hundreds of millions of dollars to innovative national programmes serving people living with, affected by, and at risk for, HIV/AIDS, tuberculosis, and malaria.

This is only a start. The fund will, however, never be sufficient on its own to address these three health problems. That will take a long term commitment on the part of developed and developing nations alike. The fund was never envisioned as the sole source of financial support for efforts to combat these health problems but as a new tool to attract, manage, and disburse resources beyond what is already being spent.

For 2002 the World Health Organization's projected spending on these three health problems amounts to $1.6bn without the global fund. The global fund has the possibility to increase the resources available with $800m, which would mean a 50% increase. The global fund is an independent, public private partnership, and our board includes donor and recipient country governments, multilateral agencies, non-governmental organisations, and representatives from the private sector. The full involvement of each of these stakeholders represents an unprecedented level of shared commitment to address these epidemics.

Yamey and Rankin incorrectly asserted that a member of the pharmaceutical industry sits on the board of the fund in a voting position. In fact, Rajat Gupta, managing director, McKinsey, agreed to assume the position of representing the private sector on the board.

The principles of accountability and action that are central to the global fund are reflected in the transparency of its processes. The fund operations, including the process in which proposals are reviewed and the mechanism of disbursement, were discussed and approved by the board of directors at the January meeting. The fund's decisions will be country driven, with decisions on proposals for submission to be made nationally. An independent technical review panel has been established to review proposals and make recommendations to the board.

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1 Yamey G, Rankin WW. AIDS and global justice. *BMJ* 2002;324:181-2. (26 January.)

## Cancer isn't the only malignant disease

### Palliative care can be useful in cardiovascular disease

EDITOR—Moulder graphically illustrates the anguish of patients, professionals, and families when medical treatments have failed in

end stage cardiovascular disease.[1] In many respects, the same scenario existed with cancer until about 30 years ago. Doctors felt guilty that they didn't have anything else to offer. Patients and their families often sensed that they might be dying but suffered in silence. What changed to improve the lot for patients with cancer, and how could we learn from it?

The modern palliative care movement, started in the late 1960s, highlighted the suffering of (mainly) patients with cancer and developed holistic strategies. Its success meant that it gradually became accepted as mainstream practice for patients in hospital or at home. No longer was cancer the taboo subject it was best not to talk about. Most patients eventually appreciated the opportunity to talk realistically about the likely course of their illness. Doctors realised that talk of specialist palliative care (hospice) services didn't necessarily frighten patients and often benefited them well before the final few days.

Transferring this to end stage non-malignant disease has raised concerns. How do we know when the end stage has been reached? How do we detect the minority of patients who really would be frightened? Once the floodgates are opened to non-malignant disease how could hospice services possibly cope?

I have worked in a hospice that has freely accepted patients with diseases other than cancer since opening eight years ago, and I do not believe that these patients' difficulties are particularly different from those successfully overcome in cancer. Prognosis is often difficult to gauge in malignant disease. Inoffensive questions can be posed to patients to find out how much or how little they want to know at any point. More resources for specialist palliative care would be required, but not necessarily beds: much can be achieved within existing healthcare structures by mainstream professionals with specialist palliative care support.

Despite the continued advertising of the hospice's policy, relatively few patients with end stage cardiovascular disease are referred for assessment or advice. Only when mainstream healthcare professionals realise the similarities to cancer and feel confident in discussing things with patients will much of the mutual suffering be alleviated.

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1 Moulder E. Cancer isn't the only malignant disease. *BMJ* 2002;324:307. (2 February.)

### Competent, compassionate terminal care should be given to everyone

Editor—With reference to the personal view by Moulder, I had hoped that those of us with a particular interest in terminal care in non-malignant conditions had succeeded in changing the attitude of our colleagues towards their management.[1]

As a consultant in care of elderly people, I tried to adapt the principles of palliative care that I had learnt in hospices to the effective control of symptoms in end stage cardiac failure, peripheral vascular disease, chronic obstructive airways disease, degenerative neurological and rheumatological diseases, and the other conditions from which my patients were slowly dying. Such deaths are often far more unpleasant and distressing for the patient, the family, and the professional attendants than death from cancer. Yet we are not taught how to manage them.

The same principles of management should apply, however, and the uncertain length of prognosis should never preclude the giving of appropriate and adequate medication to control distressing symptoms. End stage cardiac and respiratory failure usually respond well to very small doses of opiates, starting at 1 mg or 2 mg of oral morphine every four hours. I have had several patients referred by other physicians for terminal care who were soon established on a tiny dose of morphine and were symptomatically and functionally so greatly improved that they were able to be discharged home, where they continued to enjoy a reasonable quality of life for some considerable time.

Patients with chronic non-malignant diseases should be treated with opiates if they need them, even for many years. They do not become addicted if the dose is titrated properly. The dose for very old and frail people will often need to be much smaller than the doses needed by patients with cancer, especially younger ones. The dose needs adjusting often and meticulously at first and any side effects such as constipation treated properly. This all takes time and requires frequent supervision, ideally by a consultant or general practitioner rather than an inexperienced junior who may err on the side of caution. Control of symptoms and a dignified death are just as important to the thousands of patients dying of degenerative and other so called non-malignant conditions in general hospital wards, or in nursing homes, or at home, as they are to the minority who receive hospice care.

More of us are likely to die of cardiovascular, pulmonary, or neurological disease rather than cancer, and the teaching of students should take this into account. We need more teams in hospitals and the community that are dedicated to all palliative care, not just cancer.

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### Terminal care should be discussed well in advance

Editor—Moulder's personal view discussed the management of patients with terminal vascular disease.[1] I agree that the terminal care of non-neoplastic conditions in Britain is often lacking, although respiratory physicians have to some extent addressed this matter in the management of end stage chronic obstructive pulmonary disease.[2 3] I disagree with the comment that unclear prognostic indicators mean that clinicians do not address death and dying. The prognosis for heart failure can be just as clear as that with patients with cancer (as referred to in the article), and an informed discussion is possible on the terminal care of patients with various other conditions—for example, AIDS, dementia, or liver disease.[3]

It is a source of great frustration to me and many of my colleagues in emergency specialties that proper discussion of interventions planned in the event of life threatening deterioration of end stage conditions has not occurred between patient, consultant, and near family, and recorded in the medical notes. The presentation of such patients to accident and emergency departments puts a considerable burden on emergency physicians, on call teams, and intensivists, to make decisions regarding the most appropriate treatment for these patients. These decisions are often hampered by unavailable case records, disagreement between family members, and disagreements among medical staff, none of whom is likely to be the patient's regular doctor. There are the problems of locating a suitable bed, discussing and documenting orders not to resuscitate, and caring for the distraught family, whose expectations of survival can be poorly informed and unrealistic. These issues should be addressed in a setting other than the busy, pressured atmosphere of accident and emergency or acute wards.

Once such a discussion has taken place, a letter outlining the management plan in the event of deterioration to the point of near death should be copied to all involved in that patient's care, including general practitioners, local cooperative services covering general practices out of hours, accident and emergency, intensive treatment units, admissions wards, and a copy for the patient themselves, which could serve as a background to an advance directive. Timely planning of this sort is best for all concerned.

Terminal care can be delivered in an accident and emergency department, but proper provision of community or hospice care, or hospital care in an appropriate setting, should be the aim for all patients according to their wishes and needs, not emergency admissions, diagnostic work ups, and aggressive treatments that are unlikely to change prognosis.[4 5] Inappropriate referrals to intensive care may also be avoided.

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1 Moulder E. Cancer isn't the only malignant disease. *BMJ* 2002;324:307. (2 February.)
2 Dales RE, O'Connor A, Herbert P, Sullivan K, McKim D, Llewellyn-Thomas H. Intubation and mechanical ventilation for COPD: development of an instrument to elicit patient preferences. *Chest* 1999;116:792-800.
3 O'Brien T, Welsh J, Dunn FG. ABC of palliative care: non-malignant conditions. *BMJ* 1998;16:286-9.
4 Shears RM. Emergency physicians role in end-of-life care. *Emerg Med Clin North Am* 1999;17;539-59.
5 Pedley DK, Johnston M. Death with dignity in the accident and emergency department. *Emerg Med J* 2001;18:76-7.

# Effect of retroactive intercessory prayer

### Cautious approach is needed

EDITOR—Leibovici used rigorous scientific method in his study to explore the role of intercessory prayer in health care.[1] Using a randomised controlled trial design with a large group of patients and selecting a range of appropriate outcome measures, he showed a significant difference in length of stay and duration of fever and concluded that prayer may be a useful treatment.

These results, however, need to be interpreted with caution. There was no significant difference between the two groups with regard to the most clinically important outcome (mortality), and the median values varied little between prayer and non-prayer on both length of stay (seven and eight days) and duration of fever (two days each). The religious affiliation of the person saying the prayer is not given. Many religious groups do not accept the power of prayer given by those with different beliefs. If real, the effect of prayer shown in this study may be unrelated to supernatural power and hence to a particular belief system, or may be specific to beliefs, reflecting the power inherent in a particular religion. Further work is needed in this area before conclusions can be made.

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1 Leibovici, L. Effects of remote, retroactive intercessory prayer on outcomes in patients with bloodstream infection: randomised controlled trial. *BMJ* 2001;323: 1450-1. (22 December.)

### Paper proves power of statistics, not prayer

EDITOR—It was very brave of both Leibovici and the *BMJ* to publish this paper and be prepared for the criticism from the outraged masses.[1] The idea that retroactive intercessory prayers could have an influence on the outcome of septicaemia is intriguing and challenges our notions of cause and effect. If it is true, however, this is not the paper to prove it.

The data on the most significant finding, length of stay, seem to be skewed by a few abnormally high results in the control group. This is shown by the fact that the median length of stay is the same in both groups but the maximum length of stay in the control group is twice that in the intervention group. This may represent a type I statistical error, despite the large sample size. From a cynical standpoint, it is a shame that God cannot save your life but might get you out of hospital a few days earlier. Either way, it was a thought provoking paper but may just prove the power of statistics, not of prayer.

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### "You cannae break the laws of physics, Captain"

EDITOR—As any student of *Star Trek* will tell you, the first rule of time travel is that you cannot change the course of history, otherwise you get into an infinite regress.

In the case of Leibovici's study, if we accept that people can be made better by future prayer or other intervention then they must have been made better at the first time of that intervention, when they were ill.[1]

In which case it would then be impossible for them to be subsequently allocated to the placebo arm of the study.

That means this paper is not a randomised controlled trial. But then you knew that already.

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### Hope should never be squashed by being told that things cannot happen

EDITOR—The response of Hopkins to the article in which Leibovici examines retroactive prayer (printed as letter above) prompts me to ask what physicists do all day, if the famous quote is true.[1 2] Everyone from Aristotle through Newton to Einstein and Feynman made their living breaking the laws of physics. Newton, for example, did especially well with calculus by breaking the laws of mathematics too.

Currently the standard model is the best tested and verified theory in the history of mankind, flawless in every prediction it makes. Huge experiments have shown its every intricacy to stand firm. Billions of dollars are being spent by physicists and mathematicians working round the clock because they know it will "break." The world physics community looks forward with excitement and expectation to the day when their best ever theory is toppled. When that happens, there will be partying.

The fun and vibrancy of physics comes from knowing that now we see but a poor reflection as in a mirror**.** There is more to know, the raison d'être of a physicist is to break the laws of physics. "It's not physically possible" should certainly never be grounds for throwing out a result.

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1 Leibovici L. Effects of remote, retroactive intercessory prayer on outcomes in patients with bloodstream infection: randomised controlled trial. *BMJ* 2001;323:1450-1. (22 December.)
2 Hopkins J. You cannae break the laws of physics captain. Electronic response to: Effects of remote, retroactive intercessory prayer on outcomes in patients with bloodstream infection. bmj.com 2001 (www.bmj.com/cgi/content/full/323/7327/1450#18203; accessed 25 February 2002).

### All randomised controlled trials require informed consent

EDITOR—It is difficult scientifically to examine interventions that are not easily quantified. Like previous authors studying the effects of prayer, however, Leibovici has presented an incomplete description of methodology and inadequate examination of confounding variables.[1]

It is not known whether the subjects in this study had previously been prayed for, and whether this important confounding variable was also distributed in favour of the intervention group. Consequently it seems more likely that the effect of prayer was to produce a positive outcome for the study rather than a favourable outcome for the subjects of the intervention. The retrospective outcome measures were also unreliable: duration of fever may be subject to random interference from cooling measures and recording error, and length of stay can be influenced by many factors other than a single episode of sepsis. The discussion did not acknowledge these important sources of bias.

My main objection to the study is, however, that it cannot be justified on ethical grounds. Leibovici says that we cannot assume a priori that time is linear or that God is limited by a linear time. Therefore it was argued that the intervention could be delivered in retrospect. But no matter how distant the separation of the illness and intervention, Leibovici was acting with the hope of influencing the outcome without the informed consent of subjects (who had not even given permission for their records to be examined for this purpose).

No matter what the mode of intervention and how good the intention of investigators, it is morally unacceptable to intervene experimentally in the routine care of a patient without his or her permission. Ethical issues should also not be limited by linear time. Although it remains possible that such interventions produce benefits, all investigators should be bound by the same rules of study design and ethical integrity that apply to the global scientific community.

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### Competing interests on religious conviction or spirituality may be important

EDITOR—Leibovici's finding that retroactive intercessory prayer improves outcomes in patients with bloodstream infections (albeit to a modest degree) is provocative.[1] Two weeks after the publication of this paper 25 electronic letters had been posted on bmj.com, most of which were critical of the study or the author (www.bmj.com/cgi/eletters/323/7327/1450; accessed 4 January 2002).

Leibovici and the authors of three of the electronic letters said that they had no competing interests; the remaining contributors to bmj.com made no explicit statement about their competing interests. The *BMJ* encourages all contributors to disclose any competing interests, particularly those that are of a financial nature. However, the *BMJ* also gives authors the opportunity to declare a deep personal or religious conviction that may have affected what they wrote and that readers should be aware of when reading their paper.[2]

Can we safely assume that none of those who contributed to the debate about retroactive prayer held an a priori belief about religion or spirituality? Surely most, if not all, of us have beliefs and prejudices about the validity of spirituality and religion. Once a belief about a subject, such as religion, is formed, pride, ego, or fear can often get in the way of revising your view even when new information becomes available. Moreover, it is not realistic to expect those who contribute to a debate to be able to relinquish their beliefs in order to move from a subjective to an objective view.

Perhaps we should follow the advice of Peter Senge, an expert on systems thinking, who advocates a commitment to the truth.[3] This approach means seeking out and acknowledging (at least to ourselves) beliefs that may influence our ability to challenge our thinking. This self awareness, argues Senge, reduces the hold that such beliefs may have on our ability to see more of the playing field. The lack of acknowledgements about competing interests suggests that many of us who contributed to the debate about retroactive prayer did not follow Senge's approach. If we had, would our responses have been different?

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Competing interests: I believe that there is a God.

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2 Declaration of competing interests. Available at bmj.com/cgi/content/full/317/7154/291/DC1#aut; accessed 4 January 2002.
3 Senge P. *The fifth discipline: the art and practice of the learning organization.* New York: Random House, 1990.

### Correspondents showed misapprehension of principle

Editor—The study by Leibovici is not about reaching back from the future into the past to change it but, instead, affecting the way in which it occurred in the first instance, when these clinical events were present tense.[1] Neither is this study a singular piece of benighted research, as others seem to suggest. Readers will find several papers addressing various aspects of this subject at www.fourmilab.ch/rpkp/. The work of physicist Helmut Schmidt is of particular interest.

A study carried out by researchers at Duke University's School of Medicine deals with retroactive therapeutic intent.[2] I think this is a better term than prayer, because the literature on this subject suggests that any form of religious belief, or none at all, seems capable of achieving the effect. Using a well designed randomised, controlled, double blind protocol, the study involves prayers from religious groups around the world for people experiencing severe chest pains who are in danger of imminent heart attacks. The treatments they received to relieve their crisis were cardiac catheterisation and angioplasty. The emergency nature of these treatments means that the procedures are carried out immediately on admission. That turns out to be the crucial aspect of the retroactive aspect of this research into therapeutic intent, because, although the prayer groups were notified as soon as possible after the patient was admitted, the initiation of the actual sessions often began after the medical treatment had already been completed. Both treated and control groups received the same level of medical intervention. The practitioners of therapeutic intent had no contact with the patients or the health professionals administering the treatments, and the patients themselves did not know about the involvement of therapeutic intent. The outcome measure was the number of complications that each patient experienced, with the comparison being made between the subgroups.

The recipients of therapeutic intent experienced a 50-100% reduction in side effects compared with the controls. Although the study population was too small to reach any definitive conclusions, the results have proved so provocative that researchers at more than six medical centres in the United States have taken up this line of inquiry.

The practitioners in the study were scattered all over the world, and their therapeutic intent was expressed through a wide range of religious traditions. No difference was noted concerning one tradition being more powerful or efficacious than any other.

Sceptics may find this line of inquiry philosophically offensive but the gathering corpus of research suggests that therapeutic intent, whether retroactive or in real time, has the power to affect clinical outcome.

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1 Leibovici, L. Effects of remote, retroactive intercessory prayer on outcomes in patients with bloodstream infection: randomised controlled trial. *BMJ* 2001;323:1450-1. (22 December.)
2 Krucoff MW, Crater SW, Green CL, Maas AC, Seskevich JE, Lane JD, et al. Integrative noetic therapies as adjuncts to percutaneous intervention during unstable coronary syndromes: monitoring and actualization of noetic training (MANTRA) feasibility pilot. *Am Heart J* 2001;142:760-7.

### Outcome of this experiment offers little comfort

Editor—Applying the Talmudic method (which seems appropriate here), either this study of Leibovici shows God's intervention or it does not.[1] If it does not, then the experiment must be faulty. As Dace points out, the great principle of William of Ockham leads us to prefer this explanation in science.[2]

But suppose it does show God's intervention. The time bending aspect of this report is not of concern, as once the supernatural is invoked, the sky's the limit (literally). If God can intervene to promote faster recovery on request, then He can reach back in time to do so. But consider the implication of accepting what Gardner calls the superstition of the finger, that God finds it necessary at intervals to abrogate natural laws by injecting a finger into the universe to tinker with it.[3] Charles Darwin argued against this belief, concluding that there seems be too much misery in the world to believe that God takes such a personal and protective interest in how we live our lives.[4]

But the argument against the God of the finger becomes even stronger if we accept Leibovici's experiment. We only need to recall recent horrific events—in Afghanistan, in the Balkans, in Israel, and in New York—to realise that God is unwilling to lift His finger to prevent great suffering and death among innocent people and is unmoved by the many impassioned prayers that He do so. Then why does He choose to respond when called upon by perfunctory, impersonal prayer on behalf of long-ago events involving far lesser suffering? The implication of Leibovici's conclusion is that God may intervene, but He does so in a profoundly cruel, capricious, and trivial manner. Those who believe in a just and loving God should obtain little comfort from the outcome of this experiment. They should pray that it is not true.

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No competing interests.

1 Leibovici L. Effects of remote, retroactive intercessory prayer on outcomes in patients with bloodstream infections: randomized controlled trial. *BMJ* 2001;323:1450-1. (22 December.)
2 Dace JM. Occam's razor. Electronic response to Effects of remote, retroactive intercessory prayer on outcomes in patients with bloodstream infections. bmj.com 2001 (www.bmj.com/cgi/content/full/323/7327/1450#18236; accessed 25 February 2002).
3 Gardner M. Phillip Johnson on intelligent design. In: *Did Adam and Eve have navels?* New York: W W Norton, 2000:22-3.
4 Milner R. The first evolutionary psychologist. *Scientific American* 2002 Jan. Available at www.sciam.com/2002/0102issue/0102reviews1.html

### Author's reply

Editor—The purpose of the article was to ask the following question: Would you believe in a study that looks methodologically correct but tests something that is completely out of people's frame (or model) of the physical world—for example, retroactive intervention or badly distilled water for asthma?

There are three ways to deal with this question:

(1) To answer in the affirmative. But this leads to such paradoxes (some described by those who responded to this article[1]) that it is incompatible with scientific work or even daily life.

(2) To look for methodological or statistical faults. Here an obvious one was that the duration of fever and the duration of hospital stay are related. But what if the next study sports perfect methodology and statistics?

(3) To deny from the beginning that empirical methods can be applied to questions that are completely outside the scientific model of the physical world. Or in a more formal way, if the pre-trial probability is infinitesimally low, the results of the trial will not really change it, and the trial should not be performed. This, to my mind, turns the article into a non-study, although the details provided in the publication (randomisation done only once, statement of a wish, analysis, etc) are correct.

The article has nothing to do with religion. I believe that prayer is a real comfort and help to a believer. I do not believe it should be tested in controlled trials.

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1 Electronic responses. Effects of remote, retroactive intercessory prayer on outcomes in patients with bloodstream infection. bmj.com 2001 (www.bmj.com/cgi/content/full/323/7327/1450#responses; accessed 4 April 2002).

## Careless talk may cost lives in attributing adverse events to ADP receptor antagonists

Editor—Dakik et al in their article suggest an association between the prescription of an ADP receptor antagonist (ticlodipine) with the onset of acute arthritis.[1] We would like to express a note of caution. This article follows a previous one discussing another ADP receptor antagonist (clopidogrel) and the development of acute arthritis.[2] These drugs are increasingly used in combination with aspirin for the prevention of thrombosis after coronary artery stenting and have been shown to be safe and efficacious.[3 4] It is therefore important that adverse events that lead to the withdrawal of treatment are correctly attributable to the drug and not just the coincidental occurrence of another common condition.

Many commonly prescribed drugs have reportedly been associated with the onset of connective tissue disease, but the complaint is usually arthralgia rather than a true inflammatory synovitis.[5] We agree that the clinical picture of the latest case associated with an urticarial rash suggests that an idiosyncratic drug reaction is more likely. But without rechallenging patients and documenting a further reaction, an association remains only inferred and not proved.

Patients with acute coronary syndromes or undergoing coronary stenting often have multiple risk factors for acute gout or pseudogout. They are almost universally prescribed aspirin, often coprescribed diuretics, and usually from an age group at risk of crystal arthritis. We recently admitted a patient whose case history shows the need for caution before these drugs develop a potentially erroneous reputation.

A 62 year old man awaiting assessment for coronary artery bypass grafting was admitted with unstable angina. He started treatment with clopidogrel, and 72 hours later he developed an acutely painful, swollen right elbow. Awareness of the recent case report raised a possible link between the drug and the arthritis. We aspirated the elbow with difficulty, however, and this confirmed gout. His symptoms resolved over the next few days, the clopidogrel was continued, and the acute coronary syndrome settled.

If we had been unsuccessful in obtaining synovial fluid, the timing of the onset of arthritis after starting treatment with clopidogrel and its reported association might have falsely convinced us that stopping the drug was the best course of action. This would have denied our patient the optimal treatment for his angina and may also have precluded the use of ADP antagonists after any surgical intervention. We wish to reaffirm our concern that the start of an inflammatory arthritis is not prematurely attributed to these ADP antagonists without further objective evidence including rechallenging of possible cases.

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1 Dakik, HA, Salti I, Uthman IW. Ticlodipine associated with acute arthritis. *BMJ* 2002;324:27. (5 January.)
2 Garg A, Radavan J, Hopkinson N. Clopidogrel associated with acute arthritis. *BMJ* 2000;320:483.
3 Clopidogrel and ticlodipine-improvements on aspirin? *Drug Ther Bull* 1999;37:59-61.
4 Moussa I, Oetgen M, Roubin G, Colombo A, Wang X, Iyer S, et al. Effectiveness of clopidogrel and aspirin versus ticlodipine and aspirin in preventing stent thrombosis after coronary artery stent implantation. *Circulation* 1999;99:2364-6.
5 Meier CR, Jick H. Omeprazole, $H_2$ blockers, and polyarthralgia: case-control study. *BMJ* 1997;315:1283.

## Proper benchmark for drug prescribing needs to be found

Editor—At the risk of annoying my Canadian friends who reported the influence of direct to consumer pharmaceutical advertising and patients' requests on prescribing,[1] I would point out two studies published in *JAMA*.

Firstly, Allison et al found that doctors at major teaching hospitals properly prescribed β blockers (and other drugs) more frequently than did doctors at minor teaching hospitals and non-teaching hospitals.[2] For β blockers, for example, major teaching hospitals prescribed them 48.8% of the time, minor teaching hospitals 40.3% of the time, and non-teaching hospitals 30.4% of the time.

Secondly, Jencks et al similarly found that, overall, doctors in the United States prescribed β blockers 24 hours after the myocardial infarction slightly more than 50% of the time.[3]

Earlier, the private insurer United Health Care had found that doctors under contract with it prescribed β blockers only about half the time that they ought to have done. According to the literature, there seems to be a consensus that β blockers in such cases should be given to all such patients. Finally, in a recent study in Germany it was found that, under the disease management that that country now tries to adopt, the use of prescription drugs might well increase.

Would it be harmful if Americans were told on television and in the print media that patients should receive β blockers after a myocardial infarction? Can we be sure that the prescription rate in the absence of television advertising is the proper benchmark? We need to go a step further and determine the proper benchmark for the use of prescription drugs. The issue here, as elsewhere in health care, is not how much is spent under differing arrangements but what difference different levels of health spending make to quality of life.

What is needed, ultimately, is a series of well endowed pharmacoeconomic research institutes that are, by virtue of their endowments, completely independent of funding by government, the insurance industry, and the pharmaceutical industry. Such institutes could undertake objective benefit:cost analyses of different pharmaceutical products and also determine the proper benchmarks for drug use.

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1 Mintzes B, Barer ML, Kravitz RL, Kazanjian A, Bassett K, Lexchin J, et al. Influence of direct to consumer pharmaceutical advertising and patients' requests on prescribing decisions: two site cross sectional survey. *BMJ* 2002;324:278-9. (2 February.)
2 Allison JJ, Kiefe CI, Weissman NW, Person SD, Rousculp M, Canto JG, et al. Relationship of hospital teaching status with quality of care and mortality for Medicare patients with acute MI. *JAMA* 2000;284:1256-62.
3 Jencks SF, Cuerdon T, Burwen DR, Fleming B, Houck PM, Kussmaul AE, et al. Quality of medical care delivered to Medicare beneficiaries: A profile at state and national levels. *JAMA* 2000;284:1670-6.

## Serum magnesium must also be known in profound hypokalaemia

Editor—Welfare et al advocate aggressive potassium replacement in gastroenteritis associated with profound hypokalaemia.[1] In such cases it is vital to measure serum magnesium concentrations too, for three reasons. Firstly, hypomagnesaemia occurs fairly commonly in states of high intestinal output. Secondly, it often coexists with severe hypokalaemia and may exacerbate clinical effects, particularly cardiac arrhythmias.[2] Thirdly, hypomagnesaemia from any

cause can lead to potassium wasting and thus render coexisting hypokalaemia resistant to replacement treatment if magnesium is not replenished simultaneously.[3]

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1 Welfare W, Sasi P, English M. Challenges in managing profound hypokalaemia. *BMJ* 2002;324:269-70. (2 February.)
2 Millane TA, Ward DE, Camm AJ. Is hypomagnesemia arrhythmogenic? *Clin Cardiol* 1992;15:103-8.
3 Whang R, Whang DD, Ryan MP. Refractory potassium depletion. A consequence of magnesium deficiency. *Arch Intern Med* 1992;152:40-5.

## Prisoners at Guantanamo Bay

### American doctors can be trusted not to practise torture

EDITOR—How patronising of Marshall to imagine that he knows what is happening in Guantanamo Bay.[1] His letter is merely an excuse for espousing his view that American officials are torturing their prisoners.

The American authorities have allowed the International Committee of the Red Cross and other bodies, as well as the British government, to have access to the prisoners. Indeed, it is my understanding (through the media here in the United States) that the Red Cross has already made recommendations to the American government, which are being acted on while its full report is awaited. I do not think that the government is trying to hide the prisoners' treatment in any way.

Forrest attempts to manipulate the situation by suggesting that the now infamous photograph of the prisoners after their arrival from Afghanistan shows how they are managed on a daily basis.[2] How blind. Politics dictate. I also believe that the prisoners at Guantanamo Bay should be treated humanely and afforded the protection of the Geneva Convention. Like many others, however, I do not have any sympathy for them. I suggest that the reports and comments from those bodies that have had access to Guantanamo Bay may be more accurate and tenable than the concerns of Marshall.

We are doctors and are bound by international convention as well as our own moral and ethical boundaries. In our treatment of any patient we must follow our conscience.

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1 Marshall T. Doctors in Guantanamo Bay are at risk of being accessories to torture. *BMJ* 2002;324:235. (26 January.)
2 Dyer O. Prisoners' treatment is "bordering on torture," charity says. *BMJ* 2002;324:187. (26 January.)

### Lice get everywhere

EDITOR—Dyer's news article about the prisoners at Guantanamo Bay is also about people with short and selective memories.[1] Forrest said that shaving the prisoners and saying that they were full of lice was degrading behaviour. It is true that you'll rarely find lice in nice homes or fine hostels, but spend a few days with the homeless in the Paris Metro, or in London or even Washington, and then you'll find lice—or, rather, they'll find you.

We live in times when we are dealing in plain power concepts. Orwell described in detail during the Spanish Civil War the way that the former Soviet Union manipulated the Western intelligentsia to conceal the horrors of stalinism. He also spoke about the human louse. Unlike most intellectuals, Orwell had a passion for exact truth and always put experience before political theory or prejudice.[2] The best way to serve the truth about prisoners' lice is to cite Orwell from *Homage to Catalonia* (p 51 in Penguin Classics version):

> All of us were lousy by this time; though still cold it was warm enough for that. … Other insects, mosquitoes for instance, make you suffer more, but at least they are not resident vermin. The human louse somewhat resembles a tiny lobster, and he lives chiefly in your trousers. Short of burning all your clothes there is no known way of getting rid of him. Down the seams of your trousers he lays his glittering white eggs, like tiny grains of rice, which hatch out and breed families of their own at terrible speed. I think the pacifists might find it helpful to illustrate their pamphlets with enlarged photographs of lice. Glory of war, indeed!
>
> In war all soldiers are lousy, at least if it is warm enough. The men who fought at Verdun, at Waterloo, at Flodden, at Senlac, at the Thermophylae—every one of them had lice crawling over his testicles.

This book's publication in April 1938 created some stir but sales were poor; *Homage to Catalonia* was not published in the United States until February 1952.

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2 Johnson P. *Intellectuals*. London: Phoenix, 2000.

## Tour operators should tell clients about potential risks of adventure holidays

EDITOR—Increasingly, tour operators are offering adventure holidays in remote mountainous regions of the world (often at high altitude) where local medical facilities are scarce to inexperienced travellers. Some companies provide their own medically trained staff, but they may rely on doctors on holiday with the group to provide help.

Acute mountain sickness is common and when inappropriately treated potentially fatal. Twice in the past year, while on holiday, I have treated other group members with moderate to severe acute mountain sickness. In both cases the group leaders had exceeded the recommended rates of ascent.[1] In one case basic rules of mountaineering had been ignored, and in the other a considerable delay occurred until the correct treatment of acute mountain sickness—descent—was started; this delay was for fear of disrupting the group's itinerary. In both cases the people concerned were unaware of the severity of the risks of travel to high altitude.

I believe that this raises two concerns—namely, the lack of information given to tourists before departure about the health risks of certain destinations, and the standard of medical care and safety provided by the tour operators at the destination. Neither Air Travel Organisers' Licensing (ATOL) nor the Association of British Travel Agents provides guidance for this (personal communication). With respect to information before departure, government trading standards regulations state that "information about health formalities required for the journey and the stay" should be provided.[2] ATOL tells me that this is usually interpreted as meaning that information relating to recommended vaccinations should be given.

Tourists may arrive at these destinations with no knowledge of the risks of the environment and lack of medical facilities if they have not been informed by their travel company. Local guides may be more focused on ensuring that clients enjoy their holiday than on carrying out the best safety measures or giving medical intervention.

In this age of informed consent the public should be properly informed of potential risks to their health and safety. We, as a profession, should take a leading role in persuading travel companies to give their clients detailed information of the potential health risks of travel so that they can make informed decisions about whether to visit these destinations. Adherence to standards of best medical and safety practice to prevent acute mountain sickness and other conditions should be mandatory for tour operators.

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1 Hackett PH, Roach RC. Current concepts. High altitude illness. *NEJM* 2001;345:107-14.
2 *The package travel, package holiday and package tours regulations*. London: HMSO, 1992. (No 3288, para 7.2b.)