

sense of the findings. Dissemination should seek to strengthen awareness and enhance the effect of research findings among relevant target audiences. In our experience, those responsible for dissemination have to target the right people with a clear message, presented in an easy to understand format, and communicate via appropriate channels while not losing sight of the organisational and political environment in which the message will be received.

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Both authors are part of the team that wrote and produced the issue of *Effectiveness Matters* on the prophylactic removal of impacted third molars. PMW is a co-author of the evidence review that informed the NICE guidance on the removal of wisdom teeth.

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- 4 Grimshaw JM, Thomas RE, MacLennan G, et al. Effectiveness and efficiency of guideline dissemination and implementation strategies. *Health Technol Assess* 2004; **8**. <http://www.hta.nhsweb.nhs.uk/fullmono/mon806.pdf> (accessed June 15, 2004).

Authors' reply

We agree with Peter Littlejohns and colleagues that our assessment covers only two of the many pieces of guidance issued by the National Institute for Clinical Excellence (NICE). The reasons we selected these are clearly explained in our Research Letter. In particular, they concentrate on regularly undertaken procedures. Unlike many of the cost-effectiveness guidelines issued by NICE, which assess new technology, these two established procedures lend themselves to a before-and-after analysis.

Littlejohns and colleagues state that a

set of independent assessments of the effect of NICE guidance is soon to be published by the University of York. We are of course interested in the assessment of the effectiveness of NICE guidance funded by the National Health Service (NHS) research and design programme. Our study was also independent, as highlighted by the fact that research funding was neither sought nor obtained. Our aim was to do a pragmatic assessment of publicly available guidance using routine hospital data. Such an approach might be all that is available to health-care decision-makers who do not always have the time or the budget for comprehensive academic assessments, as Nicky Cullum and colleagues implied was necessary. We welcome new initiatives such as registries that will help managers make pragmatic decisions in the future.

We note that researchers mainly from the University of York have published a paper assessing NICE guidance on laparoscopic surgery for inguinal hernias.¹ They used a similar approach (time-series analysis) and similar data (NHS admissions data) to us, and found similar results, albeit over a shorter period of time. We are surprised that there was no published response or comment either from NICE or from Cullum's group to that paper.

We would like to address comments concerning our interpretation of the hip replacement guidance² and the notion that cementless prostheses can be "NICE-guidance compliant". The NICE guidance might well lack clarity, because in its fifth recommendation it states, "there is currently more evidence of the long term viability of cemented prostheses, which, in many cases, occupy the lower end of the range of prostheses cost, than there is for uncemented and hybrid prosthesis".² Since cost-effectiveness evidence influences NICE's decisions, such a recommendation might be interpreted as suggesting that cemented prostheses should normally be used in preference to other types. We believe that clinicians would welcome a list of prostheses that comply with the guidelines, and presume that the research by Cullum and colleagues will assist in this respect.

Concerning the effectiveness of passive diffusion of guidance, we are not dismissing the value of printed educational materials. Nor was it our intention to disparage the work of NICE or the importance and relevance of their guidance. However, along with Paul Wilson and Frances Sharp, we are suggesting that a more active dissemination strategy might be even more effective in promoting NICE recommendations.

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- 1 Bloor K, Freemantle N, Khadjesari Z, Maynard A. Impact of NICE guidance on laparoscopic surgery for inguinal hernias: analysis of interrupted time series. *BMJ* 2003; **326**: 578.
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Simian retroviral infections in human beings

Nathan Wolfe and colleagues' report on infection of human beings with simian foamy viruses (Mar 20, p 932)¹ has relaunched the discussion about simian retrovirus infections as zoonoses. This concept was generated by tracing HIVs to simian sources in Africa.² Although the simian origin of HIV, human T-cell lymphotropic virus (HTLV), and now foamy viruses is acknowledged,^{1,2} the hypothesis that retroviral infections are zoonoses is not supported by current knowledge and must be questioned.

In striking contrast to such discussions, studies indicate thus far that simian immunodeficiency virus (SIV) does not cause AIDS-related zoonosis. These arguments have combined two issues: the origin of HIV and the origin of AIDS. They are different questions.

Despite frequent human exposure to SIV-infected monkeys in Africa, only 10 known cross-species transmissions to

human beings have occurred in the past 45 years, and only four resulted in significant human-to-human transmission (HIV-1 groups M and O and HIV-2 groups A and B). The closest HIV relatives to SIVs are HIV-1 group N and HIV-2 groups C–G. Each is extremely rare: only six patients are known to have been infected with HIV-1 group N and only single individuals by HIV-2 groups C–G.^{2,3} Most SIVs are therefore epidemiological failures in human beings.

In central and west Africa, human exposure to retroviruses through hunting and butchering is ancient, but the AIDS epidemic emerged only in the second half of the 20th century, supporting a theory that some factor or factors intervened in the spread of SIV and its emergence as HIV in human populations. These factors could be deforestation, increase of urbanisation and travel in the 20th century, or increase in use of unsafe injections and transfusions. This factor might promote viral adaptation through serial passages⁴ or favour adaptation by other mechanisms such as recombination. However, all theories remain unproven.

Experimental or accidental transmission of SIVs to different species is often cleared by the new host, showing that SIV only and not AIDS is spread.⁴ When SIVsm (SIV of sooty mangabey origin) was accidentally transmitted to human beings in laboratories in the USA, one infection was cleared and the second (a human infection with SIVsmB670), caused a persistent asymptomatic infection. Macaques inoculated with SIVhu isolated from this person failed to develop productive infection.⁵ This study shows that SIVsm, the source of HIV-2,^{2,3} is of low pathogenicity in human beings. Finally, it has been repeatedly reported that most SIVs will replicate in human peripheral blood mononuclear cells (PBMCs). This is an overstatement since most SIVs are only known from DNA sequences and no infection of human PBMCs has been done.^{2,3} Thus, only four SIVs out of the 13 reported in *Cercopithecus* monkeys have been isolated, and only one of them (SIVhoest) is known to grow on human PBMCs.

SIV infections in their natural hosts are generally non-pathogenic and immuno-

deficiency is rare. In zoonotic infections that result in zoonosis (eg, rabies) the animal source is often susceptible to the disease.

In these days of AIDS, avian influenza, Ebola, and SARS, the question of what launches new epidemics and pandemics is extremely important. The somewhat shocking answer is that we actually know nothing about the factors that launch animal viruses into epidemics or pandemics. Equally important is the question as to why most animal viruses fail to launch sustained human-to-human transmission. These are critically important questions that are being bypassed. When we think zoonosis, we should think of diseases such as rabies. There is no evidence that a person can contract AIDS from a monkey or chimpanzee. There is still a missing link.

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- 1 Wolfe ND, Switzer WM, Carr JK, et al. Naturally acquired simian retrovirus infections in central African hunters. *Lancet* 2004; **363**: 932–37.
- 2 Hahn BH, Shaw GM, DeCock KM, Sharp PM. AIDS as a zoonosis: scientific and public health implications. *Science* 2000; **287**: 607–14.
- 3 Apetrei C, Robertson DL, Marx PA. The history of SIVs and AIDS: epidemiology, phylogeny and biology of isolates from naturally infected non-human primates (NHP) in Africa. *Front Biosci* 2004; **9**: 225–54.
- 4 Drucker E, Alcades PG, Marx PA. The injection century: massive unsterile injections and the emergence of human pathogens. *Lancet* 2001; **358**: 1989–92.
- 5 Khabbaz RF, Heneine W, George JR, et al. Brief report: infection of a laboratory worker with simian immunodeficiency virus. *N Engl J Med* 1994; **330**: 172–77.

Nathan Wolfe and colleagues¹ provide good and intriguing evidence for the natural transmission of simian foamy viruses to forest-dwelling people in west Africa engaged in hunting or butchering bush meat including that from various species of non-human primates. 61% of those interviewed from several locations reported contact with ape or monkey blood, and of this group of more than 1000 individuals, 1% had antibodies to simian foamy viruses, with the virus confirmed by PCR in three of them. Since the foamy viruses involved were

from three different host species, natural transmission to humans beings cannot be a rare event. As the authors rightly comment, such transmission of simian retroviruses belonging to a group other than immunodeficiency viruses raises important issues in relation to the possible range of zoonoses that could emerge. However, the findings have implications, which have not been pointed out, for another aspect of foamy virus studies—ie, the significance of earlier reports of the isolation of foamy viruses direct from human beings.

The first isolation of a human foamy virus (HFV) was made from a biopsy sample of a nasopharyngeal carcinoma after cell growth in vitro for about 15 weeks.² At a time predating sequence information and PCR, there was no evidence for the infectious agent either in the original biopsy or the cultures before the virus caused a cytopathic change. Early neutralisation tests with a panel of antisera specific for various animal foamy viruses showed that the isolate had some slight antigenic relatedness to simian foamy virus 6. As a result of this finding, of later work showing sequence homology of HFV with foamy viruses isolated from chimpanzees,³ and of subsequent failure to confirm new HFV infections,⁴ it came to be believed that the isolate was not derived from the human starting material but was a laboratory contaminant, despite the fact that no monkey cells were held in the laboratory where the isolation took place.

Nasopharyngeal carcinoma has been recognised for a great many years as having an exceptionally high incidence among southern Chinese individuals,⁵ but it is perhaps less well known that a moderately high incidence is seen among the Kikuyu and other tribes of the Kenyan highlands.⁵ In the context of the first isolation of foamy virus from a human source,² it is worth recalling that the nasopharyngeal carcinoma yielding the biopsy sample used for the experiment was removed from an African patient in Kenyatta National Hospital in Nairobi. The consumption of bush meat takes place among several groups in east Africa, and in certain circumstances this source of protein has