

public health hazards—be they chemicals, zoonoses, or whatever—to users and consumers. Informed consent and openness about scientific uncertainty and the limits of risk assessment models should be central to such an approach.

ANDREW WATTERSON

Centre for Occupational Safety and Health
Nottingham Trent University,
Nottingham NG1 4BU

- 1 Gilbert R. "Clusters" of anophthalmia in Britain. *BMJ* 1993;307:340-1. (7 August.)
- 2 Robaire B, Hailles B. Paternal exposure to chemicals before conception. *BMJ* 1993;307:341-2. (7 August.)
- 3 European Chemical Industry Ecology and Toxicology Centre. *Identification and assessment of the effects of chemicals on reproduction and development (reproductive toxicology)*. Brussels: ECETOC, 1983. (Monograph 5.)
- 4 Lansdown ABG. Evaluation of reproductive toxicity and teratogenicity. In: Anderson D, Conning DM. *Experimental toxicology: the basic issues*. Cambridge: Royal Society of Chemistry, 1990.
- 5 Rose G. Environmental health: problems and perspectives. *J R Coll Phys* 1991;25:48-52.

Risk of HIV infection in homosexual men

EDITOR,—A recent paper from the Communicable Disease Surveillance Centre has been widely interpreted to show that younger homosexually active men are more at risk from HIV infection than older men,¹ although the claim has subsequently been questioned by the first author (B Evans, personal communication). Evidence from clinic and surveillance data is subject to a number of biases,² including differing patterns of presentation at clinics. Claims that younger gay men have more risky behaviour patterns require evidence from sources other than clinics.

On 19 June 1993 an estimated 130 000 men and women assembled in south London after the Lesbian and Gay Pride March. We used the opportunity to distribute short questionnaires on sexual behaviour for self completion and administration by trained volunteers. Assessment of age trends was made with ANOVA; cross tabulation was by 10 groups (<21; age pairs to 34; 35-40; >40); and five year bands (<21; 21-25, 26-29; 30-34; 35-40; >40).

In all, 1633 usable questionnaires were returned; most were self completed (1383). median (mean) age was 28 (30), range 14-72. A total of 91 (5.6%) were under 21 years of age and 485 (29.7%) under 26; 86.2% of respondents claimed a gay identity.

TABLE I—Percentage of homosexual men reporting sexual contact and anal intercourse in the year before interview

	Regular partners	Casual partners
Sexual contact	88.1 (1393/1581)	69.5 (1084/1560)
Anal intercourse	68.0 (1110/1580)	38.6 (612/1579)
Without condom	28.3 (466/1597)	8.9 (143/1591)
Without condom with >1 partner	5.0 (80/1597)	3.5 (55/1591)

TABLE II—Sexual experience of 1575 homosexual men who responded to questionnaire

	No	Mean age	Years sexually active	Years since first anal intercourse
No sex	67	32.2	15.1	14.4
No anal intercourse	295	30.7	13.2	11.3
Penetrative sex:				
1 Partner:				
With condom	277	29.5	11.9	8.4
Without condom	215	29.5	13.2	9.9
>1 Partner:				
All with condom	422	29.5	13.5	10.8
1 Without condom	136	29.4	13.6	10.7
All without condom	163	29.6	14.1	10.8

The table shows the proportions reporting anal intercourse in the preceding year with regular or casual partners in the whole sample. There were no significant age effects on any proportions and no effect of age on partner numbers.

All respondents were allocated to one of seven categories (table II) on the basis of their sexual behaviour in the past year. There were no significant age effects when age was taken as continuous or categorical (0.67 > p > 0.10). Length of sexual career (years since first sexual encounter) also produced no significant result (p=0.15).

Young men remain at risk of HIV transmission, but they are not more likely to have unsafe sex (on a number of measures) than older men. Unsafe behaviour occurs across the age range. Given the fact that homosexual contact remains the most common source of new HIV infections,³ the need for targeted campaigns for all gay men remains immediate and pressing.

P M DAVIES
P WEATHERBURN
F C HICKSON
P G KEOGH

Project SIGMA,
Department of Sociology,
University of Essex,
Colchester

- 1 Evans BG, Catchpole MA, Heptonstall J, Mortimer JY, McCarrigle CA, Nicoll AG, et al. Sexually transmitted diseases and HIV-1 infection among homosexual men in England and Wales. *BMJ* 1993;306:426-8. (13 February.)
- 2 Hunt AJ, Christofinis G, Coxon APM, Davies PM, McManus TJ, Sutherland S et al. Seroprevalence of HIV-1 infection in a cohort of homosexually active men. *Genitourin Med* 1990;66:423-7.
- 3 Public Health Laboratory Service AIDS Centre and Communicable Diseases (Scotland) Unit. *AIDS/HIV Quarterly Surveillance Tables: The Data to End December 1991*. 1991;No 14.

Transmission of HIV in prison

EDITOR,—We wish to reply to the correspondence¹ arising from our editorial on the transmission of HIV in prisons.² In particular, we endorse Andrew Riley's suggestion that Saughton prison in Edinburgh and Polmont young offenders' institution in Falkirk are appropriate settings for pilot evaluation of needle exchange in prison establishments because their staff have experience of dealing with HIV infection and their policies have been informed by research. We do not, however, underestimate the difficulties of designing such an evaluation, which must take into account the legitimate concerns regarding health, safety, and order of officers and inmates who do not inject drugs.

We regret John Dunn's misrepresentation of our editorial. We called for prisoners to have access to condoms and to disinfection; these were the clear public health implications of the data from our anonymised HIV surveillance and elicitation of risk factors in prison establishments.^{3,4} Avril Taylor and colleagues provide supporting data from interviews with current injecting drug users who had been prisoners, recruited community wide in Greater Glasgow.

J A N Emslie and colleagues regret the absence of a public health ethics committee that can adjudicate speedily. They also draw an apparent distinction, which we do not subscribe to, between good epidemiological practice in the control of incidents and the wider public health context. Control of incidents—in this case of transmission of HIV and hepatitis B virus in a Scottish jail—required prisoners to be offered confidential blood tests for them to ascertain their infection status; but it also required establishing, with maximum compliance, the prevalence in the prison of HIV infection, hepatitis B virus infection, and risk behaviours. Anonymity and salivary testing enhance compliance. Emslie and colleagues do not

reference their contention that antibody levels in the months after seroconversion are too low for salivary detection and do not indicate the duration of any such problem. Methodologically, the choice would be between reduced compliance and reduced sensitivity.

We await with interest the speedy, public dissemination of the findings of the investigation into the incident at Glenochil: they are globally important.⁵ In the interim we suggest that an urgent response to safeguard individuals without complementary epidemiological surveillance may have been misinterpreted by inmates and thus fail to achieve the high compliance required to interpret the incident at Glenochil.

SHEILA M GORE

MRC Biostatistics Unit,
Institute of Public Health,
Cambridge CB2 2SR

A GRAHAM BIRD

Department of Immunology,
Churchill Hospital,
Oxford OX3 7LJ

- 1 Correspondence. Transmission of HIV in prison. *BMJ* 1993; 307:622-3. (4 September.)
- 2 Gore SM, Bird AG. No escape: HIV transmission in jail. *BMJ* 1993;307:147-8. (17 July.)
- 3 Bird AG, Gore SM, Jolliffe DW, Burns SM. Anonymous HIV surveillance in Saughton prison, Edinburgh. *AIDS* 1992;6:725-33.
- 4 Bird AG, Gore SM, Burns SM, Duggie JG. Study of infection with HIV and related risk factors in young offenders' institution. *BMJ* 1993;307:228-31. (24 July.)
- 5 Global Programme on AIDS. *Who guidelines on HIV infection and AIDS in prisons*. Geneva: World Health Organisation, 1993.

Improving uptake of immunisation

Mobile children miss out

EDITOR,—A major finding in Jan Li and Brent Taylor's article was that uptake of measles, mumps, and rubella vaccination was strongly influenced by uptake of primary immunisation.¹ We conducted a similar study of factors affecting uptake of diphtheria, tetanus, and pertussis vaccine among 367 children born between October 1991 and March 1992 and resident in a deprived, inner city area of London (Bayswater).

Sociodemographic factors and immunisation status were collected from computer and health visitor records of child health status. After 91 (25%) children who had moved out of the district were excluded, at age 6 months the uptake of third dose diphtheria-tetanus vaccine was 195/276 (71%) and of third dose pertussis vaccine was 188/276 (68%). Factors that affected diphtheria-tetanus uptake at six months (table) were similar to those affecting uptake of measles, mumps, and rubella vaccine.¹ Also, uptake was lowest among children for whom demographic information was unknown; a high proportion (at least 34/64 (53%) of children with unknown number of siblings and 36/72 (50%) of children whose mother's age was not known) lived in temporary accommodation.

We calculated that for each variable presented in Li and Taylor's final table up to 8% of the data were missing. From our findings, it is likely that the groups with missing data contained a high proportion of unimmunised children from temporary housing. When these children move to another district, full demographic details tend not to travel with them. As children with any missing data were excluded from the logistic regression model, this may explain why Li and Taylor found, after adjustment, that mobility was not significantly associated with low uptake.

In our study, after logistic regression was used and children with missing data were included, the only variables associated with reduced uptake were immunisation at health clinics (adjusted odds ratio 0.53, 95% confidence interval 0.28 to 1.00) and