

LONDON
SCHOOL of
HYGIENE
& TROPICAL
MEDICINE



Judd, A; Hickman, M; Jones, S; McDonald, T; Parry, JV; Stimson, GV; Hall, AJ (2005) Incidence of hepatitis C virus and HIV among new injecting drug users in London: prospective cohort study. *BMJ*. p. 24. ISSN 1468-5833 DOI: <https://doi.org/10.1136/bmj.38286.841227.7C>

Downloaded from: <http://researchonline.lshtm.ac.uk/13936/>

DOI: [10.1136/bmj.38286.841227.7C](https://doi.org/10.1136/bmj.38286.841227.7C)

Usage Guidelines

Please refer to usage guidelines at <http://researchonline.lshtm.ac.uk/policies.html> or alternatively contact researchonline@lshtm.ac.uk.

Available under license: Creative Commons Attribution Non-commercial
<http://creativecommons.org/licenses/by-nc/3.0/>

What is already known on this topic

Obesity in British children is increasing—prevalence rose by 150% between 1984 and 1998

Lay definitions of ideal weight and overweight deviate from clinical definitions in adults

What this study adds

Many parents are unaware, and thus unconcerned, that their children are overweight

Contributors: AJ designed the study, collected the data, analysed the results, and wrote the paper. LV supervised the study design and edited drafts of the paper. BM and SA helped with data management and statistical analyses. TW helped with interpretation of the results and is director of the EarlyBird Study. TW is guarantor.

Funding: Diabetes UK, Smith's Charity, S&SW NHS Executive R&D, Child Growth Foundation, Beatrice Laing Foundation, Abbott, Astra Zeneca, GlaxoSmithKline, Ipsen, Unilever, Diabetes Foundation, and EarlyBird Diabetes Trust.

Competing interests: None declared.

Ethical approval: Plymouth local research ethics committee of the South and West Devon Health Authority (1999).

- 1 National Audit Office. *Tackling obesity in England*. London: Stationery Office, 2001.
- 2 Bundred P, Kitchiner D, Buchan I. Prevalence of overweight and obese children between 1989 and 1998: population based series of cross sectional studies. *BMJ* 2001;10:322-6.
- 3 Voss LD, Kirkby J, Metcalf BS, Jeffery AN, O'Riordan C, Murphy MJ, et al. Preventable factors in childhood that lead to insulin resistance, diabetes mellitus and the metabolic syndrome: the EarlyBird diabetes study 1. *J Pediatr Endocrinol Metab* 2003;16:1211-24.
- 4 Cole TJ, Freeman JV, Preece MA. Body mass index reference curves for the UK, 1990. *Arch Dis Child* 1995;73:25-9.
- 5 Saxena S, Ambler G, Cole TJ, Majeed A. Ethnic group differences in overweight and obese children and young people in England: cross sectional survey. *Arch Dis Child* 2004;89:30-6.

(Accepted 25 September 2004)

doi 10.1136/bmj.38315.451539.F7

Incidence of hepatitis C virus and HIV among new injecting drug users in London: prospective cohort study

Ali Judd, Matthew Hickman, Steve Jones, Tamara McDonald, John V Parry, Gerry V Stimson, Andrew J Hall

Centre for Research on Drugs and Health Behaviour, Department of Primary Care and Social Medicine, Imperial College London, London W6 8RP

Ali Judd
research associate
Matthew Hickman
senior lecturer
Steve Jones
researcher

Gerry V Stimson
emeritus professor

Sexually Transmitted and Blood Borne Virus Laboratory, Health Protection Agency London

Tamara McDonald
research scientist
John V Parry
deputy director

Infectious Disease Epidemiology Unit, London School of Hygiene and Tropical Medicine, London

Andrew J Hall
professor

Correspondence to:
A Judd
ajudd@imperial.ac.uk

BMJ 2005;330:24-5

In England, the low prevalence of HIV among injecting drug users during the 1990s was attributed in part to the introduction of harm reduction interventions in the late 1980s. Also, the prevalence of hepatitis C virus in the late 1990s was thought to be relatively low compared with other countries, at around 40% overall and 15% among those who had been injecting drugs for less than six years.¹ We carried out a prospective cohort study of new injecting drug users in London to estimate the incidence of hepatitis C virus and HIV.

Participants, methods, and results

In 2001, we recruited from community settings mainly in London, but also in Brighton, 428 injecting drug users who were aged below 30 years or had been injecting for six years or fewer. All had injected in the previous four weeks and could provide addresses for follow up. They completed interviewer administered questionnaires and provided oral fluid specimens and optionally dried capillary blood spots for testing for antibodies to hepatitis C virus and HIV using published methods.^{2 3} They were followed up 12 months later. We calculated incidence using standard person time methods.

Most of the participants (91%) were recruited in London. The mean (SD) age was 27.4 (5.3) years, and 29% of the participants were women. Three fifths (61%) of the sample at baseline had been injecting for less than four years, and the median frequency of injecting was 2.5 times a day. Most (71%) mainly injected opiates, although just over half (53%) had injected cocaine or crack in the previous year. Participants reported high levels of injecting risk behaviour, with 24% at baseline reporting injecting in

the previous four weeks with needles and syringes used by someone else, and 53% sharing injecting paraphernalia. The baseline prevalence of antibody to hepatitis C virus was 44% and of antibody to HIV was 4% (table).

The overall follow up rate was 70%, and we found no difference between those followed up and those lost to follow up for sociodemographic characteristics or injecting risk behaviour. The incidence of antibody to hepatitis C virus was 41.8 cases per 100 person years and of antibody to HIV was 3.4 cases per 100 person years (see table).

Comment

The incidence of hepatitis C virus in England is high and of HIV higher than expected. These findings are corroborated by ongoing surveillance data, and suggest that transmission may have recently increased.¹ Injecting drug users in London have a higher incidence of hepatitis C virus than those in many cities worldwide, and an incidence of HIV comparable to that among men who have sex with men attending clinics for sexually transmitted infection in London.⁴

Possible explanations for the rising incidence include changes in patterns of injecting drug use, with greater injection of crack and injecting risk behaviour in newer injecting drug users than in those injecting in the early to mid-1990s. In addition there may have been increases in the size of the population of injecting drug users over and above any increase in protective interventions. Recent estimates suggest that current

This article was posted on [bmj.com](http://bmj.com/cgi/doi/10.1136/bmj.38286.841227.7C) on 12 November 2004: <http://bmj.com/cgi/doi/10.1136/bmj.38286.841227.7C>

What is already known on this topic

Injecting drug users are at high risk of acquiring HIV, hepatitis C virus, and other bloodborne infections

What this study adds

The incidences of hepatitis C virus and HIV among new injecting drug users in London are 41.8 and 3.4 cases per 100 person years, respectively

Current drug policy is failing to maintain historical levels of protection from bloodborne viruses among this high risk group

syringe distribution in London provides one new needle per injecting drug user every two days and that fewer than one in four are in drug treatment at any one time.³ Specific targets to prevent bloodborne viruses among injecting drug users have been absent from the UK government's drug strategy in the past five years, and there has been little targeted health education or prevention campaigns. Increasing the coverage of syringe exchange and provision of drug treatment is only part of the solution. Innovative strategies are required, specific to hepatitis C virus and to HIV, to change behaviour and to deliver health education messages and harm reduction strategies early enough to make a difference.

We thank the interviewers and participants; Greg Holloway for his significant contribution to the fieldwork; Sheila Bird, David Goldberg, Adrian Renton, Tim Rhodes, Avril Taylor, and advisory group members for their ongoing advice. Matthew Hickman is funded through a Department of Health Public Health Career Scientist award. The Centre for Research on Drugs and Health Behaviour is core funded by the Department of Health.

Prevalence and incidence of hepatitis C virus and HIV antibody among new injecting drug users in London, 2001-3

Viral antibodies	Baseline		Follow up	
	No positive/total	Prevalence (95% CI)	No of seroconversions/total (mean follow up time)	Incidence rate per 100 person years
Hepatitis C virus	187/428	43.7 (38.9 to 48.5)	53/151 (372 days)	41.8 (31.9 to 54.7)
HIV	18/428	4.2 (2.5 to 6.6)	9/273 (360 days)	3.4 (1.8 to 6.6)

Contributors: AJ, MH, SJ, JP, GVS, and AJH designed and conducted the cohort study. TMcD conducted the laboratory testing, overseen by JVP. AJ undertook the statistical analysis; she is guarantor for the paper. All authors contributed to the writing of the paper.

Funding: Policy research programme of the Department of Health. The views expressed are those of the authors and not necessarily those of the Department of Health. The funding source had minor involvement in the study design, through attendance at steering group meetings.

Competing interests: None declared.

Ethical approval: This study received ethical approval from Hammersmith, Queen Charlotte's and Chelsea and Acton Hospitals research ethics committee.

- 1 Health Protection Agency, Scottish Centre for Infection and Environmental Health, National Public Health Service for Wales, Communicable Disease Surveillance Centre Northern Ireland, Centre for Research on Drugs and Health Behaviour, Unlinked Anonymous Surveys Steering Group. *Shooting up: infections among injecting drug users in the United Kingdom 2002*. London: HPA, 2003.
- 2 Judd A, Parry J, Hickman M, McDonald T, Jordan L, Lewis K, et al. Evaluation of a modified commercial assay in detecting antibody to hepatitis C virus in oral fluids and dried blood spots. *J Med Virol* 2003;71:49-55.
- 3 Connell JA, Parry JV, Mortimer PP, Duncan J. Novel assay for the detection of immunoglobulin G antihuman immunodeficiency virus in untreated saliva and urine. *J Med Virol* 1993;41:159-64.
- 4 Murphy G, Charlett A, Jordan LE, Osner N, Gill ON, Parry JV. HIV incidence appears constant in men who have sex with men despite widespread use of effective antiretroviral therapy. *AIDS* 2004;18:265-72.
- 5 Hickman M, Higgins V, Hope VD, Bellis MA, Tilling K, Walker A, et al. Injecting drug use in Brighton, Liverpool, and London: best estimates of prevalence and coverage of public health indicators. *J Epidemiol Community Health* 2004;58:766-71.

(Accepted 7 September 2004)

Averting a change to the date of the royal succession

I will be 90 years old in 2005 and have a very clear memory of an episode which took place at my home in Mansfield in 1926 when I was 11. My father, H L Flint, was a general practitioner but was much involved with cardiology. We understood (rightly or wrongly) that he was the first person in the Midlands able to take electrocardiographs. One fair-sized room in our house was his surgery. (Panel patients had a scruffy place in the town.) The electrocardiograph took up nearly the whole length of one wall. The patient sat with both feet and arms in saline baths and was wired up to the machine. Moreover, wires were run through our house and garden, over a high wall, through a neighbour's garden, and so to the General Hospital, which stood high above us, to enable hospital patients to be wired up there, too.

At that time, the then Prince of Wales kept his hunters at Melton Mowbray (about 35 miles away). His vet was worried about the health of the Prince's favourite hunter, "Tarzan." He had heard of my father and asked whether it would be possible to take an ECG of Tarzan. After consideration my father decided to have a try. In due course, the horse arrived with the vet, groom, and an equerry, in a large horsebox. When this was arranged, my mother promptly decided to go and stay with her mother, so we still have the details in a letter I wrote, telling my mother all about it.

My father had invited the entourage to stay to lunch, but they refused politely. The horse was taken into the garden and, with considerable trouble, made to stand with all four feet in saline and wired up. Several ECGs were taken. All this had taken longer

than expected, so my father reissued the invitation to lunch, which was accepted. This annoyed me very much because there wasn't enough cauliflower cheese to go round, so I was banished to the kitchen for plain bread and cheese.

On examining the recording my father found that Tarzan had "heart block." The Prince was informed that he must never ride the horse again. Two weeks later the horse dropped dead while galloping around its field.

My father was a very cautious man. In those days, any medical man who advertised was liable to be struck off the register. Needless to say, the local press got wind of the affair and photographers waited outside for ages and took photos of Tarzan with me included, but fortunately without my father.

My two brothers were much younger than I, so never appeared from the nursery, where they watched the proceedings through the window. One brother, now a retired consultant physician, told me that when he started medical school electrocardiographs of this size were still in use.

It is interesting to speculate that, had this ECG not been taken, the Prince of Wales might have suffered a fatal accident while riding Tarzan to hounds, and the affair with Mrs Simpson and the resulting abdication would never have taken place.

Margaret Hope Robinson submitted by J I G Strang, consultant physician, Royal Glamorgan Hospital, Llantrisant CF72 8XR, Ilkeston, Derbyshire