PUBLIC HEALTH

Hepatitis B vaccination for male sex workers: the experience of a specialist GUM service

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Background: Male sex workers are at risk of blood borne viruses but may have limited access to sexual health services, including vaccination. We explore factors associated with hepatitis B vaccination uptake among male sex workers in London

Methods: Follow up study of men attending the Working Men's Project, a specialist health project for men who sell sex, between 1994 and 2003.

Results: At baseline 797 men were screened for hepatitis B; 308 were not eligible for vaccination because of past or current infection (155, 19.4%) or previous vaccination 153 (19.2%). Of the 489 men eligible for a full course of vaccination 292 (59.8%) completed the course. Completion rates fell over time: men recruited up to 1999 were more likely to complete the course than those recruited more recently (177/259, 68.3% compared with 115/229, 50.2%, OR 2.14, 95% CI 1.48 to 3.09).

Conclusion: This specialist service achieved a high rate of vaccine completion in the early years, but the decline is a concern. It may reflect wider availability of vaccination elsewhere and a more mobile population of sex workers. Shorter courses may achieve a higher completion.

In England vaccination for hepatitis B is targeted rather than being a universal programme. Men who have sex with men (MSM) are a key risk group, who are targeted through services provided in genitourinary medicine (GUM) clinics. European guidelines for the management and control of hepatitis B infection also recommend vaccination for male and female sex workers.¹ The national strategy for Sexual Health and HIV in England (2001) set a number of standards²: all MSM were to be offered hepatitis B vaccine on first attendance at a GUM clinic by the end of 2003; for susceptible men, the target uptake of the three dose vaccination was 50% by the end of 2004 and 70% by the end of 2006. National monitoring shows that in 2003, 85% of susceptible MSM received the first dose but only 39% completed three doses.³

Studies have consistently found that male sex workers (MSWs) have high levels of infection with blood borne viruses but may have limited access to sexual health services, including vaccination.^{4–5} In this paper we explore whether the provision of specialist services for MSWs achieves higher uptake and completion rates for hepatitis B vaccination.

METHODS

A special clinical and outreach service, the Working Men's Project,⁵ based in an inner London genitourinary medicine department has existed since 1994. Detailed methods and description of the cohort are presented elsewhere.⁶ Briefly, men enrolling with the service over a 10 year period from

September 1994 to December 2003 were asked to complete a detailed proforma at registration visit, detailing demographic information, past medical history, work in the sex industry, and risk behaviours. Men attended for voluntary follow up screening at varied intervals. At these visits further information was collected on recent risks and symptoms. These data are linked results of testing plus any treatment, vaccination, or other interventions. Data were entered and stored in a secure database with no personal identifier. Analysis was carried out in SPSS V12 for Windows. Categorical variables were compared using χ^2 tests, producing odds ratios with 95% confidence intervals. Approval was obtained from the local research ethics committee.

At their first contact with the project all MSWs were informed about the professional risk of hepatitis B virus (HBV) infection, and those who consented were tested for HBV markers (HBsAg, Anti-HBc, anti-HBs). Sex workers who reported a history of vaccination were offered a test for anti-HBs to estimate the need for a booster dose. Those with no history of vaccination and no HBV antibodies were offered a full vaccination scheme. Through the study period vaccines were administered according to scheme zero, 1 month, and 2 months using recombinant hepatitis B vaccine, 20 µg/dose. Anti-HBs titres were taken 6 weeks later. Men were telephoned before their appointment for vaccination and if they failed to attend.

RESULTS

In all, 823 men attended the clinic. A detailed description of the cohort is reported elsewhere⁶; briefly, the majority self defined as homosexual (625, 75.9%), with 145 (17.6%) bisexual, 41 (5.0%) heterosexual, and 12 (1.5%) not known. The majority (792, 96.2%) reported sex with male clients solely, 11 (1.3%) male and female clients, three (<1%) female clients exclusively; in 17 (2.0%) cases it was not documented. In all, 304 (37.1%) were born in the United Kingdom, 128 (15.5%) in South or Central America, 42 (5.1%) from East Europe, and 349 (42.3%) other or unknown.

A total of 797 men accepted screening for HBV at baseline: 489 (61.3%) had negative serology; 146 (18.3%) had evidence of past infection (that is, core, surface, and e antibody positive only); nine (1.2%) were hepatitis s-antigen or e-antigen positive; isolated anti-HBs was found in 153 (19.2%), which we take to be the result of previous vaccination. Past infection was significantly associated with being born outside of the United Kingdom, identifying as gay or bisexual, being recruited in the first 5 years of the project, and having HIV infection at recruitment (table 1). There was no significant association with injecting drug use.

Previous vaccination was more common in men born in New Zealand or Australia (19/45, 42.2%, OR 3.36, 95% CI 1.81

Abbreviations: GUM, genitourinary medicine; HBV, hepatitis B virus; MSM, men who have sex with men; MSWs, male sex workers

Table 1 Risk factors for hepatitis B infection in male sex workers at first presentation

		Past hepatitis B infection (%)	Odds ratio	95% CI
Country of birth	United Kingdom	33/292 (11.3)	1.00	
	Other	121/504 (24.0)	2.50	1.64 to 3.70
Orientation	Gay or bisexual	151/747 (20.2)	10.13	1.38 to 74.31
	Heterosexual	1/41 (2.4)	1.00	
Recruited	1994–1998	97/428 (22.7)	1.57	1.10 to 2.25
	1999–2003	58/369 (15.7)	1.00	
Injection drug use	Yes	17/70 (24.3)	1.37	0.77 to 2.45
	No	136/720 (18.9)	1.00	
HIV status	Positive	30/56 (53.6)	6.70	3.78 to 11.90
	Negative	84/572 (14.7)	1.00	
All		155/797 (19.4)		

to 6.26), and in the United Kingdom (73/292, 25.0% OR 1.77, 95% CI 1.24 to 2.52) than elsewhere (61/459, 13.3%).

Of the 489 men eligible for a full course of vaccination, 292 (59.8%) completed the course, 179 (36.6%) did not, 14 (2.8%) were still in the process of being vaccinated at the end of the data collection period, and four (0.8%) had not yet been offered the vaccine. Completing the course of vaccination was not significantly associated with any factors other than being recruited before 1999 (177/259, 68.3% compared with 115/229, 50.2%, OR 2.14, 95% CI 1.48 to 3.09). This drop in completion rates for more recent years was only significant in men who were born in the United Kingdom: 81/119 (68.1%) completion for recruits from 1994–8 compared with 22/66 (33.3%) for the 1999–2003 group (OR 4.26, 2.25 to 8.09).

DISCUSSION

Through this special service for MSW we have achieved a higher rate of hepatitis B vaccination completion (60%) than the national average of 39%. This rate is also higher than the 44% completion reported for MSM attending the general sexual health service at the same clinic.⁷ This success is likely to reflect the specialist and holistic nature of the service, and the trusting relationship built up between staff and patient which permits a more personalised approach to recall. However, there has been a significant fall in completion rates in more recent years, particularly in UK born men. This is clearly a cause for concern. It may reflect the increased availability of vaccination through other service providers and increased mobility of sex workers. These findings broadly support those of Mak and colleagues who found that specialist services increased uptake and completion for female sex workers,⁸ although in that project vaccination was also offered through outreach to workplaces.

Control of hepatitis B infection is a significant health challenge in this diverse group of men.⁹ As we have shown, almost one in five had already been exposed to hepatitis B, with the highest rates in the earlier cohort, gay identified, and non-UK born men. Previous vaccination was uncommon

with the exception of men from Australia and New Zealand. Although the majority of eligible men completed the vaccine course, we need to look at other ways of increasing coverage to ensure that this group is protected from a serious occupational risk.

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CONTRIBUTORS

GS conceived the study, retrieved the data together with BMH, and wrote the first draft; HW analysed the data and assisted in revising the manuscript; JG collected much of the data and, together with BMH and LG provided critical appraisal of the manuscript and approved the final version.

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Main messages

- MSM are a priority group for hepatitis B vaccination
- The high proportion of susceptible men identified from screening (61.3%) demonstrates the importance of a targeted vaccination program for this population
- The high rate of vaccination completion supports the use of a focused approach for the prevention of STIs/HIV in MSM or MSW