**Department of
Genitourinary Medicine,
Edinburgh Royal
Infirmary, Edinburgh
EH3 9YW**
Jonathan D C Ross, *senior
registrar*

**Department of Medical
Microbiology, University
of Edinburgh, Edinburgh**
Sheena Sutherland, *senior
lecturer*

**Department of Medical
Microbiology, Western
General Hospital,
Edinburgh**
John Coia, *consultant
microbiologist*

enzyme linked immunosorbent assay (ELISA) or culture tests. We calculated the average specimen rate per general practitioner for the practices and divided them into high and low specimen rates (above and below the median).

The names and dates of births of patients with a positive test result were cross referenced with the records of the genitourinary medicine to assess the proportion who attended within three months. Those referred and not referred were compared with respect to age, sex, and whether the practice was within the city boundaries.

The 619 general practitioners in Lothian were grouped into 98 practice groups (82 contained a single practice and 16 contained two to six practices). The practice of origin was not known for 13 specimens.

After we excluded repeat negative specimens ($n = 201$), repeat positive specimens ($n = 6$), and patients with negative and positive results within the study period ($n = 40$) the study population consisted of 3943 patients. Eighty one practices sent a genital swab for testing and 57 had at least one positive result. The median number of specimens per general practitioner was 4.5 (range 0-63.6). The specimen rate was similar for practices in Edinburgh (4.4) and those outside (5, $P = 0.77$).

In all, 141 (3.5%, 95% confidence interval 3.4% to 3.7%) patients had positive results, and 19 subsequently attended the genitourinary medicine clinic. The referral pattern was not affected by the patients' age (median age 22 for those referred *v* 23 for those not referred, $P = 0.96$) or sex (odds ratio 2.1, 95% confidence interval 0.3 to 14.9) or by the location of the practice (0.7, 0.3 to 1.7; table).

Comment

General practitioners in the Lothian region of Scotland screened almost 4000 people in 1995 for genital chlamydial infection. The positivity rate (3.5%) was similar to that reported by genitourinary medicine or family planning clinics, and the absolute number of cases represents an important clinical problem.

Rates of testing varied widely between practices. Although practice demographics vary, it is unlikely that

Table 1—Rate of referral to genitourinary medicine clinic with chlamydial infection among Lothian patients diagnosed in general practice

	No (%) referred (n = 19)	No (%) not referred (n = 122)
Location of practice:		
Within Edinburgh	12 (63)	87 (71)
Outside Edinburgh	7 (37)	35 (29)
Sex of patient:		
Female	18 (95)	108 (89)
Male	1 (5)	14 (11)
Age:		
<16	1 (5)	1 (1)
16-20	5 (26)	36 (30)
21-25	8 (42)	52 (43)
26-30	4 (21)	26 (21)
>30	1 (5)	6 (5)
Unknown	0	1 (1)

this alone accounts for the difference, and the proximity of the local genitourinary medicine clinic did not influence community testing rates.

Only 13% of patients diagnosed in general practice were referred to the genitourinary medicine clinic. Since general practitioners do not generally have the resources to test for cure, trace sexual contacts, or screen for other sexually transmitted diseases this low referral rate is concerning.³ In addition the medicolegal implications of inadequate management of women with chlamydial infection subsequently presenting with secondary infertility or ectopic pregnancy may be serious.

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Postal survey of management of cervical *Chlamydia trachomatis* infection in English and Welsh general practices

Diana Mason, Sally Kerry, Pippa Oakeshott

See editorial
by Johnson *et al*
and pp 1186, 1192

Chlamydia trachomatis infection in women is common, often asymptomatic, and may cause pelvic inflammatory disease, tubal infertility, or ectopic pregnancy. Screening for chlamydia in Britain is haphazard, and the management of infected people is sometimes inadequate.¹ However, despite recommendations for expansion of chlamydia testing in primary care,² little is known about the diagnosis and management of cervical chlamydia infection in general practice. We did a cross sectional survey of general practices to find out how many offer chlamydia testing and how they would manage a woman found to have chlamydia infection.

Subjects, methods, and results

In June 1994 we sent a confidential postal questionnaire to a random stratified sample of 500 gen-

eral practices drawn from all 98 family health services authorities in England and Wales. The introductory letter was addressed to the practice managers, who were asked to give the questionnaire to the general practitioner most involved in smear testing. The questionnaire included an open question on the management of chlamydia infection. Non-responders were sent a second questionnaire.

We received 374 completed questionnaires, a response rate of 75%. Of the practices which provided details, 63 were in rural areas, 180 in towns, and 51 in inner cities; 315 said that their local laboratory provided a chlamydia service and 264 had tested a woman for chlamydia in the previous year. However, eight practices had experienced difficulty in obtaining appropriate swabs or slides. Half the general practitioners usually offered advice on avoiding sexually transmitted infections to young women having gynaecological examinations.

Table 1 shows the characteristics of respondents and their management of women with chlamydia infection. We compared the antibiotics used by general practitioners, where specified, with Centers for Disease Control guidelines.³ These recommend a seven day course of doxycycline 100 mg twice daily, tetracycline 500 mg four times a day, or erythromycin 500 mg four times a

Correspondence to:
Dr Oakeshott.

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Table 1—Management of women with chlamydia infection according to general practitioner characteristics

	Would not refer to genitourinary clinic (n = 262)					
	Would refer to genitourinary clinic		Prescribe recognised antibiotic		Treat or refer partner	
	No (%)	Odds ratio† (95% confidence interval)	No (%)	Odds ratio† (95% confidence interval)	No (%)	Odds ratio† (95% confidence interval)
All doctors (n = 374)	112 (30)	—	78 (30)	—	78 (30)	—
Age:						
< 35 (n = 91)	39 (43)**	2.16 (1.30 to 3.60)	23 (44)*	2.20 (1.16 to 4.20)	27 (52)***	3.00 (1.58 to 5.70)
≥ 35 (n = 229)	59 (26)	1.00	45 (27)	1.00	45 (27)	1.00
Sex:						
Female (n = 231)	77 (33)	1.68 (0.97 to 2.90)	55 (36)*	1.57 (0.84 to 2.95)	53 (34)	1.29 (0.92 to 2.38)
Male (n = 135)	33 (24)	1.00	22 (22)	1.00	25 (25)	1.00
Size of practice:						
≥ 3 Partners (n = 255)	82 (32)	1.36 (0.77 to 2.43)	60 (35)*	1.89 (0.94 to 3.82)	64 (37)**	2.55 (1.23 to 5.29)
1 or 2 Partners (n = 113)	28 (25)	1.00	18 (21)	1.00	14 (17)	1.00
Type of practice:						
Inner city (n = 51)	21 (41)	1.39 (0.70 to 2.79)	9 (30)	0.89 (0.35 to 1.13)	9 (30)	0.67 (0.26 to 1.75)
Not inner city (n = 243)	70 (29)	1.00	54 (31)	1.00	53 (31)	1.00
Training (n = 125)	45 (36)	1.45 (0.88 to 2.41)	29 (36)	1.19 (0.64 to 2.21)	32 (40)*	1.68 (0.90 to 3.13)
Not training (n = 239)	69 (27)	1.00	49 (28)	1.00	46 (26)	1.00
Family planning trained nurse:						
Yes (n = 236)	75 (32)	1.20 (0.71 to 2.02)	43 (27)	0.57 (0.31 to 1.04)	51 (32)	1.01 (0.55 to 1.86)
No (n = 134)	35 (26)	1.00	35 (35)	1.00	27 (27)	1.00
Chlamydia test in last year:						
Requested (n = 264)	80 (30)	0.87 (0.46 to 1.43)	67 (36)***	2.27 (1.08 to 4.78)	72 (39)***	5.68 (2.28 to 14.2)
Not requested (n = 107)	32 (30)	1.00	11 (15)	1.00	6 (8)	1.00
Positive result in last year:						
Yes (n = 134)	39 (29)	0.78 (0.46 to 1.32)	36 (38)	1.36 (0.74 to 2.52)	42 (44)***	2.53 (1.34 to 4.77)
No (n = 201)	64 (32)	1.00	38 (28)	1.00	27 (20)	1.00

*P<0.05 **P<0.01 ***P<0.001 by χ^2 test to compare unadjusted percentages.

†All odds ratios except those for age have been adjusted for age by logistic regression.

Department of General Practice and Primary Care, St George's Hospital Medical School, London SW17 0RE
Diana Mason, *research assistant*
Sally Kerr, *statistician*
Pippa Oakeshott, *clinical lecturer*

day. A single dose of azithromycin 1 g may also be used.⁴ Treatment was judged inappropriate if a less suitable antibiotic or if no or an inadequate dose or duration of treatment was given. We assumed that women referred directly to a genitourinary department would attend and receive appropriate antibiotics and contact tracing.

General practitioners aged under 35 were more likely than older doctors to refer women with chlamydia infection to a genitourinary clinic (odds ratio 2.16; 95% confidence interval 1.30 to 3.60). For those treating the patient in the practice, factors which increased the likelihood of prescribing appropriately were young age, female doctor, group practice, and having requested chlamydia tests in the past year. After age was adjusted for, only having requested chlamydia tests remained significant.

Factors which increased the likelihood of treating or referring the sexual partner were young age, group practice, training practice, requesting chlamydia tests, and having a patient with a positive result. After age was adjusted for, training practice was no longer significant.

Comment

A third of practices had had a patient with a positive chlamydia result in the past year, implying adequate endocervical sampling. However, only 30% of general practitioners would have referred a woman with chlamydia infection to a genitourinary clinic for contact tracing, follow up, and screening for coexistent infection. Good communication between genitourinary physicians and general practitioners is important, but

appropriate management should be available in general practice for women who refuse to attend a genitourinary clinic.^{2,5} Recommended treatment could be more clearly stated in the *British National Formulary*,⁴ and general practitioners should emphasise the importance of treating partners.³

This study targeted the doctor most interested in smear testing, which biased the sample towards younger, female general practitioners. Respondents might be expected to be better than their colleagues at managing chlamydia infection and to have different attitudes to sexual health.¹ However, this study suggests that although many practices have facilities for chlamydia testing, the management of infected women may be incomplete.

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