
Chapter 6

Clinical Management of STIs

6.1 Introduction

Adequate knowledge about STIs among medical practitioners is a prerequisite for offering optimal STI care. However, better knowledge does not guarantee better practice. Clinical management styles continue to play a major role in STI control. As discussed in Chapter 2, early diagnosis and treatment of symptomatic and asymptomatic individuals can help cure infection, prevent complications, and control the spread of infection. However, available evidence suggests that there are important variations in STI management in general practice. Some GPs offer inappropriate investigations to test for STIs. Antibiotic treatment seems to be suboptimal, either because of inappropriate use of antibiotics or due to inadequate duration of treatment. There is evidence that presumptive treatment of suspected STIs is relatively common in general practice. Although presumptive treatment for STIs may be appropriate in certain situations, this algorithm has the potential to miss many infections that are subclinical or do not produce any signs or symptoms. Nevertheless, the reasons for treating STIs presumptively are yet to be adequately understood.

As outlined in Chapter 2, diagnosis of an STI is a stigmatising experience and can have serious psychological consequences. It is important that

practitioners fully comprehend the impact that a diagnosis can have on their patients. However, little is known about how a distressed patient with an STI is managed in general practice. It has also been suggested that referral of patients with STIs is not undertaken consistently in general practice; this is of particular concern especially if the general practice has limited access to diagnostic facilities. Also, there are difficulties in organising contact tracing in general practice. In addition to a lack of involvement in contact tracing, many practitioners are uncertain about how and when contact tracing should be undertaken.

This chapter describes how STIs are clinically managed in general practice. In particular, this chapter addresses some important issues related to STI care by GPs, including investigations recommended for STI diagnosis, treatment of first choice for different STIs, presumptive treatment for suspected STIs, referrals for STIs, management of STI patients with psychological distress, and tracing of contacts. The background and practice characteristics of GPs associated with different components of STI care are also examined.

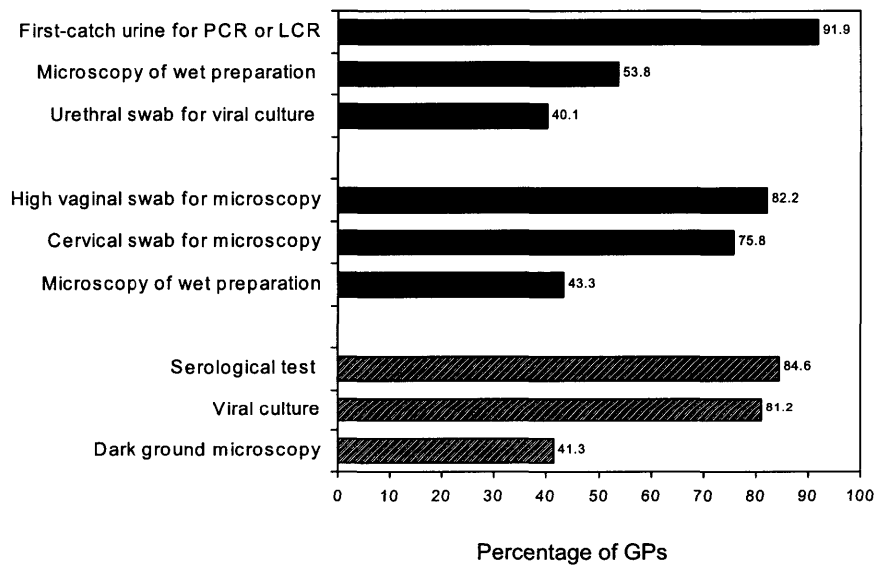
6.2 Results

6.2.1 Investigations recommended for symptoms

In the present study, GPs were asked about their recommended investigation(s) for different symptoms that may indicate an STI (more than one

response was allowed). To investigate urethritis, most GPs (92%) reported that they recommended a first-catch urine test with polymerase chain reaction (PCR) or ligase chain reaction (LCR) as their investigation of choice (Figure 6.1). About 54% of GPs recommended microscopy of a wet preparation and special culture, while 40% recommended a urethral swab for viral culture to investigate urethritis. A further analysis revealed that about 49% of GPs recommended both first-catch urine with PCR or LCR and the microscopy of a wet preparation and culture to investigate urethritis. Along with urine tests using PCR or LCR, urethral swabs for viral culture was also considered by about 37% of GPs to investigate urethritis.

Figure 6.1 Investigations recommended to test urethritis, vaginal discharge and anogenital ulceration



For patients with vaginal discharge, the majority (82%) of GPs recommended a high vaginal swab for microscopy and culture and about 76%

recommended a cervical swab for microscopy and culture as their preferred investigation of choice. A further analysis revealed that 16% of GPs only considered a cervical swab for microscopy to investigate vaginal discharge. Forty-three percent of GPs reported that microscopy of a wet preparation and special culture was their recommended investigation for vaginal discharge. About 62% of GPs recommended both high vaginal swabs and cervical swabs for microscopy and culture to investigate vaginal discharge.

To investigate patients with anogenital ulceration, serological tests were recommended by nearly 85% of GPs. A similar proportion (81%) was in favour of a viral culture to investigate anogenital ulceration. Dark ground microscopy was also an option, recommended by 41% of GPs. A further analysis showed that about 69% of GPs indicated that they would recommend both viral culture and serological test to investigate anogenital ulceration. However, 11% of GPs considered either of the two tests (viral culture or serological test).

Examining the factors associated with recommending a first-catch urine for PCR or LCR to investigate urethritis revealed that female GPs were more likely to recommend the test than their male counterparts (Table 6.1). Duration of practice was inversely associated with using a first-catch urine to diagnose the cause of urethritis. In investigating patients with vaginal discharge, younger and rural GPs were more likely to choose a high vaginal swab for microscopy and culture. Like age, duration of practice was found to be inversely associated with the use of a high vaginal swab for testing vaginal discharge.

Table 6.1 Correlates of recommending tests to investigate different symptoms of STIs

Characteristics	First catch urine for urethritis	High vaginal swab for vaginal discharge	Viral culture for anogenital ulceration
Age (years)			
<40	100.0 ^{d*}	89.1 ^{b*}	89.1 ^{e*}
40-54	91.2	81.5	83.4
55+	86.0	77.0	70.0
Sex			
Male	88.4 ^c	80.6	75.4 ^d
Female	96.6	84.2	88.7
Postgraduate training in medicine			
Yes	91.7	84.3	84.3 ^b
No	92.2	79.0	76.6
Postgraduate training in STIs			
Yes	95.1	81.5	91.4 ^c
No	91.3	82.2	78.8
Area of practice			
Rural	93.7	88.7 ^b	86.6 ^b
Metropolitan	91.0	78.7	78.3
Nature of current practice			
Solo	88.2	81.2	71.8 ^c
Group	93.4	82.9	85.7
Duration of practice (years)			
≤10	97.5 ^{b*}	92.4 ^{b*}	86.1 ^{e*}
11-20	92.6	81.5	89.6
21+	89.6	78.6	74.0

b: significant at $p < 0.05$; c: significant at $p < 0.01$; d: significant at $p < 0.001$; e: significant at $p < 0.0001$

* Mantel-Haenszel (trend) chi-square p-value

For diagnosing the cause of anogenital ulceration, recommending a viral culture was more common among GPs who were younger (aged <40 years), female, and had postgraduate training in STIs (Table 6.1). For example, 91% of GPs who had postgraduate training in STIs recommended a viral culture to investigate anogenital ulceration compared with around 79% of their

counterparts who did not have this training. General practitioners who were in group practices and worked in rural areas were more likely to consider a viral culture to diagnose anogenital ulceration.

Microscopy of a wet preparation and special culture for testing urethritis was found to be positively associated with GPs' age and duration of practice (Appendix C Table 6.1a). General practitioners who had postgraduate training in medicine were less likely to consider microscopy of a wet preparation for testing urethritis. The analysis also revealed that GPs who graduated in Australia were less likely to recommend microscopy of a wet preparation to investigate urethritis than were GPs who graduated overseas.

Use of a cervical swab for microscopy and culture to investigate vaginal discharge was inversely associated with GPs' age, duration of practice, and average number of patients seen per week (Appendix C Table 6.2a). For example, 87% of GPs aged <40 years recommended a cervical swab to investigate vaginal discharge compared to 67% of their older counterparts aged ≥55 years. General practitioners who were female, had postgraduate training in STIs or who diagnosed an STI in the month preceding the survey were more inclined to recommend a cervical swab for microscopy and culture to examine vaginal discharge. The analysis also revealed that GPs with postgraduate training in STIs were more likely to recommend microscopy of a wet preparation and special culture for testing vaginal discharges (58% vs. 39%, $P=0.002$).

Younger GPs were less likely to use serological tests than their older counterparts to investigate anogenital ulceration (Appendix C Table 6.3a). Use of serological tests was more common among GPs who were male and graduated overseas. For example, about 91% of overseas graduates compared to 82% of Australian graduates recommended serological tests to investigate anogenital ulceration.

6.2.2 Treatment of STIs

Assuming that the patients were not allergic to the drugs and cost was not an issue, GPs were asked to report their treatment of first choice for particular STIs. Azithromycin was reported as the treatment of choice for chlamydia by 58% of GPs, while about 42% reported doxycycline as their treatment of choice (Table 6.2). Fifty-six percent reported using ciprofloxacin as their treatment of choice for uncomplicated gonorrhoea, while around 27% preferred ceftriaxone. About 58% reported using procaine penicillin as their treatment of choice for syphilis, while 36% reported using benzathine penicillin.

For genital herpes, famciclovir was the treatment of choice for 48% of GPs. About 36% of GPs preferred valaciclovir, and 24% preferred acyclovir. Podophyllin solution was reported by nearly 70% of GPs as their treatment of choice for genital warts. Some GPs (9%) reported using trichloroacetic acid, while a few reported famciclovir. Aldara (imiquimod) cream, cryotherapy and liquid nitrogen were also used by a few GPs to treat genital warts.

Table 6.2 Treatment of choice by GPs for patients with STIs

Infection and treatment ^b	Proportion of GPs (n=409)
<i>Chlamydia trachomatis</i>	
Azithromycin	58.2
Doxycycline	42.1
Amoxicillin	0.5
Erythromycin	0.5
<i>Gonorrhoea (uncomplicated)</i>	
Ciprofloxacin	56.1
Ceftriaxone (I/M)	26.7
Spectinomycin	8.1
Erythromycin	5.9
<i>Syphilis</i>	
Procaine penicillin	57.9
Benzathine penicillin (I/M)	36.4
Doxycycline	2.9
Erythromycin	1.0
<i>Genital herpes</i>	
Famciclovir	48.4
Valacyclovir	35.5
Acyclovir	24.2
<i>Genital warts</i>	
Podophyllin solution	69.9
Trichloroacetic acid	9.3
Famciclovir	4.4
Spectinomycin	0.2

^b Some GPs provided more than one response

A further analysis was carried out to examine whether any background and practice characteristics of GPs was associated with prescribing patterns for STI treatment. Prescribing azithromycin for chlamydia was more common among GPs who were female, had postgraduate training in STIs, and worked in group practices (Appendix C Table 6.4a). For example, 66% of female GPs preferred azithromycin as their treatment of choice for chlamydia compared with

52% of their male counterparts. Doxycycline for treating chlamydia was more often preferred by GPs who were male, did not have postgraduate training in STIs, and worked in solo practices (Appendix C Table 6.5a).

For uncomplicated gonorrhoea, Australian graduates were less likely to consider ciprofloxacin to be the treatment of choice than their overseas trained counterparts (Appendix C Table 6.6a). Duration of practice and average number of patients seen per week were found to be positively associated with prescribing ciprofloxacin to treat gonorrhoea.

Apart from the treatment of first choice, GPs were also asked what resources they consult if they are unsure about the appropriate treatment for an STI. The majority (89%) reported that they usually consulted the 'Therapeutic Guidelines: Antibiotic'¹ to choose the appropriate treatment and its regimen. Just over a fifth (22%) of GPs stated that they consulted other resources including: local sexual health clinics, management guidelines for STIs, STI handbook, family planning guidelines and other GPs with a special interest in sexual health.

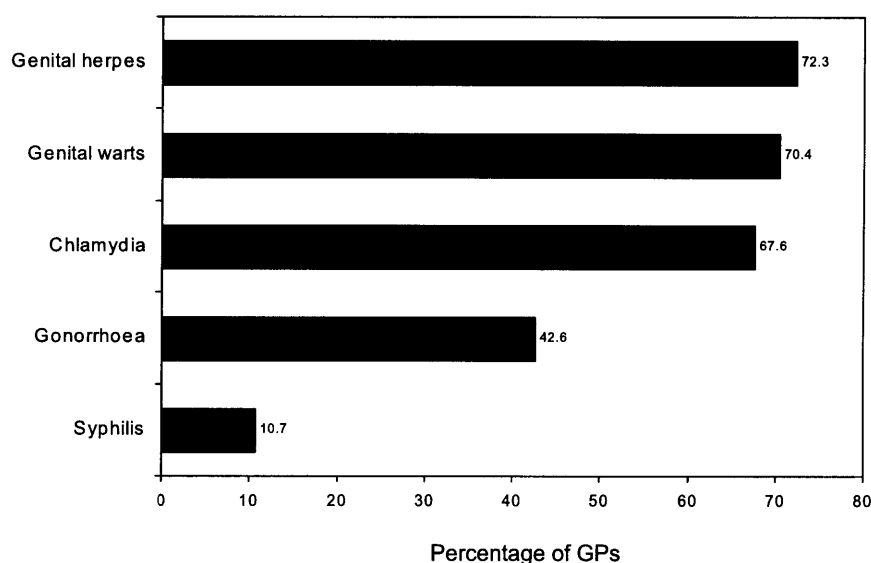
6.2.3 Presumptive treatment of suspected STIs

To explore the use of presumptive treatment for STIs, GPs were asked whether they had undertaken presumptive treatment for suspected STIs. The response choices were: 'never' and 'sometimes'. The majority (89%) of GPs had

¹ *Therapeutic Guidelines: Antibiotic*, published by the Therapeutic Guidelines Ltd, Melbourne, distils best-practice antibiotic guidelines for Australian health professionals (Harvey *et al.* 2003).

used presumptive treatment for a suspected STI. In particular, more than two-thirds reported offering presumptive treatment for genital herpes, genital warts and chlamydia (Figure 6.2). About 43% of GPs offered presumptive treatment for gonorrhoea. However, presumptive treatment was fairly uncommon for syphilis, reported by around 11% of GPs.

Figure 6.2 Presumptive treatment by GPs for patients with suspected STIs



The analysis also revealed that presumptive treatment for genital herpes was more common among younger GPs (aged <40 years) than their older counterparts (aged ≥ 55 years) (Table 6.3). Female GPs were more likely to treat genital herpes presumptively than their male counterparts. Treating suspected genital herpes presumptively was also associated with diagnosis of an STI in the month preceding the survey.

Table 6.3 Correlates of offering presumptive treatment for genital herpes

Characteristics	%	<i>P</i> -value
Age (years)		
<40	77.2	0.005*
40-54	76.7	
55+	58.7	
Sex		
Male	68.2	0.039
Female	77.8	
Duration of practice (years)		
≤10	75.7	0.027*
11-20	78.6	
21+	66.7	
Diagnosis of an STI in last month		
Yes	78.5	0.005
No	65.3	

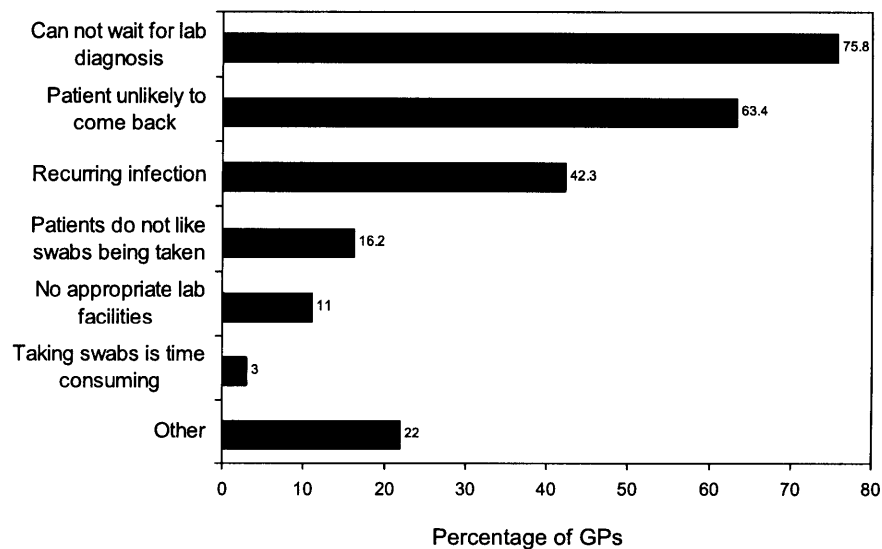
* Mantel-Haenszel (trend) chi-square *p*-value

An analysis of association between background and practice characteristics of GPs and their presumptive treatment for chlamydia revealed that postgraduate training in STIs was positively associated with undertaking presumptive treatment (81% vs. 65%; $P=0.008$). Presumptive treatment for suspected gonorrhoea was more common among GPs who were male, had postgraduate training in medicine, and worked in metropolitan areas (Appendix C Table 6.7a). Part-time GPs were more likely to offer presumptive treatment for gonorrhoea than their full-time counterparts. Male GPs were more likely to treat syphilis presumptively than their female counterparts (14% vs. 6%; $P=0.039$).

The GPs who reported using presumptive treatment for suspected STIs were asked to provide reasons for their action. About 76% of GPs treated suspected STIs presumptively because they could not wait for the laboratory

diagnosis (Figure 6.3). The next common reason for presumptive treatment, reported by 63% of GPs, was that patients were unlikely to come back for follow-up. About 42% of GPs offered presumptive treatment because of the recurring nature of the infection. Patients dislike having swabs taken and the lack of appropriate laboratory facilities were also reported as reasons for presumptive treatment by some GPs. Over one-fifth (22%) of GPs cited other reasons for presumptive treatment including: a high index of clinical suspicion, presence of clinical symptoms, symptoms suggesting an STI but a negative culture report, patient preference, treatment of partners of patients with known or confirmed infection, and patients (e.g. backpackers) who cannot afford the costs of laboratory testing.

Figure 6.3 Reasons given by GPs for presumptive treatment for STIs*



* applicable to GPs who offered presumptive treatments (n=364)

An attempt was made to examine whether any background and practice characteristics of GPs was associated with their offering presumptive treatment because patients dislike having swabs taken. The analysis revealed that such perception was more common among GPs who were male, worked in solo practices and in metropolitan areas (Table 6.4). For example, 20% of male GPs offered presumptive treatment because of patient's dislike of having swabs taken compared with about 11% of their female counterparts.

Table 6.4 Correlates of undertaking presumptive treatment due to patients' dislike of having swabs taken

Characteristics	%	<i>P</i> -value
Sex		
Male	20.2	0.017
Female	10.9	
Place of graduation		
Australia	11.3	<0.0001
Overseas	30.2	
Postgraduate training in STIs		
Yes	3.9	0.001
No	19.8	
Area of practice		
Rural	9.9	0.015
Metropolitan	19.7	
Nature of current practice		
Solo	25.9	0.023
Group	14.4	
Type of employment		
Part-time	10.3	0.041
Full-time	18.9	
Number of patients seen/week		
≤ 50	3.0	<0.0001*
51-100	16.0	
100-150	14.9	
151+	29.9	

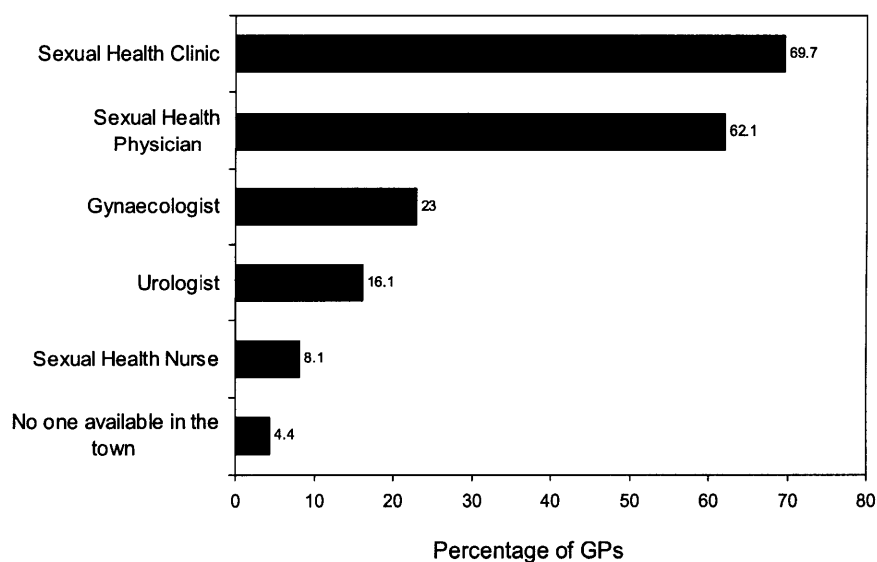
* Mantel-Haenszel (trend) chi-square *p*-value

A significantly greater proportion of GPs who graduated overseas, compared to locally trained GPs, undertook presumptive treatment because of patient's disliking of swabs being taken. Postgraduate training in STIs was inversely associated with GPs' undertaking presumptive treatment due to patient's dislike of having swabs taken.

6.2.4 Referral of STIs

Referring people with STIs to specialised facilities is often considered a preferred option for STI care, especially when GPs are not well resourced. In the present study GPs were asked to nominate the most appropriate health care provider/facility for STI referral. The most preferred options for STI referral were sexual health clinics (SHCs) and sexual health physicians (SHPs), reported by nearly 70% and 62% of GPs, respectively (Figure 6.4).

Figure 6.4 Health care provider/facility for STI referral by GPs



Twenty-three percent of GPs considered gynaecologists to be the appropriate referral for patients with STIs, while 16% considered urologists for STI referral.

Female and part-time GPs were more proactive in referring STI patients to a SHC (Table 6.5). Eighty percent of female GPs preferred to refer STI patients to a SHC compared to around 62% of their male counterparts. Referring patients to a SHC was found to be inversely associated with the average number of patients seen per week. However, there was no significant difference between metropolitan and rural GPs who preferred to refer STI patients to a SHC (71% vs. 68%).

Table 6.5 Correlates of STI referral to sexual health clinics

Characteristics	%	<i>P</i> -value
Sex		
Male	61.6	0.0001
Female	80.2	
Type of employment		
Part-time	78.7	0.008
Full-time	65.5	
Number of patients seen/week		
≤ 50	81.1	0.009*
51-100	73.3	
100-150	62.1	
151+	65.3	

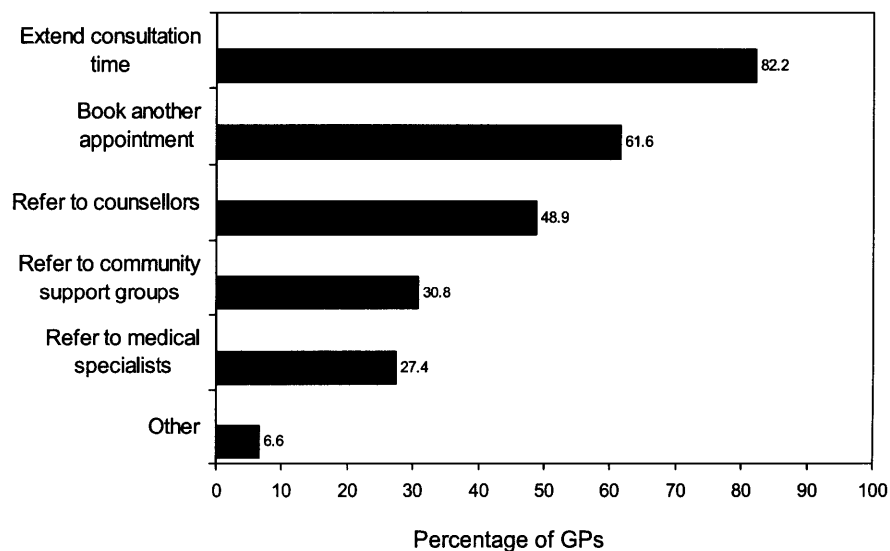
* Mantel-Haenszel (trend) chi-square p-value

General practitioners aged <40 years were less likely to refer patients with STIs to a SHP than their older counterparts aged ≥55 years (Appendix C Table 6.8a). Metropolitan GPs were more likely to refer STI patients to SHPs than were rural GPs.

6.2.5 Management of patients in distress

In the present study an attempt was made to explore how GPs deal with STI patients with moderate to severe psychological distress. The majority (82%) of GPs reported that they extended their consultation time to deal with STI patients in psychological distress (Figure 6.5). About 62% of GPs booked another appointment to provide patients with more information and counselling. Just less than half (49%) of GPs preferred to refer an STI patient in distress to a counsellor, while over a quarter referred to a community support group (nearly 31%) and a medical specialist (27%). Sexual health clinic was also mentioned by a few GPs as a place of referral to manage patients with moderate to severe psychological distress.

Figure 6.5 Actions taken by GPs for STI patients in distress



An analysis of association between background and practice characteristics of GPs and their strategies to deal with patients in distress revealed that GPs aged <40 years were more likely to extend their consultation time to deal with STI patients in distress than their older counterparts aged ≥ 55 years (Table 6.6). General practitioners who had postgraduate training in medicine, worked in group practices and had a lower patient caseload were more likely to extend their consultation time to manage STI patients with psychological distress.

Table 6.6 Correlates of managing distress by extending consultation times

Characteristics	%	<i>P</i> -value
Age (years)		
<40	89.1	0.005*
40-54	82.9	
55+	74.0	
Postgraduate training in medicine		
Yes	86.8	0.003
No	75.4	
Nature of current practice		
Solo	70.6	0.003
Group	85.0	
Duration of practice (years)		
≤ 10	86.1	0.042*
11-20	85.9	
21+	78.1	
Average patients seen/week		
≤ 50	87.8	0.007*
51-100	87.6	
100-150	79.3	
151+	74.7	

* Mantel-Haenszel (trend) chi-square p-value

Booking another appointment to provide information and counselling for patients with psychological distress was more common among GPs who were younger (aged <40 years), female, and had postgraduate training (Appendix C Table 6.9a). The analysis also revealed that GPs who worked part-time, practised in rural areas and involved in group practices were more likely to book another appointment to deal with patients in distress. Booking another appointment was found to be inversely associated with GPs' patient caseload. For example, about 72% of GPs who saw up to 50 patients per week booked another appointment to deal with patients in distress compared with around 51% of GP who saw more than 150 patients per week.

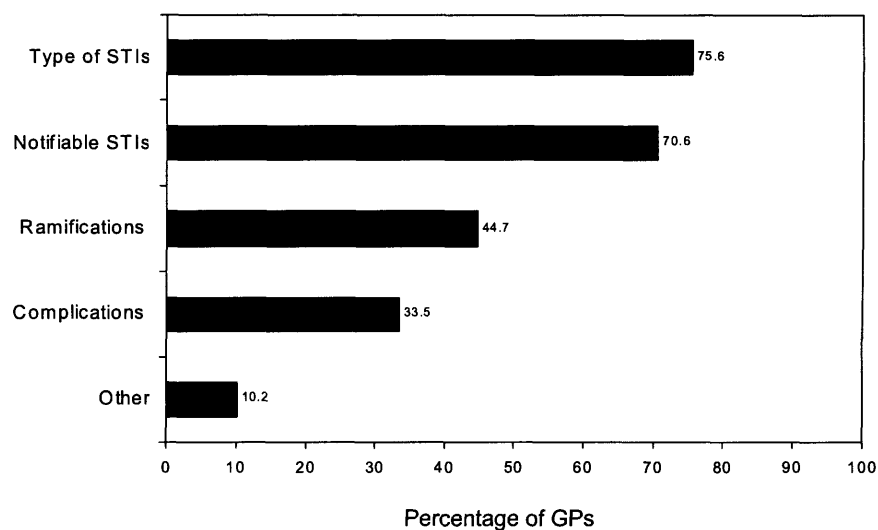
A further analysis revealed that GPs who graduated overseas compared with Australian graduates were more proactive in referring an STI patient in distress to a community support group (41% vs. 27%; $P=0.006$) or a counsellor (60% vs. 45%; $P=0.008$) or a medical specialist (41% vs. 23%; $P<0.0001$).

6.2.6 Contact tracing

In the present study GPs were asked about their involvement in contact tracing. Nearly half (49%) of GPs agreed that they should take responsibility for organising contact tracing for STIs. The GPs who were in favour of organising contact tracing ($n=197$) were also asked about criteria they would use. The two major criteria for contact tracing were: 'type of STIs' and 'notifiable STIs', reported by nearly 76% and 71% of GPs, respectively (Figure 6.6). Other

considerations for contact tracing included ramifications of STIs and complications of STIs (around 45% and 34%, respectively). Lack of time and Medicare reimbursement were reported by a few GPs (4%) as constraints to tracing contacts. About 3% of GPs believed that government departments (e.g. public health units) and sexual health clinics should conduct contact tracing.

Figure 6.6 Criteria for STI contact tracing by GPs*



* GPs who agreed on organizing contact tracing (n=197)

An analysis of association between the background and practice characteristics of GPs and their attitude towards contact tracing identified six variables to be significantly associated including: GPs' age, sex, type of employment, duration of practice, number of patients seen per week, and recent experience in diagnosing an STI (Table 6.7). To explore which of these factors were independently associated with contact tracing, multivariate logistic regression was undertaken. In the multivariate analysis, two of the six variables

were significantly associated with GPs' organising contact tracing. General practitioners who were in practice for more than 20 years had half the odds of organising contact tracing than their counterparts who were in practice for up to 10 years (Adj-OR=0.45, 95% CI=0.25-0.77). Also GPs who diagnosed an STI in the month preceding the survey were 1.6 times more likely to organise contact tracing than were GPs who did not diagnose any STI in the same period (Adj-OR=1.55, 95% CI=1.02-2.37).

Table 6.7 Logistic regression estimates of factors associated with GPs' organising contact tracing

Characteristics	%	Adj-OR (95% CI)
Age (years)		
<40	62.2 ^{*c}	NS
40-54	47.0	
55+	41.4	
Sex		
Male	43.9 ^b	NS
Female	56.1	
Type of employment		
Part-time	59.7 ^c	
Full-time	44.7	
Duration of practice (years)		
≤10	62.3 ^{*c}	Ref
11-20	53.4	0.74 (0.41–1.34)
21+	41.3	0.45 (0.25–0.77) ^c
Average patients seen/week		
≤ 50	64.3 ^{*b}	NS
51-100	48.1	
100-150	46.6	
151+	45.2	
Diagnosis of an STI in last month		
No	42.9 ^b	Ref
Yes	55.6	1.55 (1.02–2.37) ^b

b: p<0.05; c: p<0.01; NS=not significant; * Mantel-Haenszel (trend) chi-square p-value
Ref=reference; Adj-OR=adjusted odds ratio; CI=confidence interval

6.3 Conclusions

This chapter explored some important aspects of how STIs are managed in general practice. There were variations in offering diagnosis and treatment of STIs among the participating GPs, along with high rates of presumptive treatment and some reluctance to be involved in contact tracing. The key findings of the present chapter are summarised below.

Most GPs used a first-catch urine for PCR or LCR to investigate urethritis, while serological tests and viral culture were the most popular options to diagnose anogenital ulceration. Azithromycin and doxycycline were alternatively used by GPs to treat *C. trachomatis*. The majority of GPs used ciprofloxacin or ceftriaxone to treat uncomplicated gonorrhoea. Famciclovir, valacyclovir or acyclovir were used by GPs for treatment of genital herpes, while podophyllin solution was the main treatment of choice for genital warts.

Nine out of ten GPs reported undertaking presumptive treatment for a suspected STI. Over two-thirds used presumptive treatment for suspected chlamydia, genital warts, and genital herpes; however, it was fairly uncommon for syphilis. In general, presumptive treatment was more common among GPs who were younger and had postgraduate training either in medicine or STIs. The most common reason for presumptive treatment was that GPs could not wait for laboratory diagnosis, followed by the patient being unlikely to come back for the follow-up appointment. One out of six GPs offered presumptive treatment

because of a perception that the patients disliked swabs being taken. However, such a perception was more common among GPs who were female, graduated overseas, and worked in metropolitan areas.

To deal with patients in psychological distress, the majority of GPs reported extending their consultation time, while half referred patients to counsellors and less than one-third referred patients to community support groups. Extending time to manage patients in distress was more common among GPs who were younger, had postgraduate training, and worked in group practices. Overseas graduates were more likely to refer a patient with psychological distress to a counsellor or a community support group or a medical specialist compared to GPs trained in Australia.

The most preferred options for STI referral were sexual health clinics and sexual health physicians. Female GPs were more likely to refer patients with STIs to a sexual health clinic than their male counterparts. Metropolitan GPs were more proactive in referring STI patients to a sexual health physician. About half of the GPs resisted organising contact tracing for STIs. General practitioners who were in practice longer were less likely to consider contact tracing to be their responsibility. 'Type of STIs' and 'notifiable STIs' were the two most cited criteria for contact tracing. A third of GPs reported complications to be a criterion for contact tracing.

Chapter 7

Clinical Practice Style and STIs

7.1 Introduction

While accurate diagnosis and treatment plays a major role in STI management, the success of such endeavours is partly influenced by a GP's individual style of clinical practice. A real challenge for STI care, however, lies in identifying individuals who run the risk of contacting an STI. The ability to identify an individual's risks is particularly important because many STIs do not produce acute symptoms or clinical signs of disease, or sufficient symptoms for an individual to seek medical attention. The general medical encounter provides an ideal opportunity for GPs to raise STI issues during medical consultations, when a thorough sexual history can presumably be taken.

As described in Chapter 2, there is a lack of involvement of GPs in assessing patients' sexual health risks, and in many cases, sexual history taking is not a routine part of a general medical consultation. In addition, sexual histories are often taken in such a way that they are not specific enough to accurately identify a patient's risks. Screening for STIs in asymptomatic patients is fairly uncommon in general practice and practitioners are sometimes reluctant to offer opportunistic screening for STIs. This is of a particular concern given that many of the most common STIs are asymptomatic. Preventive measures for

STIs seem to be poorly integrated into routine general medical encounters. As documented in Chapter 2, many practitioners place low priority on prevention, while some feel that they are not responsible for offering preventive care. There are also instances when practitioners feel that sexual risk assessment or risk reduction is of little relevance to their patients and therefore it is inappropriate to raise the issue. Available evidence also suggests the presence of prejudicial attitudes among practitioners towards people with STIs; such attitudes can lead to discrimination and unfavourable treatment.

The present chapter explores different styles of clinical practice that GPs use when caring for patients with STIs. Data are presented on GPs' involvement in sexual history taking and any perceived barriers to that process. It also describes the self-reported comfort of GPs in dealing with different patients with STIs. General practitioners' attitudes towards offering chlamydia testing, the priority they give to different components of STI care, and providing information to patients with STIs are explored. Furthermore, demographic and practice characteristics of GPs associated with their style of STI care are also presented.

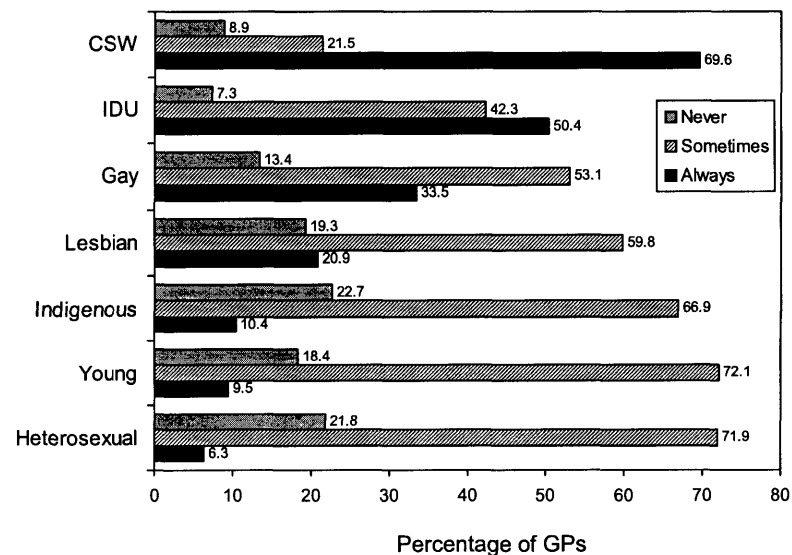
7.2 Results

7.2.1 Sexual history taking

To explore how GPs are involved in the process of patients' risk assessment for STIs, GPs in the present study were asked about their approach

to sexual history taking from patients when an STI was not the presenting complaint. The response options were: 'never', 'sometimes' and 'always'. The majority (nearly 70%) of GPs reported that they always took a sexual history from patients they knew to be commercial sex workers (CSWs), whereas 50% always took a sexual history from intravenous drug users (IDUs) (Figure 7.1). About 34% of GPs elicited a sexual history from gay patients, while around 21% took a sexual history if the patient was lesbian. Approximately 10% of GPs always took a sexual history from young and Indigenous patients. The univariate analysis also showed that about 23% of GPs reported never eliciting a sexual history from Indigenous patients and a similar proportion (nearly 22%) from heterosexual patients whose presenting complaint was not an STI.

Figure 7.1 Sexual history taking by GPs from patients without any complaint of STIs



An analysis of association between background and practice characteristics of GPs and their practice of sexual history taking (always vs. not always) revealed that younger GPs, compared to their older counterparts, were less likely to take a sexual history from a patient who was known to be either lesbian or IDU (Table 7.1). Taking a sexual history from a patient who was gay or lesbian or injected drugs was more common among GPs who graduated overseas and worked in metropolitan areas. For example, about 28% of GPs who graduated in Australia always took a sexual history from gay patients compared with 48% of their counterparts who graduated overseas. While 55% of metropolitan GPs regularly elicited a sexual history from people who inject drugs, this proportion was about 42% among rural GPs. Sexual history taking from gay and lesbian patients was inversely associated with GPs' patient caseload. General practitioners who worked full-time and in solo practices were more likely to take a sexual history from lesbian patients. Also, GPs who diagnosed an STI in the month prior to the survey were more likely to take a sexual history from CSW, IDU, gay and lesbian patients.

Bivariate analyses also revealed that younger GPs were less likely to take a sexual history from Indigenous and heterosexual patients (Appendix D Table 7.1a). Postgraduate training in medicine was positively associated with sexual history taking from Indigenous patients. Solo practitioners were more proactive in taking a sexual history from heterosexual patients than their counterparts who worked in group practices.

Table 7.1 Correlates of sexual history taking from different patients

Characteristics	CSW	IDU	Gay	Lesbian
Age (years)				
<40	NS	45.0 ^{*a}	NS	14.9 ^{*c}
40-54		49.0		18.3
55+		58.1		31.2
Place of graduation				
Australia	NS	44.9 ^d	27.9 ^e	15.5 ^e
Overseas		64.8	48.1	34.3
Postgraduate training in medicine				
Yes	73.0 ^a	NS	NS	NS
No	64.7			
Nature of current practice				
Solo	NS	NS	NS	29.1 ^b
Group				17.7
Area of practice				
Rural	NS	41.6 ^b	26.8 ^b	14.3 ^b
Metropolitan		55.0	37.1	24.4
Type of employment				
Part-time	NS	NS	27.2 ^a	14.3 ^b
Full-time			36.2	23.3
Number of patients seen/week				
≤50	NS	NS	26.4 ^{*b}	13.5 ^{*b}
51-100			27.9	16.5
101-150			38.4	27.7
151+			41.9	22.8
Diagnosis of STI in last month				
Yes	74.9 ^b	54.7 ^a	38.2 ^b	24.5 ^b
No	63.5	44.9	27.8	16.0

a: significant at $p < 0.10$; b: significant at $p < 0.05$; c: significant at $p < 0.01$; d: significant at $p < 0.001$; e: significant at $p < 0.0001$

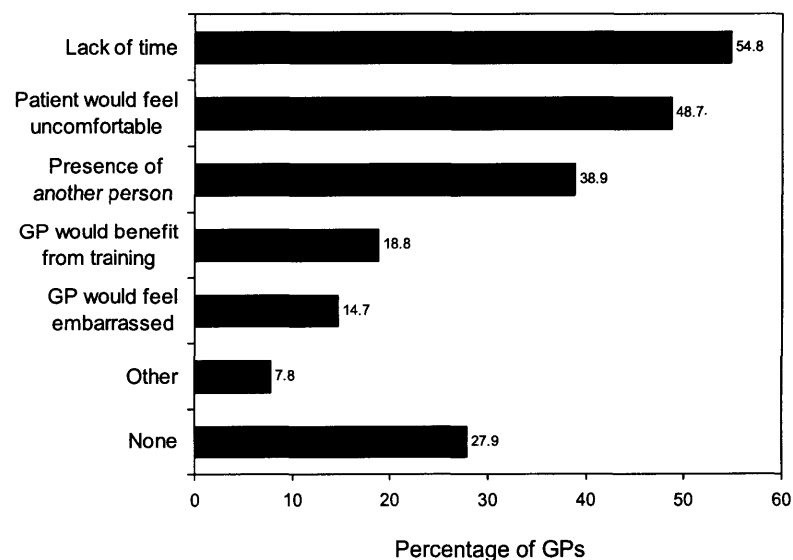
* p-value is calculated based on Mantel-Haenszel (trend) chi-square test

NS=not significant; CSW=commercial sex worker; IDU=intravenous drug user

7.2.2 Barriers to sexual history taking

Given the importance of the sexual history in assessing an individual's STI risks, GPs in the present study were asked to identify factors, if any, that constrain them from eliciting a sexual history from patients whose presenting complaints are not STIs. About 28% of GPs reported having no constraints in eliciting a sexual history from an asymptomatic patient (Figure 7.2). Lack of time was the most commonly cited constraint, reported by nearly 55% of GPs. About 49% of GPs reported that patients would feel uncomfortable if a sexual history was to be taken when they did not attend for an STI consultation. The presence of another person was also cited by nearly 39% of GPs as a reason for their not being able to take a sexual history. About 19% of GPs indicated that further training in sexual history taking could help them to elicit such a history.

Figure 7.2 Self-reported constraints in eliciting a sexual history



Bivariate analyses revealed that female and young GPs were more likely to report barriers in eliciting a sexual history (Table 7.2). General practitioners who worked in group practices felt more constrained in eliciting a sexual history than their counterparts who were in solo practices. Average number of patients seen per week was inversely associated with feeling constrained from eliciting a sexual history. Multivariate analysis identified only age as significantly associated with reporting barriers in taking a sexual history with younger GPs more likely to encounter barriers than their older counterparts.

Table 7.2 Correlates of reporting barriers in eliciting a sexual history

Characteristics	%	<i>P</i> -value
Sex		
Male	68.1	0.038
Female	77.4	
Age (years)		
<40	86.1	<0.0001*
40-54	73.2	
55+	55.0	
Nature of current practice		
Solo	63.5	0.036
Group	75.9	
Type of employment		
Part-time	78.0	0.076
Full-time	69.3	
Duration of practice (years)		
≤10	77.2	0.003*
11-20	85.2	
21+	60.4	
Average patients seen/week		
≤50	81.1	0.044*
51-100	72.4	
100-150	71.6	
151+	66.3	

* Mantel-Haenszel (trend) chi-square p-value

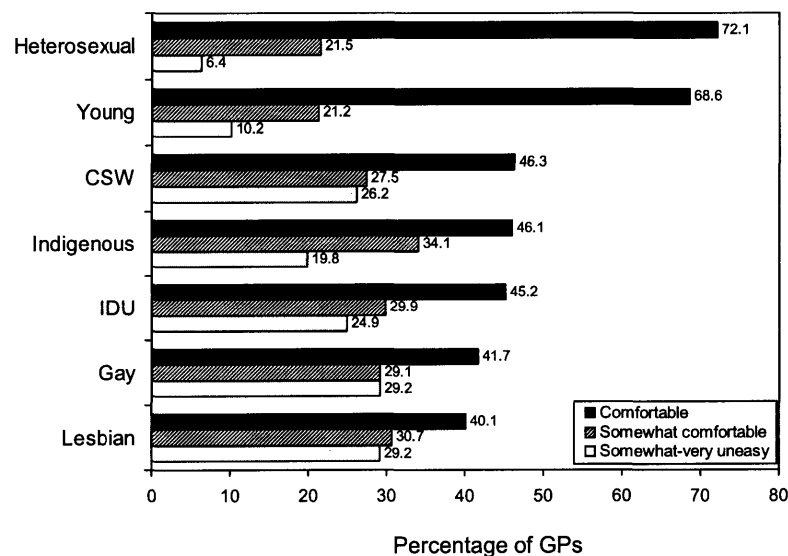
When correlates of particular barriers in sexual history taking were examined, female GPs compared with their male counterparts were more likely to encounter time constraints in eliciting a sexual history from a patient with a non-STI complaint (Appendix D Table 7.2a). Younger GPs (aged <40 years) were more likely to report time constraints than their older counterparts (aged \geq 55 years). General practitioners who worked in group practices were more likely to report time constraints in eliciting a sexual history. Younger GPs, compared to their older counterparts, were more concerned about patients feeling uncomfortable if a sexual history was taken (Appendix D Table 7.3a). A greater proportion of younger GPs than their older counterparts reported the presence of another person as a constraint in eliciting a sexual history (Appendix D Table 7.4a). General practitioners who had postgraduate training in medicine or worked part-time were more likely to consider the presence of another person as a constraint in taking a sexual history.

Bivariate analyses also revealed that a greater proportion of GPs who graduated in Australia, compared to their overseas trained counterparts, reported feeling embarrassed themselves in eliciting a sexual history from a patient with a non-STI complaint (Appendix D Table 7.5a). General practitioners without any postgraduate training were more likely to report the need for further training on sexual history taking (Appendix D Table 7.6a). Also, GPs with a longer duration of practice identified the need for additional training in sexual history taking in order to improve their practice.

7.2.3 Degree of comfort in dealing with STI patients

To quantify comfort levels, GPs were asked to rate how comfortable they were in dealing with different patients with STIs on a scale of four response categories: 'very uneasy', 'somewhat uneasy', 'somewhat comfortable' and 'comfortable'. Twenty-nine percent of GPs reported feeling 'somewhat to very uneasy' in dealing with gay and lesbian patients with STIs, and about a quarter felt so in dealing with CSWs (26%) and IDUs (25%) (Figure 7.3). About 20% of GPs reported that they felt 'somewhat to very uneasy' in dealing with Indigenous patients with STIs. However, the majority of GPs were found to be comfortable in dealing with heterosexual and young patients (72% and 69%, respectively) with STIs.

Figure 7.3 Self-reported comfort in dealing with patients with STIs



The univariate analysis also showed that overall 77% of GPs felt comfortable in dealing with patients with STIs, while the remaining were not so comfortable. Bivariate analyses revealed that overall GP comfort in dealing with STI patients was positively associated with being female, practising in rural areas, having postgraduate training in medicine or STIs, having a high patient caseload, and having diagnosed an STI in the month prior to the survey (Table 7.3).

Table 7.3 Logistic regression estimates of factors associated with GP comfort in dealing with STI patients

Characteristics	%	Adj-OR (95% CI)
Sex		
Male	73.7 ^a	NS
Female	80.8	
Area of practice		
Metropolitan	72.7 ^c	Ref
Rural	84.5	2.25 (1.24–4.06) ^c
Postgraduate training in medicine		
No	70.1 ^c	NS
Yes	81.4	
Postgraduate training in STIs		
No	70.7 ^d	Ref
Yes	82.2	3.90 (1.65–9.30) ^c
Number of patients seen/week		
≤50	66.2 ^{*c}	Ref
51-100	75.9	2.12 (1.06–4.27) ^b
101-150	75.8	2.10 (1.02–4.34) ^b
151+	86.7	3.85 (1.76–7.41) ^c
Diagnosis of STI in last month		
No	70.7 ^c	Ref
Yes	82.2	1.74 (1.04–2.91) ^b

a: significant at p<0.10; b: significant at p<0.05; c: significant at p<0.01; d: significant at p<0.001
 NS=not significant; Ref=reference; Adj-OR=adjusted odds ratio; CI=confidence interval

* Mantel-Haenszel (trend) chi-square p-value

The multivariate logistic regression analysis showed that rural GPs had more than double the odds of feeling comfortable in dealing with STI patients than their metropolitan counterparts after adjusting for other factors (Adj-OR=2.3, 95% CI=1.2-4.1) (Table 7.3). General practitioners who had postgraduate training in STIs were about four times more likely to feel comfortable in dealing with STI patients than were GPs who did not have this training (Adj-OR=3.9, 95% CI=1.7-9.3). There was an inverse association between GP comfort in dealing with STI patients and the average number of patients seen per week. For example, GPs who saw more than 150 patients per week had 3.8 times higher odds of feeling comfortable than were GPs who saw up to 50 patients. The analysis also revealed that diagnosis of an STI in the month prior to the survey was positively associated with GP comfort in dealing with patients with STIs (Adj-OR=1.7, 95% CI=1.04-2.9).

An attempt was also made to examine correlates of GP comfort in dealing with particular STI patients. The multivariate logistic regression analysis revealed that older GPs were more likely to report feeling comfortable in dealing with lesbian and Indigenous patients than their younger counterparts (Appendix D Table 7.7a). For example, GPs aged 55 years or over were three times more likely to feel comfortable in dealing with Indigenous patients than their younger counterparts aged <40 years (Adj-OR=3.1, 95% CI=1.6-5.9). Female GPs were more likely to be comfortable in dealing with young patients than their male counterparts (Adj-OR=2.1, 95% CI=1.3-3.3). Overseas graduates had half the odds of feeling comfortable in dealing with gay, lesbian, and Indigenous patients

compared with their Australian trained counterparts. General practitioners who had postgraduate training in STIs had double the odds of feeling comfortable in dealing with all patients except IDUs.

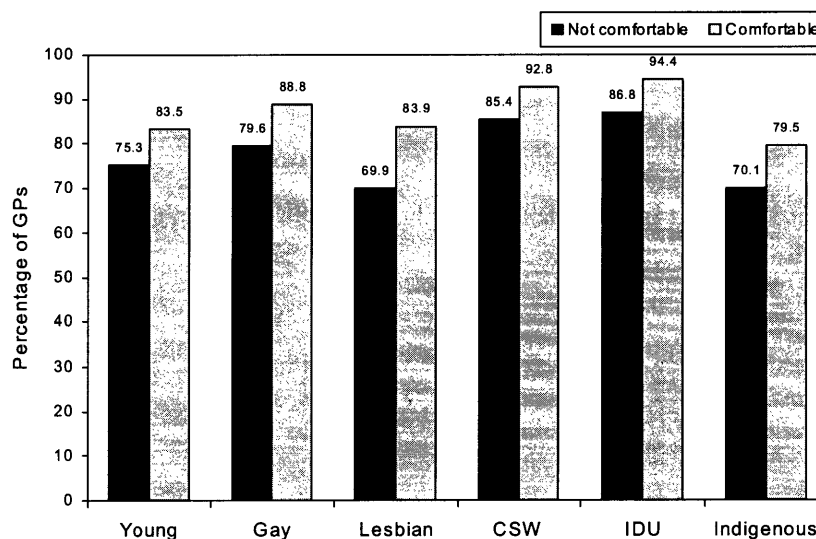
Rural GPs were more likely to be comfortable than their metropolitan counterparts in dealing with a patient who was lesbian, Indigenous, young or heterosexual. For example, GPs who worked in rural areas were 1.9 times more likely to report feeling comfortable in dealing with Indigenous patients than were GPs who worked in metropolitan areas (Adj-OR=1.9; 95% CI=1.2–3.0). There was a positive association between duration of practice and GP comfort in dealing with a patient who was CSW, IDU or gay. Diagnosis of an STI in the month preceding the survey was positively associated with GP comfort in dealing with CSW and IDU patients. For example, GPs who had recently diagnosed an STI were 1.6 times more likely to feel comfortable in dealing with IDUs than were GPs who did not diagnose any case (Adj-OR=1.6; 95% CI=1.1–2.5).

Is self-reported comfort related to STI care in general practice?

A further analysis was conducted to examine whether self-reported comfort in dealing with STI patients was linked to different aspects of STI care. Bivariate analyses revealed that GPs who were comfortable in dealing with STI patients were more likely to regularly (always) take a sexual history from CSWs than were GPs who were not so comfortable (74% vs. 55%, P=0.001). While

examining association between ever taking a sexual history and self-reported comfort, GPs who were comfortable in dealing with STI patients were more proactive in sexual history taking (Figure 7.4). For example, 84% of GPs who were comfortable took a sexual history from lesbian patients compared to 70% of their counterparts who were not so comfortable ($P=0.003$). Similarly, GPs who were comfortable were more likely to elicit a sexual history from an IDU than were GPs who were not comfortable (94% vs. 87%, $P=0.015$).

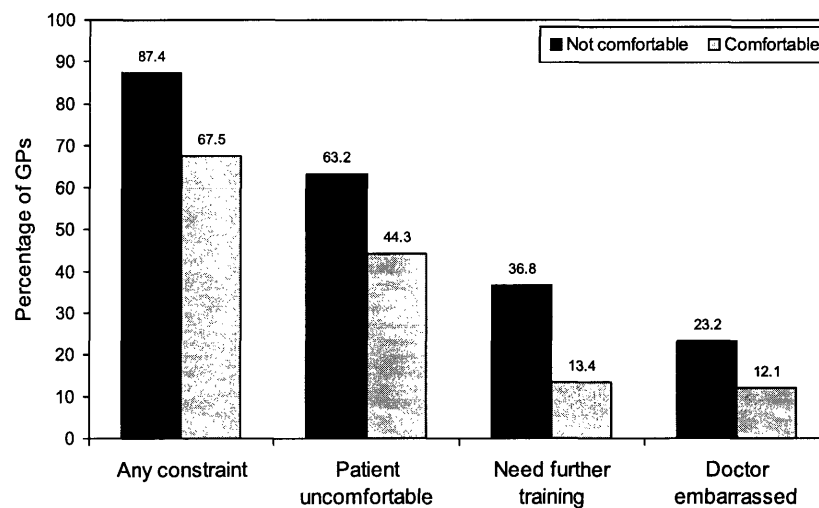
Figure 7.4 Ever taking a sexual history and self-reported comfort



The analysis also showed that GPs who were comfortable in dealing with STI patients were less likely to report constraints in sexual history taking (Figure 7.5). Forty-four percent of GPs who were comfortable reported patient embarrassment as a barrier to sexual history taking compared to 63% of GPs who were not comfortable ($P=0.022$). Furthermore, self-reported need for

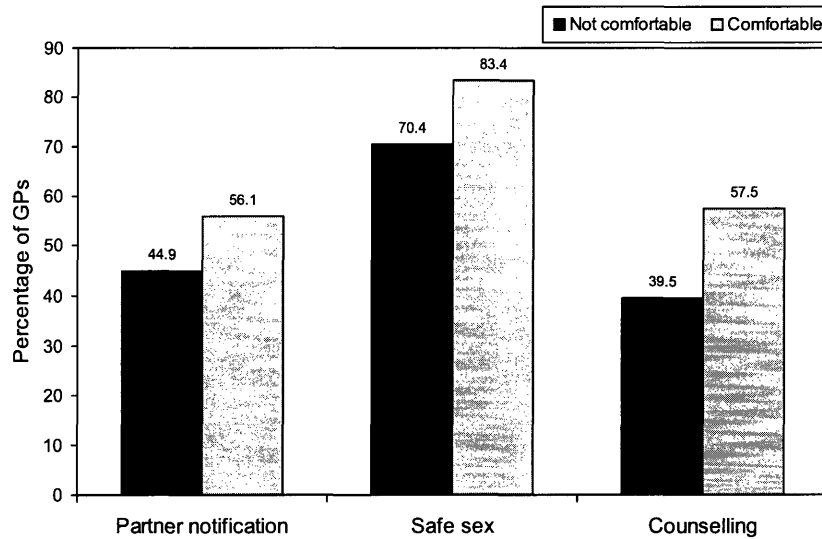
additional training on sexual history taking was less common among GPs who were comfortable than GPs who were not (13% vs. 37%, $P=0.0001$).

Figure 7.5 Barriers to sexual history taking and self-reported comfort



Priorities in STI care were positively associated with GPs' self-reported comfort in dealing with STI patients (Figure 7.6). For example, GPs who were comfortable were more likely to consider 'helping patients to understand safe sex' a high priority in STI care compared with GPs who were not comfortable (83% vs. 70%, $P=0.007$). A greater proportion of GPs who were comfortable considered provision of counselling to be a high priority in STI care than their counterparts who were not comfortable (58% vs. 40%, $P=0.003$).

Figure 7.6 Priorities in STI care and self-reported comfort

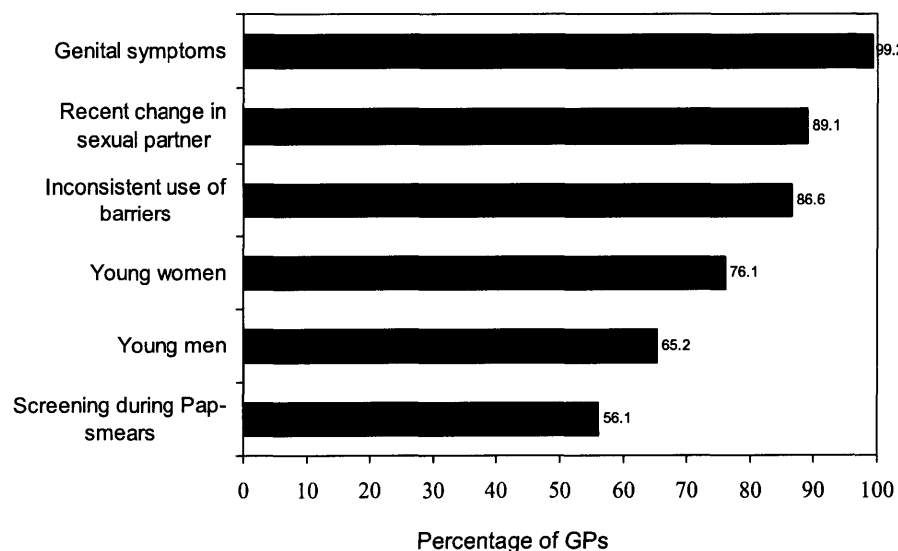


A further analysis revealed that a greater proportion of GPs who were comfortable with STI patients would like to offer chlamydia testing to patients who had inconsistent use of barriers compared to GPs who were not so comfortable (89% vs. 79%, $P=0.019$). General practitioners who were comfortable were more likely to have STI posters displayed in their clinics (24% vs. 14%, $P=0.039$), to have STI leaflets/pamphlets for their patients (52% vs. 37%, $P=0.017$), and to offer information on preventive measures against future STIs (88% vs. 75%, $P=0.002$). In addition, GPs who were comfortable were less likely to report their lack of influence in patients' risk behaviour than were GPs who were not so comfortable (9% vs. 31%, $P=0.022$).

7.2.4 Attitudes towards offering chlamydia testing

The present study investigated the views of GPs in offering testing for chlamydia in general practice. Almost all GPs (99%) were in favour of offering chlamydia testing to patients with genital symptoms (Figure 7.7). Eighty-nine percent of GPs reported that chlamydia testing should be offered to patients with a recent change in sexual partners, and about 87% were in favour of offering testing to patients with inconsistent use of barrier methods such as condoms. Three-quarters (76%) of GPs reported that young women under 25 years of age should be offered chlamydia testing, while nearly two-thirds (65%) were in favour of offering chlamydia testing to young men. Just over half (56%) of GPs felt that chlamydia testing should be offered to patients opportunistically at the time of a Pap smear, even if time and resources were available.

Figure 7.7 Attitudes toward offering chlamydia testing to different patients



An analysis of association revealed that opportunistic testing for chlamydia at the time of a Pap smear was found to be more common among female than male GPs (Table 7.4). Also, GPs with postgraduate training in STIs were more likely to offer opportunistic chlamydia testing to women during Pap smears compared to their counterparts who did not have this training.

Table 7.4 Correlates of offering chlamydia testing to patients at the time of a Pap smear

Characteristics	%	<i>P</i> -value
Sex		
Male	49.2	0.006
Female	64.6	
Postgraduate training in STIs		
Yes	71.6	0.004
No	51.8	

Bivariate analyses revealed that offering chlamydia screening to young women was associated with the GP being female, younger (<40 years), working part-time, in group practices, and having a lower patient caseload as well as having made a diagnosis of STI in the preceding month (Table 7.5). The analyses for GP characteristics associated with offering testing to young men were similar to those for young women. The only exception was that a higher proportion of GPs with postgraduate training in STIs indicated a willingness to offer chlamydia testing to young men although making a diagnosis of STI in the past month was not significantly associated with offering screening to young patients.

Table 7.5 Logistic regression estimates of factors associated with willingness to offer chlamydia testing to young patients

Characteristics	Young women		Young men	
	%	Adj-OR (95% CI)	%	Adj-OR (95% CI)
Sex				
Male	69.3 ^d	Ref	55.7 ^e	Ref
Female	84.8	1.94 (1.02–3.60) ^b	77.8	1.97(1.11–3.58) ^b
Age (years)				
<40	84.8 ^{*b}	NS	75.3 ^{*b}	NS
40-54	73.3		61.6	
55+	71.4		60.0	
Place of graduation				
Australia	77.5	NA	66.7	NA
Overseas	71.7		60.0	
Postgraduate training in STI				
Yes	82.4	NA	78.9 ^c	Ref
No	74.3		61.0	2.02 (1.04–3.93) ^b
Area of practice				
Metropolitan	77.5	NA	67.4	NA
Rural	73.6		60.9	
Nature of current practice				
Solo	63.1 ^c	NS	46.8 ^d	NS
Group	79.0		69.2	
Type of employment				
Part-time	86.2 ^d	Ref	80.2 ^e	Ref
Full-time	69.9	0.45 (0.23–0.98) ^b	56.8	0.49 (0.27–0.92) ^b
Number of patients seen/week				
≤ 50	85.3 ^{*b}	NS	78.3 ^{*d}	NS
51-100	78.3		71.4	
100-150	70.3		52.6	
151+	70.7		58.1	
Diagnosis of STI in last month				
Yes	79.6 ^a	NS	67.6	NA
No	71.6		61.9	

%=proportion of GPs who reported offering chlamydia testing; * Mantel-Haenszel chi-square p value; ^a P<0.10; ^b P<0.05; ^c P<0.01; ^d P<0.001; ^e P<0.0001; Ref= reference category; Adj-OR=adjusted odds ratio; CI=confidence interval; NS=not significant; NA=not significant at bivariate level.

Results of the multivariate logistic regression analyses revealed that female GPs were significantly more likely to be willing to offer chlamydia testing to young patients than their male counterparts (Table 7.5). For example, after adjusting for other factors female GPs had double the odds of offering chlamydia testing to young men compared to male GPs (Adj-OR=1.97, 95% CI=1.11-3.58). General practitioners who had postgraduate training in STIs were twice as likely to offer chlamydia testing to young men than were GPs who did not have that training (Adj-OR=2.02, 95% CI=1.04-3.93). While the nature of practice (solo vs. group) showed no significant association, GPs who worked full-time had half the odds of offering chlamydia testing to young women (Adj-OR=0.45, 95% CI=0.23-0.98) and young men (Adj-OR=0.49, 95% CI=0.27-0.92) than their counterparts who worked part-time.

Female GPs were more likely to offer chlamydia testing to patients with a recent change in sexual partners or inconsistent use of barriers than their male counterparts (Appendix D Tables 7.8a). For example, 94% of female GPs would like to offer chlamydia testing to patients who used barrier methods inconsistently compared with 80% of their male counterparts. Postgraduate training in STIs was positively associated with offering chlamydia testing to patients with a recent change in sexual partners. Offering chlamydia testing to patients with inconsistent use of barriers or a recent change of sexual partner decreased with an increase in the average number of patients seen per week by GPs.

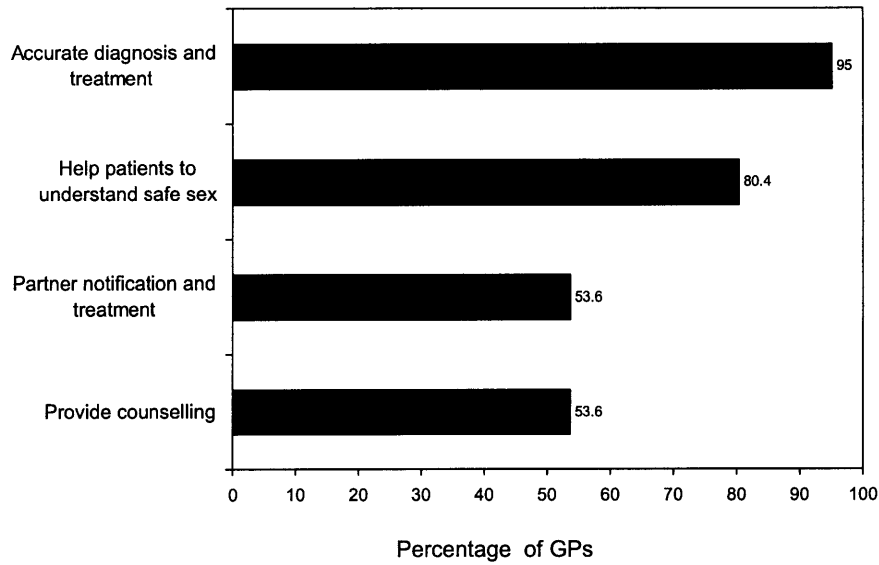
Should a vaginal swab be taken routinely?

General practitioners were also asked whether a vaginal swab should be routinely taken for culture from patients with a vaginal discharge. Over one-third (38%) of GPs reported routinely taking a vaginal swab for culture, while another 36% reported that routinely taking a vaginal swab for culture depends on a number of issues including nature of discharge (e.g. colour, quantity, consistency and smell), discharge accompanied by itching, rash or soreness, discharge associated with other symptoms, sexual history, and history of candida. A quarter (26%) of GPs was not in favour of routinely taking a vaginal swab for culture from all patients presenting with a vaginal discharge.

7.2.5 Priorities in STI care

To explore how GPs prioritise their role in managing patients with STIs, the study participants were asked to indicate their priorities for both curative and preventive components of STI care. The response categories included: 'high priority', 'moderate priority' and 'low priority'. Most GPs (95%) reported that their high priority in STI care was to make an accurate diagnosis and provide treatment (Figure 7.8). Helping patients to understand issues in safe sex was reported by 80% of GPs as high priority in the management of STIs. About 54% of GPs considered partner notification and treatment and provision of counselling to be their high priority in STI care.

Figure 7.8 Self-reported high priorities in management of STIs



Bivariate analyses revealed that helping patients to understand safe sex was regarded a high priority in STI care among GPs who were female, young, graduated overseas, had postgraduate training, and had a lower patient caseload (Table 7.6). The multivariate logistic regression analysis showed that GPs who were female and graduated overseas had more than double the odds of considering helping patients to understand safe sex to be a high priority in STI care (Adj-OR=2.4, 95% CI=1.4-4.3, Adj-OR=2.4, 95% CI=1.2-4.8, respectively).

Table 7.6 Logistic regression estimates of factors associated with assigning a high priority in helping patients to understand safe sex

Characteristics	%	Adj-OR (95% CI)
Sex		
Male	74.9 ^d	Ref
Female	87.9	2.42 (1.37–4.29) ^c
Age (years)		
<40	86.9 ^{**a}	NS
40-55	79.6	
55+	76.8	
Place of graduation		
Australia	77.6 ^c	Ref
Overseas	89.8	2.41 (1.20–4.84) ^b
Postgraduate training in medicine		
No	74.4 ^c	NS
Yes	84.8	
Postgraduate training in STIs		
No	78.3 ^b	NS
Yes	88.9	
Number of patients seen/week		
≤50	87.1 ^{*b}	NS
51-100	85.7	
101-150	75.4	
151+	77.7	

a: significant at $p < 0.10$; b: significant at $p < 0.05$; c: significant at $p < 0.01$; d: significant at $p < 0.001$

NS=not significant; Ref=reference; Adj-OR=adjusted odds ratio; CI=confidence interval

* Mantel-Haenszel (trend) chi-square p-value

The analysis also showed that partner notification and treatment was considered a high priority in STI care by a greater proportion of GPs who were older, graduated overseas, had postgraduate training in medicine, worked in metropolitan areas and had recent experience in diagnosing an STI (Table 7.7). The multivariate logistic regression analysis revealed that overseas graduates had double the odds of considering partner notification and treatment a high

priority compared to their counterparts who graduated in Australia (Adj-OR=2.1, 95% CI=1.3-3.4). Postgraduate training in medicine was found to be positively associated with considering partner notification and treatment to be a high priority in STI care (Adj-OR=1.5, 95% CI=1.02-2.3).

Table 7.7 Logistic regression estimates of factors associated with assigning a high priority to partner notification and treatment

Characteristics	%	Adj-OR (95% CI)
Age (years)		
<40	47.0 ^a	NS
40-55	53.2	
55+	61.5	
Place of graduation		
Australia	48.8 ^c	Ref
Overseas	66.4	2.10 (1.32–3.36) ^c
Postgraduate training in medicine		
No	46.9 ^b	Ref
Yes	58.2	1.54 (1.02–2.32) ^b
Area of practice		
Metropolitan	56.8 ^a	NS
Rural	47.9	
Diagnosis of STI in last month		
No	51.7 ^a	NS
Yes	42.6	

a: significant at $p < 0.10$; b: significant at $p < 0.05$; c: significant at $p < 0.01$

NS=not significant; Ref=reference; Adj-OR=adjusted odds ratio; CI=confidence interval

* Mantel-Haenszel (trend) chi-square p-value

In bivariate analyses, six variables were found to be associated with considering counselling to be a high priority in STI care, while only three were statistically significant in multivariate analysis (Table 7.8). The multivariate analysis revealed that provision of counselling in STI care was considered to be

a high priority among female GPs. Metropolitan GPs were 1.7 times more likely to consider counselling in STI care a high priority compared to their rural counterparts (Adj-OR=1.7, 95% CI=1.1-2.7). General practitioners who had postgraduate training in medicine had double the odds of considering counselling to be a high priority in STI care than GPs who did not have this training (Adj-OR=2.1, 95% CI=1.2-3.7).

Table 7.8 Logistic regression estimates of factors associated with assigning a high priority in counselling

Characteristics	%	Adj-OR (95% CI)
Sex		
Male	47.3 ^c	Ref
Female	61.5	1.58 (1.02–2.43) ^b
Area of practice		
Rural	47.1 ^a	Ref
Metropolitan	57.1	1.70 (1.08–2.65) ^b
Postgraduate training in medicine		
No	48.4 ^a	NS
Yes	57.1	
Postgraduate training in STIs		
No	48.9 ^d	Ref
Yes	70.4	2.11 (1.22–3.67) ^c
Diagnosis of STI in last month		
No	48.3 ^a	NS
Yes	57.3	

a: significant at p<0.10; b: significant at p<0.05; c: significant at p<0.01; d: significant at p<0.001
NS=not significant; Ref=reference; Adj-OR=adjusted odds ratio; CI=confidence interval

7.2.6 Provision of patient education

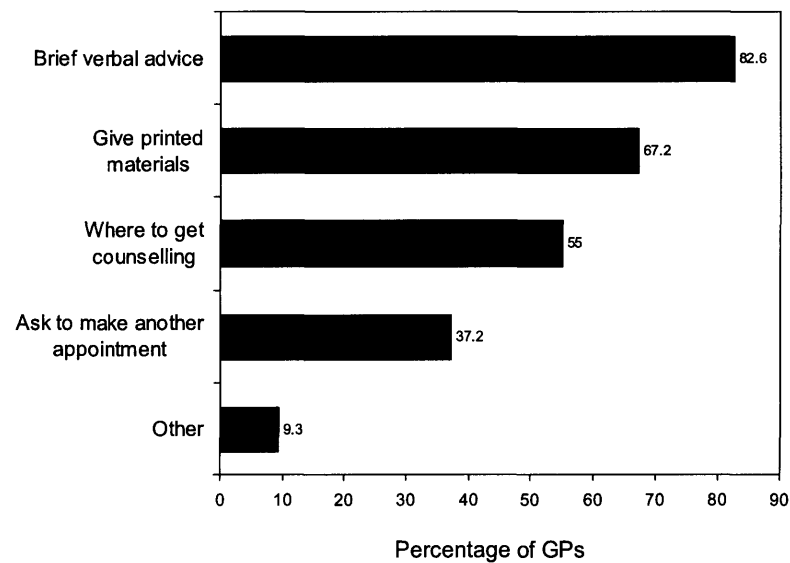
In order to explore GPs' involvement in offering STI information, GPs in the present study were asked whether they provide information to their patients on three major issues about STIs: mode of transmission of STIs, importance of partner treatment, and preventive measures against future STIs. The response categories included: 'yes-always', 'yes-as per request/need', and 'no'. More than four in five GPs always provided their patients with information on all the three issues (Table 7.9). However, some GPs provided patients with information on these issues only when requested by patients or deemed necessary by GP.

Table 7.9 Information provided by GPs to patients with STIs

Information provided	GPs	Proportion of GPs reported		
		Yes-always	Yes-selectively	No
Mode of transmission of STIs	405	84.4	14.6	1.0
Importance of partner treatment	404	86.1	13.4	0.5
Preventive measures against STIs	401	85.3	14.0	0.7

When asked about GPs' approach to providing information to their patients with STIs, the majority (nearly 83%) reported giving brief verbal advice (Figure 7.9). Two-thirds (67%) of GPs provided patients with printed material, and 55% advised their patients about where to get counselling. Over one-third (37%) of GPs reported that they asked their patients to read the printed material and to make another appointment.

Figure 7.9 Approaches to provide information to patients with STIs



Bivariate analyses revealed that younger and female GPs were more likely to provide printed material on STIs to their patients (Table 7.10). For example, about 83% of female GPs offered printed material to their patients compared with around 56% of their male counterparts. Postgraduate training in medicine was found to be positively associated with providing printed material to patients with STIs. Use of printed material for STI information was more common among GPs who worked in group practices and on part-time basis. The analysis also revealed that providing printed material was inversely associated with the average number of patients seen per week. There was no association between offering printed material and provision of counselling.

Table 7.10 Correlates of providing patients with *printed material on STIs*

Characteristics	%	P-value
Sex		
Male	55.6	<0.0001
Female	82.5	
Age (years)		
<40	81.2	<0.0001*
40-54	67.8	
55+	53.0	
Postgraduate training in medicine		
Yes	71.5	0.027
No	61.1	
Nature of current practice		
Solo	55.3	0.025
Group	71.0	
Type of employment		
Part-time	74.8	0.007
Full-time	64.8	
Average patients seen/week		
≤ 50	83.8	0.0001*
51-100	69.5	
100-150	68.1	
151+	55.8	
Diagnosis of STI in last month		
Yes	75.3	0.001
No	59.2	

* Mantel-Haenszel (trend) chi-square p-value

Female and younger GPs were more likely to ask their patients to read printed material and to make another appointment for further discussion (Appendix D Table 7.9a). For example, about 45% of female GPs asked their patients to make an appointment for discussion compared with 31% of their male counterparts.

7.3 Conclusions

This chapter explored GP styles of clinical practice, and identified varied approaches used by GPs in STI care. Sexual history taking was poorly integrated into the general medical examination. Although over two-thirds of GPs regularly elicited a sexual history from CSWs, about one-fifth of GPs reported never taking a sexual history from a patient who was lesbian or Indigenous. In general, sexual history taking was found to be more common among GPs who were older (aged ≥ 55 years), graduated overseas, worked in metropolitan areas, and had recent experience in diagnosing an STI.

Nearly three-quarters of GPs reported encountering constraints in eliciting a sexual history from a patient whose presenting complaint was not an STI. Lack of time was the most commonly cited barrier in sexual history taking, while another major concern was that patients might feel uncomfortable if a sexual history was taken. General practitioners who were female, younger, and worked in group practices were more likely to feel constrained in eliciting a sexual history from a patient with a non-STI complaint.

Although the majority of GPs were found to be comfortable in dealing with heterosexual and young patients, a quarter reported feeling 'somewhat to very uneasy' in dealing with gay, lesbian, CSW and IDU patients. General practitioners who were not comfortable in dealing with STI patients were less likely to take a sexual history and more likely to report constraints in eliciting a sexual history. General practitioners who had postgraduate training in STIs,

worked in rural areas, had a high patient caseload, and had recent experience in diagnosing an STI were more likely to be comfortable in dealing with patients with STIs.

The vast majority of GPs would like to offer chlamydia testing to patients with genital symptoms or high-risk behavior, and three-quarters were in favour of testing young women for chlamydia. However, just over half reported that chlamydia testing should be offered to patients opportunistically at the time of a Pap smear. Generally, GPs who were female, had postgraduate training in STIs, worked part-time, and had a lower patient caseload were more likely to offer chlamydia testing to patients in general practice.

Most GPs considered accurate diagnosis and treatment to be a high priority in STI care, while four-fifths felt helping patients to understand issues in safe sex was a high priority. However, just over half considered partner notification and the provision of counselling to be a high priority in STI care. More than four out of five GPs always provided their STI patients with information on transmission and prevention of STIs and the importance of partner notification. Two-thirds of GPs provided printed STI material to their patients and just over half advised about where to get counselling. Female and younger GPs were more likely to provide patients with printed STI material. Offering printed STI material was also common among GPs who had postgraduate training in medicine and worked in group practices.

Chapter 8

Organisational Issues in STI Care

8.1 Introduction

General practitioners are well placed to contribute to disease prevention and facilitate health promotion as for many individuals GPs are the first, and in some cases the only, contact with primary health care providers. It may be straightforward for GPs to offer STI care for patients who present in general practice with signs and symptoms of an STI, however, considerable skills may be needed to offer care to patients whose presenting complaints do not appear to be related to STIs. As illustrated in Chapter 2, there is a documented lack of skills among some GPs in dealing with the changing demands of sexual health. Medical curricula continue to offer education related to sexual health in a fragmented way, and practitioners often find themselves not adequately prepared to offer comprehensive STI care.

The general medical encounter provides a unique opportunity to offer individualised information based on a patient's risks. In addition, GPs are often considered to be a credible source of 'lifestyle advice'. However, they may not be adequately involved in the process of prevention and promotional activities in general practice, as shown in Chapter 2. In addition, many GPs have a perception that they are not responsible for prevention of disease. While GPs

work under strict time-pressures, involvement in any activity other than a patient's presenting complaints requires a supportive environment that facilitates their more proactive role. Therefore, it is important to develop an understanding about how GPs perceive different issues that could inhibit them from offering optimal STI care in general practice.

This chapter presents GPs' views on organisational issues in relation to different aspects of STI care. In particular, the present chapter describes how GPs feel about the adequacy of training and educational resources for primary care providers; provision of patient information and education; and perceived constraints, if any, in promoting sexual health in general practice. The demographic and practice characteristics of GPs associated with their views on different organisational issues of STI care are also examined.

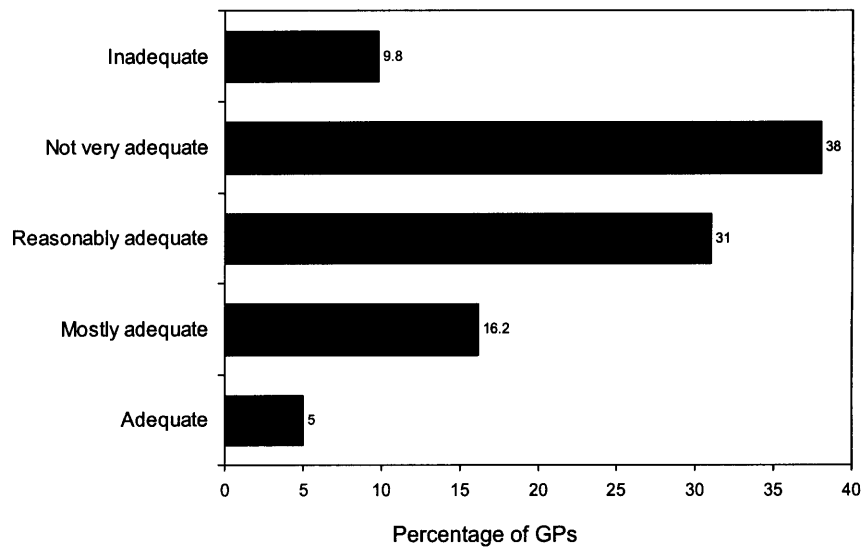
8.2 Results

8.2.1 Adequacy of sexual health training

To examine the adequacy of sexual health training for primary care providers, GPs in the present study were asked to indicate their views on a scale of five choices: 'adequate', 'mostly adequate', 'reasonably adequate', 'not very adequate', and 'inadequate'. About 10% of GPs reported that the sexual health training for primary care providers was 'inadequate', while more than a third (38%) considered the training to be 'not very adequate' (Figure 8.1).

Twenty-one percent of GPs indicated that the training in sexual health for primary care providers was 'mostly adequate' or 'adequate'.

Figure 8.1 Adequacy of sexual health training for primary care providers



Bivariate analyses revealed that younger GPs were more likely to view the sexual health training as 'reasonable to adequate' than their older counterparts (Table 8.1). Postgraduate training, either in medicine or STIs, was significantly associated with GPs' views about the adequacy of sexual health training. For example, two-thirds (66%) of GPs who had postgraduate training in STIs considered the sexual health training to be 'reasonable to adequate' compared with nearly 49% of GPs who did not have this training.

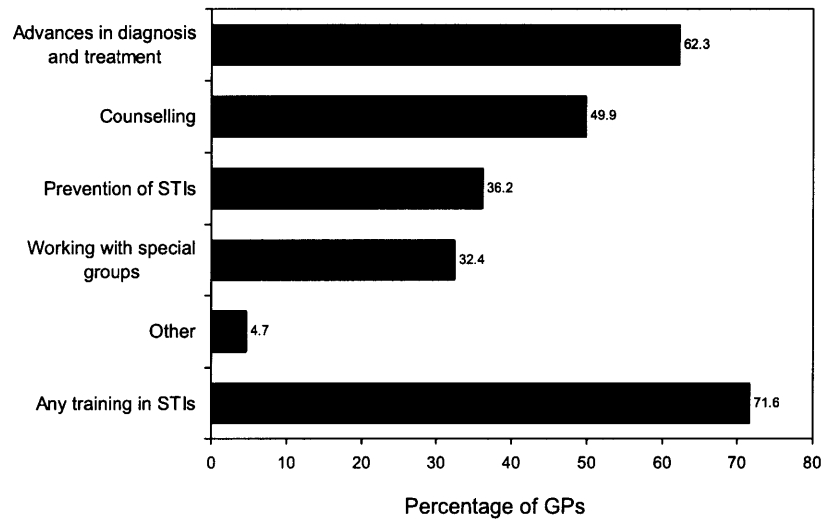
Table 8.1 Correlates of adequacy of sexual health training for primary care providers

Characteristics	Reasonable-Adequate (%)	P-value
Age (years)		
<40	62.4	0.048*
40-55	49.0	
55+	48.4	
Postgraduate training in medicine		
Yes	56.7	0.030
No	45.6	
Postgraduate training in STIs		
Yes	66.3	0.005
No	48.7	
Type of employment		
Part-time	57.9	0.087
Full-time	48.6	
Diagnosis of STI in last month		
Yes	56.0	0.072
No	46.1	

* Mantel-Haenszel (linear-by-linear) chi-square p-value

In relation to perceived benefits of further training in sexual health, nearly 72% of GPs indicated the need for additional training in sexual health (Figure 8.2). The majority (62%) of GPs would like to have additional training in diagnosis and treatment of STIs, while about 50% preferred further training in counselling. Over one-third (36%) of GPs wanted to have training in preventing STIs, and 32% were in favour of further training in working with special groups (e.g. gay and Indigenous clients). Just over a quarter (28%) of GPs did not want any further training in sexual health, because they did not have a sufficient STI caseload (20%) or they had enough skills already (13%).

Figure 8.2 Perceived needs for additional training in sexual health^a

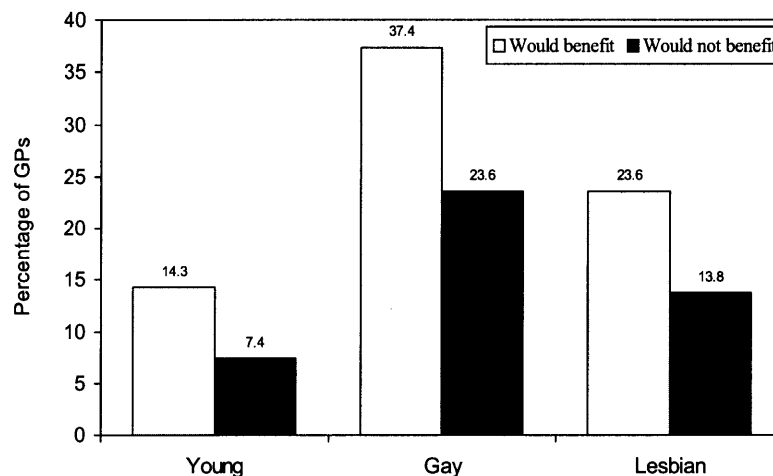


^a some GPs provided more than one response

While examining factors associated with perceived needs for additional training in sexual health, a greater proportion of GPs who did not have postgraduate training in STIs were found to be in favour of additional training in diagnosis and treatment, counselling, and prevention of STIs (Appendix E Table 8.1a). For example, about 46% of GPs who had postgraduate training in STIs would like to have further training in diagnosis and treatment of STIs compared with nearly 67% of their counterparts who did not have this training. Metropolitan GPs were more likely to want further training in counselling and prevention than their rural counterparts. General practitioners who were younger, worked part-time and in group practices were more likely to want additional training in how to work with special groups (e.g. gay and Indigenous clients).

A further analysis revealed that GPs who did not want any further training in sexual health were found to be less involved in sexual history taking (Figure 8.3). For example, about 24% of GPs who did not want to have further training reported taking a sexual history from gay patients compared to 37% of their counterparts who wanted to have further training ($P=0.010$). Similarly, taking a sexual history from lesbian patients was less common among GPs who were not in favour of additional training in sexual health (14% vs. 24%, $P=0.032$).

Figure 8.3 Sexual history taking by perceived benefits from additional training in sexual health



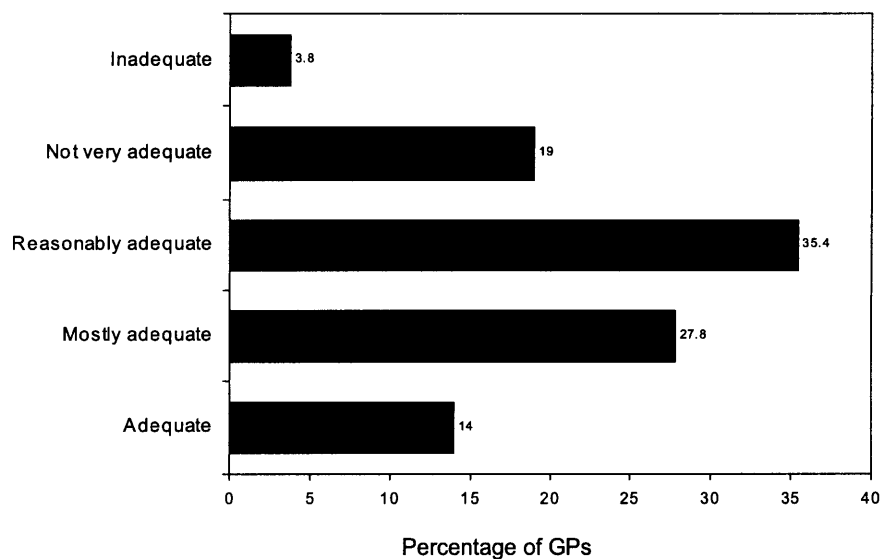
General practitioners who wanted additional training in sexual health were more likely to have STI printed material in their clinics for patients (55% vs. 36%, $P=0.001$) and have STI posters displayed in their clinics (24% vs. 15%, $P=0.042$). Offering chlamydia testing to young patients was more common among GPs who would like to have additional training than were GPs who did

not want any further training (79% vs. 69%, $P=0.052$ for women; 68% vs. 56%, $P=0.033$ for men). Giving patients verbal advice about STIs was less common among GPs who considered sexual health training to be 'adequate' or 'mostly adequate' than were GPs who considered the training to be 'inadequate' or 'not very adequate' (77% vs. 88%, trend $P=0.012$).

8.2.2 Adequacy of the professional literature on STIs

While examining the adequacy of professional literature on STIs for GPs, 14% reported considering the literature to be 'adequate', and nearly 28% found the literature to be 'mostly adequate' (Figure 8.4). Nineteen percent of GPs considered the professional literature to be 'not very adequate', while some 4% regarded the literature as 'inadequate'.

Figure 8.4 Adequacy of professional literature on STIs for GPs



Bivariate analyses revealed that Australian graduates, compared to their overseas trained counterparts, were more likely to consider the professional literature on STIs to be 'reasonable to adequate' (Table 8.2). A greater proportion of GPs in group practices indicated that the professional literature was 'reasonable to adequate' than GPs in solo practices.

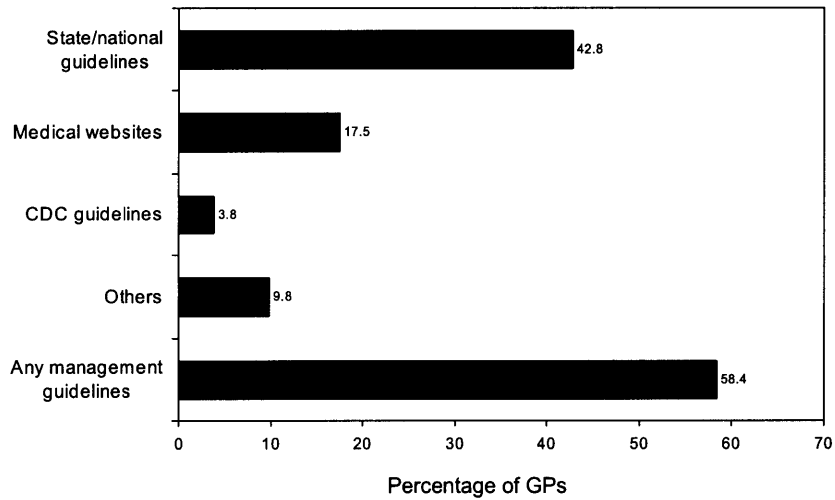
Table 8.2 Correlates of adequacy of professional literature on STIs for GPs

Characteristics	Reasonable-Adequate (%)	P-value
Place of graduation		
Australia	79.3	0.053
Overseas	70.8	
Nature of practice		
Solo	68.3	0.030
Group	79.7	

8.2.3 Management guidelines for STIs

General practitioners in the present study were asked whether they had a copy of any STI management guidelines to consult with. More than half (58%) of GPs reported having a copy of STI management guidelines (Figure 8.5). About 43% of GPs had a copy of national or state guidelines for the management of STIs, while nearly 18% reported using medical websites as their guidelines for managing STIs. Only a few (4%) GPs had the Centers for Disease Control and Prevention (CDC) guidelines for treating STIs.

Figure 8.5 Management guidelines for STIs^a



^a some GPs provided more than one response

Bivariate analyses revealed that Australian graduates were more likely to have a copy of STI management guidelines than their overseas trained counterparts (Table 8.3). Postgraduate training, either in medicine or STIs, was found to be positively associated with having a copy of STI management guidelines. A greater proportion of rural GPs than their metropolitan counterparts reported having a copy of the guidelines. General practitioners who diagnosed an STI in the month preceding the survey were more likely to have a copy of STI management guidelines.

Table 8.3 Correlates of having a copy of management guidelines for STIs

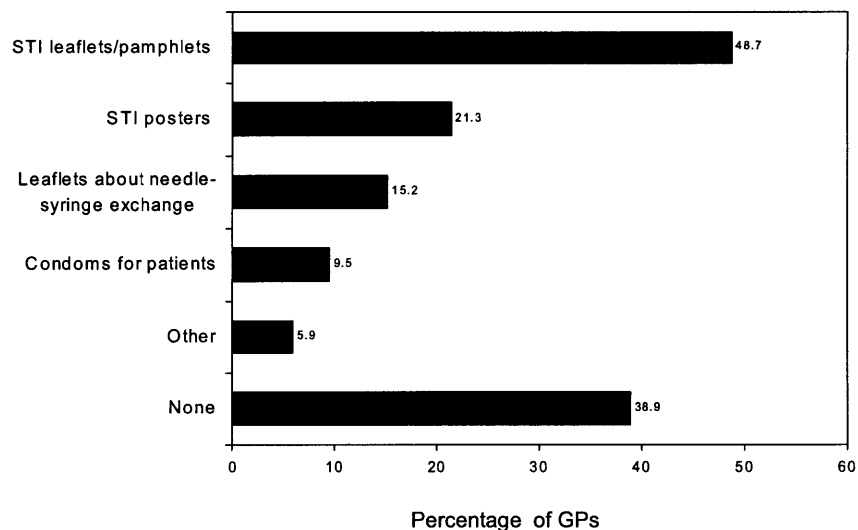
Characteristics	%	<i>P</i> -value
Place of graduate training		
Australia	65.3	<0.0001
Overseas	41.7	
Postgraduate training in medicine		
Yes	64.9	0.001
No	48.8	
Postgraduate training in STIs		
Yes	76.3	<0.0001
No	54.0	
Area of practice		
Rural	65.2	0.044
Metropolitan	54.8	
Nature of current practice		
Solo	47.6	0.026
Group	61.3	
Diagnosis of STI in last month		
Yes	63.9	0.017
No	52.0	

Having a copy of STI guidelines was found to be associated with some aspects of STI care. For example, GPs who had a copy of STI management guidelines were more likely to use a single-dose azithromycin (64% vs. 49%, $P=0.003$), and less likely to use doxycycline (36% vs. 51%, $P=0.003$) to treat chlamydia. Also, a greater proportion of GPs who had the guidelines were in favour of organising contact tracing for STIs (54% vs. 43%, $P=0.028$). They were also more likely to have STI leaflets (55% vs. 40%, $P=0.003$) and to offer printed STI material to their patients (74% vs. 59%, $P=0.002$).

8.2.4 Availability of STI material for patients

In the present study GPs were asked whether they had STI material for patients in their clinics. About 39% of GPs reported not having any STI material in their clinics for patients (Figure 8.6). Nearly 49% of GPs reported that they had STI leaflets or pamphlets for patients in their clinics. Posters on STIs were displayed in the waiting room of 21% of GPs. Nearly 10% of GPs reported that condoms were available in their clinics for patients.

Figure 8.6 Availability of STI material for patients in GP clinics^a



^a some GPs provided more than one response

An analysis of association between background and practice characteristics of GPs and having STI material for patients revealed that GPs with postgraduate training either in medicine or STIs were more likely to have STI material in their clinics than their counterparts who did not have this training

(Table 8.4). For example, about 67% of GPs with postgraduate training in medicine reported having STI material in the clinics compared with nearly 53% of GPs who did not have this training. Recent experience in diagnosing an STI was positively associated with having STI material in GP clinics.

Table 8.4 Correlates of having STI material in GP clinics

Characteristics	%	<i>P</i> -value
Area of practice		
Rural	55.6	0.091
Metropolitan	64.0	
Postgraduate training in medicine		
Yes	66.9	0.004
No	52.7	
Postgraduate training in STIs		
Yes	70.4	0.051
No	58.9	
Diagnosis of STI in last month		
Yes	67.1	0.009
No	54.3	

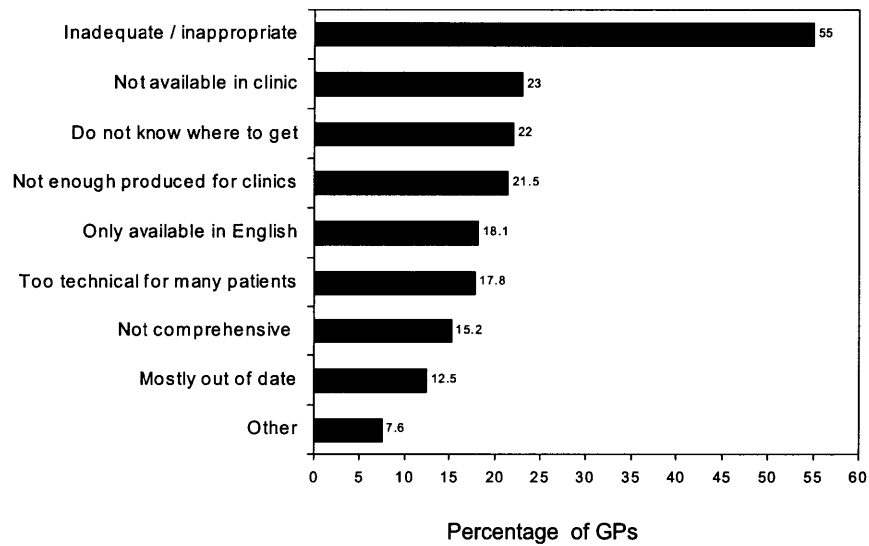
Bivariate analyses also revealed that female GPs were more likely to have leaflets or pamphlets on STIs in their clinics than their male counterparts (Appendix E Table 8.2a). Having leaflets or pamphlets in clinics was more common among GPs who had postgraduate training in medicine and diagnosed an STI in the month prior to the survey. The analysis also revealed that GPs with a low patient caseload were more likely to have STI leaflets in their clinics than were GPs with a high patient caseload. Having STI posters displayed in the waiting room of clinics was found to be more common among GPs who graduated overseas and had recent experience in diagnosing an STI.

General practitioners who had postgraduate training, either in medicine or STIs, were more likely to have condoms for patients in their clinics (Appendix E Table 8.3a). A higher proportion of GPs who worked part-time reported having condoms in their clinics for patients. Younger GPs, compared with their older counterparts, were less likely to have leaflets about needle-syringe exchange in their clinics for patients (Appendix E Table 8.4a). Leaflets on needle-syringe exchange were available among a greater proportion of GPs who graduated overseas and had postgraduate training in medicine. For example, 22% of overseas graduates had leaflets about needle-syringe exchange in their clinics compared to 13% of their counterparts who graduated in Australia.

8.2.5 Concerns about printed STI material for patients

General practitioners in the present study were asked about their concerns, if any, regarding printed STI material available for their patients. More than half (55%) of GPs considered current STI material for patients to be inadequate and inappropriate (Figure 8.7). Over one-fifth reported that STI information material for patients were not available in their practice (23%), or that they did not know where to get STI material for patients (22%), or that not enough was produced for clinics (nearly 22%). About 18% of GPs viewed the patient material as too technical for many patients. Fifteen percent of GPs considered the available STI material to be not comprehensive, while nearly 13% considered them to be mostly out-of-date.

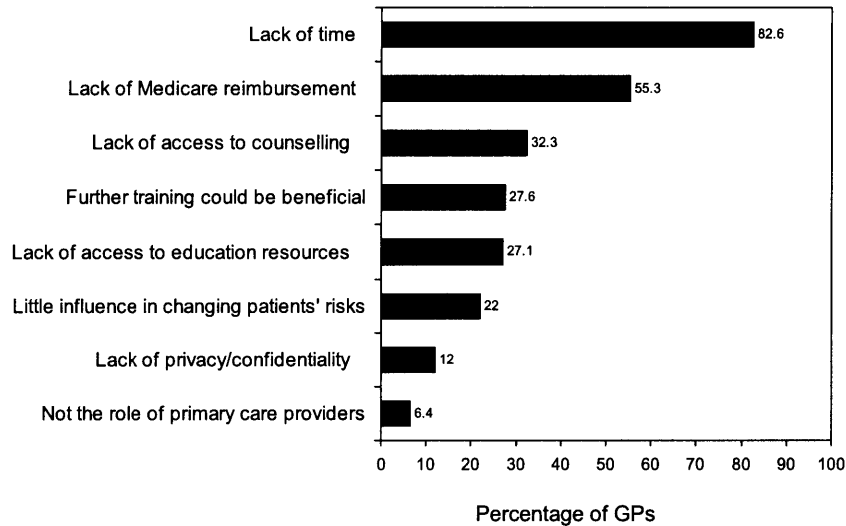
Figure 8.7 Concerns about printed STI material for patients^a



8.2.6 Barriers to sexual health promotion

Almost all GPs (98%) reported encountering barriers in offering sexual health promotion in general practice. The most commonly cited constraint in offering sexual health promotion was lack of time, reported by nearly 83% of GPs (Figure 8.8). Lack of Medicare reimbursement was reported by 55% of GPs as a barrier to sexual health promotion. Inadequate access to counselling and education resources was reported by over a quarter of GPs as a barrier to sexual health promotion. About 28% of GPs emphasised that further preventive care training could benefit their practice of health promotion. Twenty-two percent of GPs felt that they had a lack of influence in changing patient risk behaviour, while a few GPs (6%) believed that sexual health promotion was not their role.

Figure 8.8 Barriers to sexual health promotion in general practice^a



^a some GPs provided more than one response

Bivariate analyses revealed that female and younger GPs were more likely to report time constraints in offering sexual health promotion in general practice (Table 8.5). For example, 91% of female GPs reported lack of time as a barrier to sexual health promotion compared with 76% of their male counterparts. Time constraints were more commonly reported by GPs who had postgraduate training in medicine and worked in group practices. About 86% of GPs who were in group practices reported lack of time as a barrier to sexual health promotion compared with nearly 73% of solo practitioners.

Table 8.5 Factors associated with reported time constraints in sexual health promotion

Characteristics	%	<i>P</i> -value
Sex		
Male	76.3	<0.0001
Female	91.0	
Age (years)		
<40	89.1	<0.0001*
40-54	86.3	
55+	69.0	
Postgraduate training in medicine		
Yes	87.8	0.003
No	76.0	
Area of practice		
Rural	87.3	0.068
Metropolitan	80.1	
Nature of current practice		
Solo	72.9	0.006
Group	85.7	
Duration of practice (years)		
≤10	87.3	0.024*
11-20	88.9	
21+	76.6	

* Mantel-Haenszel (trend) chi-square *p*-value

Male GPs were more likely to consider inadequate Medicare reimbursement to be a barrier to sexual health promotion than their female counterparts (Table 8.6). Lack of Medicare reimbursement was regarded as a barrier by a greater proportion of GPs who did not have postgraduate training in STIs and worked full-time. General practitioners with a low patient caseload were less likely to consider inadequate Medicare reimbursement to be a barrier to sexual health promotion than were GPs with a high patient caseload.

Table 8.6 Factors associated with reported lack of Medicare reimbursement as a barrier to sexual health promotion

Characteristics	%	<i>P</i> -value
Sex		
Male	62.1	0.002
Female	46.3	
Place of graduate training		
Australia	52.5	0.067
Overseas	62.7	
Postgraduate training in STIs		
Yes	44.4	0.025
No	58.3	
Area of practice		
Rural	49.3	0.077
Metropolitan	58.4	
Type of employment		
Part-time	44.9	0.007
Full-time	59.4	
Number of patients seen/week		
≤ 50	40.5	0.0001*
51-100	50.5	
100-150	58.6	
151+	66.3	

* Mantel-Haenszel (trend) chi-square p-value

Younger GPs, compared with their older counterparts, were less likely to ask for further preventive care training to improve sexual health promotion in general practice (Table 8.7). A greater proportion of overseas graduates, than their Australian trained counterparts, were found to be in favour of further training to improve their practice. General practitioners without postgraduate training in STIs were more likely to consider the need for further preventive care training to improve sexual health promotion in general practice.

Table 8.7 Factors associated with reporting the need for further training to improve sexual health promotion

Characteristics	%	<i>P</i> -value
Age (years)		
<40	23.8	0.036*
40-54	24.4	
55+	37.0	
Place of graduation		
Australia	24.4	0.041
Overseas	34.4	
Postgraduate training in medicine		
Yes	24.4	0.077
No	32.3	
Postgraduate training in STIs		
Yes	13.6	0.002
No	30.8	
Area of practice		
Rural	22.5	0.093
Metropolitan	30.3	

* Mantel-Haenszel (trend) chi-square p-value

Male GPs were more likely than their female counterparts to feel that they had a minimal chance of influencing patient risk behaviour (Table 8.8). This view of their inability to change patient behaviour was more common among GPs who graduated overseas and did not have any postgraduate training, either in medicine or STIs. For example, only 6% of GPs with postgraduate training in STIs reported that they had a lack of influence in changing patient risk behaviour compared to nearly 26% of GPs who did not have this training.

Table 8.8 Factors associated with GP perception of having lack of influence on patient risk behaviour

Characteristics	%	<i>P</i> -value
Sex		
Male	25.9	0.031
Female	16.9	
Place of graduate training		
Australia	19.3	0.054
Overseas	28.2	
Postgraduate training in medicine		
Yes	16.9	0.003
No	29.3	
Postgraduate training in STIs		
Yes	6.2	<0.0001
No	25.9	

Overseas graduates were more likely to consider lack of access to counselling to be a barrier to sexual health promotion than were Australian graduates (Appendix E Table 8.5a). General practitioners who did not have postgraduate training in STIs and had a high patient caseload were more likely to report inadequate access to counselling to be a barrier. Lack of privacy was regarded to be a barrier to sexual health promotion more often by older than younger GPs (Appendix E Table 8.6a). Concerns about privacy were more common among GPs who graduated overseas and did not diagnose any STI recently.

8.3 Conclusions

This chapter identified a number of organisational issues, which seem to constrain GPs from offering optimal care to patients with STIs. About half of the GPs felt that the sexual health training for primary care providers was either 'inadequate' or 'not very adequate', while over one-fifth believed so for professional STI literature for practitioners. The perception of sexual health training not being adequate was more common among older GPs than their younger counterparts. General practitioners who graduated overseas and worked in solo practices were more concerned about the adequacy of professional literature on STIs.

Just under three-quarters of GPs recognised the need for additional training in sexual health. Although the majority would like to have additional training in advances in diagnosis and treatment of STIs, many also preferred further training in counselling, prevention, and working with special groups. A greater proportion of metropolitan GPs were in favour of additional training in counselling and the prevention of STIs. It was also found that GPs who were aware of their need for additional skills in sexual health were more proactive in sexual history taking.

Over half of the GPs reported having a copy of STI management guidelines, with the majority having national or state guidelines for STI management. Having a copy of STI guidelines was associated with prescribing appropriate antibiotics to treat chlamydia, being involved in contact tracing, and

providing patients with STI information material. General practitioners who graduated in Australia, worked in rural areas, and had postgraduate training were more likely to have a copy of STI management guidelines.

About half of the GPs reported that they had STI leaflets or pamphlets for patients in their clinics, while one-fifth had STI posters displayed in their waiting rooms. Condoms were also available for patients in some GP clinics. Postgraduate training was significantly associated with having STI material in GP clinics. Female GPs were more likely to have STI leaflets for patients, while overseas graduates were more likely to have STI posters displayed in their clinics. Just over half of the GPs considered current STI material for patients to be inadequate or inappropriate, while over one-fifth did not know where to get STI material for patients. Some GPs felt that printed STI material for patients were neither up-to-date nor user friendly for many patients.

Lack of time was the most commonly cited constraint in offering sexual health promotion, followed by inadequate funding arrangements. A third of GPs identified lack of access to counselling as a barrier to sexual health promotion. Over a quarter indicated lack of training and educational resources as a barrier to sexual health promotion. One out of every five GPs believed that they had a lack of influence in changing patient risk behaviour. In general, GPs who graduated overseas and did not have any postgraduate training were more likely to report barriers in sexual health promotion in general practice.