

The General Practitioner
and the
Control of Sexually Transmissible Infections

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Abstract

Sexually transmissible infections (STIs), one of the major preventable health problems affecting the Australian population, are often asymptomatic and, if undetected, can cause sub-fertility, infertility and chronic morbidity. In addition to these significant and costly consequences, STIs increase the risk of transmission of HIV. Given that 80% of Australian patients attend their General Practitioner (GP) each year, GPs are well placed to have a significant impact on STI transmission by diagnosing and treating both asymptomatic and symptomatic disease.

Good professional practice would suggest that all GPs will undertake certain actions when they are consulted by a patient who either has symptoms of an STI or who appears to be at risk of acquiring an STI. This expectation is based on the premise that all GPs share the same detailed knowledge of STI risk factors and symptoms. It assumes that they will have no difficulty in eliciting such information from the patient, that the patient will comply with STI testing and treatment and that the patient will return for follow-up, to ensure that they and their sexual partners have been adequately treated.

Given the constraints of the real world in which general practice exists, the sensitive nature of sexual health, and the stigma associated with STIs, there are many barriers to achieving such an outcome. My own previous research has highlighted some of the difficulties experienced by GPs in the area of STI control. This study has used data from four different sources (policy and stakeholder documents, literature, key informant interviews and my own past research) to examine ideal practice and actual practice in the prevention and treatment of STIs. A number of discrepancies were identified, and from these arose a series of recommendations for ways of making STI control in general practice less complex. To ensure that the results of the study were firmly embedded in the reality of general practice, comments on the recommendations were sought from GPs employed in a variety of practice settings, including those with low STI caseloads. These comments were used to modify the recommendations to ensure they would offer a practical and effective contribution to STI control in Victoria.

Acknowledgements

I would like to acknowledge the GPs who have contributed to my research over the last decade. Many, particularly those involved in the qualitative studies, were extremely open about their own shortcomings in relation to STI management. I am also grateful for the insights offered to me by those health professionals who acted as key informants for this thesis.

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Abbreviations and Acronyms

ACSHP	Australian College of Sexual Health Physicians
AIDS	Acquired Immunodeficiency Syndrome
BBV	Blood Borne Virus
CME	Continuing Medical Education
GP	General Practitioner
HIV	Human Immunodeficiency Virus
IVF	In Vitro Fertilisation
MSHC	Melbourne Sexual Health Centre
NHMRC	National Health and Medical Research Council
NP	Nurse Practitioner
NPHP	National Public Health Partnership
PID	Pelvic Inflammatory Disease
PIP	Practice Incentive Program
RACGP	Royal Australian College of General Practitioners
STI	Sexually Transmissible Infection
VD	Venereal Disease
VSHNP	Visiting Sexual Health Nurse Practitioner
VSOV	Venereology Society of Victoria

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Foreword

I have been working in the area of STIs and general practice for several years. In the constant quest for new and exciting projects with which to lure research funding, there has been little time to reflect on the bigger picture. I saw this doctorate as an opportunity to try to draw the threads together from a range of independent yet related projects in which I have been involved in recent years. Thus some of the work that I have published prior to the commencement of this degree, which formed the Contract Unit supporting this thesis, has provided important baseline information on the way in which GPs manage STIs within the constraints of their everyday practice.

One of the drawcards of this professional doctorate over a traditional PhD is that it is firmly practice-based. I would consider it my greatest professional achievement if the recommendations from this thesis were to be able to influence the ease with which GPs manage STIs in their practices.

Chapter 1

Introduction:

Sexually Transmissible Infections in General Practice

A GP's knowledge and skills get shaped by the practice in which they work. They are a responsive service, but how do you deal with hidden problems, like STIs? (Key Informant 12, page 35).

General practice is widely regarded as being at the very heart of Australia's health care system (General Practice Strategy Review Group 1998). GPs deal with a wide range of conditions, which may include social as well as medical problems. They may need to offer management which is preventive, curative or palliative (Commonwealth Department of Health and Family Services 1996). The last 100 years has seen a number of significant advances in medical practice in areas such as diagnostic testing, screening and management of both infectious and chronic disease (Cumpston 1989). Such developments have allowed GPs to successfully contribute to the health of the population by controlling disease at the level of the individual.

As will become clear throughout this thesis, however, the management of sexually transmissible infections (STIs) in general practice has been of concern since Australia's colonisation as despite significant advances in diagnosis and treatment, STIs remain poorly controlled (Thompson et al 1997a; Temple-Smith et al 1997; Public Health Division 2000a). One reason for this, offered in the quote above, is that STIs are perceived as 'hidden' problems. This has resulted from society's longstanding view of these infections not just as biological entities, but as social symptoms of pollution and corruption (Brandt 1987).

The existence of STIs in Australia has been recorded since colonisation by the British, but until the last decade or so, and even now in the eyes of some, STIs were usually associated with unsavoury or even depraved behaviour (Cumpston 1989; White 1988; Tibbits 1994). A recurring theme in the history of STIs is the shame and stigma with which they have almost always been viewed (Goddard 1999). Syphilis was said, for example, to have given rise 'to a feeling of moral degradation and physical loathing that no other evil state of mind or body could parallel' (Editorial 1954: 53).

Initially the new colonies established in Australia perpetuated many of the attitudes towards STIs seen in England (Lewis 1988): 'The moralist and the preacher have had their day and been unable to do anything to stem the venereal tide' (Editorial 1927: 308). As can be seen from this quote, venereal diseases (as STIs were then called) were seen as a social evil which arose from illicit liaisons, particularly amongst the

poor. These infections were linked to prostitution, and thus were often viewed as self-inflicted (Tibbits 1994; Lewis 1998). This attitude is borne out by evidence that in the first half of the 20th century, some of the treatments instituted for venereal disease were seen ‘...as a form of punishment, meted out by doctors unable to separate medicine from morality’ (Tibbits 1995: 162).

Even in the late 1960s, management of STIs still clearly did not sit comfortably with many doctors:

Is it the ‘conspiracy of silence’ or just sheer ignorance and indifference on the part of our profession? Australian doctors... find it embarrassing to admit any insight into the problems of venereology. (Hayes 1967: 231).

Even more pointedly, the Medical Officer of Melbourne’s then only government run STI clinic wrote in a report to the Chief Health Officer of Victoria : ‘In my opinion, venereal disease is not a public health problem but a public morals problem’ (Brennan 1969: 3).

Throughout much of the 20th century, this view must have had some impact on the relationship between GPs and some of their patients with STIs. While ‘The fear of social stigma and ignorance of disease ...tend to deter potential sufferers from presenting for examination’ (Editorial 1973: 269), there is evidence that at least some GPs were sympathetic enough to state the cause of death to be other than syphilis to prevent the stigma of STIs being attached to their patients even after their death (Lewis 1998). However, as late as the mid-1970s, attitudes to STIs were still such that it was seen as necessary to remind readers of the Medical Journal of Australia that ‘...these are communicable diseases and not punishment for moral transgression’ (Editorial 1975: 624).

It is against this backdrop of medicine versus morality that GPs’ current practices of STI management and prevention must be viewed. The stigma associated with STIs has clearly coloured, and as will be apparent throughout this thesis in some cases continues to colour, not only the doctor-patient relationship, but also many aspects of STI control. It has resulted in medical educators investing little effort in GPs’ acquisition of STI knowledge, and in health authorities failing to encourage GPs to perform the public health duties associated with STIs, such as notifying infections to an authority and ensuring the sexual partners of those with infections are treated. As will be seen, these issues have consistently been raised as problems during the course of the last 100 years and yet, even now, are still voiced as current concerns in the literature.

Historically, Victorian GPs have always provided a treatment service for STIs. However, because of the existence of STI specialist clinics, it would appear that at times the role played by GPs as a major treatment provider for those with STIs has been overlooked (Tibbits 1994; Lewis 1998). This thesis examines the actual current practices of GPs in the treatment and prevention of STIs in Victoria, and compares

this to what is considered to be ideal practice. From this a number of recommendations are made which will allow GPs to contribute more effectively to STI control in Victoria. Specifically, the aims of the study were:

1. To examine what is considered by key Australian and Victorian policy-makers and stakeholders to be ideal practice in STI prevention and treatment as performed by GPs;
2. To determine the ways in which GPs in Victoria are or are not performing ideal practice according to these criteria;
3. To identify key strategies to enable GPs to more effectively contribute to the prevention and treatment of STIs within their practice.

Significance of this study

The consequences of STIs are diverse, and may be both physical and psychological. Like all diseases, STIs incur both an economic and a social cost. Neither of these costs have been assessed in detail within Australia. With the exception of HIV/AIDS and Hepatitis B and C, very little research has examined the specific economic costs of STIs to the Australian community (Smith et al 1995). Of the three most common STIs in Victoria - chlamydia, genital warts and genital herpes –the costs of chlamydia only have been estimated.

If a person with chlamydia is untreated it has been estimated they are continuously infectious for 1.25 years, during which time there is a 20% chance that they will infect a sexual partner each time they have sexual contact (Brunham and Plummer, 1990). In a sexually active population this poses quite a serious threat. The cost of treating pelvic inflammatory disease (PID), which may result from untreated chlamydia, was estimated in 1986 to be \$30 million a year for inpatients. However, it was also estimated that treatment of chlamydia-related diseases could be costing Australia between \$5 and \$10 per infection through additional treatment costs for ectopic pregnancy, tubal infertility, chronic pelvic pain, complications to sexual partners such as urethritis and epididymitis, and transmission to neonates (Philpot 1986; Oakeshott and Hay 1995).

Treatment of infertility is costly to the community. More than half of infertile women with an identifiable cause for their condition have tubal damage, the majority with evidence of chlamydial infection (Healy et al 1994). The costs of IVF in 1986/1987 alone were believed to be \$24.9 million, of which \$17 million were Medicare payments (In Vitro Fertilisation in Australia 1988). If even a third of women using IVF in 1987 were infertile as a result of chlamydia, early treatment of their STI would have saved the expenditure of almost \$8 million, in addition to preventing the anxiety and stress associated with the IVF procedures. These costs will be even greater in the next decade. At the start of the new millenium, Australia-wide, it has been estimated that 50,000 new genital chlamydia infections will occur each year, resulting in infertility for more than 5,000 women (Donovan 2000). In an unpublished paper, Rodger has estimated that in the current cohort of Victorian women aged between 16

and 24 years, 1621 women are likely to develop PID if the prevalence of chlamydia in the community is 1%. If the prevalence of chlamydia is actually higher, 5% for example, the number of expected cases of chlamydia would be 8246. (In 1993, Victoria's prevalence of chlamydia was estimated as ranging between 2.7 and 5.5% (Garland et al 1993)). Lifetime costs for a 1% chlamydia prevalence would be \$11.3 million; for a 5% prevalence, these costs would be \$56.3 million (Rodger 1999).

In addition to economic costs such as these, STIs have significant social and personal costs (Rosenthal 1993). Both recurrent herpes and genital warts are recognised as causing severe anxiety in some patients. The link between certain types of Human Papilloma Virus (HPV) and cancer of the cervix, the most common form of cancer in young women, has now been established (Walboomers et al 1999).

Transmission of infection can be diminished by early identification of those with, or at risk of, STIs. Public expectations of GPs are that they are technically competent, have current knowledge of diseases and conditions, that they are thorough and will recognise the need for referral (Andersen 1986). Yet in the research in which I have been involved over the last decade, a consistent feature has been the view by many GPs that they feel ill-equipped to manage STIs, either through lack of training, lack of practice, or lack of confidence (Temple-Smith et al 1997; Mulvey et al 1997a). Indeed, many GPs find the process of even initiating a discussion about the patient's sexual history to be an awkward process, despite the fact that such information is necessary for a variety of reasons other than assessing STI risk (Temple-Smith et al 1996a). The remainder of this chapter will outline some of the issues which may have an impact on the way in which GPs currently manage STD management and prevention.

Sexually transmissible infections

Sexually transmissible infections include infections traditionally labelled as venereal diseases - syphilis, gonorrhoea and chancroid – in addition to a variety of diseases shown this century to be caused by micro-organisms which are transmissible through sexual contact (Table 1.1). STIs can result from bacterial infection, as well as from the presence of mycoplasmas, protozoa, parasites and viruses (Adler 1995). Over a decade ago, the term 'sexually *transmissible* disease' was introduced to replace the term 'sexually *transmitted* disease', in acknowledgement that some of these diseases can be acquired by non-sexual transmission, for example through the exchange of blood products. Since 1999, and in keeping with international practice, the Commonwealth Government has directed the use of the terminology 'sexually transmitted infection' in commissioned work to remove the sense of stigma that is still attached to the concept of 'disease'.

In addition to the immediate distress and discomfort caused by many STIs, more serious consequences may arise. Untreated infections can cause Pelvic Inflammatory Disease (PID) and ectopic pregnancy in women, infertility in both men and women and pneumonia in newborns. Other examples are cardiovascular and neurovascular complications which may be caused by syphilis, Reiter's syndrome and adverse pregnancy outcomes associated with gonorrhoea and chlamydia, an increased risk of cervical cancer as a result of HPV infection, and the complications of HIV. Mortality from STIs is primarily due to Acquired Immunodeficiency Syndrome (AIDS). There

is also now good evidence to show that HIV transmission is facilitated by the presence of other STIs (Laga et al 1993; Wald et al 1993). For example, chlamydia infection in women is associated with an HIV seroconversion rate 3-5 times higher than the risk experienced by women without chlamydia (Hillis et al 1995). Those with HIV infection are also more likely to contract other STIs. This synergistic relationship has highlighted the importance of the detection of previously untreated disease, particularly in high-risk settings (Wasserheit 1992).

Table 1.1 STIs and micro-organisms which can be transmitted sexually
(after Adler 1995)

Bacterial STIs	
Syphilis	Gardnerella
Gonorrhoea	Chancroid
Chlamydia	Lymphogranuloma venereum (LGV)
Donovanosis	Group B streptococcal infection
Enteric bacterial pathogens	
Shigella	Salmonella
Campylobacter	
Viral STIs	
Herpes	Genital warts
Human Immunodeficiency Virus (HIV)	Human Papilloma virus (HPV)
Molluscum contagiosum	Hepatitis A, B, C, D
Mycoplasmas which may be transmitted sexually	
<i>Ureaplasma urealyticum</i>	<i>Mycoplasma genitalium</i>
<i>Mycoplasma hominis</i>	
Parasites which may be transmitted sexually	
<i>Sarcoptes scabiei</i>	<i>Pediculosis pubis</i>
Protozoa which may be transmitted sexually	
<i>Trichomonas vaginalis</i>	<i>Entamoeba histolytica</i>
<i>Giardia lamblia</i>	
Fungi which may be transmitted sexually	
<i>Candida albicans</i>	

Frequency of STIs

The attention of the world has been drawn to the severity of the epidemic which has resulted in 34.3 million adults worldwide living with HIV infection (UNAIDS 2000). Few are aware, however, that with an estimated 333 million cases a year worldwide, curable STIs are also a major public health problem in both developed and developing countries which has largely been ignored (World Health Organization 1996). For some of these curable diseases, many cases are asymptomatic, especially among women (Holmes 1990).

Although many STIs have been in existence for centuries, they have achieved a more prominent public profile in the last few decades. Reasons suggested for this include:

- changing patterns of sexual behaviour

- changing status of women
 - urbanisation
 - improved diagnostic techniques
 - a higher number of STIs with multiple modes of infection eg. diseases such as Hepatitis A and B, and cytomegalovirus which are most commonly transmitted in other ways but can also be transmitted sexually
 - the now apparent impact of STI on fertility
 - rapid dissemination of STIs by international travel
 - an increasing incidence of viral STIs worldwide
- (Cates and Toomey 1990:1-2; Editorial 1970; Editorial 1975).

STIs have been identified as among the major preventable health problems affecting the Australian population (Nutbeam 1993). Different STIs are common in different parts of Australia. This reflects not only the variations in diseases associated with tropical and non-tropical climates, but also availability and access to treatment services. In the urban centres, chlamydia, genital warts and herpes are frequently seen in both women and men, while gonorrhoea, like HIV infection, is most commonly found amongst men who have sex with men. The pattern of these infections contrasts quite dramatically with the situation in northern Australia. Amongst rural Aboriginal populations, where there is poor access to treatment, in addition to gonorrhoea, syphilis, and chlamydia, the tropical STI Donovanosis is of major concern (Marks et al 1997).

It is extremely difficult to accurately determine the frequency of STIs in the Australian population. As is the case for a number of other infectious diseases in Australia, information is routinely collected about particular STIs. This information is used to examine the health status of population groups around the country. These infections are known as ‘notifiable diseases’, and doctors and/or laboratories diagnosing them are required to report non-identifying information about each case to their local health authority. It must be stressed, however, that the national data which are collated from such notifications does not truly represent either the incidence (the number of new cases) or the prevalence (the number of existing cases) of disease in Australia.

In all States and Territories STIs are believed to be under-reported for a variety of reasons. Many STIs are asymptomatic. Approximately 70% of females with endocervical infection and 50% of males with urethral infection, for example, show no symptoms of disease (Hillis et al 1995). In the absence of symptoms a patient is unlikely to seek a medical opinion, and thus the infection will go undiagnosed. Additionally, doctors who take either no sexual history or a poor sexual history may not elicit information about a sexual practice that could place the patient at risk of an STI, and subsequently overlook the infection of a particular body site. For some diseases the process of laboratory identification is not easy. False negative test results may occur if, for example, the swab technique used in specimen collection is poor or the incorrect transport medium has been used. In such situations a true clinical diagnosis may not be confirmed by the laboratory. Some medical practitioners may prescribe treatment for STIs on the basis of their clinical findings and without laboratory confirmation of the disease (a practice known as ‘treating presumptively’),

but may be nonetheless unwilling to notify the case without independent confirmation of disease (Temple-Smith et al 1997). In some States and for some diseases, notification of STIs to the health authority relies solely on the general practitioner, while for others, laboratory identification alone is used for notification purposes. In still others, both GP and laboratory notification is mandatory. Either way, information on STIs Australia-wide is mainly derived passively, rather than being actively sought by the health authorities (Crofts et al 1994). Each situation where an STI has been undiagnosed by a doctor, or is unconfirmed by a laboratory, however, represents a missed opportunity for notification of the disease to the health authority, and contributes to the underestimation of the frequency of disease.

Additional difficulties with the national notification data have been that the States and Territories have their own definitions of what constitutes a case of a particular disease (Denham and Mulhall 1994), and that the diseases which are notifiable are not the same for all States and Territories (Mulhall et al 1995). This is in stark contrast to Australia's HIV surveillance which is nationally uniform and believed to be one of the best in the world (Mulhall et al 1995). In recent years, efforts have been made to improve overall surveillance of communicable diseases in Australia through the National Communicable Diseases Surveillance Strategy, and this is expected to have an impact on STI surveillance (Dore and Kaldor 1998). The difficulty with STI surveillance data in comparison to other types of disease surveillance data is that their interpretation requires information on sexual behaviour which is not routinely collected (Dore and Kaldor 1998). Appropriately detailed ethnicity data, which would provide valuable information about the need for specific ethno-sensitive STI health services, are also not routinely collected (Temple-Smith and Gifford 1996).

As can be seen, the frequency with which STIs occur is extremely difficult to ascertain. Notification rates, representing positive diagnoses, are the only indicators available. Although such data offer a very limited view of the true picture, they do at least provide some background information to a discussion of STIs. The following figures are taken from the publication 'Surveillance of Sexually Transmissible Diseases in Victoria 1999' (Public Health Division 2000a). This report tables the most recent annual collation of Victorian STI data.

By the end of 1999, 4215 Victorians had been diagnosed with HIV. This represented 21% of the total HIV diagnoses in Australia. Most of the cases (94%) of HIV diagnosed in Victoria that year, were men. Of the 141 new infections notified in 1999, male to male sexual contact was cited as the principle exposure category in 61% of cases.

During 1999, 44 people were notified as having AIDS. Of these 24 had been newly diagnosed, demonstrating a decline in the number of new AIDS diagnoses in the previous two years. This is in keeping with a trend observed nationally, and is probably due to improved HIV treatment. By the end of 1999, 1800 Victorians had been diagnosed with AIDS, of which 1403 had died.

Two new cases of infectious syphilis were reported in Victoria in 1999. Of the remaining 143 syphilis notifications, 77 were non-infectious, and 66 unspecified. No cases of congenital syphilis were notified in 1999.

The 702 cases of gonorrhoea reported in 1999 represented the highest incidence recorded since 1987. Of these new cases of gonorrhoea, most occurred amongst men who have had sex with men, with less than 5% of gonorrhoea notifications occurring in women. Local casual sexual partners were most often cited as the source of infection.

Chlamydia is the most prevalent STI both nationally and in Victoria. As stated earlier, in Victoria the incidence of chlamydia has been estimated as ranging from 2.7 to 5.5% (Garland et al 1993). Although there has been a steady rise in notifications since 1990, it is not known whether this represents an increase in incidence or improvements in testing and notification. A total of 2952 cases of genital chlamydia were notified in Victoria in 1999, although my own research suggests that chlamydia may be under-notified by a factor of 14 (Temple-Smith et al 1997). The rate of diagnosis in females continued to be higher than in males, although the proportion of infections in males has increased in the past few years. Males (74%) were more likely to present with symptoms than females (44%). Over 62% of women believed they had acquired the infection from a regular partner, compared with 36% of males.

Chancroid, Donovanosis and Lymphogranuloma Venereum (LGV) are all notifiable in Victoria, but no cases were reported in 1999. Sexual transmission of Hepatitis B, Delta Hepatitis and Hepatitis A is possible, although sexual transmission of Hepatitis C is rare (Public Health Division 2000b). As the bulk of infections are transmitted via blood or blood products, surveillance data for Hepatitis is not considered under STI surveillance data. Information on exposure to hepatitis is obtained from the reporting doctor and not directly from the patient. Based on this information, in 1999, 30% of 94 acute Hepatitis B infections were possibly due to sexual contact (Public Health Division 2000b).

While Victorian STI surveillance data are collected for HIV, AIDS, syphilis, gonorrhoea, chlamydia, chancroid, Donovanosis and LGV, the STIs most commonly seen in Victoria are chlamydia, HPV and genital herpes (Crofts et al 1994). Data collected from the Melbourne Sexual Health Centre showed that in 1999, 234 notifications for chlamydia were made. These represented about 8% of the chlamydia notifications statewide (Department of Human Services 2000). During the same period 327 cases of herpes and 777 cases of genital warts were seen at the Melbourne Sexual Health Centre (Department of Human Services 2000). While no information is collected on the numbers of patients seeking treatment for genital herpes and genital warts through other health services, limited information on the proportion of notifications of other STIs originating in general practice is available, and is presented later in this chapter.

Few studies have attempted to examine STI rates by asking members of the public whether they have ever had an STI, perhaps because of concerns that those who had had an STI would not disclose such information. In New Zealand, of a cohort of young adults first enrolled in a general health study at the age of three, 92% responded to questions about sexual behaviour. Among the sexually experienced, 8.6% of the men and 17.3% of the women reported ever having had an STI (Dickson et al 1996). No equivalent Australian data have been collected. However a study of

3550 Australian secondary school students found that approximately 1.0% of Year 10 and 2% of Year 12 students had been diagnosed with an STI. There were more males than females in the 48 students so diagnosed; genital warts and pubic lice were the most common diagnoses (Lindsay et al 1997).

Treatment services for STIs

In addition to the Victorian government funded STI services (the Melbourne Sexual Health Centre plus four regional centres), four public hospitals in Melbourne and one in Geelong provide STI treatment in specific clinics. Other health services where STI treatment in Victoria may be sought are hospital emergency departments, 24 hour medical clinics, student health services, family planning clinics, community health centres and private general practitioners. Little is known of the proportions of STI cases which are currently managed in different clinical settings in Victoria, although it was estimated in 1982 that fewer than 5% of STIs were treated in public clinics in Australia, and that GPs managed the majority of such cases (Lewis 1998).

Studying STI notifications to determine the type of health service in which they originated is problematic owing to the undernotification of STIs, but it is the only current indication of health service usage for STIs. The following data from a recently submitted doctoral dissertation by Jeanette Pope suggests that GPs are a common choice of health service provider for those with symptoms of an STI (Pope 2000).

Pope's data showed that the largest proportion of chlamydia notifications in 1997 came from private general practice, with extended hours clinics, group medical practices and solo GPs together accounting for two-thirds of that year's notifications (Pope 2000). Chlamydia notifications originating from general practice were significantly more likely to be symptomatic than asymptomatic, with most patients living within a five km radius of the service which notified their infection. These notifications were in complete contrast to the asymptomatic chlamydial infections which were detected in women's clinics as a result of screening prior to the performance of a termination of pregnancy. Patients had often travelled a great distance from home for this procedure.

Although only limited information about health service utilisation for gonorrhoea was available, Pope's study suggested that GPs with a special interest in STIs were responsible for detecting a substantial proportion of gonorrhoea notifications, especially in men who have sex with men. The fact that these patients were geographically dispersed across Melbourne suggested that these patients had travelled to those particular GPs to have their symptoms examined.

In comparison to chlamydia and gonorrhoea, the numbers of syphilis notifications are small. Although, as individual agencies, the public hospitals and the Melbourne Sexual Health Centre provided the largest *number* of notifications, the largest *proportion* of notifications (43%) originated in general practice (Pope 2000).

While some patients who suspect that they have an STI might go directly to a sexual health service or a hospital emergency department for testing and treatment, for many symptomatic patients, a GP, even if not their regular GP, will be their practitioner of

choice. There is evidence that GPs are seeing more patients than previously with sexual health problems (Dunne et al 1995; Condon et al 1992). Australia's approximately 17,500 GPs therefore have an important role to play in STI prevention, management and surveillance (Cates and Toomey 1990).

The importance of the General Practitioner in current STI control

Increasingly Australian GPs are receiving specific post-graduate training in general practice. Until recently, any registered medical practitioner could open a private practice and provide services which would be eligible for Medicare benefits, without having specific general practice training. Since 1996, new doctors seeking to provide such services must be formally recognised as specialists or GPs. In the case of GPs, this requires Fellowship of the Royal Australian College of General Practitioners (RACGP), generally acquired by completing formal training through the General Practice Training Program. From 1 January 2001, all GPs will be required to be Fellows of the RACGP or hold equivalent qualifications (General Practice Strategy Review Group 1998).

For the most Australians, the first point of contact with the health care system is through a GP. Medicare data shows that in 1989-1990, 82% of Australians saw a GP on average 4.9 times a year (Department of Health and Family Services 1996). More than 80% of the community can name a GP as their family doctor (Commonwealth of Australia 1998a). These figures are consistent with earlier data suggesting that 82.7% of Victorians consulted a GP in a 12 month period over 1988-1989. Three out of every four young people (15-24 years) visited a GP in the same period (Victorian Health System Review 1992). GPs attend to an average of 1.8 patient problems per consultation (National Health Strategy 1993). Female GPs are generally young with a younger predominantly female patient population. They have a higher rate of longer consultations, and manage more problems per encounter than their male counterparts (Britt et al 1999).

Several characteristics of the GP should enhance their potential role in STI control. GPs are generally reasonably accessible, even in rural areas where other health services may not be common. GPs have one-to-one contact with patients and generally convey concern for the patient's well-being. They are in a position to establish a trusting, caring and ongoing relationship with a patient which may motivate the patient to make changes to improve their health (Sanders 1997). A patient can visit a GP without the reason for the visit being obvious to others. This is likely to make the GP a more attractive alternative to the family planning clinic or a sexual health centre for many, especially young people. Studies of adolescents have shown that GPs are their preferred source of information in relation to STIs, but that they are rarely used (Rosenthal D et al 1995). General practice provides many opportunities for GPs to discuss STIs in the context of other sexual and reproductive health issues, such as Pap smears or pelvic examinations, or in discussion of other risk taking behaviours such as alcohol and drug use. GPs are well-placed to deliver health promotion messages within the context of the individual's lifestyle. They can offer preventive advice on an opportunistic basis. Increasingly GPs are being asked to plan

preventive activities for their regular patients, a practice which has resulted partly from a global move towards the concept of primary health care (National Preventive and Community Medicine Committee of the RACGP 1998).

In 1978, the World Health Organization (WHO) and the United Nations International Children's Emergency Fund (UNICEF) held an international conference on Primary Health Care at Alma-Ata, which resulted in a call for urgent action to develop and implement primary health care throughout the world (World Health Organization 1978). While the impetus for the conference came from concerns about the needs of developing countries, it was clear that the primary health care approach also had much to offer developed countries (MacDonald 1992). Australia, as a signatory to the Declaration of Alma-Ata, formally committed itself to the concept of Health for All by the Year 2000 (Wass 1994). The term 'primary health care' became increasingly used after this time, although not always accurately. Primary health care was defined by WHO as:

Essential health care based on practical, scientifically sound and socially acceptable methods and technology made universally acceptable to individuals and families in the community through their full participation and at a cost that the community and country can afford to maintain at every stage of their development in the spirit of reliance and self-determination. It forms an integral part both of the country's health system, of which it is the central function and main focus, and of the overall social and economic development of the community. It is the first level of contact of individuals, the family and community with the national health system bringing health care as close as possible to where people live and work, and constitutes the first element of a continuing health care process (World Health Organization 1981: 32).

In contrast to primary health care, the term 'primary care' is far more limited, and refers to medical care provided for individuals at their first point of contact with the health system (Wass 1994: 10).

WHO promotes the concept of health as the presence of well being, rather than just an absence of illness or disease. To best achieve this, WHO recommends that primary health care services must offer a balance between health promotion, preventive care and the treatment of illness. It is suggested that primary health care services should be provided by a range of health workers from a variety of disciplines; and that services should be locally based, although properly integrated into secondary and tertiary health sectors, to provide continuity of care (Rogers and Veale 2000). Given that these precepts for primary care closely match the key STI prevention and control strategies which will be described later in this chapter, any population based strategy for STI control would be well placed within a broader primary health care context.

In 1992, the RACGP and the Australian Medical Association proposed the formation of GP Divisions to encourage GPs to broaden their networks outside the surgeries within which they work (Anonymous 1998). Local networks of GPs operating within a particular geographical region were encouraged to engage in cooperative activities, both to meet local health needs, to improve integration with other parts of the health care system and to promote population health outcomes (General Practice Strategy Review Group 1998). The Divisions of General Practice potentially have a significant role to play in a shift towards primary health care practice, as funding for Divisions is provided only after the Division has submitted programs based on their assessment of local needs. Many Divisional projects relate to health promotion, disease prevention and assisting GPs to use population health approaches in their practice. A number use multidisciplinary teams and local networking (Rogers and Veale 2000:11-12; National Information Service 1997).

The primary health care philosophy has encouraged the GP's role in public health. Public health has been defined as:

One of the efforts organized by society to protect, promote and restore the people's health. It is the combination of sciences, skills and beliefs that are directed to the maintenance and improvement of the health of all the people through collective or social actions' (Last 1983: 84).

Public health activities are now seen as an important aspect of general practice; for example:

through the delivery of illness prevention and health promotion messages, directly to patients during consultations, and through implementing evidence-based screening programs (General Practice Strategy Review Group 1998: 87).

However, general practice is by and large fee-for-service, with the exceptions being salaried medical officers generally employed in community health centres. Research conducted in 1974 and repeated in 1990 shows that prescribing medication remains the most common form of treatment (Commonwealth Department of Health and Family Services 1996). Despite the increasing interest in health promotion and screening in the health care industry in general, it has been observed that preventive care 'seems to have diminished' (General Practice Strategy Review Group 1998: 87).

A recent study has showed that despite the fact that a female genital check-up or a Pap smear was one of the 20 presentations most frequently managed by GPs, counselling and lifestyle advice in relation to STDs was offered to only 119 of 41,839 patients, equivalent to a rate of 0.1 per 100 encounters (Britt et al 1999). This is hardly surprising, as GPs, while encouraged from a number of sources to consider the overall health of their patients, are not remunerated for undertaking effective health promotion. It is more financially rewarding for a GP to have brief consultations rather

than the longer consultations which are required when discussing issues of health promotion.

While sexual health promotion could conceivably be offered in consultations on a variety of issues, some GPs may feel confident in initiating such discussion only as part of management of an STI. There are a number of steps that are necessary in the diagnosis and treatment of an STI, all of which may require a heightened level of sensitivity on the part of the GP (Table 1.2).

Table 1.2 Key elements in the diagnosis and management of an STI

- sexual history
- physical examination
- taking of specimens for microbiological confirmation of an STI
- discussion of the treatment or management of the STI with the patient
- either tracing the sexual contacts of the patient or ensuring that this will be done
- discussion with the patient of safe sex
- notifying the disease to the health authority where required

Firstly, the doctor must ascertain whether the patient is likely to have been exposed to an STI infection. If the patient has observed symptoms of an STI themselves, and initiates the discussion about their concern with the GP, then the need to secure a diagnosis is more likely to be obvious to the patient. Ascertaining the likely risk of a patient having acquired an STI requires a far more sensitive approach when the patient has no suspicion of the presence of an STI. Additional time may be needed to justify to the patient the need to take an adequate sexual history. Both a physical examination and pathology testing for confirmation of the clinical diagnosis are necessary steps in the diagnosis of STIs. Consultations involving a genital examination have been shown to be lengthier than a consultation requiring other forms of physical examination (Sayer et al 2000). Management of STIs includes not only appropriate treatment, but also the contacting and treatment of sexual partners of the patient, and the notification of notifiable STIs to the Department of Human Services. Discussion of safe sexual practices with the patient, to avoid the risk of re-infection, is an important element of STD control.

STI prevention and control - key strategies worldwide

Table 1.2 outlines the elements of diagnosis and management of STI on an individual case basis. For many decades, this was the major approach which was successfully used to control syphilis and gonorrhoea, the STIs most commonly seen in the first half of the 20th century (Brandt 1990; Aral and Holmes 1990; Tibbits 1994). Recent years have seen a marked increase in incurable viral STIs worldwide against which the traditional control strategy of diagnosis, treatment and tracing sexual contacts has little success (Gunn et al 1998; Rosenthal 1993). In some developing countries this strategy is of limited value even against certain bacterial STIs which are more

difficult to diagnose, such as chlamydia and gonorrhoea (Aral and Holmes 1990). Such changing trends have stimulated the development of a range of new strategies to assist in the reduction of STIs on a population basis (Cates and Meheus 1990).

Health promotion

While there is a large literature on the topic of health promotion which has yielded a number of definitions, one common definition of health promotion is ‘any combination of health education *and* related organizational, economic and environmental supports for behaviour of individuals, groups or communities conducive to health’ (Green and Anderson 1986: 516). Sexual health promotion has been defined as an ‘holistic process of enabling individuals and communities to increase control over the determinants of sexual health, thereby managing it and improving it throughout their lifetime’ (Winn 1996: 69). Examples of sexual health promotion are the upgrading of public health policy to ensure that condoms are freely available, or that GPs are as equally well reimbursed by Medicare for sexual counselling of patients as for treating sexually acquired infections (Winn 1996).

Health education is an integral part of health promotion. Health education has been defined as ‘consciously constructed opportunities for learning which are designed to facilitate voluntary changes in behaviour towards a predetermined goal. It is closely associated with disease prevention and involves changing behaviours which have been identified as risk factors for particular diseases. It targets individuals and groups, organizations and communities’ (Hawe et al 1991: 207). Health education is clearly essential for individual behaviour change. It is, however, also an important aspect of public policy or environmental change, as whenever possible these should be made with the informed consent of the community rather than being imposed upon them (Wass 1994). Health education messages can encourage people to avoid the possibility of infection. They can also reduce the risk of complications developing in those with an infection, by encouraging them to seek treatment early.

Disease detection

Early detection of infection is an important part of health promotion and is critical to STI control strategies. In considering disease detection, it is important to distinguish between why an individual has an infection, and why a population has a high incidence of that infection. This is because the determinants of disease incidence in a population are not always the same as the causes of infection in individual cases (Rose 1985). As part of an STI control program, countries vary in the way in which they attempt disease detection. Different strategies may be used in a country with a high STI prevalence and few resources in comparison to a country with low STI prevalence and many resources. Population screening and individual case detection are discussed more fully in Chapter 4. Screening can be performed on the general population, or in particular groups such as high-risk patients. It may be carried out opportunistically on specific target populations. In contrast, individual cases can be found through clinical diagnosis based on symptoms; by confirmatory laboratory diagnosis from specimens from patients with symptoms; through targeted testing in

individuals at high risk of STI infection; and in examination of sexual partners of those with confirmed STI.

Treatment

Early and appropriate treatment of STIs is an essential aspect of STI control programs. Treatment should be simple, inexpensive, safe and effective. Selective prophylactic (also known as ‘epidemiologic’) treatment can be used when a diagnosis is considered highly likely, without waiting for confirmation of disease. This approach is often taken in countries with high prevalence of disease and poor access to laboratories. Here, where the goal is to reduce the prevalence of disease in the population, the benefit of treating possibly uninfected individuals is considered to outweigh the risk of leaving infected individuals untreated. In countries such as Australia, with a lower STI prevalence, adequate laboratory facilities and greater access to health services, there is little need for such preventive treatment. STI treatment is more fully discussed in Chapter 5.

Sexual partner referral

Traditionally, the patient was seen to have a passive role in STI treatment of partners, and once he or she had named the potential source of their infection, the health authorities took action to ensure those individuals were sought, tested and treated. More recent years have seen a change in practice to allow patients to take responsibility for contacting their own sexual partners to suggest they seek testing and treatment (Cates and Toomey 1990). As will be seen in Chapter 6, while this is a far less expensive strategy than the earlier model, it has limited effectiveness and is difficult to evaluate.

Patient counselling

An additional aspect of allowing the patient to take more responsibility for following up sexual partners, has been the encouragement offered to them to change their sexual behaviour. The increasing number of HIV/AIDS cases has highlighted the need to improve patients’ knowledge of STIs and to ensure they understand what constitutes safe sexual practices. The need for counselling messages to be ‘comprehensible, acceptable and attainable’ has been stressed (Cates and Toomey 1990: 21).

STI clinical services

Adequate treatment services are ‘still the most effective measure for STI control’ (Cates and Meheus 1990: 1027). However, the availability of services can vary widely both between and within countries. Public STI clinical services are seen in some countries as being of lower-class status, and the resulting social stigma may discourage the attendance of some (Cates and Meheus 1990).

Support components

Cates suggests that a number of infrastructure components are essential to support these aspects of STI control. These include adequate medical training, managerial training (for those managing an STD control program), research into STIs and information systems for surveillance (Cates and Meheus 1990).

The seven control strategies described above have been introduced or are in place at varying levels in different countries worldwide. Sweden has had the most marked success of any developed country in decreasing the rate of STIs (Cronberg 1993). Gonorrhoea, for example, which was hyperendemic in the mid-1970s with 321 cases per 100,000 people, had become a rare disease by 1990 with only 10 cases per 100,000 reported (Ramstedt 1991). Sweden has been able to achieve this success because some aspects of STI control are the subject of legislation. All examinations and treatment for STIs are free of charge to the patient. Whilst infected, the patient is required by law to follow the restrictions given by the doctor to prevent further transmission of the infection. The doctor must inquire from whom the patient could have contracted the infection and to whom the patient may have passed it on. The index patient's doctor is subsequently required by law to verify that reported sexual partners have been examined. STI cases are all reported anonymously to the health authorities (Cronberg 1993). The fact that the responsibility for contact tracing lies with the patient's doctor rather than the health authority is considered to be an important factor in the success of this legislation (Ramstedt 1991).

The Swedish strategy of STI control, while evidently successful in controlling the transmission of infection, has not been replicated as yet elsewhere. However, this strategy has been ongoing in Sweden for several decades. Sweden was seen as leading the way in the control of syphilis as early as the 1930s. Reasons offered for its success then included homogeneity of language, customs and moral standards, respect for legitimate authority, and a high general standard of education, as well as legislation supporting the public health law (New York City Commission 1936 cited in Lewis 1998: 208).

It is also likely that some of the reasons for this successful program are concerned with infrastructure. Swedish infants shortly after birth and new residents shortly after arrival, are given a 10 digit national identity number which is used on all medical records (Ramstedt 1991). This makes it possible to track patients easily. Sweden has allocated considerable resources to controlling STIs (Herrmann and Egger 1995). It was the first country to establish, in 1983, a national laboratory and surveillance service for chlamydia (Herrmann and Egger 1995). Examination and testing for all STIs is performed in a number of settings and all are free of charge to the patient (Ramstedt 1991). Almost 100% of pregnant women attend antenatal clinics (Herrmann and Egger 1995), providing another opportunity for STI testing.

Sweden's serious financial commitment to STI control has obviously been one factor in the program's success. Another factor is that the STI strategy is placed in what has been described as one of the most advanced health care systems in the world, which features large numbers of community health centres, staffed by multidisciplinary teams (Taylor and Bloor 1994). However while this structure may have been beneficial for STI control, apparently it has some shortcomings. More recently

Sweden has made serious efforts to increase the number of private GPs to overcome the problems of anonymity and difficulty in accessing a doctor that are now considered to be disadvantages of the Swedish community health centre model (Taylor and Bloor 1994).

The difficulty with STI control for any country is that STIs are a product of sexual behaviour, which is strongly affected by the social and cultural mores of different communities. While STI testing and treatment might be used successfully across countries and cultures, other aspects of STI control, such as health promotion, need to be culturally appropriate. Approaches used by other countries may provide useful models, but ultimately we need to tailor our efforts to match the specific, yet frequently changing needs within our own community.

Worldwide, few of the key prevention and control strategies have been properly trialled in the general practice setting. For example, a strong recommendation for GPs to provide sexual health counselling has been described as one of the ‘cornerstones’ of the US Public Service Policy on STI Prevention. Yet studies of the effectiveness of GPs’ counselling in changing sexual behaviour are almost unknown (Berg 1996). Similarly, it has been observed in the US that despite the fact that community medical practitioners provide ‘much of the STD care in the community’ STI programs have generally invested little effort in establishing relationships with them (Gunn et al 1998: 681). As will be seen in this thesis, STI control measures (such as practitioners’ STI knowledge, detection of disease and sexual partner referral) have been examined infrequently from the general practice perspective.

Australia’s approach to STI control

In Australia, STI control is largely managed at the state and territory level, with very little co-ordination at a national level. This situation has had an historical precedent. Prior to 1900, states attempted to control VD through legislation against prostitution, as prostitutes were seen to be the primary source of infection (Tibbits 1994). Of the two most commonly seen STIs at this time, syphilis was of most concern because of its serious long-term consequences and fatal outcome. In the early 1900s new techniques in laboratory testing allowing rapid identification of syphilis were introduced and successful treatment with arsenical compounds became available (Lewis 1988). These advances promised great hope against syphilis, which was thus the major focus of discussion at the triennial Australasian Medical Congresses of 1908, 1911 and 1914. Research results presented at the 1908 Congress showed that syphilis was a widespread and frequent cause of death, despite the new advances in diagnosis and treatment (Cumpston 1989). At each successive Congress, and as more information on the prevalence of syphilis became available, stricter syphilis control measures were recommended. These concerned the availability of treatment, who should perform treatment, and punishment for those who knowingly transmitted syphilis or who treated syphilis without appropriate qualifications (Cumpston 1989).

In 1915, concerned by the large numbers of Army recruits with VD, the Commonwealth urged the states to consider legislation to enable efficient treatment of VD. They recommended the inclusion of a variety of measures:

- outlawing treatment by lay practitioners

- compulsory treatment by doctors
 - notification of all cases and all who discontinued treatment
 - issue of certificates of cure
 - free testing
 - punishment of those who knowingly infected others
 - provision of adequate government accommodation for inpatient treatment
 - prohibition of advertising of VD cures
 - compulsory detention of those infected but avoiding treatment
 - doctors to be allowed to pass on information about a patient's infectious state if that fact had been concealed from a person the patient was planning to marry
 - concealment of infection to be a grounds for dissolution of marriage
 - registration of all stillbirths
 - infected prisoners to be detained until cured
- (Lewis 1988: 6).

These recommendations were cited as more comprehensive than control measures attempted anywhere else in the world, and indeed, one in particular had significant consequences for non-medical health practitioners. To ensure that only medically qualified practitioners could treat VD, it was necessary to introduce a new practice allowing pharmacists to provide medicines to patients only with a doctor's prescription; a practice which is still current (Tibbits 1994). In return for adopting these recommendations the Commonwealth gave financial aid to the states (Atkinson 1920). By 1918, all of the states had passed legislation containing these recommendations to varying extents. As a result, Australia was complimented by the British Social Hygiene Congress for setting an excellent example to the world in compulsory notification and free treatment (Anonymous 1929). By 1930, however, a review in the Medical Journal of Australia stated that this legislation had not been as successful as had been hoped (Editorial 1930).

In the 1920s the concept of prophylaxis in the treatment of VD was gaining favour. This involved treatment which took place within a few hours of sexual intercourse and which was believed to diminish the possibility of infection developing (Tibbits 1994). Such prophylactic treatment was available only to men, as it had the potential to prevent a pregnancy resulting from that particular episode of intercourse. This contraceptive effect was considered to make the treatment unethical for women (Lewis 1998). With the adoption of prophylaxis, the provision of clinical services for either prophylactic treatment or treatment after acquisition of an infection became a main intervention strategy for STI control; a situation which was to remain for another 70 years.

More effective treatment of gonorrhoea became available in 1938 with the introduction of the new sulphonamides, which reduced treatment time from months to three or four weeks (Cumpston 1989). In the face of the increasing incidence of venereal disease that appears to be often associated with war, the National Security (Venereal Diseases and Contraceptives) Emergency Act in 1942 was introduced. These regulations gave the Chief Health Officer the power, which was not available under state legislation, to detain anyone thought to have VD and to trace their sexual contacts (Tibbits 1994). Within a few years, penicillin had become the major treatment for both gonorrhoea and syphilis, with the latter now able to be treated

within months as opposed to the years of treatment necessary earlier (Lewis 1998; Tibbits 1994).

Complacency followed the introduction of antibiotics. Antibiotics, though effective, did not end the problem of venereal disease, because the social and behavioural factors involved in the transmission of infection remained unaffected by the new treatments. In the late 1960s and early 1970s, notification rates for gonorrhoea and syphilis began to increase steadily. Along with this, there was increasing evidence of the presence of a number of sexually transmitted infections which were non-notifiable such as non-specific urethritis, genital warts, genital herpes and trichomoniasis (Bradford and Bradshaw 1985; Lewis 1998).

In the last two decades enormous growth has occurred both in the community's consciousness of sexual health, and in the availability of treatment services for STIs. In 1978 the first national conference on STIs was held in Western Australia, the state that led the way in STI control in recent times (Lewis 1998). Around 1980, Venereology Societies were established at the state level for professionals working in the sexual health area. The National Venereology Council, formed in 1981 (although disbanded in 1999), provided an umbrella organization to advocate for improved STI treatment services and to raise community awareness of the importance of sexual health (Donovan 1995). The Australian College of Sexual Health Physicians was established in 1988, and the first Chair of Sexual Health Medicine was appointed in 1992.

In 1993, one of Australia's health goals was to 'reduce the incidence of STIs (including syphilis, gonorrhoea, chlamydia and pelvic inflammatory disease) in sexually active adults and young people' (Nutbeam 1993: 67). Other national health goals related to decreasing the incidence of HIV and hepatitis B, and to improving 'the sexual health of those who are sexually active' by increasing the proportion of those at risk of STIs who always practise safe sex (Nutbeam 1993: 134).

Australia was one of the first countries in the world to establish a national strategy for HIV/AIDS. The first National HIV/AIDS Strategy was published in 1989, and it formalised support and financial commitments that had already been in place for a number of years (Commonwealth of Australia 1989). The strategy funded specific prevention programs aimed at those in the population who were at highest risk of HIV infection as well as providing support for people living with HIV and AIDS. It implemented an explicit public awareness campaign for the general population, which initially was built on images of fear and death (MacDonald 1998). The uniqueness of Australia's commitment to controlling HIV is highlighted when compared to other western countries. During the last 15 years, Australia has produced four National HIV/AIDS strategies – in this time the United States has produced only one, and the United Kingdom has their first in the planning stage. Australia's prompt focus on HIV/AIDS resulted in a number of benefits for the other STIs. Funding from HIV/AIDS programs was used to produce health promotion materials for HIV/AIDS and other STIs. The public awareness of HIV/AIDS did much to break down the social barriers to discussing STIs and contributed to controlling the spread of infection (Lewis 1998; Tibbits 1994).

The National HIV/AIDS strategies have acknowledged the importance of other STIs in the spread of transmission of HIV, and that many of the risk factors for HIV are the same as other STIs (Commonwealth of Australia 1989; 1993;1996; Commonwealth Department of Health and Aged Care 2000a). Despite this, and an estimate that young Australians have a 500-fold greater risk of contracting chlamydia than becoming infected with HIV (Donovan 1992) a sexual health strategy has not yet been introduced. It was only in June 2000 that a project was commissioned by the Commonwealth Department of Health and Aged Care to investigate the feasibility of developing a National Sexual Health Strategy for Australia. The report has now been completed, and the future of the Strategy will be decided by a sub-committee of the National Public Health Partnerships in 2001 (C. Mead, personal communication, Dec 2000).

Other than the HIV/AIDS strategies, very few national policies have included STIs. The National Women's Health Policy did not focus on sexual health, although it discusses reproductive health (Commonwealth Department of Community Services and Health 1989). Similarly, the Men's Health movement has raised the issue of reproductive and sexual health for men, but while it has increased public discussion about this, it has not produced any specific policy relating to sexual health. The Health of Young Australians, a National Health Policy for Children and Young People, does not discuss sexual health or STIs (Commonwealth Department of Human Services and Health 1995).

Other documents which have framed national responses to some aspect of sexual health have only limited relevance to this thesis. The National Framework for Education about STIs, HIV/AIDS and Blood-borne Viruses in Secondary Schools provides a policy framework for professional development and classroom teaching (Commonwealth of Australia 1999). Sexual transmission of Hepatitis C is possible and has been documented, but the risk of acquiring it is considered to be extremely low (Commonwealth Department of Health and Aged Care 2000b) and therefore discussion of the National Hepatitis C Strategy is not included in this thesis.

In 1997, in response to a major concern about the potential impact of HIV/AIDS on the Aboriginal and Torres Strait Islander communities, a National Indigenous Australian' Sexual Health Strategy was developed (ANCARD Working Party on Indigenous Australians' Sexual Health 1997). This document is discussed in more detail in Chapter 2.

National policy suggests that prevention programs focusing on HIV/AIDS should do so in a broader sexual health context (Commonwealth of Australia 1993). In keeping with this, this thesis will examine STI control in general, drawing on particular infections for specific examples.

STI control in Victoria

In the early days of Victoria, the type of health care and its availability was very different from now. By the middle of the 1880s, a number of hospitals had been established in Melbourne. Two, the Melbourne and the Alfred, were general hospitals. Four were specialist hospitals – the Lying In, the Hospital for Sick Children, the Eye

and Ear, and the Homeopathic Hospital. Hospital regulations of the time excluded those with an infectious disease from being admitted as inpatients. Of these six hospitals, only the Melbourne Hospital treated VD outpatients, who were distinguished by the red discs attached to their history cards and who were ushered in at the end of the day as a group for treatment (Inglis 1958). In face of the very real need for inpatient treatment services, a government subsidy was offered to any organization charitable enough to take on VD patients (Anonymous 1885). The Salvation Army alone took up this offer and ran a small hospital in Richmond until 1905.

In the 19th century in Victoria, as in other parts of Australia, there was sometimes intense rivalry between doctors and pharmacists, both of whom were able to treat diseases and dispense medicines. Although with a social standing lower than that of the doctor, the pharmacist offered treatment, with advice included, for a fraction of the cost of the doctor (Pensabene 1980). Also offering treatment for VD were quacks and makers of patent medicines who largely plied their trade by advertising in newspapers and magazines (Lewis 1998). This situation was not changed until the introduction of the Victorian VD Act of 1916, which made it an offence for anyone other than a qualified medical practitioner to treat venereal disease (Temple-Smith 1992).

Victoria was the first place in the English-speaking world to attempt to determine the prevalence of syphilis (Tibbits 1994). In 1908 the Australasian Medical Congress met in Melbourne and discussed syphilis at some length. As a result, and in an unprecedented move, the Chief Health Officer was authorised to conduct incidence and prevalence studies within Victoria for one year in what later came to be known as the Melbourne Experiment (Cumpston 1989). The following results were reported by Dr J Barrett, a progressive public health proponent, in an article published in the *Medical Journal of Australia* (Barrett 1914). For the purpose of the research, syphilis was classified as notifiable if diagnosed in a person residing within 10 miles of the Melbourne General Post Office from June 1st, 1910 to May 31st, 1911. Laboratory confirmation was sought for each of the resulting 5500 notifications, and of these, 3167 were positive. In another study, blood samples were taken from every patient attending one of the clinics at the Melbourne Eye and Ear Hospital during a four month period. Results showed 13% of 550 ambulatory patients to have syphilis. Of 200 random post-mortems made at the Royal Melbourne Hospital, one third demonstrated gross evidence of syphilis. At the same time 14.4% of 475 consecutive admissions to the Hospital for the Insane tested positively for syphilis (Cumpston 1989).

These data clearly demonstrated the severity of the syphilis problem in Melbourne at that time, and resulted in Victoria's leadership in a number of attempts to control VD. Victoria subsequently pioneered the concept of night clinics, and sought the advice of the clergy and the National Council of Women in the design of a public education campaign (Barrett 1914; Tibbits 1994). The editor of the daily newspaper, the *Argus*, was approached to ensure that VD should be called by its proper name, and that frank discussion of the subject should be allowed. This was believed to be the first instance in the British Empire in which a non-medical journal agreed to take such action (Barrett 1914).

The passing of the VD Act in 1916 resulted in a number of requests from GPs seeking to improve their knowledge of VD (Tibbits 1994). The Victorian branch of the British Medical Association (The Australian Medical Association was not established until 1961) commenced the first continuing medical education classes in August 1917 – two lectures each week, for which fees were paid (Pensabene 1980; Editorial 1917a). Following this course, a more broad-based annual continuing medical education program was initiated, which included an overview of VD (Tibbits 1994). From this small beginning the more general concept of continuing medical education for GPs was launched (Tibbits 1994).

The success of these pioneering attempts in VD control which were initiated by Victorian medical leaders were limited by the pressures of prevailing public morality. A proposal to educate young people about the dangers of VD, for example, was deterred by fears that such information would entice them to behave in sexually irresponsible ways (Tibbits 1994).

Despite the increasing evidence of the prevalence of VD, the availability of treatment services in Victoria was erratic in the first two decades of the 20th century (Temple-Smith 1992; Lewis 1998). It has been argued that the establishment of free treatment services was restrained by the prevailing moral view that VD was self-inflicted disease, and therefore only deserving of minimal financial support (Tibbits 1994). In the absence of a VD control strategy, treatment services were developed individually as stop-gap measures (Temple-Smith 1992). For example, in 1910 one of the doctors at the Royal Children's Hospital received permission to treat as outpatients the mothers of children with congenital syphilis (Gardiner 1970).

From 1911-1915 the Alfred Hospital was the first to open an inpatient ward for male patients, and during this time a night clinic for male treatment was also established (Mitchell 1977). It was not until June 1918, however, that the Victorian government established its first VD clinic for men (Cumpston 1919). Open from 2pm until 11pm, in its first week the clinic had 232 attendances, and by September the average daily attendances were 250 (Victorian Parliamentary Debates 1918). In July 1918, the government assumed the responsibility for expanding a VD clinic for women which had been operating two nights a week at the Queen Victoria Hospital, although it was almost a decade before the government accepted total management of the clinic. In 1919, a VD ward for children was built and maintained by the Central Board of Health (Gardiner 1970).

In the early 1920s, the lack of accommodation for females requiring VD treatment was the major concern of a number of community organizations (Anonymous 1920). In addition to the female penitentiary, Coode Island which was primarily used as a quarantine station for stock, was the only secure accommodation available for women with VD who needed to be forcibly detained to receive treatment (Tovey 1911; Anonymous 1922). When it was clear that the government was taking little action to rectify this situation, the Mission of St. James and St. John stepped in and established a succession of girls' homes to provide accommodation and rehabilitation for girls with VD (Temple-Smith 1992). Fairhaven, the largest of these, continued operation until 1951, when the availability of penicillin obviated the need for inpatient treatment of VD (Cole 1969).

Syphilis caused the greatest concern, because of the threat it posed to infants, children and adults (Tibbits 1994). In 1926 a special clinic was established at the Royal Children's hospital in an attempt to decrease the death rate among infants and children with syphilis. While girls with gonorrhoea were also admitted to this ward, it was 1939 before boys with gonorrhoea were accepted (Gardiner 1970).

Little information is available about the numbers of STI cases that were managed outside the specialist clinics. There is some evidence that around 40% of VD notifications in the period 1917 to 1928 were from GPs (Tibbits 1995). Even then, however, it was recognised that these figures were unreliable (Tibbits 1995).

Up until the 1950s, as will be seen in Chapter 5, treatment was lengthy, arduous and expensive, so management by private medical practitioners was beyond the means of many (Tibbits 1995). There was also concern expressed that owing to the complexity of treatment, those patients treated privately may not have been treated properly (Editorial 1927), a concern which is also voiced today in relation to the management of STDs by GPs, in particular HIV (Kitihata et al 1996).

As was the case all over Australia, the introduction of penicillin in the postwar period resulted in a decline in incidence in VD although concern for the declining moral standards of women was still very much in evidence. The public was exhorted to exercise stricter control over the laxity of conduct by young women in public places (Anonymous 1943a) while the Federal Minister for Health, Mr Holloway, placed the responsibility of VD control in women's hands: 'It is in the power of women to banish venereal disease by denying men the opportunity for irregular intercourse, and refusing to allow their moral sense to be blunted by alcohol' (Anonymous 1943b: 7).

The moralistic view of STIs as being spread by particular community groups whose sexual behaviour was at odds with other more conservative members of society has continued until the present time. Only in the last two decades has this been seriously challenged by an alternative, more liberal view that sees the choice of sexual practice as an individual decision and freedom from STIs as the right of all, irrespective of sexual behaviour. In addition to traditional medical interventions the more liberal view has encouraged a greater focus on behavioural interventions in STI prevention (Tibbits 1994). As a result of this there has been more open discussion and education about STIs and sexual health more generally.

Whilst public education campaigns in Victoria have periodically focused attention on preventing pelvic inflammatory disease (early 1980s), AIDS (1988) and genital herpes (1998), within Victoria a strategy for population based STI control has never been introduced. There have, however, in the last two decades been a number of independent efforts to improve particular aspects of STI control.

The Victorian Health Promotion Foundation, a bipartisan health promotion agency funded from the state's tobacco tax, commissioned a report in 1988 to examine current research relating to STIs and HIV/AIDS in Victoria (Temple-Smith et al 1989). As a consequence of this report, the Centre for the Study of Sexually Transmissible Diseases was established in 1993. The aims of the Centre were to undertake research into the social and behavioural aspects of STIs, their prevention and their consequences; to provide leadership in the study of STIs at a state and

national level, and to provide a foundation of knowledge, skills and resources upon which other organizations could draw to assist them in developing STI health education and promotion strategies and STI policies (Centre for the Study of Sexually Transmissible Diseases 1993). The Centre subsequently changed its name in 1999 to the Australian Research Centre in Sex, Health and Society (ARCSHC), to demonstrate a broader focus on sexual health, rather than on STIs alone. The Centre now conducts its research in three major areas – understanding sexual health, optimising sexual health outcomes, and informing policy and health systems (A. Mitchell, ARCSHC, personal communication, 2001).

Victoria responded to the 1993 national report ‘Australia’s Health in the Year 2000 and Beyond’ with its own goals and targets. In 1996, the Victorian Department of Health released a discussion paper entitled ‘Healthy Victorians 2000’, which identified reproductive and sexual health as one of eight health promotion priority action areas (VicHealth 1996:103). While specific health promotion targets were listed for other priority action areas, none were suggested for sexual and reproductive health. The report argued that because little was known of the true incidence of STIs in Victoria, setting goals for health promotion ‘would be of little value’ (VicHealth 1996: 152).

Currently, within the Victorian Department of Human Services, STIs form one cluster of the infectious diseases generally overseen by the Public Health and Development Division’s Disease Control Section. This section has four units – Surveillance and Risk Assessment, Investigation and Outbreak Control, Patient Risk Management and Population Risk Reduction Programs (Dr. J. Carnie, personal communication, 1998). Collation and data entry of STI and HIV/AIDS notifications is outsourced to the Epidemiology and Social Research Unit of the MacFarlane Burnet Centre for Medical Research. The Division employs partner notification officers to ensure that sexual partners, particularly of those with potentially very serious infections, are contacted (Department of Human Services 2000).

In 1997, the Public Health and Development Division published a manual known as ‘The Blue Book’, which contains guidelines for the control of infectious diseases in Victoria (The Blue Book 1997). All diseases which are notifiable in Victoria are included, with the exception of STIs. This is believed to be because at the time of first publication of the manual, STIs fell under the auspices of a different section of the Department of Human Services - the AIDS/STD Unit (Dr.G. Tallis, personal communication, 2000). Unfortunately, the manual makes no references to where a reader who is interested in STIs could access government recommendations on their diagnosis and management.

In 1999, the Department of Human Services auspiced a working party to develop a comprehensive strategy for the control of chlamydia in Victoria. The strategy addressed clinical management and laboratory testing protocols, surveillance, prevention and education of health providers, patients and the public (Victorian Chlamydia Strategy 2000). The Strategy was released for public comment in December 2000 and is currently being revised. The final version of the Victorian Strategy will not be released until it is apparent that it is in keeping with the recommendations proposed in the National Sexual Health Strategy discussed in

Conclusion

Throughout Victoria's history, the social response to STIs has been tainted with shame and stigma, dating from its early association with illicit intercourse and prostitution. Until recently the medical response to STI prevention has been shaped by the moral beliefs relating to the social norms of sexual practice. Syphilis and gonorrhoea, the two most common venereal diseases, were seen from the time of Australia's colonisation until the 1950s, with peaks in incidence during both world wars. In the early 1900s, Victorian medical leaders were recognised by the world as initiating original and strong STI control measures, however not all of these ideas were carried through to fruition. The prevailing moral climate continued to marginalise STIs and to stigmatise those affected. It resulted in STI treatment being seen as a deserved punishment. The introduction of penicillin led to complacency and disinterest in STIs by medical educators. Notification of STIs and the tracing of sexual partners by GPs, which had never really been seriously encouraged by public health authorities were allowed to languish. Increasing rates of VD in the 1960s, coupled with the recognition that newer STIs were increasing in frequency, led to increasing concern about STIs. The epidemic of HIV/AIDS prompted a concerted effort by health authorities to inform both the public and health practitioners. A similar strategy has not yet been developed for STIs.

GPs have always been involved in the management of STIs, and are considered to be a critical element of any control STI strategy. However, as will be seen throughout this thesis, little effort has been made to ensure that GPs are knowledgeable about the most effective way to control STIs in the general practice setting. The following chapters will examine expectations of GPs in relation to particular aspects of STI prevention and treatment, and the extent to which these are actually performed by GPs.

Chapter 2

Methods

Introduction

The purpose of this study was to identify ways of enabling GPs to contribute more effectively to STI control in Victoria. As was discussed in Chapter 1, the control of STIs in the general practice setting is not a straightforward procedure. It relies not only on GPs' knowledge of STI diagnosis and management, but also on their ability to create a non-threatening environment in which a patient will feel comfortable in disclosing sensitive information. In addition it requires the GP to be as committed to the public health aspects of STI control as he or she is to the needs of the individual patient. Thus the GP must ensure that contact tracing and notification are carried out where necessary, and that the patient understands the practice of safe sex.

Although, as stated earlier, a formal policy supporting a specific program for STI control does not exist in Victoria, there is an expectation by policy makers and stakeholders that GPs' practices in relation to STI diagnosis and management include specific actions to minimize STI transmission (see Table 1.2). Some of the strengths and weaknesses of these individual components of STI control will be identified in the following chapters. However, no published research has attempted to examine, from a general practice perspective, the ways in which the various aspects of STI control in Victoria fit together. Consequently, there has been limited capacity to propose strategies to improve the process of STI control in general practice and thus make it more effective.

This study lies within an evaluation context, using what Greene would label a pragmatic philosophical framework (Greene 1994). There is a vast literature on evaluation as a distinctive field of social science. (Weiss 1972; Hudelson 1994; Patton 1986; Patton 1990). This has resulted in many definitions of evaluation, which generally include both the purpose of the evaluation and the types of activities commonly undertaken as part of the evaluation (Patton 1982). Patton, a proponent of pragmatic evaluation, states that the practice of evaluation involves 'the systematic collection of information about the activities, characteristics and outcomes of programs...to reduce uncertainties, improve effectiveness and make decisions with regard to what those programs ...are doing' (Patton, 1982: 15). This definition is the basis for a 'user-focused' approach to evaluation, and emphasizes:

- the systematic collection of data
- a broad range of topics
- use by specific people
- a variety of purposes.

Determining the effectiveness and impact of activities is dependent to a large extent, of course, on the perspectives of the evaluators. An evaluation of an organ donor scheme, for example, would be likely to produce different findings if carried out from the viewpoint of the donor recipient in comparison to an evaluation from the perspective of the medical staff performing the procedure. If cost-effectiveness and financing policy was the major issue of interest, the evaluation would proceed in yet a different direction. However, all evaluations have one thing in common. Unlike basic research, which has as its goal the production of knowledge, the rationale for evaluation is its application (Weiss 1972). Evaluation is conducted with a view to assessing in a practical way the worth of an activity, intervention or program.

Evaluation generally involves two processes – the collection of information about how a program is working, and comparison of this with some criterion or standard of good performance (Hawe et al 1991). Both qualitative and quantitative methods are used in evaluation. The type of method used is generally oriented towards the needs of those who are the ‘audience’ for the evaluation (Greene 1994: 531). For example, program evaluation is often focused on cost-effectiveness and accountability. Pragmatic evaluations aim to produce information about the usefulness of a program and whether it has high quality outcomes. An evaluation in the pragmatic tradition would generally answer questions about which aspects of a program work well, how effective they are from the beneficiaries’ perspective, and their success in relation to the goals of the organization. Patton argues that the major criterion for judging the quality of the method used should be the appropriateness of the method to evaluation. This would include not only making ‘sensible’ decisions about the choice of method, given the type of evaluation question to be answered, but doing so within the constraints provided by the resources available to conduct the evaluation (Patton 1990: 38-39).

Typically, such pragmatic evaluation uses a variety of methods in determining how well a program is working. This allows it to be seen from a number of different perspectives. Qualitative methods are more often used than quantitative methods by evaluators such as Patton, as they can create ‘unique, question-specific designs that evolve throughout the research process’ (Miller and Crabtree 1992:5). Thus data collection and analysis may proceed concurrently, and preliminary analysis may result in a change in sampling strategy or additional data collection. This flexibility maximises the opportunities for gathering detailed information (Patton 1987).

Qualitative methods are particularly useful for studying issues in depth. They are the methods most suited to attempting to understand human behaviour from the subject’s own frame of reference (Shmerling et al 1993). Qualitative methods are capable of eliciting the meanings given to the experiences and views of the participants (Pope and Mays 1995). They can therefore produce data which reflect the diversity of a given population. It has been argued that the insights provided by qualitative research are especially useful for suggesting context-specific improvements to public health strategies, the success of which may be hampered by the realities of people’s experiences (Gifford 1994).

Qualitative research is being used increasingly in general practice research (Schattner et al 1993; Schmerling et al 1993). Indeed, the process of qualitative research and the way in which GPs manage their patients in general practice have been observed to

have much in common (ZyZnaski et al 1992). Qualitative research does not impose a highly structured design in a study, but allows the design to emerge from the work in a ‘complex process of discovery, which is iterative, recursive and circular’ (ZyZnaski et al 1992: 243). In a similar way, GPs must use a circular approach with their patients, particularly those whose illness or condition is not clearly evident. In the light of emerging information the GP must revise and reconsider the management of the patient. Indeed, the GP’s relationship with a patient may be the most important determinant of the outcome of the consultation. This is likely to be even more so when the consultation is of a highly sensitive nature, such as in dealing with STIs.

Qualitative research has proved to be valuable in examining the process of clinical decision-making by exploring both the declared and tacit routines which doctors use (Silverman 1987). Thus it is particularly valuable in this study, which seeks to describe and compare GPs’ *ideal* practices with GPs’ *actual* practices, and to understand the differences from the GPs’ own perspective. As will be seen in the following chapters, a number of quantitative studies have been published which demonstrate the frequency with which GPs perceive they perform and actually do perform particular STI control measures. However, there is far less information about why these STI control measures are, or are not, performed. Little is known about GPs’ everyday experiences and concerns about STI management. Qualitative methods are therefore highly appropriate in this study, where a GP’s usual STI management may be modified in a particular consultation by the needs or the attitudes of the patient, by their own views on sexuality, or indeed for some other unanticipated reason (Hudelson 1994).

Method

The research involved the use of data from four major sources – policy and stakeholder documents, academic literature, key informant interviews and my own past research. The policy and stakeholder documents contributed information about what their authors believed to be ideal practice in relation to the topic of their document. The academic literature and key informant interviews provided insight both into what is perceived to be ‘best practice’ in STI control as well as GPs’ actual practice of STI control. My own past research projects have been concerned with the way in which GPs manage various aspects of STI control in their day-to-day practice, and thus assisted in describing GPs’ actual practice. These data sources are described more fully under Stage 1 - Data Collection.

In this study, therefore, I used these four data sources to examine both *ideal practice* and *actual practice*. To make this examination more manageable, I compared ideal practice and actual practice under a number of sub-topics, each of which is acknowledged in the literature to be an independent but critical aspect of STI control. These sub-topics were:

- sexual history taking
- STI screening
- STI testing
- STI treatment

- notification
- contact-tracing
- medical education in the area of STIs.

The importance of each of these topics to STI control is described in the following chapters. From the comparison of *ideal* with *actual* practice, I developed a series of recommendations to enable GPs to more effectively contribute to the prevention and treatment of STIs. Critical reflection and feedback on these recommendations were sought from a variety of key informants, and these were incorporated into the final results of the project. A diagrammatic representation of the data sources used is shown in Table 2.1.

The study consisted of three stages:

- primary data collection
- data analysis
- development and modification of recommendations.

These stages are described in more detail in the following sections.

Table 2.1 – Methods and Data Sources

	Policy and Stakeholder Documents Used	Academic Literature Used	Key Informants Used	Own Past Research Used
Stage 1 (Data Collection) and Stage 2 (Data Analysis)	yes	yes	yes	yes
Stage 3 Development of Recommendations	yes	yes	yes	yes
Modification of Recommendations	no	no	yes	no

Stage 1 – Data Collection

GPs acquire their knowledge about different aspects of STI control in a variety of ways – from undergraduate and postgraduate education, through notices from the Victorian Department of Human Services, continuing education programs, drug company literature, treatment guidelines and medical journals. A wide variety of data sources were therefore used in this project.

1. Policy and Stakeholder Documents

Twelve policy documents, reports, and guidelines that are recognized as providing guidance on various aspects of STI control and which were published between 1989 and 2000 were analyzed to examine what they consider to be *ideal* STI practices for GPs. Apart from those arising from the RACGP, these documents have not been written specifically for GPs, but for government departments, the community and service providers in general. The documents included government policy publications describing recommendations for action at the national, state or community level. Also included were documents written by an organization or a working party with specialist knowledge about a particular issue and intended for use by a variety of health professionals. The RACGP has published several relevant documents for its own members as well as other GPs. These documents examine issues from a general

practice perspective and make recommendations specific to that setting. The contents of each document are briefly described below.

National HIV/AIDS Strategies

The first National AIDS Strategy, covering the years 1989 to 1993 (Commonwealth of Australia 1989), guided Australia’s approach to the epidemic. It stressed the importance of partnerships between the community, government and health providers, and promoted HIV education and the concept of harm minimisation in the primary care context. The focus of the second National AIDS Strategy (Commonwealth of Australia 1993) was on the need to halt the spread of the virus through behaviour change, to provide support to those already infected with HIV, and to increase their chances of survival. The third National AIDS Strategy (Commonwealth of Australia 1996) maintained earlier principles, but framed them in the context of related communicable diseases, in particular Hepatitis C. The fourth National AIDS Strategy was due to come into effect in July 1999, but was in fact released in July, 2000 (Commonwealth Department of Health and Aged Care 2000). This strategy aims to achieve greater integration with related policy, in particular policies relating to hepatitis C, the sexual health of Aboriginal and Torres Strait Islanders and illicit drug use.

Table 2.2 Policy and stakeholder documents examined to determine ideal STI related practices for GPs.

Year of Publication	Title
1989	The National HIV/AIDS Strategy
1993	The National HIV/AIDS Strategy 1993-4 to 1995-6
1996	Partnerships in Practice (3 rd National HIV/AIDS Strategy)
2000	Changes and Challenges(4 th National HIV/AIDS Strategy)
1997	The National Indigenous Australians’ Sexual Health Strategy
1995	National Management Guidelines for STDs and Genital Infections
2000	Antibiotic Guidelines

1998	Contact Tracing Manual
No date given	Information from the Department of Human Services, Victoria
1996	Guidelines for Preventive Activities in General Practice
1998	Putting Prevention into Practice
1999	RACGP Core Curriculum

The National Indigenous Australians' Sexual Health Strategy 1996-97 to 1998-99

Australia's indigenous people were recognised as a priority in the first National AIDS Strategy. While both the first and second National HIV/AIDS Strategies recognised the importance of organizational partnership approaches in containing the HIV/AIDS epidemic (Commonwealth of Australia 1989; 1993), indigenous groups had little informal involvement. The evaluation of the Second National HIV/AIDS Strategy recommended that this be urgently redressed (Feacham 1995). The Indigenous Australians' Sexual Health Working Party was subsequently established to ensure that Aboriginal and Torres Strait Islander communities have the opportunity to contribute to sexual health policy and program development at a national level. The Working Party produced the National Indigenous Australians' Sexual Health Strategy, the first sexual health strategy in Australia. It is based on the principles outlined in the National Aboriginal Health Strategy, and describes a comprehensive approach to STI prevention within the primary health care context (ANCARD Working Party on Indigenous Australian's Sexual Health 1997).

National Management Guidelines for STDs and Genital Infections

This small booklet of 65 pages focuses on total management of STIs by including procedural as well as diagnostic and treatment information. It provides separate information sections on sexual history taking, examination and testing, patient information and notification. The current edition of these guidelines (Venereology Society of Victoria 1997), the fifth, is the first edition to be distributed free to all Australian GPs who have a provider number. Since 1987, several earlier editions of these guidelines were distributed free to Victorian GPs, using the mailing list of the Medical Practitioners Board of Victoria. A new edition is currently in press.

Antibiotic Guidelines

Three hundred and twenty pages in length, the Antibiotic Guidelines (Therapeutic Guidelines Limited 2000) provide general information on drugs and the principles of antimicrobial use, as well as specific chapters on treatment recommendations for different body systems. The chapter on Genital Tract Infections covers STIs. These Guidelines have been published since 1978. Until the mid-1990s, the then publishers, the Victorian Medical Postgraduate Foundation, distributed them free to all interns and junior hospital doctors in Victoria. They are now sold for \$31.90 (plus \$7.15 postage, if required) to non-students, and \$25.30 to students.

Contact Tracing Manual

This 80 page practical handbook (Sydney Sexual Health Centre et al 1998) was designed for primary care providers. It provides recommendations on contact tracing for individual conditions and special needs populations as well as information on legal, ethical and confidentiality issues, evaluation and quality assurance. It also includes descriptions of how to manage contact tracing as part of the counselling process, and information which can be copied and used as patient hand-outs. It was distributed in 1998 by the Commonwealth Department of Health and Family Services to all sexual health centres, family planning clinics, and doctors with a special interest in HIV medicine. It is also available by request from the Australian Society for HIV Medicine.

Information from the Department of Human Services, Victoria

When a diagnosis of chlamydia, gonorrhoea or syphilis is confirmed in a Victorian laboratory, a letter is sent from the Department of Human Services requesting more information from the diagnosing doctor for surveillance purposes. This letter is accompanied by one of the three Fact Sheets, specifying details about treatment and ongoing management of the patient (see Appendix 1).

The Guidelines for Preventive Activities in General Practice

This document provides a brief description of a set of preventive activities to be conducted in general practice. The activities listed are those for which strong evidence exists of a beneficial outcome. Examples of these include preventive activities for infants and children such as immunisations and the testing of hearing as well as specific preventive activities for adults, such as Pap smears and cholesterol testing. Activities which cannot be supported on the basis of current evidence, such as screening for glaucoma, dementia and diabetes mellitus Type 2 are also described. Prepared by the Preventive and Community Medicine Committee of the RACGP, this 36-page publication is currently in its 4th edition. It is available at a cost of \$6.60 from the RACGP (Preventive and Community Medicine Committee of the RACGP 1996).

Putting Prevention into Practice

This evidence-based monograph was prepared by the National Preventive and Community Medicine Committee of the RACGP to assist GPs to be more effective in the implementation of preventive care in the practice setting. Seventy pages long, it outlines the key processes in establishing a framework for prevention, and discusses implementation strategies as well as controversies. The first edition of this document was published in 1998. Intended as a companion to *The Guidelines for Preventive Activities in General Practice*, it also is available from the RACGP at a cost of \$9.90 (National Preventive and Community Medicine Committee of the RACGP 1998).

RACGP Core Curriculum

The RACGP Training Program Curriculum 'outlines the knowledge, skills and learning experiences required for competent, unsupervised general practice, and the processes required to achieve them'. Twelve curriculum statements are offered relating to priority areas of learning, such as 'aged care, 'chronic illness' and 'ethnic health'. The content for teaching and learning is listed alphabetically, and includes 84 content areas, ranging from 'abdominal pain', 'Aboriginal', 'abuse', 'adolescence' (the first four items) to 'trauma', 'women-specific', 'wound care' and 'young people' (the last four items).

Fourteen content areas which could have some relevance to this thesis were identified: communication, counselling, general practice, gynaecology, hepatitis, HIV/AIDs, infectious diseases, legal issues, public health, research, sexual health, sexuality, sexually transmitted infections and young people.

Although the RACGP has been training GPs for 25 years, the curriculum has been in existence only since 1996. The first edition of the RACGP Training Program Curriculum was produced in 1997, and a second more refined version was produced in 1999 (RACGP 1999a). Trainees are able to purchase a copy of the curriculum from the RACGP for \$25.00.

2. Literature

Published academic literature covering the fields of public health, general practice and STIs was examined to inform both GPs' ideal and actual practices. Medline literature searches using combinations of the key words 'family physicians', 'venereology', 'sexually transmitted diseases', 'guidelines', 'contact tracing' 'medical education' and 'medical history taking' were confined to the years 1990 to 2000. While these searches yielded some relevant articles, examining each issue of the relevant years of journals such as *Sexually Transmitted Diseases*, *Venereology Sexually Transmitted Infections*, and its predecessor *Genitourinary Medicine* yielded far more useful data. The literature review highlights key references which describe the most important aspects of STI control.

3. Key Informants

A method which is particularly appropriate for gathering specialised knowledge and for critical reflection is the use of key informants. Key informants are individuals possessing perspectives which outside the experience of the researcher, but who are

willing to share this information with the researcher (Goetz and LeCompte 1984). Key informants are not selected randomly, but purposefully. They are selected because their unique position enables them to provide a rich or 'thick' description of the phenomenon under investigation (Gifford 1998; Patton 1990).

Information from 17 key informants was collected to assist in interpreting data relating to GPs' ideal and actual practices. Key informants were selected because they were in a position to offer unique insights into particular aspects of STI control as it pertains to general practice. Initially key informants were identified through my knowledge of the work of organizations critical to the area. These key informants were able to provide feedback on the research question as well as providing information which identified other key informants (Lincoln and Guba 1985). Key informants were representatives of organizations responsible for making policy, were employed in specific areas of STI control, were involved in undergraduate or postgraduate medical training or were non-medical health practitioners able to comment on these issues from their interactions with GPs in the workplace (Table 2.3). As these key informants were divergent stakeholders, this data offered the potential for contrasting views on a variety of issues. While some key informants were able to offer insight into aspects of ideal practice, the majority of these interviews concerned details of GPs' actual practice.

Table 2.3 Key Informants (n=17) who contributed information about GPs' ideal and actual practices

Area of Expertise	Affiliation of Key Informants
Policy (n=3: 2♀, 1♂)	Royal Australian College of General Practitioners (1♀) Public Health Branch, Department of Human Services(1♂) Academic General Practice (1♀)
Specific Areas of STI Control eg. notification, contact tracing, pathology (n=6: 5♀, 1♂)	Macfarlane Burnet Centre for Medical Research (2♀) Department of Human Services (2♀) Private Pathology Laboratories (1♀ 1♂)
Undergraduate and Postgraduate Medical Training (n=5: 2♀, 3♂)	University of Melbourne (1♀) Monash University (1♂) Royal Australian College of Obstetrics and Gynaecology (1♂) Royal Australian College of General Practitioners (1♀ 1♂)
Non-Medical Health Practitioners (n=3: 3♀)	Sexual Health Nurses Association (3♀)

Key informant interviews took approximately 45 minutes to one hour. Fifteen interviews were conducted in person, and two by telephone. Core questions which defined the areas to be covered were asked of all key informants, along with additional questions specific to the area of the key informant's expertise (see Appendix 2). Detailed notes were taken during the interview and fully written up immediately afterwards (Bernard 1994; Britten 1995). To verify results, the fully detailed notes from the interview were typed up and sent to each participant for confirmation and comment. Of the 17 key informants interviewed in this first stage, seven suggested a minor modification to the interview notes either to clarify a particular point or to provide additional information.

Nine key informants contributed documentation, samples or suggestions of further relevant contacts. Documentation included pamphlets for patients, leaflets advertising courses or organizations, superceded editions of guidelines, academic articles, curriculum outlines and examples of letters and forms. Samples of swabs and slides used to collect specimens for pathology testing were provided. Key informants also offered the names of eight colleagues who would be able to provide a useful perspective on some aspect of research. A second group of key informants were interviewed in Stage 3 of the study. Details of this group are provided under the section entitled 'Development and modification of recommendations'.

4. Use of Own Previous Research

My own previous research was conducted while I was employed part-time from 1994-97 as a Research Fellow at the Centre for the Study of Sexually Transmissible Diseases, La Trobe University, now known as the Australian Research Centre in Sex, Health and Society. During my time there, in addition to work in related areas, my research focus was concentrated on 4 key projects:

- History taking in general practice in Victoria with reference to sexual risk
- Knowledge, attitudes, practices and behaviour of Victoria GPs in relation to STDs
- Contact tracing for STDs in general practice
- A study of the use of the Venereology Society of Victoria's Guidelines for the Management of STDs and Genital Infections.

Each of these projects, accompanied by details of publications arising from this work, is briefly described below. The first two projects were of my own conception and largely of my own design, with the other researchers who joined the team inevitably contributing to the design of subsequent projects. Each of the publications arising from these studies provides baseline information about a specific aspect of the way in which STIs are actually managed within general practice in Victoria. A number of focus groups were conducted as part of Projects 1 and 3. Some of the participants' comments appear in the articles subsequently published from these data; others appear for the first time in this thesis. This research thus contributed to the information relating to GPs' *actual* practice.

Project 1: History taking in general practice in Victoria with reference to sexual risk.

This project arose after consultation with GPs had identified sexual history taking as a major concern. Six focus groups of 4-8 GPs were conducted to determine their perceptions of the difficulties involved in taking a sexual history from a patient.

Results:

A total of 40 GPs were included in the study. A range of barriers to sexual history taking was identified, as well as strategies for overcoming them. Barriers included lack of time, fear of intrusion, age and sex of both GP and patient, fear of inadequacy, patient's offending behaviours, cultural differences (ethnic, gay and youth) and the presence of a third party.

Publication:

Meredith Temple-Smith, Judith Hammond, Priscilla Pyett, Nanette Presswell. Barriers to sexual history taking in general practice. *Australian Family Physician: REASON*, 1996; 25 (9), Suppl 2: s71-s74.

Project 2: Knowledge, attitudes, practices and behaviour of Victoria GPs in relation to STDs.

It was important to determine whether the barriers to sexual history taking identified in Project 1 were recognised by GPs on a broader scale. This was done as part of a large-scale survey of 520 Victorian GPs, which examined their knowledge and practices in relation to the clinical features, investigations, treatment, public health issues and epidemiology of a variety of STIs. This major project, which included a number of different STIs, was the first such survey to be conducted in Victoria. The results were reported in a number of articles.

Results:

Research on GPs often has an extremely poor response rate, with 20-60% commonly reported in the literature. The response rate of 85% in this study meant that the results were generalisable to the Victorian GP population. This study showed that while GPs generally had good knowledge and used appropriate tests for patients presenting with symptoms of an STI, they had low levels of awareness of asymptomatic disease, and demonstrated a lack of opportunistic sexual history taking. A high proportion (39%) of Victorian GPs were managing HIV patients, in comparison to only a quarter of the Australian GP population who did so in 1989. Results from the survey suggested that approximately 18,000 cases of chlamydia (Victoria's most common STI which is frequently asymptomatic) were diagnosed in 1995 by Victorian GPs. There was an enormous discrepancy between this estimate and the actual number of notifications for chlamydia (1,317 in 1995). A brief educational intervention was conducted with half of the GPs who had been surveyed about their STI knowledge and practices. Following the intervention, GPs showed statistically significant improvements in four of the six outcomes that were examined.

Publications:

Graeme Mulvey and Meredith Temple-Smith. Managing people with HIV/AIDS - the involvement of Victorian general practitioners. *Australian Family Physician*, 1997;26 (Suppl 2): S66-S70.

Meredith Temple-Smith, Louise Keogh and Graeme Mulvey. Testing for chlamydia and other sexually transmissible diseases in general practice in Victoria. *Venereology*, 1997; 10, 14-19.

Graeme Mulvey, Meredith Temple-Smith and Louise Keogh. Sexually Transmissible Diseases - knowledge and practices of general practitioners in Victoria, Australia. *Genitourinary Medicine*, 1997; 73, 6:533-537.

Meredith Temple-Smith, Graeme Mulvey and Wendy Doyle. Maximising response rates in a survey of general practitioners: lessons from a Victorian survey on sexually transmissible diseases. *Australian Family Physician*, 1998; 27 (Suppl 1): S15-S18.

Meredith Temple-Smith, Graeme Mulvey and Louise Keogh. Attitudes to taking a sexual history in general practice in Victoria, Australia. *Sexually Transmitted Infections*, 1999; 75, 1:41-44.

Graeme Mulvey, Louise Keogh and Meredith Temple-Smith. Outcomes of an educational activity aimed at improving knowledge and practices in relation to sexually transmissible diseases. *Australian and New Zealand Journal of Public Health*, 2000; 24 (1): 76-78.

Project 3: Contact tracing for STDs in general practice

From the results of the large-scale survey, it was clear that more detailed information was required to identify the reasons why some GPs were not performing contact tracing. A further qualitative study using six focus groups was conducted. A total of 25 GPs participated in the study, which examined the barriers to contact tracing in general practice.

Results:

This small study revealed a high level of uncertainty among GPs about how and when contact tracing should be performed, as well as substantial barriers to contact tracing in general practice.

Publication:

Louise Keogh, Judith Hammond, Graeme Mulvey and Meredith Temple-Smith. Contact tracing for STDs in general practice in Victoria, Australia. *Venereology*, 1998;11, 1:32-37.

Project 4: A study of the use of the Venereology Society of Victoria's Guidelines for the Management of STDs and Genital Infections.

In Project 2, 36% of the 444 responding GPs indicated they used these guidelines when asked which reference source they used when managing patients with an STI. Project 4 combined quantitative and qualitative methods to describe the characteristics

of users and non-users of the guidelines and to examine the ways in which the guidelines were used.

Results:

Users of guidelines were more likely than non-users to have higher caseloads of STIs, to score better on STI knowledge questions and to have an interest in updating their STI knowledge through the RACGP CHECK program. However, users were no more likely than non-users to have completed post-graduate qualifications of relevance to STIs or to be managing patients with HIV/AIDS. Recommendations were made for improving the distribution, uptake, presentation and content of the guidelines.

Publication:

Meredith Temple-Smith, Lyn Turney, Louise Keogh and Graeme Mulvey. A study of the use of the Venereology Society of Victoria's Guidelines for the Management of STDs and Genital Infections. Centre for the Study of Sexually Transmissible Diseases, Faculty of Health Sciences, LaTrobe University, 1998, 1-39.

Additional Publications:

In addition, I was co-author of a number of review articles or documents examining specific aspects of STIs that were published at this time. They did not arise directly from any of the projects described above, but were developed from ideas related to an individual aspect of my work in STIs in general.

Meredith Temple-Smith, Sue Crockett, Kylie Willcockson, Adam Rehak (1995). Treatment Services for Sexually transmissible Diseases: a Reference Manual for Health Service Providers and Researchers (Centre Publication Number 3). Victoria: La Trobe University, Centre for the Study Sexually Transmissible Diseases.

This manual was compiled to examine the range of STI treatment services available to Victorian women.

Meredith Temple-Smith and Sandra Gifford. (1996) Should sexually transmissible diseases surveillance include ethnicity data? Communicable Diseases Intelligence, 20 (10): 240-242.

Indicators of ethnicity are not routinely collected with data collected on HIV and other STIs. This paper suggests a staged framework for the collection of data on ethnicity, and the uses to which such information could be put.

Meredith Temple-Smith and Sandra Gifford. (1996) Where are you from? Today's Life Science, 8 (10): 18-21.

This article describes in some detail the need for knowledge about ethnicity in STI data collection.

Sandra Thompson and Meredith Temple-Smith. (1997) Control of genital chlamydia: time for action. Healthsharing Women, 8 (1): 9-15.

This review of genital chlamydia examines the current situation in Victoria and discusses the need for specific measures.

Stage 2 - Data Analysis

The analytical approach used in this study is drawn from the field of action science, which is widely applied in an organizational context. Argyris is a major proponent of this approach (Argyris and Schon 1978, Argyris 1982). Central to his work is the concept of a theory of action. Argyris suggests that what we think we are trying to achieve is not necessarily what we actually do. More simplistically stated, he argues that we do not always practice what we preach, and the consequence is that our behaviour may not always be as effective as it could be (Dick and Dalmau 1990). This is true on an individual basis, as well as at an organizational level. While this would appear to be common sense, an explicit recognition of the dissonance that may occur between *ideal* practice and *actual* practice is very important in evaluation research.

Argyris argues that the 'designs' people bring to a situation are general ones, about how to act in a generic situation (Argyris 1982). These theories-of-action, which are likened to a master or computer program, are learned through socialisation within the organization. Thus people are taught 'right' behaviour or fixed solutions to cope with tasks in their work (Argyris 1982). Argyris's research showed that whenever people dealt with difficult or threatening issues, they did not behave according to their theory-of-action. He labelled the theory-of-action people actually used in this situation as 'theory-in-use'. The theory of action they claimed to use, he called 'espoused theory'. Thus the espoused theory is the world view and the values a person believes guides their behaviour. The theory-in-use is the world view and the values implied by one's actual behaviour. The difference between espoused theory and theory-in-use applies at the level of national strategies, organizations, small groups and inter-personal relationships (Dick and Dalmau 1990). In Argyris' terms, effectiveness consists of being more 'congruent', of bringing one's behaviour (theory-in-use) more in line with one's espoused values (Dick and Dalmau 1990). In other words, the goal of intervention is to close the gap between *ideal* and *actual* practice.

Patton has described the analytical approach in this study as a useful method for clarifying a program, model or treatment (Patton 1990). In such a study, the espoused theory is the official version of a program or process, while the theory-in-use is what really happens in practice. The espoused theory is revealed by analyzing official documentation, and interviewing supervisory staff or administrators. Interviewing participants and direct observation of the program provides information on the theory-in-use. During analysis, the espoused theory (stated ideals) is compared with the

theory-in-use (actual priorities) to highlight discrepancies. This comparison of the ideal and the actual is described by Patton as a useful organizational development strategy for improving effectiveness (Patton 1990).

The four different data sources used in this study provide the basis of comparison between espoused theory and theory-in-use. The policy and stakeholder documents, the academic literature and key informant interviews were used to inform the espoused theory, which described GPs' ideal practice in STI control. The academic literature, key informant interviews and my own past research contributed to the examination of GPs' actual practice or their theory-in-use.

Data relating to each of the research sub-topics – sexual history taking, STI screening, STI testing, STI treatment, notification, contact tracing and medical education - were collated, reviewed, and subjected to thematic analysis, the search for common threads which extend across a set of interviews or piece of research (Bernard 1994; Patton 1990). Themes were initially drawn from the literature and from my previous research. Additional themes emerged from the data collected. Key informant data were particularly useful in clarifying issues that were unclear or not apparent in the review of the literature and relevant documents. A coding framework was designed to assist in organizing data for thematic analysis (Appendix 3).

The espoused theory and theory-in-use for each of the sub-topics listed above were described and is summarised in Chapters 3-7. Comparison of these two theories resulted in the identification of discrepancies between the espoused theory and theory-in-use, which were used to develop a series of recommendations for each of the sub-topics.

Stage 3 – Development and modification of recommendations

In the first part of the study, data from 17 key informant interviews were used to assist in describing the theory-in-use. A number of needs were identified from the examination of discrepancies between the espoused theory and the theory-in-use. Consideration of these needs were used to develop recommendations for strategies to improve prevention and management of STIs in general practice in Victoria.

A second, larger group of key informants was sought to comment on these strategies for STI control in general practice (see Chapter 8). Some of these key informants were representatives of organizations which influence the way in which GPs carry out STI treatment or management, such as those which are responsible for undergraduate, postgraduate or continuing medical education in the area of STIs. However, a large proportion of the key informants in this stage of the study were general practitioners with high, medium or low STI caseloads. Some were selected because their patients or their workplace offered them a particular perspective on STI control.

Key informants who represented organizations were invited to participate because of their position or expertise within their workplace. All of the potential informants who were invited to participate did so. Owing to the small pool of those with expertise in highly specialised areas, four of the key informants whose opinions were sought were

those who had participated earlier in Stage 1. In addition to their ability to be able to comment knowledgeably about the recommendations, it was hoped that the use of these key informants at this stage of the project might also raise their awareness of the possibility of improvements and so make some small contribution to the process of change.

GP key informants were also recruited to comment on the strategies for improving STI control because they are the intended beneficiaries of these strategies. It was therefore critical to gather a range of opinions from GPs with a range of STI caseloads who worked in different general practice settings.

GP key informants were recruited by purposive snowballing sampling (Patton 1990). A small number of key informants were approached through the Venereology Society of Victoria, and others through personal research networks. GPs who did not meet the criteria required, such as being employed in a salaried position (see Table 2.4), were asked to nominate other GPs who might do so. Purposive sampling allows the inclusion of 'outliers' who are generally discounted in quantitative research (Barbour 1999). Thus particular efforts were made to contact GPs with a low STI caseload, as these GPs represent the majority of their Victorian colleagues for whom STI control is more difficult. Interestingly, but possibly due to the sensitive nature of the issues being discussed, it was found that a personal introduction was extremely important to recruitment of GP key informants. An advertisement in the RACGP newsletter yielded not one inquiry (Appendix 4). One Division of General Practice, on request, identified five GPs who worked as solo practitioners or with a single other male GP. Despite the endorsement of the Division, only one GP from this group agreed to participate. In contrast, all of the GPs who were invited to participate by one of their own colleagues did so.

Key informants were sent a brief description of the context of the study and the recommendations which arose from the comparison of espoused theory and theory-in-use (Appendix 5). Key informants were asked their views on the recommendations' strengths and weaknesses, likely effectiveness, acceptability to GPs, practicality and ease of introduction. Of the 33 interviews, 23 were conducted in person, and 10 by telephone. In keeping with the practice in the earlier part of the study, typed notes of the interviews conducted with key informants were returned to them for confirmation and comment. Of the 33 key informants interviewed in this final stage, 10 suggested a minor amendment to the notes to either clarify a particular point, or to provide additional information.

Table 2.4 Key Informants (n=33) who commented on recommendations

Area of Expertise	Affiliation of Key Informants
<p>Expertise in a particular area of sexual health (8: 5♀ 3♂)</p>	<p>RACGP (1♂) Department of Human Services (2♀ 1♂) MacFarlane Burnet Centre for Medical Research (1♀) Sexual Health Nurses Association (1♀) Institute of Reproduction and Development (1♂) Australian Research Centre in Sex, Health and Society (1♀)</p>
<p>Education (5: 4♀ 1♂)</p>	<p>RACGP (1♀) University of Melbourne (1♀) Monash University (1♂)</p> <p>Venereology Society of Victoria (1♀) Division of General Practice (1♀)</p>
<p>General Practitioners (20 :10♀ 10♂)</p>	<p>High STI caseload (2) : STI clinic (2♀)</p> <p>Medium STI caseload (7) : Student Health (2♀) General Practice (3♀ 2♂)</p> <p>Low STI caseload (11) : Rural (1♀ 1♂) Salaried GPs (1♀ 1♂) Solo Male (2♂) General Practice (1♀ 4♂)</p>

Maintaining anonymity of key informants

The study was approved by the Ethics Committee of Deakin University (Appendix 6), and fulfilled the usual requirements of a study of this kind, including confidentiality for participants. Notes taken during key informant interviews were typed and placed in a folder in the order in which they were conducted. The pages of this key informant database are numbered 1 - 122. As the topic of this thesis is so specialised, a number of key informants could easily be identified by statements relating to the nature of their work. In order to preserve their anonymity, references to the key informant data base is by the page number on which the comment is written. Thus a quote followed by the reference (KI 5:14) should be read as meaning the comment was made by Key Informant 5 and can be found on page 14 of the key informant data base.

Limitations of the data

Rigour is necessary in any research to prevent error and reduce bias (Morse and Field 1995). Triangulation, whereby multiple perspectives are sought, is aimed at increasing the strength and rigour of qualitative research (Patton 1990; Gifford 1996). In this study, triangulation of both data sources and methods was carried out (Table 2.5). The use of both my own past research and the academic literature ensured the inclusion of data obtained from a wide variety of studies. These studies used methods ranging from the highly quantitative, such as randomised controlled trials and surveys, through to qualitative studies using focus groups and key informant interviews. Data from all of these sources was examined for consistency of the emerging themes. Such a combination of quantitative and qualitative approaches is believed to offer a more complete understanding of the topic under study (Shmerling et al 1993).

Table 2.5 Triangulation of data sources and methods

Data Sources	<ul style="list-style-type: none">• literature• own past research• policy and stakeholder documents• key informants
Methods	<ul style="list-style-type: none">• quantitative – trials, surveys• qualitative – focus groups, key informant interviews

A strength of this research was the inclusion of key informants with very different perspectives (Patton 1987). To ensure that the key informant data was accurate, key informants were sent a copy of their interview and asked for corrections and comments. This ensured the information offered in the interview was correctly recorded. The second phase of interviews asked key informants to comment on the major findings of the study and the recommendations arising from them. This was critical in confirming that the issues identified in the research were those of major concern and not the result of researcher bias (Gifford 1998).

One unanticipated finding was the over-representation of females employed in almost all areas of sexual health. While I have often observed higher numbers of women at meetings and workshops on the topic of sexual health, I had assumed that this was evidence of their greater enthusiasm for networking or their availability to attend such functions. When I approached key informants for the first stage of interviews, this was done on the basis of their position and expertise within the organization and not on gender. After completing the first stage, it was clear that the majority of these positions were, in fact, held by women. When seeking comment from key informants for the second round of interviews; particularly those working with medium and high STI caseloads, it was clear that male GPs were outnumbered in these practice settings. Indeed, higher numbers of females enter general practice and female GPs are more likely to see higher proportions of female patients (Commonwealth Department of Health and Family Services 1996b). Special effort was made therefore to include male GPs as key informants; especially in the low caseload settings. Here they are unlikely to have the opportunity to practice the skills required for diagnosis and treatment of STIs, and thus they represented the GPs who are likely to need the most assistance to practice STI control.

There were other limitations to the study. One was the lack of policy and stakeholder data. While documents such as the National Strategies for HIV/AIDs are clearly relevant, I had anticipated the existence of more STI related policy in national health policies. Even before the demise of the National Health Strategy, however, it is now evident that there was little available. The current National Health Policy, described in the introduction, does not include any discussion of STIs.

Another limitation to the study was the reliance on GPs' self-reports or reports by others of GPs' practices in relation to STI control. While participant observation of GPs' actions would have strengthened the study, it was well beyond the scope of this thesis, which was aimed at providing a more general overview of the way in which all aspects of STI control are managed by GPs. Furthermore, the sensitive nature of an STI-related consultation places increased pressure on both doctor and patient, making

it unlikely that direct or indirect observation by a researcher would have been welcomed.

One final issue may have had some impact on this study. During the course of data collection in 1998 and 1999, the policy environment in relation to sexual health was quite unsettled. In Victoria, the development of a state Chlamydia Strategy commenced in 1998, but the draft strategy was not finally released for comment until December 2000 (Victorian Chlamydia Strategy 2000). At much the same time, management of the major Victorian government run STI health service - the Melbourne Sexual Health Centre (MSHC) was put up for tender. The new management has recently been appointed, with the Director of MSHC, who holds a joint appointment as Professor of Sexual Health, commencing in January 2001. Finally, at the national level a report has recently been completed which discusses the appropriateness and scope of a national sexual health strategy (McCallum et al 2000). The vast majority of the key informants who were interviewed as part of this study will have had no knowledge of these issues or their potential impact on sexual health in Victoria. However, a few key informants, who were either employed at a senior level at either MSHC, or at the Department of Human Services may have tempered their comments in light of the uncertain circumstances.

It has been argued that a major threat to the credibility of a qualitative study is when the researcher spends too little time in the field to understand the lived experiences of those studied. 'To ensure confirmability, the researcher must obtain evidence from informants on the researcher's findings or interpretations, returning to the informants to check the emerging theory' (Morse and Field 1995: 145). One of the strengths of this thesis is that the recommendations arising from the study were offered for comment, not only to a variety of experts in the field, but also to GPs with no particular interest in STIs. This offered an entirely different perspective and ensured that the findings of this research were embedded in the real world.

The comparison between ideal and actual practice: an introduction to the results

As described earlier, the espoused theory and theory-in-use have been examined for the following seven areas of STI control:

- sexual history-taking
- STI screening
- STI testing
- STI treatment
- notification of STIs
- contact tracing
- the acquisition of STI knowledge through medical education

These areas have been identified and discussed as separate topics in the literature. In recognition of the overlap of some of these areas, in this thesis they are grouped into four chapters. Chapter 3 examines sexual history taking; Chapter 4 covers STI testing and screening. Treatment for STIs is examined in Chapter 5. Notification and contact

tracing, both important public health practices, are discussed in Chapter 6. STIs as part of medical education are discussed in Chapter 7.

While each of Chapters 3 to 7 addresses specific topics, all follow the same format. The chapter commences with an introduction to the topic, which includes general references to the literature as well as an historical perspective. Data supporting the espoused theory and the theory-in-use are presented. A section discussing the issues which have arisen from a comparison of espoused theory with theory-in-use is followed by a list of needs which have been identified from this comparison. Thus, each of Chapters 3-7 will in effect include:

- a literature review
- information arising from the data collection for both espoused theories and theories-in-use
- analysis of the data
- preliminary results

The general needs identified at the end of each chapter were used to develop a series of recommendations for improving STI control in general practice. These are outlined in Chapter 8. Comments on these recommendations were subsequently sought from key informants, and the resulting modifications to the recommendations are also described in that chapter.

Chapter 3

Taking a sexual history in general practice

Introduction

1915

The majority of private patients (do) not consult their family doctors...private patients with some sense of shame left are unwilling to communicate the fact of infection to anyone unknown to them. The ordinary man is attracted by the lures of the quack or the facilities for obtaining a bottle of medicine for a suppositious friend from a chemist, and the medical man is not consulted until the disease has got out of hand (Editorial 1915: 147).

1942

We must break down any secrecy or hush-hush about venereal disease...let sufferers think of themselves as sick people (Anonymous 1942a: 22).

1973

Doctors...must be competent and up-to-date, and they must not adopt punitive or moralizing attitudes, which discourage the patients from returning for the completion of treatment and from persuading their contacts to seek medical help (Editorial 1973: 270).

2000

Many of us grew up in environments where sex and sexuality were forbidden topics or were the topics of joking or teasing. Consequently, patients and health care professionals alike may not always feel comfortable discussing these matters in a clinical setting (Coleman in Ross et al 2000: ix).

It is evident from these quotes that the need for sensitivity in a consultation between a GP and patient involving STIs has long been recognised. When the predecessor to the Melbourne Sexual Health Centre was first opened in 1917, the view that VD was spread by 'fallen' women was still strongly held despite evidence to the contrary (Tibbits 1994). As part of their sexual history, men seeking treatment at this clinic were routinely asked how they had acquired their infection - 'Did you buy it or was it a gift?' (Cumpston, 1919). Such was the stigma attached to VD then that it was

assumed that no respectable woman would have been likely to have acquired the disease. Women registering at the government clinic for treatment were therefore classified either as professional or amateur prostitutes, a practice which persisted until the late 1930s (Temple-Smith 1992).

Underlying this perception was the knowledge that men with VD were likely to be aware of some symptoms and therefore more likely to seek treatment. By contrast, women could be totally unaware of any symptoms, and could continue to act as a pool of infection (Tibbits 1995). It was therefore deemed likely that a woman attending the clinic for symptoms had been indulging in illicit intercourse, as this would be the only reason she might suspect she had VD. Reference to the treatment of the innocent victim of VD – the unsuspecting wife or her children, was infrequently made in the medical literature early in the 20th century.

The stigma attached to VD through its association with immoral behaviour has continued to exert its influence on the medical consultation. As will be seen, GPs are often reluctant to ask detailed questions about their patient's sexual lives. The STIs which are currently most common in Victoria are also quite likely to be asymptomatic in men as well as women (Hillis et al 1995). This places a much greater onus on the GP to detect, through sensitive questioning, the likelihood of the patient's behaviour having placed them at risk of STIs.

In any consultation regarding sexual issues, the GP must ask the patient about his or her sexual history. It is essential that the sexual history be as detailed and accurate as possible, because it is from this information that the GP will make a decision about the diagnosis and management of the infection or condition.

No standard minimum set of questions has been defined to provide the essential sexual history, although a range of advice on the topic has been offered in the literature (Ferguson et al 1991; Kligman 1991; Kassler and Wu 1992; Tomlinson 1998; Ross et al 2000). For a sexual history relating to STIs, generally questions would cover issues such as current and past sexual practices, history of STIs, gender and STI history of current and past sexual partners, condom and contraceptive use, and sexual abuse.

GPs who are not thorough in eliciting information about their patient's likely risk of STIs may underdiagnose, misdiagnose, or mistreat an infection. Yet unless a GP has special training or an interest in STIs which allows regular practice of sexual history taking skills, he or she may not feel confident of assessing a patient's likely risk of STIs. This is particularly so if the patient presents with a complaint which would appear to them to be unrelated to an STI (Merrill et al 1990; Temple-Smith et al 1996).

The importance of taking a sexual history is widely acknowledged as a major issue in STI control, both in the literature and by key informants (Gonzalez-Willis et al 1990;

Boekeloo et al 1991; Shekelle and Kosecoff 1992; Furner and Ross 1993; Briggs et al 1995; Ross et al 1994), (KI 2:5, KI 3:7, KI 5:14, KI 8:21, KI 9:25). However, primary care physicians often do not routinely take a patient's sexual history (Gonzalez-Willis et al 1990; Ferguson et al 1991). Indeed, one key informant observed:

There are probably three types of GPs: those who never had training in sexual history-taking and don't do it, those who have personal difficulties and should refer patients elsewhere, and the remainder, who should be capable of taking a good sexual history (KI 3:7).

It has been acknowledged that when sexuality is discussed, both doctor and patient may find open communication difficult (Temple-Smith et al 1996; Browne and Minichiello 1998). Indeed the question 'Have you ever engaged in deviant or abnormal sexual activity?' is said to have been used routinely to calibrate a polygraph lie-detector, as it was believed this question had the greatest potential to provoke extreme anxiety in a patient (Cheadle 1991).

Patients' views on sexual history-taking

It is often assumed that GPs do not pursue a discussion of sexuality because they fear a negative reaction from the patient. While studies on sexual history taking from the patient's perspective are uncommon, their findings consistently demonstrate patients' approval (Ende et al 1984; Gerbert et al 1990; Waterhouse 1993). If a patient is distressed about a sexual problem, discussing it in a confidential, safe, and non-judgemental environment can bring significant relief (Cohen and Alfonso 1997).

Research shows that even patients without sexual concerns still appreciate their GP raising this issue with them. For example, in a survey carried out in the UK, 91% of 228 new patients attending a single clinic, regardless of whether their GP had discussed sex with them, believed such a discussion would have been appropriate (Ende et al 1984). Half of the 228 patients had been seen by a doctor who had discussed sexual functioning with them. Of this group, 98% believed the sexual history was an appropriate part of the consultation, whereas this was true for only 79% of the patients who had reported that their GP had not discussed sexuality with them. There was no significant difference between patients with or without sexual problems, or between patients of different ages. Interestingly, women considered a discussion of sexuality to be appropriate less frequently (85%) than men (95%).

Of almost 2,000 US adults randomly questioned by telephone about sexual history taking, only 7% would be unwilling to answer questions about their sexual behaviour. Fifty-nine per cent claimed they would be 'glad for the opportunity' to talk to their doctor about sex (Gerbert et al 1990). In a small study of 73 healthy adults in the US, all believed that their GP should raise the issue of sexual concerns with them (Waterhouse 1993).

In a novel study carried out in a non-medical setting, researchers examined the feasibility of obtaining a sexual risk history from people who might have an increased risk of STI infection. Of 250 attendees at a drink-driver education program, most were happy to participate in a study comparing the quality of responses to sexual risk and STI history questions elicited through a self-administered anonymous questionnaire, a confidential interview and an anonymous interview (Siegal et al 1998). As judged by the number of refusals and unanswered items, poorest responses were given to the self-administered questionnaire, and the best responses resulted from the face-to-face confidential interview. Given the sensitive nature of the questions, it is noteworthy that participants did not prefer the mode that offered the greatest measure of privacy. Alternatively, the better responses may have been a result of the fact that it is more difficult to ignore, and often easier to respond to, a verbal question than a written one.

Australian research on sexual history taking from the patient's perspective is extremely rare, however, a study of more than 1000 patients in Sydney demonstrated that a high percentage would not object to the GP asking 'relatively intrusive questions about sexual preference and practices'. Specifically, most patients would not mind their GP asking them about number of sexual partners (80%), gender of sexual partners (77%), anal sex (79%), sex with sex workers (81%), injecting drug use (88%) and use of condoms (85%) (Ward and Sanson-Fisher 1995).

Research both in Australia (Rosenthal and Smith 1995) and overseas (Rosenthal et al 1999) has shown that most adolescents would like their health care provider to initiate discussions of sensitive issues directly. A third to one half of adolescent participants in the US study would not directly ask their GP about sexual issues, but believed that these topics were important and ones they would like to discuss with their GP (Rosenthal et al 1999). In another US study of 800 adolescents, the majority of young people desired GPs to be more 'askable' than they are perceived to be (Croft and Rasmussen 1993 :109).

Sexual history taking in general practice - espoused theory

As has been shown above, research findings suggest that, in the context of their overall health, patients generally support the concept of their GP taking a sexual history. It is now appropriate to consider stakeholders' and policy makers' views of ideal practice in relation to sexual history taking - the espoused theory. Policies and guidelines on sexual history taking were therefore examined, as well the availability and nature of education offered to GPs on this issue.

Policy on sexual history taking

The importance of sexual history taking has been formally recognised in the United States. The US Preventive Services Task Force recommends all primary care physicians take a sexual and drug use history from all adult and adolescent patients

(Boekeloo et al 1991). A national objective for the year 2000 is that 75% of US GPs will conduct routine age-appropriate risk-reduction counselling (Boekeloo et al 1993).

No such national objectives regarding sexual history taking have been included in Australian or Victorian policy documents. The major emphasis on GP services within the policy documents examined for this thesis was on treatment and care for those with HIV/AIDS. While the role of primary health care-givers was noted, and the importance of health promotion is stressed, sexual history taking itself was not discussed (Commonwealth of Australia 1989; 1993; 1996; Commonwealth Department of Health and Aged Care 2000).

Guides to sexual history taking

Although there appears to be no Australian policy regarding sexual history taking, advice on this topic has been offered to GPs in the format of guides to sexual history taking. Suggestions on how to take a sexual history have been offered by both international and Australian authors (Ferguson et al 1991; Kassler and Wu 1992; Kligman 1991; Tomlinson 1998; Ross et al 2000; Presswell and Barton 2000). Some have identified examples of basic screening questions or questions to elicit more detailed responses. Others have offered examples of deeply probing questions to assist in identifying common sexual concerns, dysfunctions and disorders as well as the likely presence of STIs. An example of this is the PLISSIT Model, which is used to offer four levels of advancing complexity in sexual counselling: P – permission to talk about sexual matters, L – limited I – information, S – specific S – suggestions, I – intensive T – therapy (Ross et al 2000). From the range of advice offered in such guides, it is clear that one of the difficulties of taking a sexual history in general practice is determining which questions to ask in the limited consultation time.

In one of the few texts on the subject, Ross and colleagues argue that the sexual history should be seen as a specific application of history taking, which follows the same principles and pattern as taking a general history, apart from four major differences:

- the sexual history may cause the embarrassment of the patient, the practitioner, or both
- unless competently achieved it can result in significantly false responses
- appropriate language is essential to avoid misunderstanding which can arise from circumlocution
- to avoid embarrassment it is important to explain the need for taking a sexual history, particularly if the need to do so is not evident to the patient from the nature of the presenting complaint

(Ross et al 2000: 7).

The National Management Guidelines for STIs and Genital Infections stressed the importance of taking a good sexual history, and offered sound advice on the manner in which the sexual history should be taken. This included reminders to:

- begin with easy questions first, before moving to the more sensitive ones
- consider that patients might be at risk not through their own behaviour, but that of their partners
- be careful not to presume a patient's sexual orientation based on appearance
- stop if the patient is clearly uncomfortable
- ask patient about their knowledge of condoms and other prophylactic measures, as an opportunity to offer preventive education

(Venereology Society of Victoria 1997: 6-7).

These guidelines promoted the importance of non-technical language and a non-judgemental approach to the patient in creating an atmosphere in which the patient will feel comfortable discussing sensitive matters. Information was offered to assist the reader in both taking a comprehensive sexual history and performing a physical examination. Discussion included information on how to allay the patient's fears about a physical examination:

...by explaining what is going to be done. This is not only consistent with basic human rights and dignity, but also an important public health measure, as present and future patients will only co-operate and attend if they are treated with kindness and consideration ((Venereology Society of Victoria 1997: 8).

as well as an exhortation that:

...a good light source is mandatory. Ask anyone who has tried to visualise the cervix with an old torch balanced on top of Webster's dictionary ((Venereology Society of Victoria 1997: 9).

In an article describing the results of a study (Project 1) identifying barriers to sexual history taking, my colleagues and I made some suggestions to facilitate the taking of a sexual history. These included:

- a heightened awareness for the need for confidentiality
- the importance of explaining to a patient the need to take a sexual history,
and gaining permission to ask sensitive questions before commencing
- refraining from taking notes during the discussion, or requesting the patient's
- permission to note details in the patient's record
- the use of the physical examination as an opportunity to move the consultation onto a more intimate level, thus saving time in eliciting more details (Temple-Smith et al 1996: 3).

We also recommended that all GPs introduce:

as a minimum strategy, the taking of a sexual history from every new patient, every patient presenting with a gynaecological or prostatic query and every young person. Patients who are without a regular sexual partner, patients who are in a new sexual relationship, in a relationship which is in danger of breaking up or those who have recently ended a relationship should also be examined for the risk of STI (Temple-Smith et al 1996: 3,4).

We argued that this strategy allowed GPs to begin practising their sexual history taking skills on patients to whom the rationale for doing so would be most obvious.

GP training in sexual history taking

While in any type of profession there is potential for on-the-job learning, the standard of education and level of skills training received prior to employment also has an impact on professional practice. In Chapter 7 undergraduate, postgraduate and continuing medical education in the general area of sexual health will be discussed in some detail. At this point, however, it is useful to examine the level of competence in sexual history taking it is expected that GPs will achieve.

Undergraduate medical learning is based largely on the acquisition of knowledge, and while the teaching of communication skills is increasing, there is little room in the curriculum for medical students to rehearse such a specialised and time-consuming interviewing technique as sexual history taking. Indeed, as will be shown in Chapter 7, the absence of a common undergraduate medical curriculum results in sexual health, and particularly STIs, being taught in a variety of subjects and in a variety of ways which may differ from year to year. This has resulted in sexual history taking being considered at times as a specialised example of medical history taking within the general practice curriculum, but more commonly as part of gynaecology.

Thus, for medical graduates who become GP trainees, their vocational training provides their first real opportunity of one-to-one consultations day after day, and for many, their first consultation on sexual issues. Since, until that time, many will have had no practice at taking a sexual history, their level of skill in sexual history taking with a real patient is likely to be dependent on their personal confidence in discussing sensitive issues.

The level of learning expected of these trainees is indicated in the curriculum offered by the RACGP for training medical graduates for a career in general practice. While the general skills and attitudes required by a GP which are relevant to sexual history taking are listed under the RACGP Training Curriculum content areas of 'communication skills', 'sexuality' and 'counselling', those which are more specific to this type of consultation are found under 'sexual health', where the following points are listed:

- clarification of own attitude to human sexuality, sexual preferences and sexual dysfunction
- asking questions about sexual health in the consulting room when presented with an opportunity, and providing realistic preventive education...
- taking a sexual history in a setting which places a person at ease

(RACGP 1999a: 5-56).

In addition, the RACGP Training Curriculum lists 'sexual and drug taking, history/behaviour/lifestyles' under the content area labelled 'Hepatitis B, C' (RACGP 1999a: 5-36).

In the RACGP policy document 'Guidelines for Preventive Activities in General Practice', it is noted that:

STIs are all preventable... but many people present too late for advice.

Therefore opportunities should be sought to inquire of young people in particular, about their sexual activity and to counsel appropriately. Adolescents

and young adults who are sexually active should receive advice about appropriate use of contraception and barrier prevention of disease (Preventive and Community Medicine Committee of the RACGP 1996: 10).

It is also stated that ‘obtaining a history of sexual practices and injection drug use may assist in the management of subsequent medical and psychological problems’ (page 10). On a chart of preventive activities through the lifespan accompanying the publication, the ages of 16 to 71 plus years were marked as being appropriate times to take a medical history of 14 different aspects of health, including ‘sexual function and behaviour’. While the recommendation is made that opportunities be sought to inquire about sexual activity, no specific details are offered about how this should be done.

The concept of prevention is discussed in a very general way in RACGP policy document ‘Putting Prevention into Practice’ and sexual history taking as an issue is not specifically mentioned (National Preventive and Community Medicine Committee of the RACGP 1998).

Sexual history taking in general practice – theory-in-use

Given that the espoused theory has included no mention of sexual history taking in Australian policy documents, it would seem that little is expected of GPs in this regard. What then is known of how GPs manage sexual history taking? GPs’ actual sexual history taking practices – the theory-in-use – can be determined by considering a range of issues such as the reported frequency of asking patients about specific risk behaviours, the barriers to sexual history taking identified by GPs, and the effects of specific education on improving confidence and competence in taking a sexual history.

Frequency of sexual history taking

Almost no research on sexual history taking has been conducted in Australia. Although the results of international studies are unlikely to be generalisable to the Australian population, information from such studies was examined to gain some insight into sexual history taking.

The increasing number of patients with HIV has undoubtedly had an impact on the rate of sexual history taking in general practice in all developed countries. Studies a decade ago show, in general, a much lower rate of sexual history taking than more recent studies. For example, a survey of 1,000 physicians in Los Angeles in 1986 showed that only 36% of doctors took a sexual history from new patients (Lewis et al 1987). In contrast, a study of almost 1000 GPs in Washington DC found that 71% often or always asked new patients at the first consultation a question about their history of STIs (Boekeloo et al 1991). This rate, however, may have been

exaggerated. Elsewhere it has been shown that physicians reported their practice of assessing their patients' sexual risk to be greater than that actually observed by a simulated patient (Russell et al 1991).

Estimates of the frequency with which a sexual history is taken appear to vary according to whether the practitioner or the patient was asked by the researcher. Despite the estimates of sexual history taking offered above by GPs, in a study of almost 2,000 US adults, 78% did not recall ever having been asked questions about their sexual behaviour by their doctor (Gerbert et al 1990). Of concern is that a study of almost 1500 women has shown a lack of concordance between the question 'Have you ever had an STI?' and 'Have you ever had (a specific named STI)?' While women who identified themselves as having had gonorrhoea, syphilis or herpes mostly responded 'Yes' to the question 'Have you ever had an STI?', women who stated they had had chlamydia, trichomoniasis, genital warts or PID frequently answered 'No', implying that many women in this population did not know these diseases are sexually transmitted (Fleisher et al 1991). This study has serious implications for GPs who ask a patient if they have a history of STIs, without specifically naming the infection.

In general, however, although various aspects of sexual history taking have been examined in the literature, little research has reported actual rates of sexual history taking among GPs. A factor contributing to this is the difficulty in defining exactly what constitutes a sexual history, an issue infrequently discussed in the literature.

Frequency of asking about specific risk behaviours

Interpretation of the literature describing the details of GPs' sexual history taking is made more complex by the range of questions asked of GPs about the details of their sexual history taking practices. Some surveys have inquired of doctors whether they ask patients about specific issues such as condom use and sexual orientation, while others talk more generally of 'high risk behaviours'.

The increasing rates of HIV have made some GPs aware of the importance of particular aspects of a sexual history. However, although the survey of 1,000 Los Angeles physicians showed a doubling in the number of doctors who asked patients about their sexual orientation (from 20% in 1986 to 42% in 1989), there was only a 2% increase in the numbers of doctors inquiring about sexual practices (from 16% in 1986 to 18% in 1989) (Lewis and Montgomery 1990).

Another study showed only 11% of almost 800 US physicians routinely screened their patients for high risk sexual behaviours (Ferguson 1991). Most (65%) claimed to do so only when they had reason to suspect a patient was engaging in high risk behaviour, a finding reported elsewhere. In the study of 1000 Washington DC doctors (Boekeloo et al 1991), although a history of STIs was obtained from patients, questions about patients' specific risk practices were less commonly asked. Only 56% asked about condom use, 50% inquired about sexual preference, 29% asked about oral or anal sex, and 27% sought information on number of sexual partners. Even obstetrician/gynaecologists, who from the patient's perspective would perhaps

be seen as having good reason to discuss sexuality, did not perform well in sexual history taking in one study. While most obstetrician/gynaecologists asked a patient about their sexual history, fewer asked about specific risk factors, such as condom use (73%), number of sexual partners (37%), injecting drug use (55%) and anal or oral sex (30%) (Boekeloo et al 1993).

A more recent study of more than 2,500 US physicians found that only 49% asked new adult patients about their history of STIs, while questions on condom use (31%), sexual orientation (27%) and number of sex partners (22%) were less frequently asked. Such questions were more likely to be asked of adolescent patients, however, 25% of all of the GP respondents felt their patients would be offended by questions about their sexual behaviour (Centers for Disease Control 1994).

As stated before, Australian research on sexual history taking is extremely uncommon. In Chapter 2, a brief description was given of a random survey of 520 Victorian GPs we conducted. GPs were asked details about their STI knowledge, attitudes and practices, including the questions they used to take a sexual history (Mulvey et al 1997). In comparison to the results of the international studies described above, participants in our study performed better. Most respondents reported commonly asking patients about safe sex (79%), number of sex partners (63%) and injecting drug use (60%) although fewer inquired about recent overseas travel (50%) and sex with sex workers (31%).

Opportunistic sexual history taking

Information specifically on opportunistic sexual history taking is not evident in the international or in the Australian literature. However, questions aimed at determining whether GPs took up every opportunity to take a sexual history were included in our large Victorian survey of GPs. We found that most GPs (92%) would take a sexual history from a man presenting as the sexual contact of an infected partner. This scenario, of course, provides the GP with an obvious reason for requesting information about a sexual history. However, where the link between the patient's presenting complaint and the need for a sexual history was less clear, fewer GPs would do so. Thus less than a third of GPs would take a sexual history from a patient requesting a routine prescription for the contraceptive pill (28%), a Pap smear (30%) or advice about immunisation for overseas travel (30%) (Temple-Smith et al 1999).

Key informants noted that it may be difficult to find an appropriate time during a consultation to raise the issue of a sexual history:

Sexual history taking is opportunistic and does not lend itself easily to forward planning (KI 4:10).

If you ask questions face-to-face and the patient finds it offensive you lose a lot of ground (KI 15:42).

Barriers to sexual history taking

A number of barriers to sexual history taking by medical practitioners have been identified. These include: a low priority of disease prevention, time constraints, fear of patient embarrassment, insufficient training, fear of intrusion, the age and sex of the patient relative to the practitioner, lack of knowledge of high risk behaviours and cultural differences (Gallagher 1989; Fredman et al 1989; Merrill et al 1990; Cheadle 1991; Drenth 1992; Caruso et al 1994; Risen 1995; Temple-Smith et al 1996).

Many physicians lack the skills to identify patients at risk of STIs and AIDS (Fredman et al 1989; Gonzalez-Willis et al 1990; Merrill et al 1990; Maheux et al 1995). About one in five Canadian GPs felt they lacked the proper training in discussing sexuality with their patients (Maheux et al 1995). A survey of 350 senior medical students in the USA found that half felt too poorly trained to take a sexual history, and 25% were too embarrassed to ask the necessary questions (Merrill et al 1990). In a study of 800 US physicians, respondents who had received formal training in human sexuality were significantly more at ease with sexual history taking than those who had had no training (Ferguson et al 1991).

Although there is recognition that the emphasis on communication skills in the Australian undergraduate medical curriculum in recent years has improved this area of practice (KI 3:7, KI 9:24), our past research has shown that many GPs see their lack of training as a major barrier to taking a sexual history from a patient (Temple-Smith et al 1996). This, coupled with the infrequency of STI consultations may serve to compound their lack of confidence in this area. A number of specific issues have been identified as being poorly performed by GPs. These include acknowledging the patient's discomfort, explaining the purpose of risk assessment, and assuring the patient of confidentiality (Ross et al 1989; Bowman et al 1992).

Questions on specific barriers to sexual history taking were included in the random survey conducted on the STI knowledge, attitudes and practices of 520 GPs practising in Victoria (Temple-Smith et al 1999). Male GPs were significantly more likely than female patients to find the first consultation with a new patient to be a barrier to taking a sexual history. Female GPs were significantly more likely to rate the patient's being of the opposite sex to be a barrier to their sexual history taking. GPs who had completed a continuing education course on STIs were less likely to find either of these situations to be a barrier to taking a sexual history than GPs who had not attended such a course. Knowing the patient outside the surgery was more likely to be perceived as a barrier by urban rather than rural GPs. Barriers to sexual history taking were seen to be of less concern by GPs who performed sexual health consultations daily or weekly in comparison to those who performed such consultations infrequently (Temple-Smith et al 1999).

The pressure of time in their busy practices was a barrier to taking a sexual history for many GPs:

At the back of your mind in private practice is how many Level Cs (longer consultations) have you done; to be cost-effective in general practice you can't do Level Cs.

(Participant, Focus Group 3, Project 1)

For other GPs who had experienced a patient's emotional turmoil which was precipitated by questions of sensitive nature, time was a barrier for more than just financial reasons:

It may depend on your day. Do you open up something you can't follow through?

Am I opening up a minefield? Will I regret this? There's only one box of Kleenex on the desk.

(Participants, Focus Group 3, Project 1)

The discomfort felt by many doctors in discussing sexuality is also acknowledged to be a barrier to taking a sexual history (Ende et al 1984; Tomlinson 1998; Fredman et al 1989; Ross and Rosser 1989; Merrill et al 1990; Caruso et al 1994; Risen 1995). This may be exacerbated if the patient's sexual orientation does not coincide with the doctor's. A US study shows that more than 28% of GPs sometimes or often feel uncomfortable dealing with homosexual patients (McCance et al 1991). This attitude is not limited to GPs, as 17% of obstetrician/gynaecologists reported being uncomfortable taking a sexual history from a lesbian in a US study (Boekeloo et al 1993). This is in contrast to our study of Victorian GPs where only 5% claimed they felt uncomfortable taking a sexual history from a lesbian, and 7% felt uncomfortable taking a sexual history from a homosexual man (Temple-Smith et al 1999).

However, discomfort in discussing sexual issues occurred for reasons other than the difference between GP and patient in sexual preference. Knowing a patient outside the confines of the consultation created difficulties for some:

If you meet people socially you remember everything they say from the surgery.

You feel like saying 'Choose me as a friend or a doctor, but not both'.

(Participants, Focus Group 3, Project 1)

Behaviour which offends the GP, such as that shown by a patient who perpetrates sexual abuse, or a patient who responds seductively to a GP's questions, also acts as a barrier to taking a sexual history (Temple-Smith et al 1996). This was commented on most fervently by female GPs:

You see young guys with an erection, and think 'I could be your mother!'

I've had men coming in with impotence who got an erection for me.

(Participants, Focus Group 4, Project 1)

Overall, our large study of Victorian GPs found that 39% of respondents felt their patients would be very embarrassed if they were to take a sexual history. Female GPs were significantly more likely than male GPs to take a sexual history in a clinical situation involving a female patient and also to perceive these patients as experiencing less embarrassment. This contrasted to a US study which found female GPs were less likely to take a sexual history than their male colleagues (Driscoll et al 1986). A Canadian study of recently graduated GPs found no differences in the frequency with which male and female GPs took a sexual history (Maheux et al 1997). They observed, however, that female practitioners overwhelmingly reported finding a sexual history more difficult to take from a male patient. Female GPs were significantly more likely to be at ease discussing sexuality with teenagers.

The understandable priority given by GPs to resolving the patient's presenting complaint was mentioned as a barrier to sexual history taking by key informants:

When a GP is busy, the first thing that gets dropped off the agenda is prevention. You deal with the presenting problem only. (KI 4:12)

When you are in a 1:1 situation with a patient it's hard to remember the value of public health (KI 5:15).

These comments do not, of course, acknowledge that taking a sexual history might actually improve the patient's overall health, including the presenting complaint. It seems likely that the GP's own level of comfort with sexual history taking is more important than their commitment to preventive health. As one key informant said:

During sexual history-taking there are parallel processes at work. GPs who are not healthy themselves are less likely to ask about exercise, smoking or drinking. If a GP is uncomfortable taking a sexual history, he is more likely to ignore it completely than acknowledge it and refer the patient on elsewhere. (KI 9:25).

Overcoming barriers to sexual history taking is critical to the prevention of STI transmission, since the detection and diagnosis of STIs, particularly those with asymptomatic presentations, are unlikely without knowledge of the patient's sexual behaviour. In addition, failure to elicit a sexual history in a sensitive manner may lead to omissions or inappropriate treatment (Kripke and Vaias 1994). The danger of the GP making assumptions when discussing sexual matters is exemplified by the following anecdote:

A woman came to me and said 'What do you think about anal intercourse?' I said 'There's nothing wrong with it, but you don't have to put up with it.' And she said 'But, doctor, I love it.'

(Participant, Focus Group 3, Project 1)

Does education in sexual history taking work?

Research has confirmed that mass mailing educational literature does not increase the rates of risk assessment and counselling practices of GPs (Rabin et al 1994). Although in reality little research has considered the most effective way to teach to GPs the skills to elicit and record a sexual history, some studies which incorporate experiential

training have reported promising results (Liese et al 1989; Lewis et al 1990; Boekeloo et al 1991). In contrast to this, a number of small studies have examined techniques of teaching sexual history taking to medical students. They have shown that with a minimal effort involved in initially teaching sexual history taking, for example by role-playing in practice consultations, students retained the information and used it subsequently (Farquhar et al 1995).

In a study examining the effectiveness of specific training for sexual history taking, one of two groups of physicians were randomly allocated to receive training. Subsequently, 82% of 'trained' doctors were reported by their patients immediately after the consultation to have taken a sexual history. By comparison, only 32% of the doctors who had received no such training did so (Ende et al 1984).

Similarly, a continuing medical education course on AIDS required mandatory attendance by all the doctors employed at a single facility of the Southern California Kaiser Permanente Medical Group in 1993 (Lewis et al 1993). Subsequently, doctors' sexual history taking was recorded by over 2,500 new patients. While there was an overall improvement, marked differences between doctors were noted. Obstetrician/gynaecologists had a relatively high frequency of sexual history taking both before and after the education course. Internists doubled their sexual history taking rate after the course. Family physicians, however, had the lowest rate of sexual history taking before the education, and this did not improve afterwards. No explanation was offered for this result.

The most effective outcomes of training for sexual history taking appear to result from programs using a simulated patient volunteer. These have been used successfully both for medical students (Vollmer et al 1989; Caruso et al 1994) and GPs (Gonzalez-Willis et al 1990; Bowman et al 1992).

The use of scripted role-play as a technique for teaching sexual history taking has recently been described (Schweickert and Heeren 1999). In the United States, a nine hour educational curriculum, which included role-play, improved the frequency of sexual history taking by GP trainees from 7% before to 36% after training (Ross and Landis 1994).

A controlled study demonstrated that skills-oriented training increased the frequency of obtaining a sexual history more than a sexual self-awareness training program (Liese et al 1989). Similarly, medical students who role-played taking a sexual history with an actual patient volunteer reported less discomfort in discussing sexual issues than those who observed or role-played only with other students (Vollmer et al 1989). A randomised prospective study of third year medical students showed that those who had practised with an adult female volunteer performed better than a control group on gathering HIV risk information and using interpersonal skills (Caruso et al 1994).

A combination of educational materials and simulated patients was used to improve sexual history taking skills in a US study of primary care physicians (Bowman et al 1992). The simulated patient was used as an instructor to increase GPs' sexual risk assessment and counselling practices by providing a realistic experience and individual feedback in the GPs' own surgery, as part of a scheduled visit. GPs who reviewed the educational material (which came in three formats) prior to the simulated patient's arrival consistently inquired about patients' sexual risk at higher rate than those who did not prepare. As a result of this intervention almost all GPs were motivated to review the educational materials either before or after the simulated patient's visit (Gonzalez-Willis et al 1990). The program therefore had a beneficial outcome for all participants. The authors believed this outweighed the disadvantages of time, expense and the logistics of setting up the simulated patient visit.

Uptake of guides to taking a sexual history

As stated earlier, specific questions to assist GPs in taking a sexual history have been devised by a number of authors in variety of publications both internationally (Cheadle 1991; Ferguson et al 1991; Kligman 1991; Kassler et al 1992; Wyatt et al 1992; Tomlinson 1998) and within Australia (Furner and Ross 1993; Presswell and Barton 2000). However, virtually no information exists about the uptake of such sexual history taking guides by GPs. In an earlier research project, we therefore examined this issue in relation to the National Management Guidelines for STDs and Genital Infections (Temple-Smith et al 1998).

GPs who are sufficiently motivated to read their free copy of the National Management Guidelines for STDs and Genital Infections (Venereology Society of Victoria 1997) have access to some excellent advice about taking a sexual history. However, only 36% of a random sample of 444 GPs used these guidelines, in comparison to 29% who used the now out-of-print NHMRC Handbook on STIs, and 71% who used the Antibiotic Guidelines (Temple-Smith et al 1998). A subsequent qualitative study, where 15 GPs were asked to annotate a copy of the Guidelines on each occasion they used them for three months, found that GPs referred to them for diagnostic and treatment advice. Of the 40 annotations, there were none at all in the procedural sections, which included information on sexual history taking, examination, testing procedure (in contrast to choice of tests), partner notification and managing patients in general (Temple-Smith et al 1998). Thus, although this document may be read by some GPs, it is quite likely that it is not being referred to by

the GPs who may need it the most – those who see STIs most infrequently, and who have little opportunity to keep their skills in STI diagnosis up-to-date.

Other issues in sexual history taking

Information on GPs' attitudes towards sexuality in general and how this affects their sexual discussion with patients is minimal (Browne and Minichiello 1998). Amongst older GPs, the definitions of health and illness may be very different. Sexuality may not be viewed by some as an issue of health, and therefore not relevant to general practice (Cheadle 1991).

Few studies have examined the place of the sexual history in the consultation, although the concept of taking a sexual history as part of a routine consultation has been recommended (Green 1975). Even if the entire sexual history is not collected at the one time, the importance of sensitizing the patient to the issue has been acknowledged (Cheadle 1991).

Published research overseas does not appear to have included questions on other issues such as confidentiality in relation to sexual history taking. Yet these were clearly of importance to GPs in this focus group:

I reassure patients that I won't write it down in the history. I leave cues, but I don't note it.

All my incest stuff is up here (tapping head).

If I arrange a termination of pregnancy I write letters but I don't keep a copy. If I do, I keep it sealed.

(Participants, Focus Group 3, Project 1)

In the large study of Victorian GPs, we asked questions about other issues in relation to sexual history taking. The study results showed that some GPs discussed with their patients who would handle and transport pathology specimens (12% mostly or always); whether or not to record the patient's sexual history in their notes (13% mostly or always), and who had access to the patient's medical file and test results (24% mostly or always) (Temple-Smith et al 1999).

Some authors have recommended a coding system for sexual history information so that the patient can be assured that no-one else reading the medical history will be

able to interpret confidential information, particularly where records might be examined for insurance purposes (Makadon 1991; Kassler and Wu 1992).

Issues of confidentiality in sexual health consultations have been identified as of major concern to adolescents (Roseman 1995). In recognition of the mismatch of perceptions between GPs and their adolescent patients regarding the discussion of sexual issues, the Venereology Society of Victoria is in the process of developing an education program for GPs to make their practice, and themselves, more 'young people friendly' (D.Tibbits, Venereology Society of Victoria, personal communication, 2000).

The importance of visual material in helping to create a comfortable environment has been suggested by some. For example, posters or signs stating that the GP is happy to discuss sexual issues, or does not discriminate on the basis of ethnicity, sex or sexual orientation can be most reassuring for patients (Kassler and Wu 1992; Kripke and Vaias 1994). The majority of respondents in the Victorian survey supported the concept of appropriate posters in the waiting room (54%) or consulting room (54%). In addition, 75% agreed that a prompt sheet or routine checklist would assist them in taking a sexual history (Temple-Smith et al 1999).

Summary of the espoused theory of sexual history taking:

Overall there was no mention of sexual history taking in the Australian policy documents. This may reflect its low level of importance in the concept of sexual health held by those responsible for policy development. The absence of policy guidelines in relation to sexual history taking provides little incentive or guidance to GPs to improve these skills.

Two documents did discuss sexual history taking to a limited extent. Aspects of sexual history taking are listed appropriately as issues in the RACGP curriculum statements for trainee GPs. To satisfy requirements to complete their vocational training, GP trainees must pass a written exam covering questions from any aspect of general practice. The curriculum statements are, however, only a guide. As will be discussed in more detail in Chapter 7, there is little, if any, assessment of a trainee GP's competency in this area, or indeed of many other areas. It therefore seems likely that young doctors could complete their training with very little practical guidance in taking a sexual history.

For GPs who have completed their training, the National Management Guidelines for STIs and Genital Infections not only stressed the importance of a good sexual history, but also offered general advice about how to effectively obtain such information. Of the several journal articles offering advice on how to take a sexual history, only two appeared in an Australian journal easily accessible to GPs. The majority of articles were published in highly specialised journals, which, along with books containing

information on taking a sexual history, would be likely to be accessed only by those with a special interest in the area.

Summary of the theory-in-use of sexual history taking:

While overseas research has examined aspects of sexual history taking, very little work on this topic, other than that in which I have been involved, has been conducted in Victoria, or indeed Australia. Most of the research on sexual history taking in recent years has originated from the United States, and demonstrates the need for improvement by GPs in this area. Our survey of Victorian GPs showed that their frequency of asking patients about risk behaviours was better than that described in studies originating in the United States. One possible explanation for this is that GPs practising in the USA may have a generally more conservative outlook— an attitude suggested by the levels of discomfort reported by US physicians in dealing with gay or lesbian patients (McCance et al 1991; Boekeloo et al 1993).

A number of studies have identified barriers to sexual history taking, and have suggested that many of these could be overcome by appropriate education. The international literature described a number of successful and inexpensive techniques for teaching medical students to take a sexual history. The most effective strategy for practising GPs appears to be the use of a simulated patient. It is however an extremely time consuming and expensive teaching technique. No Australian studies appear to have examined techniques of teaching sexual history taking.

The main features of espoused theory and theory-in-use are shown in Table 3.1.

Table 3.1 Main features of espoused theory and theory-in-use of sexual history-taking

Espoused theory	Theory-in-use
<ul style="list-style-type: none"> • Little or no encouragement offered to GPs in relation to sexual history taking: • Guides on sexual history taking not easily accessible to GPs 	<ul style="list-style-type: none"> • Very little work on sexual history taking in Australia • Barriers to sexual history taking have been identified overseas and in Australia • Overseas research suggests education can overcome barriers

Issues arising from the comparison of espoused theory with theory-in-use of sexual history taking

Comparison of the espoused theory and the theory-in-use identified a number of discrepancies between GPs' *ideal* and *actual* practice in relation to sexual history taking.

The many problems and discomforts of taking a sexual history have been described in the literature, but few solutions are offered to GPs to assist them. Although advice on sexual history taking has appeared in journals and in STI guidelines, it is often general rather than specific information. It is unlikely that GPs with a low STI caseload would have the time or the interest to access these references; indeed evidence suggests that these guidelines were not accessed for such advice (Temple-Smith et al 1998).

GPs need to be taught to take a good sexual history. As will be discussed more fully in Chapter 7, there have been many changes in the undergraduate medical curriculum in the last decade. While communication skills are generally now considered to be an important part of the general practice component in undergraduate medicine, sexual history taking is not always recognised in the curriculum. There is a need to ensure that sexual history taking is offered as an integral part of the undergraduate curriculum. Continuing medical education should address the needs of practising GPs who require teaching or an update of sexual history taking skills. Our past research on the barriers to sexual history taking suggested that doctors may benefit from education in a number of specific areas relating to sexual health. These included:

- the range of sexual practices and the age range of those engaging in them
- how to initiate a sexual history with both longstanding and new patients, especially when the presenting complaint is seemingly unrelated
- how to deal with their own discomfort, with patients' seductive behaviour, as well as with patients of the opposite sex, older, younger and same age
- how to use appropriate and non-judgemental language
- encouragement to take a sexual history and to feel confident of their patient's trust (Temple-Smith et al 1996).

The barriers to taking a sexual history have been well-documented in the literature. Advice about where a GP can seek assistance in learning how to improve his or her sexual history taking skills would be a beneficial addition to all documents which raise the issue of the importance of taking a sexual history. For example, practising GPs who have purchased the 'Guidelines for Preventive Activities in General Practice' will read that they are encouraged to counsel patients about safe sex. Details on how to do this, or references to other sources supplying this information are, however, not offered (Preventive and Community Medicine Committee of the RACGP 1996).

While it is evident from the RACGP curriculum that sexual history taking skills are needed for GPs, the importance of taking a good sexual history needs to be not only

acknowledged but actively promoted by the RACGP. One simple technique is through the provision of appropriate prompts on a patient's medical record. The RACGP has produced a Health Summary Sheet. This can be used as part of the patient's medical record, to prompt the GP about the need for preventive activities. While the 'lifestyle risk factors' of alcohol, tobacco, physical activity, nutrition and 'other' prompt the GP to question patients when using the RACGP's health summary sheets, the only reminder that the patient's sexual life is of importance is under the heading of 'screening'. Here 'sexuality' is listed next to 'tetanus', 'influenza' and 'hepatitis'. This is a missed opportunity for STI prevention, given that in the future, in order for a general practice to be accredited, at least 50% of all patient histories will have to include a health summary.

The RACGP also missed another opportunity to remind GPs about the importance of taking a sexual history. The College encourages GPs to implement prevention in general practice by asking patients to complete a Patient Practice Prevention Questionnaire. This includes questions on smoking, sun protection, immunisations, exercise, alcohol, medications and women's health. This last category contains questions on German measles, Pap smears and mammograms only and thus provide no clue about whether the patient could be at risk of acquiring and transmitting an STI.

In my own past research, GPs have expressed support for the idea of a dialogue or cue sheet containing sexual history questions of increasing depth. Scripted dialogue sheets have been used successfully in teaching inexperienced doctors about sexual history-taking (Schweickert and Heeren 1999). This would be of particular assistance to GPs who believe they see problems of a sexual nature only rarely. For GPs who are uncomfortable raising the subject of sex, but are comfortable talking about sexual issues if the discussion is initiated by the patient, posters or signs stating the GP is happy to discuss such issues can be most reassuring for a nervous patient.

In initiating a sexual history, not only are some GPs concerned about their own discomfort, but many are also concerned about that of their patient. In a sexual health clinic, the patient's expectation is that they will be asked about their sexual history, so there exists a mutual understanding and consent for the need for a discussion of a sexual nature. In general practice the situation is completely different. Patients whose presenting complaint does not appear to them to have a sexual component may be embarrassed if their GP initiates a sexual discussion without prior warning. While it is undoubtedly true that many GPs are inexperienced at taking a sexual history, it is also true that many patients are inexperienced at having to provide one. While evidence from overseas suggests that patients support the concept of discussing sexual issues with their GP, more than the single Australian study (published overseas) on this subject is necessary to reassure GPs of their patients' views. New ways need to be found of informing the patient as well as the practitioner about the importance of a sexual history. Community education which highlights risk behaviours could be reinforced by general practice-based strategies such as the provision of posters in the waiting room stating, for example, that STIs are a health issue, not a moral issue. In

this way GPs would not need to carry all the responsibility for initiating discussion in this sensitive area.

While many of the barriers to sexual history taking shown by GPs can be removed by appropriate education and peer and specialist support, there will always be some GPs who will continue to feel uncomfortable discussing with their patients sensitive sexual matters. Possible strategies for these GPs to overcome these difficulties are discussed in Chapter 8.

Summary of needs arising from this chapter

- ◆ The undergraduate medical curriculum and those conducting continuing medical education need to include the topic of sexual history taking.
- ◆ Advice about where GPs can seek assistance in learning how to improve their sexual history taking skills should be included in specialist documents which discuss sexual history taking.
- ◆ Sexual history taking should be actively promoted by peer organizations through inclusion on the RACGP's Health Summary Sheet and the Patient Practice Prevention Questionnaire.
- ◆ A sexual history taking dialogue or cue sheet should be promoted by specialist or peer organization.
- ◆ Posters and pamphlets about sexual history taking should be available for use in the consulting room or waiting room.
- ◆ Australian research into patient's attitudes towards sexual history-taking is needed.

Chapter 4

STI testing and screening for STIs in general practice

STI testing – introduction

1915

Surely a man before being branded with the stigma of gonorrhoea should have the benefit of a bacteriological examination? This is not done as a routine measure, and I very much doubt if it is employed at all (Hughes 1915: 349).

1922

The importance of the use of the microscope...is not sufficiently emphasised. Men in (general) practice will examine their own preparations systematically for the tubercle bacillus (tuberculosis) whereas examinations of the spirochaete pallida ...and gonococcus are infinitely easier but are omitted (Fiaschi 1922: 87).

1935

Although they are so frequently met with in general practice, yet many difficulties are encountered when an investigation is commenced, and very often an exact diagnosis has not been arrived at before imperfect or inadequate treatment is commenced (Jacobs 1935:101).

1967

It is generally accepted that the great majority of persons suffering from venereal disease seek treatment from a general practitioner. The Australian Medical Association has a very great responsibility in educating its members to the necessity ...of seeking adequate laboratory diagnosis in each case prior to treatment (Australian Medical Association 1967: 24).

1997

One common pitfall is to order only a blood test for a patient who presents for an STD check-up – understandably, that is what the patient asks for, and the doctor is under time pressures. However, although serology is appropriate for detecting HIV, syphilis and hepatitis, it will not detect chlamydia or gonorrhoea, and if the patient is not examined, the doctor will also miss genital warts (Denham quoted in Editorial 1997: 20).

From these quotes it can be seen that the view that GPs failed to make use of laboratory tests in suspected cases of VD has long been of concern. However, the first step in the process of diagnosis of an STI is the taking of a sexual history. Details elicited from the sexual history should then guide the GP in the selection of sites and samples for diagnostic testing. While it is sometimes possible to diagnose an STI by physical examination alone, not all STIs display genital symptoms, and not all abnormal genital signs are due to STIs. Laboratory tests are therefore recommended in the diagnosis of STIs (Cates and Meheus 1990b). The presence of an STI is diagnosed by visualising the micro-organism by microscopy, testing for its presence in the blood (serology) or growing micro-organisms from a tissue sample taken from the patient's body (culture).

In 1879 Albert Neisser, using Koch's staining methods, isolated the microbe which caused gonorrhoea. He also made the important discovery that gonococcus could be found in infants suffering from ophthalmia neonatorum (Waugh 1990). Until the early 1940s, the diagnosis of gonorrhoea was made when gonococci were found to be present microscopically in dry smears. The difficulty of identifying gonorrhoea in dry smears from women who were known to be infected with gonorrhoea led to the development of a procedure for culturing gonococci by the pathologist at Melbourne's Queen Victoria Hospital. This technique was never published, although it preceded the introduction of gonorrhoea culture elsewhere in Victoria (Darbyshire 1991). In 1957 the Stuart swab/transport medium was introduced to enhance the detection of gonorrhoea by culture (Colquhoun 1957). The development of the Thayer-Martin medium in 1962 was also believed to have greatly improved the diagnosis of gonorrhoea in women (Hook and Handsfield 1990).

In 1905 *Treponema pallidum* was identified by Schaudinn and Hoffman as the cause of syphilis and subsequently microscopy could be used to identify syphilis in the primary stage or whenever lesions were present. Microscopic examination of spirochaetes in stained tissue sections was described in 1910, and the dark field method became a routine procedure in the early 1920s. However, for suspected cases of syphilis where no lesions were present, a serology test was necessary.

The first accurate diagnostic test for any STI became available in 1906 (Brandt 1987). The Wasserman test, as it became known, was a complement fixation test to detect syphilis and was extremely complicated to perform. A positive reaction in a patient

who had never before been treated for syphilis indicated that treatment was necessary, but a negative reaction did not exclude the presence of active syphilis. Interpretation of the tests results were hampered by the varying degrees of positive reaction, which attracted descriptions such as 'partial positive', 'feeble', and 'doubtful', leaving clinicians unsure about what action to take. In addition, although it was not recognised until the 1940s, the presence of any of a number of other diseases and conditions, such as yaws, malaria and diabetes, resulted in a false positive reaction to a Wasserman test (Tibbits 1994).

It was 1949 before a serological test for specific antibody to syphilis alone was developed (Larsen et al 1990). Use of the *Treponema Pallidum* Immobilisation Test (TPI) on a serology specimen found to be positive by a Wasserman test allowed a true positive case of syphilis to be distinguished from a false positive. During the 1940s and 1950s travellers to the USA and Canada were required to show they did not have syphilis (Darian-Smith 1990). Approximately 10% of Wasserman tests conducted at the MSHC before 1958 were for visa applications (Temple-Smith 1992). Many of these would have been Australian war brides; until the 1970s the USA had a policy of compulsory premarital syphilis screening (Brandt 1987).

An array of treponemal tests were subsequently developed; each an attempt to improve accuracy of diagnosis and ease of performance. The Australian National Syphilis Reference Laboratory was established in 1962. After this, it was no longer necessary to send to London for TPI the serum specimens from which it was proving difficult to make a diagnosis. In 1968 and 1973, subsequent improvements in syphilis testing were reported in Australia (Garner and Backhouse 1973).

Trichomonas was first mentioned in the Medical Journal of Australia in 1931 in a case note (Lethbridge 1931). At the STI clinics in Melbourne, and before trichomonas had been identified, all persistent vaginal discharges were considered to be due to gonococci, whether or not the organism had been isolated (Darbyshire 1989). It was not until 1937 that a detailed article was published in the Australian medical literature, outlining methods both of staining specimens for microscopy and for culturing trichomonas (Swift 1937).

By the 1950s, a number of improvements in laboratory testing for STIs had been made. These included phase contrast microscopy, which allowed easier visualisation of 'wet' (in contrast to dried, fixed and stained) preparations of vaginal discharges (Tibbits 1994). At this time the MSHC invited Victorian GPs to use its laboratory to encourage GPs to test for STIs before they commenced treatment (Tibbits 1994).

As was highlighted by the quotes at the start of this chapter, for many decades GPs were thought to diagnose and treat primarily on clinical grounds (Tibbits 1994). While historically the reasons for this have not always been clear, in the present time a number of possibilities can be outlined. The increasing variety of infections which

have been identified as being sexually transmissible during the last forty years such as HPV, genital herpes, HIV and chlamydia has added to the complexity of testing (Waugh 1990).

A number of issues in the area of STI testing demonstrate considerable potential for confusion. There are a variety of diagnostic tests from which to choose for some STIs, although not all of the STI tests which are commercially available are offered by each pathology service. There is great variation between pathology request forms and testing equipment from different pathology laboratories. This can lead to uncertainty for some GPs as to exactly what type of specimen is required for a particular test, how it should be taken from the patient and in which transport medium it should be stored. None of the diagnostic tests for STIs has 100% specificity and sensitivity (Schachter et al 1995) and indeed many routine laboratory tests, such as that for syphilis, cannot easily distinguish between recent infections and old infections. Test performance depends on the quality of the specimen and its rapid transportation to the laboratory. This, along with the potential for variation in other factors such as the quality control in the laboratory and the expertise of staff, means that STI diagnostic and screening tests, like all other tests, are unlikely to be performed to an equivalent standard in all laboratories.

While it is difficult to interpret the performance of an individual test because the quality of both the laboratory and the specimen collectors are part of such an assessment, it is accepted that tests differ in their ability to accurately determine whether a particular disease is present. Thus, at times, test results may indicate that a disease is present when it is not (false positive), or that a disease is not present, when it is (false negative). This is shown diagrammatically in Table 4.1.

Table 4.1 Comparison of test result with reality (after Christie et al 1987).

Result of test	Disease present	Disease absent
<i>Positive</i>	a	b
<i>Negative</i>	c	d

The ability of a test to correctly detect those people who really have a disease is known as the sensitivity of the test and is calculated as a percentage:

$$\text{Sensitivity} = a / (a + c) \times 100$$

The ability of a test to correctly determine the absence of disease is known as the specificity of a test and is also calculated as a percentage:

$$\text{Specificity} = d / (b + d) \times 100$$

Both sensitivity and specificity are useful indicators of a test's accuracy. The HIV antibody test is an example of a test which is highly sensitive, and when used together with a confirmatory test, it also has high specificity (Burke 1988).

Additional information is required, however, to decide whether the result from a test is likely to be true (MacMahon and Pugh 1970). The probability of a disease being present if the test result is positive (positive predictive value), and the probability of a negative test result reflecting a true absence of infection (negative predictive value), vary with the prevalence of infection in the community from which the tested individual comes. Thus a test with 85% sensitivity and 95% specificity, when used in a population where the prevalence of disease is 15%, will have a positive predictive value of 75%. Under these circumstances, 3 out of 4 positive test results would indicate a true infection. If the same test was used in a population where the disease prevalence was 5%, however, the positive predictive value would be only 47%, and only one out of every two positive test results would indicate a true infection (Garland et al 1994:140). GPs therefore need to exercise great caution in interpreting test results by taking into account their clinical findings in the context of the disease rates in that particular community.

To demonstrate the complexity involved in testing for STIs, Table 4.2 shows some basic information about the standard tests currently available. Those tests used for STIs at the MSHC are asterisked. Each of the tests identified in the table has its own strengths and weaknesses which, when considered in combination with the clinical examination, will provide an accurate diagnosis.

Details of serology tests have not been included as these provide an additional level of complexity. For example, four serology tests are available for syphilis. Two are non-specific antibody screening tests (*Treponema Pallidum* Haemagglutination (TPHA) and the Rapid Plasma Reagin (RPR)), but the reactivity in only the RPR declines with time, which means that it alone is useful in monitoring the success of patient treatment. The Fluorescent Treponemal Antibody-Absorption (FTA-ABS) test reacts to specific antibodies and so distinguishes syphilis from non-syphilis. It is used to identify false positives. The fourth test, an enzyme immunoassay (EIA) is used to differentiate antibodies acquired due to congenital syphilis from maternally-acquired antibody (Victorian Infectious Diseases Laboratory 1999). For a GP with little knowledge of STIs, the task of ordering tests might be quite challenging. GPs testing for STIs may not have such a choice of tests available to them through the laboratory they generally use. Only one Victorian pathology provider specialises in performing STI tests. This provider was established reasonably recently, and many of the GP key informants were unaware of it.

Table 4.2 Tests used in the diagnosis of the STIs seen most commonly in Victoria

(Victorian Infectious Diseases Laboratory 1999; S.Procter, MSHC, pers comm, April, 2001)

STI	Available Diagnostic Tests
Chlamydia	Polymerase Chain Reaction (PCR) *Ligase Chain Reaction (LCR) Enzyme Immunoassay (EIA) Direct Immunofluorescence (IF) Culture Serology
Gonorrhoea	*Microscopy – Gram stain *Culture *PCR – on outreach only *LCR
Trichomonas	*Microscopy of wet prep *Culture PCR Pap smear
Syphilis	*Microscopy – dark field Serology
Herpes	Culture IF *PCR *Type-specific serology *Antibody serology
Genital warts	Pap smear
HIV	Serology
Candida	*Microscopy – Gram stain *Culture
Bacterial vaginosis	*Microscopy – Gram stain Vaginal pH Amine test

* tests currently used by Melbourne Sexual Health Centre

The choice of tests is complex for chlamydia, which is the STI found most commonly in Victoria. For many years cell culture was considered the “gold standard” test for detection of chlamydia. With its high specificity it produced very few false positive results, although its sensitivity is now acknowledged to be poorer than originally thought (Stary 1997). There are now a variety of other techniques available - enzyme immunoassays (such as EIA, ELISA), direct immunofluorescence (IF), polymerase chain reaction (PCR), ligase chain reaction (LCR) and nucleic acid hybridization (DNA probe) tests are also used to detect chlamydia. Each type of test has advantages and disadvantages, in terms of transport and storage requirements, speed, sensitivity, specificity and cost (Stary 1997). Due to the very high sensitivity of some of these tests, invasive specimens from the endocervical canal and the urethra can now be replaced by more non-invasive specimens such as samples collected by using a tampon in women, and first passed urine in both women and men (Hillis et al 1995; Tabrizi et al 1997; Stary et al 1998). Using such tests, multiple pathogens can be detected from a single specimen (Peeling 1995). This is advantageous, as a combined test is less traumatic for the patient and more cost-effective. Tampon testing in women is particularly valuable for use in remote areas, as organisms collected together in this way – gonorrhoea, chlamydia and trichomonas - have been shown to withstand a transport time of greater than 8 days (Tabrizi, et al 1997). A negative test result implies that no further visual examination is required.

Defining a gold standard test by which to measure the performance of these newer tests for chlamydia has been problematic. Culture, still considered the gold standard by some, has stringent transport requirements and needs significant technical skill to perform. The test is not 100% sensitive and is unable to detect perished organisms, which may be present if the transport to the laboratory was not ideal, or if a patient has recently used antibiotics (Garland et al 1994). With the development of the newer more sensitive tests, an expanded gold standard has been defined (Garland et al 1994). For a test result to be considered positive for chlamydia, it must be positive by culture or by using two other testing techniques. The disadvantage of the increased sensitivity of the newer tests is the great potential for cross-contamination between specimens, as well as the possibility of false positive results due to contamination of laboratory equipment and supplies (Peeling 1995). Ultimately, however, the results of testing, regardless of the technique used, are only as good as the specimen collected and received by the laboratory. Poorly collected and inappropriately stored samples may produce false negative results. In addition, it has been suggested that, while non-invasive tests in women are undoubtedly more comfortable for the patient, a further disadvantage is that they remove the opportunity of a vaginal and pelvic examination which can be helpful in diagnosing conditions other than the STI under consideration (Scott 1995).

The types of specimens which can be used for diagnosis of the STIs most commonly seen in Victoria is shown in Table 4.3.

Table 4.3 Specimens taken for the STIs seen most commonly in Victoria
 (Victorian Infectious Diseases Laboratory 1999; V.Wood, MSHC, pers comm, April, 2001)

STI	Specimens recommended for testing
Chlamydia	*Endocervical swab *Urethral swab *First passed urine *Tampon test Blood
Gonorrhoea	*Endocervical swab *Urethral swab *Anal swab *Pharyngeal swab *First passed urine *Tampon test
Trichomonas	*High vaginal swab *First passed urine *Tampon test *Endocervical swab
Syphilis	*Swab from chancre *Blood
Herpes	*Swab from ulcer *Blood
HPV	*Endocervical swab
HIV	*Blood
Candida	*Vaginal swab
Bacterial vaginosis	*Vaginal swab

* specimens currently taken at the Melbourne Sexual Health Centre

Table 4.3 in conjunction with Table 4.4, which shows the examination procedure used by health practitioners at the MSHC, demonstrate how time-consuming taking specimens for STI tests can be. This places great pressure on the doctor in a general practice setting, given that most GP consultations are 12 minutes in length (Britt and Miller 2000).

Table 4.4 Examination Procedure and Order of Taking Specimens for Diagnostic Testing at MSHC (V.Wood, MSHC, pers comm, April, 2001)

1.	Genital examination seeking lumps, lesions, ulcers, rashes, parasites (lice, scabies)
2.	For females, speculum examination <ul style="list-style-type: none">• Vaginal swab• Ectocervical Pap smear using spatula• Wipe vaginal secretions away using large swab• Endocervical swab for gonorrhoea• Endocervical swab for chlamydia• Endocervical swab for Pap smear using cytobrush
3.	For males <ul style="list-style-type: none">• Urethral swab
4.	When suggested by sexual history <ul style="list-style-type: none">• Anal swab
5.	When indicated by sexual history and after consideration of window periods <ul style="list-style-type: none">• Blood
6.	As part of a routine screen for women and men who have sex with men <ul style="list-style-type: none">• Pharyngeal swab
7.	As part of outreach work for females <ul style="list-style-type: none">• Tampon

STI testing – espoused theory

When considering ideal practice for GPs in relation to testing for STIs, it is necessary to consider the advice offered to GPs in relation to which STI tests are appropriate, who should be tested, and the need for repeat tests to ensure that an infection is cured. The issue of informed consent is also important.

Description of STI tests

Investigation guides for STIs mostly appear in specialised texts or in specialised journals (Thin et al 1995; Woods 1995), and in general the discussion is centred on a single STI. Management guidelines for chlamydia published in Australia in 1994, for example, described the available diagnostic tests, appropriate specimens and the necessary transport and storage conditions for specimens which are to be tested for chlamydia (Garland et al 1994). These guidelines appeared in the specialist

publication “Venereology”. While this journal is widely read by GPs with a special interest in sexual health, it is not readily accessible to the many GPs who see cases of chlamydia infrequently and so may be of great need of such information.

For many years, the National Health and Medical Research Council publication Handbook on STDs was used as a major reference for Australian GPs in relation to testing and treatment of STIs (NHMRC 1990). Since 1987, earlier editions of the National Management Guidelines for STDs and Genital Infections have been distributed to Victorian GPs and have provided the most comprehensive advice to GPs on STI testing and treatment (Venereology Society of Victoria 1997). These guidelines were distributed to all GPs nationally by the Commonwealth in 1997.

These guidelines state that 'adequate testing for STDs comprises examination (of the patient) *and* microscopy *and* culture *and* serology' (Venereology Society of Victoria 1997: 10). Tests recommended for patients with possible STIs were described, along with a description of good STI examination practice. Under each disease heading, of which there are over twenty, more detailed descriptions of appropriate tests were given. These included the technique for obtaining the specimen, and in some cases, additional information about transport of the specimen to the laboratory and interpretation of test results. Throughout the document a number of brief tips or reminders were highlighted. Several of these related to STI testing. Thus readers were reminded that:

- Blood tests alone will miss most STDs
 - Most STDs are asymptomatic and require specific testing at specific genital sites for their detection
 - An HIV test is not, by itself, an adequate STD check-up
 - Tests for STDs, including the HIV antibody test, should only be performed with the patient's knowledge and consent and after adequate counselling
 - The genital examination is an essential prerequisite to interpreting results of many laboratory results for genital infections
- (Venereology Society of Victoria 1997: 10-11).

In addition, readers are cautioned to remember that ‘If practitioners use the services of pathology laboratories to take specimens, it is their responsibility to ensure that the person(s) doing the tests does so competently...’ (Venereology Society of Victoria 1997: 9).

Whilst medical graduates who are undergoing training as GPs are advised to learn about testing for STIs, there is no way to ensure that they do. In the RACGP Training Program Curriculum the words ‘diagnosis’ and ‘testing’, are referred to under the content area of ‘Sexually Transmitted Infections’, ‘HIV/AIDS’ and ‘HCV testing’ (RACGP 1999a: 5-34, 35, 58). However, in keeping with the other diseases and conditions, specific details of tests are not given. Under the section on feedback and

assessment methods in the area of Women's Health, it states that it 'is desirable that each registrar be assessed on their ability in seven areas, one of which is to investigate and manage STI's (sic) and vaginal discharge.' (RACGP 1999a: 4-93). It is not made clear who would be responsible for such an assessment.

The National Indigenous Australians' Sexual Health Strategy described the recent advances in STI detection methods, using polymerase chain reaction (PCR) urine and tampon testing, and discussed the implications of these tests for Aboriginal and Torres Strait Islander health workers in remote communities (ANCARD Working Party on Indigenous Australians' Sexual Health 1997). These included the need to examine possible flow-on effects resulting from the use of tampon testing, for while the ease of testing performed this way may result in increased compliance for STI testing, women may not perceive the importance of continuing to attend for cervical screening. Other issues discussed were the costs of PCR technology and the importance of training Aboriginal and Torres Strait Islander health workers to understand the use of PCR within the context of local health strategies.

Who to test?

Within Australia it is difficult to find information specifying who should be tested for STIs. However, the criteria by which patients should be selected for chlamydia testing, in order to optimise the cost-effectiveness of such testing in Victoria, were included in the management guidelines for chlamydia mentioned earlier (Garland et al 1994). It was suggested that tests should be performed on:

- all patients with symptoms of an STD
- all patients with a history of contact with someone with an STD
- patients with a history suggestive of risk of infection ie. less than 25 years of age, with a new sexual partner or with multiple partners
- all women about to undergo a gynaecological procedure such as insertion of an IUD or termination of pregnancy

(Garland et al 1994:139-140).

Such very specific guidelines would be of great assistance to a GP, especially one whose special area of interest was not sexual health. Yet, as indicated earlier, these guidelines were not published in a journal readily accessible to GPs.

Informed consent

Before HIV/AIDS, the issue of informed consent in relation to testing for STIs had not usually been considered in discussions on testing.

The first National HIV/AIDS Strategy advocated that HIV testing be performed only with the patient's knowledge and informed consent, and stated that counselling was an integral part of the this process. It acknowledged that GPs and other professional care-givers require development programs to improve their counselling skills (Commonwealth of Australia 1989). The second National HIV/AIDS Strategy reiterated the need for pre- and post-test counselling as well as informed consent, and added that the test results should remain confidential (Commonwealth of Australia 1993). The third Strategy highlighted the need for the development and adoption of 'best practice protocols' in relation to informed consent for HIV antibody testing (Commonwealth of Australia 1996). In this regard, it acknowledged the particular difficulties faced by healthcare workers in rural and remote communities who have personal links with clients. The fourth strategy stressed the importance of maintaining and promoting fundamental principles of voluntary testing and informed consent (Commonwealth Department of Health and Aged Care 2000).

The National Management Guidelines for STDs and Genital Infections reminds readers that 'tests for STDs, including the HIV antibody test, should only be performed with the patient's knowledge and consent and after adequate counselling' (Venereology Society of Victoria 1997:11).

Amongst indigenous Australians, STI screening has been carried out as part of routine antenatal screening without the consent of the woman involved (ANCARD Working Party on Indigenous Australians' Sexual Health 1997). The National Indigenous Australians' Sexual Health Strategy has urged the Commonwealth, States and Territories to end this practice (ANCARD Working Party on Indigenous Australians' Sexual Health 1997).

While the first National HIV/AIDS Strategy discussed pre-and post-test counselling in relation to HIV testing in some detail, it is not made explicit in the other documents exactly what is meant by consent (Commonwealth of Australia 1989).

Test-of-cure

Over the last century proof of cure was considered to be of major importance and was laid down in the Victorian Venereal Diseases Regulations, which were updated periodically. The 1923 Regulations, for example, required as proof of cure from gonorrhoea: freedom from inflammation for 3 months, no gonococci in smears made following prostatic and seminal vesicle massage performed on two occasions in one week for men, and none in cervical or urethral smears for women; a negative serum gonococcal fixation test, and no reappearance of symptoms or gonococci in smears following a challenge with gonococcal vaccine containing a specified number of organisms (Tibbits 1994). Fortunately tests-of-cure are no longer so complex.

One of the gaps in STI control in general practice identified by a key informant was GPs' failure to check whether a patient was cured (KI 2:5). As persistent or recurrent infection with chlamydia and gonorrhoea is implicated in severe morbidity, a test-of-cure is advised in Victorian guidelines, although it is acknowledged that this is not always possible (Venereology Society of Victoria 1997:11,12). A test-of-cure is, however, not universally recommended (Anonymous 1994; Oakeshott and Hay 1995).

For other STIs, information on the need for test-of-cure is not easy to locate. The Queensland Guide to Sexual Health, which was not distributed in Victoria, provided very clear and concise information about proof of cure and follow-up of patients (HIV/AIDS and Sexual Health Section 1995). It is discussed at the end of this chapter.

Recently a problem has been highlighted in relation to the newer, more sensitive tests being used as a test-of-cure; namely that a false positive test-of-cure may result from the continued excretion of dead organisms. It has been therefore recommended that any post-treatment test-of-cure using PCR testing should be delayed for more than 21 days, to avoid the unnecessary anxiety and inappropriate treatment which a false positive result could bring (McEachern and Thompson 1997).

STI testing – theory-in-use

Not surprisingly, the little published information on GPs' testing knowledge and practices is limited to the STIs which are most likely to be seen in general practice. While several studies over the last decade have examined testing for chlamydia, details on testing practices for other STIs such as herpes, syphilis and trichomoniasis in the general practice setting are rare, if they exist at all. There are a number of issues which are relevant to GPs' STI testing practices. These include GPs' knowledge of STI signs and symptoms and their knowledge of STI tests and test procedures, including the need to discuss the test with the patient. GPs' perceptions and concerns about STIs also clearly have an impact on their testing practices.

Knowledge of signs or symptoms

In order to consider testing a patient for the presence of an STI, clearly the GP must have a suspicion of its presence, or have been alerted by the patient to the possibility of such an infection. Some knowledge of STI signs and symptoms is obviously essential in the decision to test.

A study of 520 Victorian GPs showed that GP knowledge of the symptoms of the most common STIs found in Victoria was excellent for male patients and good overall (Mulvey et al 1997). Awareness of the asymptomatic nature of STIs was variable, however, and whilst the possibility of silent infection with chlamydia or HPV in female patients was recognised by most GPs, knowledge of asymptomatic presentations of other STIs for both male and female patients was poor. Yet it has been observed that for patients with STIs, frequently symptoms are minimal or absent, so that the patient appears normal on examination (Garland et al 1994).

Approximately 70% of women with endocervical infections, and up to 50% of men with urethral infections are believed to be asymptomatic, and unlikely to seek care (Zimmerman-Rogers et al 1999). In relation to herpes, it is estimated that while 20% of those infected have recognisable symptoms, 60% show unrecognised symptoms, and a further 20% are completely asymptomatic (Mindel 1995a).

Some difference has been observed in STI related diagnostic practices between male and female GPs. In a study of over 300 Melbourne GPs' in relation to chlamydia, it was found that female GPs were more than three times more likely to test

symptomatic patients, and five times more likely to screen asymptomatic patients than their male colleagues (Westgarth et al 1994).

Reasons for testing

To determine the factors that influence GPs' thresholds for testing and treating, a US study compared responses of GPs and STI specialists (Winkenwerder et al 1993). Participants were asked to provide probability estimates of a patient in a written clinical scenario having syphilis. They were asked to indicate the stage at which they would order a diagnostic test. As additional information was provided, participants noted any changes in their probability estimates of the patient having the disease. The study showed that physicians who were older, in full-time practice and who did not have a special interest in infectious diseases were less likely to obtain a diagnostic blood test for syphilis.

In our study of Victorian GPs' knowledge, attitudes and practices, GPs were asked to nominate the two most common reasons they tested patients for chlamydia (Temple-Smith et al 1997). Ninety percent of the 444 respondents selected 'the patient presenting with symptoms of a genital infection'. Fifty six per cent selected partner notification, and 34% patient risk behaviour. The two least common reasons for testing were female patients undergoing a routine Pap smear, and testing as a result of partner change (8% respectively); both of which appear to offer excellent reasons for suggesting a test in young women.

Information on the frequency with which tests-of-cure are performed by GPs is extremely rare. Only 35% of Victorian GPs claimed they always or mostly took post-treatment swabs for chlamydia, with the majority (65%) stating they sometimes or never did so (Temple-Smith et al 1997). Comments from key informants employed in the area of pathology testing suggested that GPs who said they often took post-treatment swabs had overestimated this. One key informant employed in a private laboratory, stated that tests-of-cure rarely originated in general practice, but were most likely to have been taken in family planning clinics, or from sex workers who attended specific medical practices (KI 26:72).

Discussing the test with the patient

Victorian GPs were asked whether they do or would obtain informed consent before ordering an HIV test in three separate clinical situations (Mulvey and Temple-Smith 1997). Ninety per cent agreed they would mostly or always obtain consent for a routine antenatal test, 96% would mostly or always do so for a patient presenting with another STI, or for a patient requiring a superannuation medical examination. Consistent with other studies showing female practitioners to be more likely to take time over counselling patients (Dunne et al 1995), female GPs in our study were significantly more likely than their male colleagues to discuss a broader range of issues with a patient before HIV testing. Both male and female GPs were equally as likely to discuss the implications of a positive test with a patient.

Confidentiality in testing is an issue of concern to both GPs and patients, particularly in remote and rural areas, where laboratories are fewer. It may be necessary for tests to be sent some distance for analysis, thus involving the handling of the specimen by more people and increased opportunity for disclosure of the patient's identity. In fact, some clinicians have observed that rural patients will travel to a town or city to seek testing at a service where they can remain anonymous (Editorial 1997).

Knowledge of test procedure

Having determined that STI testing is required, a GP needs to be sure of the appropriate specimen to be collected for diagnostic testing, and the correct way in which this should be done. The technique used to obtain the specimen can have a marked effect on the test result. A Swedish study, for example, demonstrated that failure to remove abundant cervical discharge before taking a swab resulted in a lower positive culture rate for chlamydia (Rahm et al 1988).

Studies of GP testing performance in Australia are not common. In the Victorian study by Westgarth et al (1994), it was apparent that about half (51%) of the GPs who often tested for chlamydia were unclear about the correct specimen collection procedures for chlamydia testing. This was despite information about the correct procedure having been disseminated to GPs in the earlier editions of the National Management Guidelines for STDs and Genital Infections (Venereology Society of Victoria 1997). Our study conducted 2 years later found that while 94% of GPs swabbed the cervix in the correct manner, only 61% knew that endocervical cells are the appropriate specimen for testing, and 26% would incorrectly test cervical discharge (Temple-Smith et al 1997). Knowledge of the possibility of a false positive test was poor, with less than a quarter (23%) of GPs understanding that a positive result in a low prevalence population may not mean that the patient has chlamydia.

Selection of tests

One key informant, employed in a private pathology laboratory, stated that the biggest problem for GPs in pathology testing was knowing which test to request.

In general, the STD tests requiring serology tests are OK, it's the non-serological tests which are the problem. This is because they may require different media and some GPs don't always use the correct media for the specimen they want (KI 21:18).

Diagnostic tests were generally selected appropriately by Victorian GPs although many GPs did not appear to perform the 'gold standard' combination of tests required for adequate differential diagnosis (Mulvey et al 1997). It has been observed that Australian GPs are not always aware of the limitations of investigations, especially in low prevalence populations (Garland et al 1994). A contributing factor to this state of affairs could be the rapidity with which new technology replaces the old. For example, a Victorian surveillance study recorded that in mid-1995, no Victorian

laboratories were using PCR or LCR routinely for chlamydia testing, but only two years later, almost 80% did so, although some offered other testing methods as well (Thompson et al 1997b). For a GP who sees only three or four cases of STI each year, where perhaps only one or two of those are chlamydia, keeping up with such technological advances and their limitations must be extremely challenging; it may be easier to carry on with past practices, however outdated. This difficulty in keeping up to date with recent advances in tests was echoed by key informants:

I don't know how GPs keep up with the changes in testing. Many GPs probably just go with whatever the latest pharmaceutical representative just handed to them. (KI 21:59).

Many GPs are unaware of the new tests. They may complain of the intrusive nature of swabs, but are unaware that PCR can be performed on urine. (KI 2:5).

Interestingly, while urine testing is the most common method of detection of chlamydia in males, key informants employed in the pathology industry agreed that for women, swabs are still mostly used to test for chlamydia.

The problem with urine testing is that it takes away the opportunity for an internal examination, which can be useful in identifying other things. If a GP is already doing a Pap smear and examining the pelvis, it's easy to take another swab (KI 21: 8).

In females we prefer the use of a cervical swab because... it gives the doctor the chance to visualise the cervix (KI 26:71).

GPs' concerns about testing

It is apparent that GPs have a number of concerns about STI testing. One of these relates to the fact that a GP may be certain enough of the signs and symptoms present in the patient to make a clinical diagnosis of an STI, but when the test comes back from the laboratory, it is negative:

That's one of the issues, clinical diagnosis versus presumptive treatment. Over the last two years I've had 8 or 9 clinical diagnoses and one positive test. (Keogh et al 1998: 35).

More than 50% of Victorian GPs always or mostly treated patients without first confirming the presence of infection by laboratory diagnosis (see Table 5.1 in Chapter

5). When asked why they took this course of action, many of the responses were related to the aspects of testing. As can be seen from Table 4.5, reasons for presumptive treatment included difficulty with following up patients, concerns about the reliability of the diagnostic test, and patients' dislike of swabs.

Table 4.5 Reasons for presumptive treatment of chlamydia and genital herpes

<i>If you treat presumptively, without confirmatory tests, what is the main reason for doing so?</i>	Chlamydia (n=305) (Temple-Smith et al 1997)	Genital herpes (n=305) (Unpublished data, Project 2)
Difficulty in following up some patients or their contacts	174 (57%)	142 (47%)
Concerns about the reliability of the diagnostic test	167 (55%)	143 (47%)
Patients don't like swabs being taken	82 (27%)	63 (21%)
Taking swabs is too time consuming	33 (11%)	25 (8%)
Recurring of previously diagnosed infection	173 (57%)	208 (68%)
No specific reason	28 (9%)	27 (9%)
Other	42 (14%)	54 (18%)

It should be possible to address several of the reasons offered by GPs for presumptive treatment, at least for chlamydia. The problem of swabs being disliked by patients, and being too time-consuming for the doctor could be overcome by the use of the more modern molecular tests. These newer tests should also allay GPs' concerns about the reliability of tests for chlamydia.

As can be seen, a number of GPs specified their reasons for treating presumptively in the last category of Table 4.5 entitled 'other'. For chlamydia, a total of 34 GPs offered comments, 24 of which related to testing. These are shown in Table 4.6, along with additional comments from 38 GPs in relation to presumptive treatment of herpes. These reasons for presumptive treatment ranged from the difficulty of having the swab tested because of the time the consultation took place, to lack of confidence in taking the test or trusting the test results. Interestingly, the table suggests that these GPs are more confident in their clinical diagnosis of herpes than chlamydia.

Table 4.6 Additional reasons for presumptive treatment of chlamydia and genital herpes

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<i>Reasons offered by GPs for treating presumptively</i>	Chlamydia (n=24) (Temple-Smith et al 1997)	Herpes (n=38) (Unpublished data, Project 2)
After hours or weekend presentation	8	6
Patient refused test	3	1
Cost of test to patient	2	2
Delay in test results	2	6
Clinical diagnosis sufficient	1	16
Patient in pain – need to stop immediately	1	6
Unsure how to take test	2	1
Test results are often negative	4	0
Problems with test specificity	1	0

The patient's discomfort during the taking of a specimen was of concern to many GPs:

I see guys who don't care about tests, they just want treatment. 'You're going to stick that in my dick? No way, get out of here!'

Participant, Focus Group 2, Project 3

There is a fear of testing in gay men, they think they will get a beach umbrella shoved down their urethra. I make it clear they can do a urine test.

Yeah, I've spent 5 minutes with a discharge, dripping it in (to the specimen container); you don't need to cause pain.

Participants, Focus Group 3, Project 3

It would be beneficial for all GPs to be aware of the fact that the newer STI tests do not require swabs, as it may encourage them to seek confirmatory testing more frequently. This would also be of benefit to GPs who have expressed concern at the amount of time it takes to do thorough STI testing:

It takes hours to do the tests and treatment and discussion; it's like an hour's work, taking swabs, labelling specimens, filling out forms – takes ages (lots of agreement from other participants).

Participant, Focus Group 2, Project 3.

Out-of-laboratory testing

Recently debated in the literature was the issue of whether GPs should perform diagnostic tests at all on patients before prescribing antibiotics (Kolmos and Little 1999). One view, based on the assumption that the most common infections seen in general practice are respiratory tract and urinary tract infections, is that GPs 'should probably encourage patients who are not very ill to use symptomatic treatment for most common infections, without relying on either diagnostic tests or antibiotics' (Kolmos and Little 1999: 81). The proponent for the opposing view argued that vaginal discharge, urinary tract infection and sore throat were the most common problems about which women consult the GP. He supported the practice of out-of-laboratory or 'near patient' microbiological testing in general practice for these specific disorders.

Potential benefits of such out-of-laboratory tests have been seen to include a closer relationship between the doctor and the patient, greater convenience for the patient, speedier availability of results and elimination of laboratory overheads (Halley 1989). In addition, from the GP's perspective, no time is wasted on writing out pathology request slips, tracking down test results, or having the patient return for treatment (Kolmos and Little 1999). It also saves the costs of courier services, which in Australia are considered highly inefficient, absorbing up to 25% of the total cost of each pathology episode in some laboratories (Deeble et al 1991).

No Australian studies examining the use of out-of-laboratory tests in general practice have included STI tests. However, a study of 28 general practices in Dandenong and Sydney investigating out-of-laboratory testing for cholesterol, creatinine, glucose, hemoglobin, potassium, triglycerides and urea found that use of these tests was in addition to the normally requested pathology services. Thus introduction of the technology to the practice increased the amount of testing for the trial period. Testing reverted to its former rate when the technology was removed (Halley 1989).

These results were confirmed in a UK study which did include an STI test. Free equipment for processing bacteriological and biochemical tests, including a vaginal chlamydia test, was provided to 12 large general practices. Half of the practices received the bacteriological testing equipment first, and half received the biochemical equipment first. Equipment was swapped over after six months, and left for an additional nine months. Results showed generally low levels of uptake, although investigation rates for all tests rose when the equipment was present in the surgery, and reverted to baseline levels when it was removed. At the end of the study no practice chose to retain the chlamydia testing equipment, although all practices chose to retain the less complex urine dipstick readers (Rink et al 1993).

The number of investigations requested by Australian GPs has increased in recent years. Given that STIs are frequently underdiagnosed in general practice, out-of-laboratory testing for chlamydia (there are no rapid tests for viral STIs would seem to have much to recommend it (Dillon et al 1993). However a number of major problems with the use of such technology were identified in the Australian study described above (Halley 1989). These included poor performance by general practice staff in tests where more complicated steps were needed to obtain a result, such as pipetting or diluting a solution, or timing a chemical reaction. Performance of

essential quality control testing was not often adhered to, possibly because general practice staff who were conducting the testing had no real understanding of the importance of quality control analyses. In addition, spending time on this testing may have caused delays to patients awaiting results.

The higher sensitivity and specificity of the molecular tests PCR, LCR and DNA probe described earlier means that the presence of only a few organisms will be detected in a specimen. Thus specimens such as urine and vulval swabs, instead of the more invasive urethral and cervical swabs, can be used for these tests. The additional sensitivity also has a negative aspect, as it means that there is a higher likelihood of the occurrence of sample-to-sample contamination. This is particularly so in testing carried out in hospital side-rooms and GP surgeries, where less stringent containment procedures are in place (Quinn 1994). Concerns that the results of out-of-laboratory tests may be misinterpreted by inexperienced testers have also been expressed (Dillon et al 1993). A small number of organisms present in a PCR test may mean the patient is a carrier, or that the disease is in a preclinical state. It may also mean that minimal stable disease is present, and that there is little risk of illness. These interpretations have various ramifications in terms of treatment for different diseases (Quinn 1994). Halley has predicted that in Australia, these difficulties in conjunction with the availability of high quality pathology services in most population centres will result in GPs continuing to use laboratory testing (Halley 1989). Recently the RACGP Council decided to seek external funding to provide evidence of the benefits of out-of-laboratory testing (RACGP Friday Fax, 26-5-2000).

Summary of espoused theory of STI testing:

The HIV/AIDS policy documents addressed the important issue of informed consent and pre and post-test counselling, and acknowledged the difficulty many GPs have with this. The National Indigenous Australians' Sexual Health Strategy discussed the issues of using the latest STI detection methods amongst indigenous people.

The RACGP documents certainly encourage GPs to know about STI tests in the general sense. The advice on STI testing offered in the National Management Guidelines for STDs and Genital Infections is extremely comprehensive, although the issue of asymptomatic testing is also not addressed. In addition, the assumption is made that the GP will know which STI test should be conducted for a particular presentation – a situation which may not be the case, especially for GPs who see STIs infrequently. Useful management guidelines which included information on chlamydia testing were published in a journal not readily accessible to GPs. Policy and peer documents addressed the issue of testing in general but did not advise readers about the more complex issue of who to test. Information on the need to perform a test-of-cure is neither consistent nor widely disseminated to GPs.

Summary of theory-in-use of STI testing:

Very little information is available on GPs' testing practices. Our own study showed that while Victorian GPs' knowledge of common STIs was good overall, their awareness of asymptomatic infection was low. This was reflected in the most

common reason offered for STI testing – namely that the patient presented with symptoms of an STI. While Victorian GPs were likely to discuss and obtain consent before performing a test, it is apparent that GPs' knowledge of tests and test procedure is not uniformly satisfactory. It is unlikely that GPs have been able to keep abreast of the major advances recently made in the area of testing. Many of the reasons offered by GPs for treating patients for STIs without confirmation of their presence microbiologically were concerned with the intrusive nature of testing procedures or access to after hours testing. It appears unlikely that near-patient microbiological testing for STIs would be taken up by Victorian GPs in the immediate future.

A comparison of the main features of espoused theory and theory-in-use for both STI testing and screening is summarised at the end of the chapter in Table 4.7.

STI Screening – introduction

Clinical diagnosis and treatment of symptomatic patients and their sexual partners does not lead to control of STI infection within the community (Thompson et al 1997c). To be successful, STI population control also requires STI screening in those without symptoms, but who may be likely to have an infection.

Screening is the examination of those with no symptoms to detect the presence of disease which is unsuspected (Russell 1994). For screening to be effective, a number of criteria need to be met:

- The disease or condition must have a significant effect on the quality or length of life
- There must be a stage in the development of the disease before symptoms are present during which the disease or its precursor is detectable
- There must be a test which is reasonably accurate
- Effective treatment must be available, and this treatment must be more effective when delivered early before the symptoms of diseases become apparent
- The test used to detect the presence of the disease in its asymptomatic state must be able to easily distinguish between those who have the disease and those who do not
- The test must be acceptable to patients and affordable
(Russell 1994:1-4; National Preventive and Community Medicine Committee of the RACGP 1998:35).

Screening in general is a problematic issue, partly because of the complex economic and ethical decisions involved. For example, screening tests need to be carefully selected to avoid false positives. This is not only for ethical reasons but also because it may prove costly to determine whether someone who has tested positive, does in fact have the disease. On the other hand, highly specific tests may come at a cost of sensitivity, thereby missing some genuine cases of infection. The complexity of these issues has recently resulted in a call in the UK for the establishment of a national publicly accountable agency to control screening. The lack of such an agency has been blamed for allowing the promotion of 'ineffective screening' at the expense of 'effective screening, such as maternally transmitted HIV' (White 1999: 239). This highlights one of the major difficulties of screening. Some agency or body needs to take responsibility for screening recommendations and ensuring that these are adhered to.

One of the many controversies resulting from the rapid rise of HIV infection was the issue of HIV screening. Although initially considered for the protection of those exposed to HIV through their occupation and those at risk as recipients of blood and semen donations, it soon became part of a much broader social debate fuelled by stigma against the population groups most at risk of HIV. Employment, insurance, migration, and travel were all under threat for those whose HIV status was known. The suggestion to screen for HIV was based on social grounds rather than epidemiological grounds, since for screening to be effective, the disease under

scrutiny must fulfil the criteria described above. The disease must be treatable, which excludes all viral STIs, and must not be uncommon (Russell 1994).

The literature on screening describes both *universal screening* - the examination of a population without consideration of their likelihood of having the disease, and *targeted screening* – the selection of patients for testing who are considered to be at high risk of disease. ‘Case finding’ is a term commonly used to describe screening that occurs at a clinical practice rather than a population level (National Preventive and Community Medicine Committee of the RACGP 1998). This concept has been criticised because activities designated as case-finding have escaped the rigorous evaluation demanded of similar activities designated as ‘screening’ (Wald and Morris 1996). Screening programs are required to specify the conditions under which they operate, and to demonstrate an overall benefit to the population. Case-finding, Wald and Morris argue, can ‘be used to legitimise screening procedures and interventions that have not been evaluated satisfactorily’ (Wald and Morris 1996:11). Since there is no requirement to define the population in which case-finding is used, it is impossible to demonstrate any improvement. To further complicate the issue of terminology for GPs, the authors of an RACGP publication promote use of the term ‘needs assessment’ rather than ‘case-finding’ or ‘screening’. They argue that ‘needs assessment’ highlights the partnership between GP and patient, and goes beyond the epidemiological emphasis of the alternative labels (National Preventive and Community Medicine Committee of the RACGP 1998).

General practice offers many opportunities for practitioners to find cases of STI and to discuss STI/HIV prevention in consultations where this is not related to the presenting complaint. For STIs, case-finding would consist of clinical diagnosis based on symptoms, confirmatory diagnostic testing in patients with STI symptoms, examination of partners of those with STIs, and targeted screening of patients at high risk of STIs (Cates and Meheus 1990b). Thus, consultations with young people, Pap smears, pelvic examinations, and discussions on alcohol and drugs all provide the GP with an introduction to the discussion of STI risk, which can lead on to testing the patient for STIs if this is appropriate. GPs see their involvement in screening to be quite appropriate:

They (GPs) are a well-distributed workforce, they have good face validity, they are generally trusted. GPs often know about the interpersonal and family context of the patient (KI 4:12).

Using the criteria described above, chlamydia is the only STI which currently fulfills the criteria for population screening in Victoria, and indeed in much of the developed world. This is because it is an infection commonly found in the general population, unlike syphilis, which is uncommon in Victoria or gonorrhoea, which is common only in Victorian men who have sex with men. Chlamydia can be easily treated, with a single dose of antibiotic, unlike, for example, herpes, which requires a course of treatment to suppress it. Until the late 1980s, screening asymptomatic patients for chlamydia was limited by the fact that culture, the most reliable diagnostic test, was expensive and technically complex. The emergence of less costly but very reliable

tests has made chlamydia screening much easier (Hillis et al 1995). This discussion, while not excluding mention of the other STIs, will therefore largely focus on chlamydia.

STI screening – espoused theory

When considering ideal practice in relation to GPs' STI screening, key issues include the costs of screening, the existence of screening policies and guidelines, and the accessibility of these materials to GPs.

Screening policy

After World War I, the incidence and prevalence of syphilis rose dramatically throughout the developed nations. Norway, Sweden and Denmark were among the first countries to make concerted and successful efforts to bring STIs under control (Brandt 1987). However, the first major screening programs were carried out in the USA in the late 1930s. They included compulsory pre-marital testing for syphilis and the prohibition of marriage for infected individuals. Antenatal syphilis screening was also introduced at this time and adopted almost universally throughout the United States. It had a major impact on the incidence of congenital syphilis (Brandt 1987).

Routine screening of pregnant women for syphilis has been standard practice for at least the last forty years at many major hospitals throughout the world, including those in Victoria (Garland et al 1989). Although congenital syphilis is not common, the extraordinarily high costs of providing life-long institutional care to those children born with syphilis has led to the conclusion that antenatal syphilis screening is cost-effective even where the maternal incidence of syphilis is as low as 0.005% (Stray-Pederson 1982). Antenatal syphilis screening continues to identify new cases. For example, of the 212 cases of syphilis reported in Victoria in 1998, antenatal syphilis screening detected 10 (Department of Human Services 2000).

In 1967, as part of an STI control strategy, the AMA recommended that the state health departments should encourage 'collective case-finding' – the testing of selected groups for VD. Examples were given of such groups as 'female prisoners, girls in remand homes and gynaecological patients, especially those with discharges' (Australian Medical Association 1967: 23). Ten years later, however, it was noted that most of the recommendations arising from this report had been ignored (Hart 1977).

Victoria conducted routine migrant health screening for many years. The program ceased in October 1992, coinciding with both the closure of Fairfield Infectious Diseases Hospital and the end to institutional reception of new arrivals in migrant Hostels (K.Webster, Foundation for the Survivors of Torture and Trauma, personal communication, 2000). Consistent with current settlement policy, it is now expected that migrants will access health care through services located in the community.

Before its closure, the migrant screening program examined approximately 2,500

people each year for a variety of infectious diseases. It identified more cases of syphilis than the statewide antenatal syphilis screening program, which tested over 65,000 pregnant women annually (Crofts et al 1994). In 1998, three syphilis notifications gave 'refugee screening' as the reason for testing (Department of Human Services 2000).

Within Australia, HIV/AIDS precipitated consideration of the issues of national screening for the first time since antenatal syphilis testing was introduced. However, the first National HIV/AIDS Strategy stated that 'compulsory testing of the Australian population is not proposed because the risk of infection within the entire community is relatively low' (Commonwealth of Australia 1989). Mandatory testing was recommended for blood, tissue, organ and semen donation, and for applicants for permanent residence in Australia. The second, third and fourth Strategies did not refer to screening as an issue (Commonwealth of Australia 1993, 1996; Commonwealth Department of Health and Aged Care 2000).

The National Indigenous Australians' Sexual Health Strategy (ANCARD Working Party on Indigenous Australians' Sexual Health 1997) discussed the role of STI screening amongst indigenous people. It identified a number of issues for consideration such as the frequency of screening, its context, and who should take responsibility for it. It advocated the need for screening to be conducted as part of an holistic primary health care approach, and that its resourcing should include funding for clinical care as well as education. This document did not support comprehensive HIV screening of Aboriginal and Torres Strait Islanders, and also, as stated earlier, condemned the practice of routine antenatal STI screening without the informed consent of the woman.

Screening guidelines

There is clear evidence that systematic screening of asymptomatic populations decreases the incidence of chlamydia infections (Hillis et al 1995; Paavonen 1997; Howell et al 1998). Screening guidelines with similar recommendations for chlamydia have been developed by both the Canadian Task Force on Periodic Health Examinations (Dele-Davies and Wang 1996) and the by US Centers for Disease Control (Finelli et al 1996). In the UK, it has recently been announced that two programs will be piloted to assess the feasibility of chlamydia screening. The choice to screen women only, justified as more cost-effective than screening both men and women, has led to criticism that such programs will continue to minimise the responsibility of men in sexual and reproductive health issues (Duncan and Hart 1999).

No screening guidelines for chlamydia infection currently exist in Australia, although as discussed earlier Australian management guidelines for chlamydia, which also advised on the selection of asymptomatic patients for chlamydia testing, were published in a specialist STI journal (Garland et al 1994). The Victorian Department

of Human Services in conjunction with the Working Party on Chlamydia is currently in the process of developing a chlamydia management and control strategy for Victoria. It is anticipated that when completed, this strategy will make recommendations in relation to screening, case-finding, testing and treatment of chlamydia, as well as suggestions for health promotion and education of both the public and health service providers about this infection.

Both of the RACGP publications 'Guidelines for Preventive Activities in General Practice' and 'Putting Prevention into Practice' discuss the issue of screening in general, and list seven criteria which should be met before screening for a disease is considered (Preventive and Community Medicine Committee of the RACGP 1996; National Preventive and Community Medicine Committee of the RACGP 1998). Both also include a brief discussion of the need for screening to use highly specific tests which do not produce many false positive results. It is explained that this may lower the sensitivity of the test. GPs are then cautioned against using screening tests as diagnostic tools to exclude disease, when there is some clinical evidence of its presence. In 'Guidelines for Preventive Activities in General Practice' the scientific evidence for the benefit of a number of screening activities was examined. A number of screening tests are recommended, a number are listed as not recommended, while the controversy surrounding others is described. The document contains a lift-out laminated guide for 'Preventive Activities through the Lifespan'. While 'sexual function/ behaviour' is listed as a prompt for the medical history of a patient on this guide, screening tests related to STIs are not mentioned elsewhere in this document (Preventive and Community Medicine Committee of the RACGP 1996).

Similarly, STI screening is not specifically mentioned in the RACGP Training Program Curriculum, although the item 'opportunistic screening' is listed under the general content area 'Prevention'. In the content area 'Sexuality', 'screening and confidentiality for sex workers' is listed, although no screening tests are named (RACGP 1999a).

While the National Management Guidelines for STDs and Genital Infections do not discuss screening specifically, it is noted that it is important to encourage people 'who have unprotected sex to attend for check-ups before undertaking any new sexual relationship' (Venereology Society of Victoria 1997:13).

Rebates for screening

Payment under the Medicare Benefits Schedule is prohibited for services that are not necessary for the management of the medical condition of the patient. However, as a ministerial direction allows Medicare benefits to be paid for 'examination or tests to ensure advice or treatment necessary to maintain the patient's state of health by the patient's own doctor', the RACGP's Preventive and Community Medicine Committee has taken the view that 'opportunistic screening appropriate to an individual's age and risk status' is acceptable (Preventive and Community Medicine Committee of the RACGP 1996).

Cost-effectiveness of screening

The prevalence of disease in the population to be screened is a critical consideration in determining the cost-effectiveness of screening. It has been suggested for chlamydia, in a population even with a prevalence as low as 2%, it may be cost-effective to screen asymptomatic individuals (Howell et al 1998). Such calculations are based on a number of factors, including the reliability of the test used, estimates of the risk of untreated chlamydia causing complications, and the costs of treatment at various stages of disease (Oakeshott and Hay 1995). In Victoria, estimates of the prevalence of chlamydia range from 2 to 5% in sexually active young women (Garland et al 1993).

There is evidence to suggest that testing which is performed during a routine GP visit involving a gynaecological examination is cost-effective for 18-24 year olds, but not for older women (Buhaug et al 1990). One study suggested a screening strategy which combined the use of DNA amplification tests on cervical specimens of women receiving pelvic exams with the use of DNA amplification tests on urine of women with no medical reason for a pelvic exam. The study found this prevented most cases of PID, whilst providing the highest cost savings (Howell et al 1998). The quality of mailed self-obtained urine and vaginal samples in women has been demonstrated to be as good as that of samples obtained by the GP when using chlamydia tests involving a ligase chain reaction. This practice has been proposed as a useful strategy to limit costs and increase the practicability of chlamydia screening programs (Ostergaard et al 1996).

STI Screening – theory-in-use

Information on GPs' actual screening practices in relation to STIs is limited, particularly in Australia.

GPs' STI screening practices overseas

The screening practices of health providers have not been widely reported in the literature, although there is some evidence that GPs do not routinely screen patients (Rosenberg 1997). This is not surprising, given the infrequency with which GPs take a detailed sexual history, which would provide a more accurate assessment of STI risk.

A study conducted in the UK found that although antenatal testing for syphilis is well-established, only 72% of 373 GP respondents offered this to all pregnant patients. The study showed recent guidelines on antenatal testing for HIV and Hepatitis B had had little impact on GPs' screening practices, and very few GPs offered tests for these diseases (Li and Logan 1996).

In contrast to those who argue that universal screening is cost-effective in low prevalence populations (Howell et al 1998), others argue that in primary care settings

where the prevalence of chlamydia is low, broad population screening is unnecessary (Cates and Meheus 1990). A recent randomised controlled trial of over 1000 US women demonstrated that selective screening of women of increased risk of cervical chlamydial infection was associated with a large decrease in the incidence of pelvic inflammatory disease. Only 9 cases of PID occurred in the screened group, in comparison to 33 cases in the group receiving usual care (Scholes et al 1996). Selective screening has been shown to be more cost-effective than presumptive treatment in settings where women are more likely to be asymptomatic (Finelli et al 1996).

A number of studies have identified factors to assist GPs in selective screening of patients (Hart 1993; Han et al 1993; Smith et al 1991; Jolly et al 1995; Sellors et al 1992; Addiss et al 1993; Evans et al 1993; Bro and Juul 1990). It has been shown, however, that the sensitivity of screening criteria may decrease after a screening program has been in place for some time. Five years after implementation of a screening program in Wisconsin, the prevalence of chlamydia in women fulfilling screening criteria was lower than the chlamydia prevalence for all clinic attenders at the time the program began. The current high risk group were therefore, when judged by the standards of five years previously, low risk. As the prevalence of infection (hopefully) decreases after targeted screening has been implemented, it may result in decreasing efficiency of the screening program. This chain of events highlights the need for regular evaluation of the program (Addiss et al 1993).

Screening in Australia

Few studies have examined STI screening in Australia. Thompson et al (1997c) sought additional information from more than 250 Victorian GPs regarding patients who had been notified as having chlamydia. They observed that at least some doctors followed chlamydia management guidelines which recommended screening asymptomatic patients with a history of unprotected sex who presented for a sexual health check-up. In this study, two post-abortion chlamydia infections diagnosed only days after the procedures were performed demonstrated an absence of compliance with universal recommendations for chlamydia screening prior to termination procedures (Blackwell et al 1993; Garland et al 1994).

In 1997, information from Victorian surveillance data suggested that while most men were tested for chlamydia as a result of their symptoms, a reasonable proportion (274/795) of asymptomatic women were tested as part of more general STI screening (Department of Human Services 1998). The origin of these tests is unclear from the data. While the majority of chlamydia notifications usually originate in general practice, it is possible that many of these asymptomatic tests were the result of women attending STI clinics.

In our large survey of Victorian GPs, doctors were asked whether they performed serological testing for a woman who is planning to become pregnant. Twenty per cent would always do so, 9% mostly, 26% sometimes and 45% would never test for syphilis in a woman who was planning to become pregnant. For a woman who was

already pregnant, 62% would always, 11% would mostly, 13% would sometimes and 11% would never test for syphilis (unpublished data, Project 2).

In a surveillance study of 200 patients notified as having had chlamydia, diagnosing doctors were asked whether these patients had been offered HIV testing. The most common reasons for not offering a test was that the doctor did not think of it, or did not consider the patient to be at risk. Lack of access to free HIV testing was a reason why some people were not tested (Thompson et al 1996). This has been offered as a reason for lack of HIV testing by a key informant:

If country people want HIV screening they have to pay \$20 unlike in Melbourne or Geelong, where it is free (KI 15:43).

Another key informant suggested time was a major barrier to screening in general practice:

While GPs are so overworked there is no chance of screening everyone (KI 4:12).

The availability of chlamydia and gonorrhoea tests which use urine rather than cervical and urethral smears offers some new possibilities in relation to STI screening. Where once a GP or nurse practitioner was needed to obtain the specimen for testing, now a urine sample can simply be handed in for testing. Three pilot urine screening programs for the early detection of chlamydia have been recently conducted in Queensland. None of these were carried out in general practice. The first was conducted in residential colleges of the University of Queensland (Debattista et al 1999a). Testing was offered to students over a period of two days, and the distribution of information, offer of testing and pre-testing protocol provided all students, including those who did not volunteer for testing, with a 'practical experience of sexual health promotion' (Debattista et al 1999a:36). Thirty to fifty percent of residents of four Colleges participated. Of 178 women and 96 men who were screened for chlamydia, only two positive cases were identified. A similar pilot screening program to detect chlamydia was conducted among Year 12 school students of three church affiliated schools in Queensland. The program, which also increased awareness of the risk of STIs amongst all students, demonstrated wide acceptance by school staff, students and parents. Of the 104 urine samples tested, none were positive (Debattista et al 1998). During a one week pilot screening program, 148 men who have sex with men were screened at two Brisbane sex-on-premises venues and one recreational venue. Interestingly, approximately 75% of patrons who were invited to participate did so when the health worker was seated in the toilet area, but only about 25% chose to participate if the offer was made in the lounge. Screening for both chlamydia and gonorrhoea was carried out – no participants tested positive (Debattista et al 1999b). These pilot programs demonstrated that STI screening can successfully be performed outside medical practice. Such programs may, in fact, offer an alternative to attending a GP or sexual health service for screening; an option which may be quite attractive to those at higher STI risk.

The sexual health screen

One issue not discussed frequently in the literature is the self-referral of asymptomatic patients who are changing sexual partners for an STI check-up. The sexual health screen would test for the presence of asymptomatic infections, and is based on the sexual history of the patient. The sexual health screen is often brought up by GPs with a special interest in sexual health and sexual health nurses at meetings and conferences I have attended. Yet one key informant commented that:

Given the number of negative test results from asymptomatic patients, its probably more important to tell people about safe sex. If you always have safe sex, there's very little need for a sexual health check (KI 8:22).

It would seem that there is still reluctance by a patient to initiate sexual discussion with a GP, despite evidence suggesting patients do not object to the GP raising such discussion. Even though nowadays a broader range of sexual behaviour is accepted by the wider community, it is possible that there is still some stigma attached to requesting a sexual health screen. One key informant reported increasing numbers of people searching the internet for STI information, which prevented the difficulty of speaking face-to-face with a health practitioner (KI 7:20).

Summary of the espoused theory of STI screening:

Apart from the special case of syphilis screening in pregnancy, the only STI in Victoria which currently fulfils the criteria for population screening is chlamydia. Screening strategies for chlamydia have been or are under consideration in Canada, the UK and the USA, although no consensus on population screening has been reached by these countries. The Victorian Chlamydia Strategy, due for final release during 2001, will make recommendations in relation to chlamydia screening in Victoria. RACGP documents, while discussing the issues of screening in general practice, did not address the issue of STI screening specifically. Australian management guidelines on chlamydia advised specifically who to target for screening, but were not readily available to GPs.

Summary of the theory-in-use of STI screening:

Little is known about GPs' STI screening practices overseas, although a number of studies have made recommendations for targeted testing of patients with specific risk factors. While it seems that screening is cost-effective when targeted at those of high risk in a specific setting, such as a sexual health service, the case for universal screening is less clear. The paucity of information about Australian GPs' STI

screening practices suggests that screening is not a priority for most GPs. Given that many GPs face difficulties taking a sexual history as well as maintaining up-to-date knowledge of testing and treatment, there is certainly an argument that GPs should not conduct universal chlamydia screening, and that even targeted screening might best be left to others. While sexual health centres and family planning clinics are obvious places in which STI screening could be performed, pilot screening programs in Brisbane for university and high school students, and men who have sex with men were well-accepted by participants and demonstrated that this method of screening was a useful alternative to screening conducted within medical practice.

A comparison of the main features of espoused theory and theory-in-use for both STI testing and screening is shown in Table 4.7.

Table 4.7 Main features of espoused theory and theory-in-use of STI testing and screening

Espoused theory	Theory-in-use
<ul style="list-style-type: none"> • Testing issues discussed in general terms in policy and stakeholder documents • Specific information on testing not easily accessible • Information on test-of-cure inconsistent and not widely disseminated • No advice on STI screening easily accessible to GPs 	<ul style="list-style-type: none"> • Little research on GPs' STI testing practices • GPs' knowledge of tests inconsistent • GPs' common practice of treating without testing related to issues with testing procedure or access to labs • Little information available on GPs' screening practices

Issues arising from the comparison of espoused theory with theory-in-use of STI testing and screening

Information on STI diagnostic tests is not easily accessible to GPs. Opportunities for Victorian GPs to learn about new STI tests is currently restricted to printed material, such as journals and pathology company newsletters. Even if such testing information was available through attendance at seminars, it would be likely that many GPs would naturally opt to attend updates on topics which they see to be of more relevance to their patient profile. Therefore it should be made as easy as possible for GPs to acquire information they may need infrequently, or effort should be made to allow GPs to manage without such information at all. For example, GPs with a low STI caseload, and little opportunity to keep abreast of changes in STI testing technology might benefit from the use of generic STI testing kits. The test needed would be identified by the patient's presentation and comprise all testing equipment and transport media necessary for samples from that body site. Thus a vaginal discharge kit would include step-by-step instructions on how to perform the appropriate tests as well everything required for testing all STIs which could possibly present as vaginal discharge. Such kits have been developed and used for several years in Queensland by the two major pathology companies: Sullivan and Nicolaides, and Queensland Medical Laboratories. While each has taken a slightly different approach, the kits basically provide all the necessary equipment for every STI test in a single pack. Once the specimen or specimens have been collected, the GP returns the entire pack to the laboratory. It might be useful if such a testing kit could be offered by Victorian pathology laboratories.

The public health aspects of medical practice often do not sit comfortably with the GP's desire to treat the patient as an individual. GPs have many opportunities for screening patients who are at risk of STIs, and while this action could benefit the wider community as well as the patient, GPs not surprisingly see the need to satisfy the immediate problem of the patient as their highest priority. So although a GP may suspect a patient is at risk of acquiring an STI, it is unlikely that STI screening would be offered unless the GP was reasonably sure the patient would feel comfortable with this. In addition there would need to be sufficient time to complete the screening during the consultation. Otherwise the patient would need to make a further appointment.

Overseas research suggests that increasing practitioner screening activity requires a comprehensive change not only in the GP and patient, but also in the practice environment. Thus information needs to be provided in the waiting room sensitizing patients to the need for a sexual history, and alerting them that the GP in this practice is competent in dealing with sexual health. The critical issue however, is that improving sexual history taking, and therefore STI screening activity in a GP who finds the discussion of sexuality difficult, requires a major behaviour change. With the availability of non-invasive testing for many STIs, targeting such institutions and recreational venues which are likely to have high numbers of sexually active patrons could be a more effective method of screening those at risk than using a busy GP. This is particularly so in the current economic climate where GPs are not encouraged or rewarded by Medicare for undertaking such preventive health activities. Whatever recommendations for screening are made, they must be explicitly stated in policy, specialist and peer documents which are readily accessible to GPs, even if those recommendations are that screening should not be routinely carried out in general practice.

Information provided in the Management Guidelines for Chlamydia (Garland et al 1994) provided clear directions to GPs on which patients should be targeted for chlamydia testing. This information should not be limited to the readership of a specialist journal, but endorsed and promoted by the Department of Human Services and the RACGP. It would also provide a useful addition to the National Management Guidelines on STDs and Genital Infections.

Recommendations for test-of-cure and follow-up are not entirely consistent between the information sources examined. It would be helpful for GPs to see recommendations in relation to these topics clearly outlined. An excellent model for this exists. In 1995 Queensland Health, in response to the Prostitution Laws Amendment Act 1992 and in collaboration with a number of organizations, developed and produced an information kit for GPs called A Guide to Sexual Health (HIV/AIDS and Sexual Health Section 1995). The legislation targets organized prostitution (defined as two or more sex workers working from one place), with its main aim being to prevent the operation of brothels. Its introduction resulted in the potential for

serious health consequences for sex workers, who no longer required regular health checks to satisfy brothel managers. Indeed, because prostitution is still a criminal activity in Queensland, many sex workers do not disclose their work to their GP. GPs were thus encouraged to use the sexual health kit with all patients presenting with a history of risky sexual behaviour. The comprehensive package contains information sheets for patients, reproductive system diagrams, the NHMRC Handbook on STDs, and partner notification cards as well as a poster and a desk sign for the GP's office both stating 'You can talk to me about sexual health. Everything you say will be completely confidential.' Also included in an A5 binder are clinical guidelines and checklists on 11 different topics including taking a sexual history, referral information for GPs and patient pathology record cards. It has an excellent 4 page section on proof of cure and follow-up, which makes explicit GPs' responsibilities in this area. It would be useful if this kit could be made available to GPs across Australia. At the very least, parts of kit could be easily distributed. It offers clear and concise information some of which is available elsewhere, but is not so nearly well-presented.

Summary of needs arising from this chapter

- ◆ A simple testing kit for GPs based on symptomatic presentations
- ◆ Continuing medical education and updates on STI testing need to be provided on a regular basis
- ◆ Recommendations for screening must be explicitly stated in documents readily accessible to GPs
- ◆ Description of who to target for testing in general practice should be endorsed and promoted by the Department of Human Services, the RACGP, and included in the National Management Guidelines for STDs and Genital Infections.
- ◆ Recommendations for confirmatory testing and test-of-cure need to be distributed to GPs and updated regularly.

Chapter 5

STI Treatment

Introduction

1916

There has been and undoubtedly still is much rule of thumb method in dealing with syphilis and gonorrhoea, with consequent unsatisfactory results. Too much is at stake to permit the continuance of happy-go-lucky varieties of treatment, which virtually are on a par with those of the chemist and quack (Arthur 1916: 361).

1919

Stringent comments were often expressed by members of the pharmaceutical profession on ...the outdated medicines still prescribed by doctors for their patients (Tibbits 1994: 132).

1942

Take away the opportunity for people to evade treatment when infected. Treat them until cured as the social pariahs they are. (Anonymous 1942b:14).

1985

...a great many STDs were treated by general practitioners, the standards of some of whom left much to be desired (Lewis 1998: 34).

1999

A patient with genital herpes, for example, may have the impression that their GP is giving them cursory, off-hand or alarming advice – simply because the GP is embarrassed or unfamiliar with the management of STDs (Bradford quoted in Editorial 1997: 21).

These quotes suggest that over the last century, STI treatment has often been seen as problematic, due to the variable standard of treatment offered by GPs and the stigma attached to these infections. This chapter examines the information which is offered to GPs to assist them in deciding on an appropriate course of treatment, as well as GPs' STI management practices.

It has only been in the last 50 years that adequate treatment for many STIs has become available. At the start of the 20th Century, for example, the treatment for gonorrhoea was purely symptomatic and consisted of bed rest, a good diet, fastidious cleanliness and the application of disinfectants directly onto the affected areas (Stephens 1940). This involved frequent irrigation of the urethra and vagina by disinfectants such as potassium permanganate. Side effects, including the development of urethral strictures were common (Tibbits 1994). The application of silver nitrate to the eyes of neonates to prevent gonorrhoea from causing ophthalmia neonatorum was standard practice in larger hospitals by 1921 (Barrett 1933). In 1935 the efficacy of sulphonamide drugs in treating a variety of bacterial infections was discovered. Use of these drugs reduced the treatment time for gonorrhoea from several months to several weeks, although it was recommended that topical treatment should be continued concurrently for best results (Stephens 1940). By 1941 it had been observed that some strains of gonorrhoea were resistant to sulfa drugs (Editorial 1940; Darbyshire 1989). Shortly afterwards, the use of penicillin allowed treatment times for gonorrhoea to be reduced still further.

In the 1930s there was an increasing interest in vaginitis and it was recognised that not all abnormal vaginal discharge was caused by gonorrhoea. A variety of treatments were published, all of which claimed only partial success but involved scrupulous cleansing of the vagina (Swift 1937). One treatment promoted overseas consisted of 'scrubbing the vagina very thoroughly to the point of bleeding' and then applying disinfectants. An Australian gynaecologist subsequently reported that 'very few patients could stand the scrubbing...it was practically impossible to repeat the treatment in a week' (Swift 1937: 131). It was in fact, 1960, before the first successful treatment for bacterial vaginosis and trichomonas – metronidazole – was introduced (Tibbits 1994).

Treatments for syphilis had been attempted long before Australia was colonised. The most successful of these were based on the use of heavy metals, such as mercury, which was given in pills, inhalations, injections and inunctions (energetic rubbing of ointment into the skin until it had been completely absorbed) (Waugh 1990). In 1907 Ehrlich discovered that Salvarsan, also known as '606' because it was the 606th compound to be tested, was successful in treating syphilis in animals, and in 1910 he announced that it could cure syphilis in humans (Waugh 1990). A newer version of

this treatment, Neosalvarsan, was introduced soon after. A doctor practising in a Melbourne VD clinic at the time recalled that patients treated with Neosalvarsan exuded a distinctive odour similar to garlic (Darbyshire 1989). It has been speculated that this might have contributed to the stigma attached by some to the odour of garlic (Tibbits 1994). In 1922 it was found that bismuth, whilst not as active as arsenicals, was also effective in treating syphilis. For many years, the alternate use of these two was a popular treatment for syphilis (Waugh 1990). In 1927 there was an increasing interest in the curative effect of fever following the award of a Nobel Prize to Von Jauregg for malaria therapy in the treatment of general paralysis of the insane, one of the severest consequences of tertiary syphilis (Waugh 1990). This was practised in Victoria, but only with moderate success (Tibbits 1994). In the early 1940s, standard treatment for syphilis in Melbourne was a series of ten-week courses of both arsenic given intravenously and intramuscular bismuth, with periods of 4 to 6 weeks between courses. Treatment was continued for a minimum of two years, but up to five years (Darbyshire 1991). By 1944 penicillin had become available in Melbourne for treatment of syphilis (Darbyshire 1991). It remains treatment of choice for syphilis still (Therapeutic Guidelines 2000).

After a long period where little progress was made in relation to STI treatment, recent years have seen the development of a range of new drugs for some STIs. The introduction of acyclovir, for example, has revolutionised the management of genital herpes (Mindel 1995a). Another new treatment is the single dose therapy of azithromycin for chlamydia. This drug has an obvious advantage where treatment compliance is poor, although it is much more expensive than the standard 7 day multidose doxycycline treatment (Hillis et al 1995).

Rapid advances in the development of antiretroviral drugs in the last five years has made the treatment of patients with HIV/AIDS a specialised area of medical practice (Roberts and Mijch 1997). There are now 12 antiretroviral drugs licenced for use in Australia. When used in combination these have been shown to be extremely beneficial in the management of HIV/AIDS (Kirkman et al 1999a).

While patients with some STIs have benefited from the development of new treatments, for some STIs management is not so straightforward. At present, for example, there is no agreement on the most appropriate treatment, if any, for subclinical HPV (Mindel 1995b). Another example of problematic treatment is that of gonorrhoea. In the last few years an increasing incidence of antimicrobial resistant gonorrhoea has been observed, particularly among men who have sex with men (Venereology Society of Victoria 1997).

Modern theories of STI treatment

Epidemiologic treatment has an important role in STI control, particularly in resource poor countries. It can be argued that in certain instances, treatment should be commenced before waiting for the test results (Cates and Meheus 1990). Instead, based on epidemiologic evidence, treatment for those at high risk and even perhaps without symptoms, will break the chain of transmission. This will prevent complications that could develop between testing and the time the results are available, and ensure treatment of patients who may not return for test results.

Rothenberg and Potterat (1990) use the following definitions to describe the times of possible interventions in treating STIs:

Preventive treatment – treatment given before the test results in an asymptomatic sexual partner demonstrate the presence of infection.

Prophylactic treatment – treatment given before the test results in an asymptomatic sexual partner demonstrate an absence of infection.

Abortive treatment – treatment given to a sexual partner who is found to be infected but is not symptomatic.

Presumptive treatment – treatment based on clinical presentation for which laboratory confirmation is not yet available.

Preventive and prophylactic treatment are used for an asymptomatic patient prior to diagnosis, and abortive treatment is used for an asymptomatic patient after diagnosis. These are examples of epidemiologic treatment - treatment based on the consideration of information which is non-clinical in nature. Epidemiologic treatment is therefore the opposite of presumptive treatment, which is treatment based on clinical signs alone. Unfortunately the distinction between these two definitions is not always recognised.

Epidemiologic treatment is an approach used commonly in a community or core group where STI prevalence is high. It is also used in countries where access to diagnostic facilities are poor or non-existent (Mugrditchian 1995). Opponents of epidemiologic treatment argue that it leads to indiscriminant antibiotic use. Obviously the potential risks of unnecessary use of antibiotics need to be carefully weighed against the benefits of such action.

Seven key factors have been offered as providing a framework for decision making in relation to epidemiologic treatment:

- risk of infection
- seriousness of disease
- difficulties in diagnosis
- effectiveness of treatment
- side effects
- likelihood of transmission if procedure not used
- facilities for observation

(Rothenberg and Potterat 1990).

Thus for a disease such as syphilis, where the disease is serious, the diagnosis often delayed, the treatment is very effective with few side effects, but the likelihood of transmission to another partner is high, epidemiologic treatment may be justified. The risks for each patient and each disease need to be carefully considered before a decision to treat is made.

Evidence-based medicine is the careful use of current best evidence in making decisions about the care of individual patients. It involves the integration of individual clinical expertise and patient values with the best available external clinical evidence from systematic research (Sackett et al 1996; Craig et al 2001). Despite its rising popularity, surveys suggest that evidence-based medicine has had little effect to date on the practice of Australian GPs (Young et al 1999; Rubin and Frommer 2001).

One outcome of evidence-based medicine has been the development of clinical practice guidelines, based on a critical review of the evidence (Thompson 2001). Although little research has examined the resources used by GPs which assist in guiding their choice of treatment for a patient, such standard management protocols are now common in many areas of clinical practice. Guidelines are developed on the assumption that experts in a specific field are better able to distill current scientific evidence and make decisions about the best treatment approach, than GPs who may have limited knowledge of the condition, and who encounter it infrequently. This situation is certainly often the case when considering STI management by GPs.

Despite the general view that such standard protocols are helpful, their use in general practice has rarely been evaluated. The Center for Disease Control in Atlanta, for example, has been producing STD Treatment Guidelines for more than 20 years, but their impact on GPs' STI management has never been evaluated (Moran et al 1995).

STI treatment – espoused theory

To determine the espoused theory of STI treatment, it is relevant to consider the accessibility of treatment as well as the treatment guidelines and recommendations which are available to GPs to assist them in management of STIs.

Access to treatment in Australia

Access to STI treatment is an issue raised in two policy documents –one in relation to indigenous Australians and the other in the context of HIV/AIDS.

The main determinant of the high rate of STIs in indigenous people has been identified as poor access to treatment (Bowden and Fairley 1996 (unpublished), cited in ANCARD Working Party on Indigenous Australians' Sexual Health 1997). The National Indigenous Australians' Sexual Health Strategy outlined a number of ways in which existing health services could be strengthened for the treatment of STIs by ensuring that:

- treatment is always based on best evidence-based practice
- clinical care guidelines are developed by those who use them, and are relevant to the particular circumstances of the local area
- new treatment regimes which simplify treatment always be used
- mechanisms for follow-up be in place
- confidentiality be fostered and maintained

While these recommendations referred largely to community based health services, the principles are applicable to all health services, including general practice (ANCARD Working Party on Indigenous Australians' Sexual Health 1997: 57-58).

The issue of access to treatment was highlighted in the first National HIV/AIDS Strategy, which acknowledged that some GPs are not familiar with best management practices for people with HIV. It stated that funds would be provided for such training in the state hospital systems (Commonwealth of Australia 1989). The second National HIV/AIDS Strategy noted that during the four years of the first Strategy 'different state responses to the epidemic emerged depending on prevalence levels'. Low prevalence states incorporated HIV/AIDS into mainstream health services with minor specialisation. Victoria, a high prevalence state, established specialist services and then sought to develop these capabilities in the mainstream services (Commonwealth of Australia 1993). The third Strategy noted the existence of barriers to GPs' involvement in HIV management and highlighted the need to strengthen the networks of GPs who have the skills to manage treatment and care of people with HIV/AIDS (Commonwealth of Australia 1996). The potential role of the Divisions of General Practice in this was noted. The need for the 'overall level of GP skills' to be upgraded in the area of HIV/AIDS treatment was stressed. The fourth strategy drew attention to the uncertainty of the long-term benefit of some treatments, and the need for flexibility to adapt to the changing nature of the epidemic (page 22). It also highlighted the increasing need for treatment and support for mental ill-health caused by factors ranging from the stress of living with HIV/AIDS to AIDS-related dementia (Commonwealth Department of Health and Aged Care 2000).

Treatment guidelines in Australia

GPs wishing to access STI treatment information are likely to use one or more of the three reference guides available in Australia.

Between 1977 and 1995 the Handbook on STDs, published by NHMRC, was the standard Australian reference on STIs used by many GPs (NHMRC 1990). This 62 page reference guide included information on signs and symptoms, diagnosis and management of STIs and STI related conditions. From 1977, the first edition was available in Australian Government Publishing Bookshops (NHMRC 1977). In 1982, the second edition was distributed to state and territory health authorities, learned Colleges and the Deans of Medical Schools. The following year it was also distributed to final year medical students, as an afterthought (NHMRC 1982; NHMRC 1983). The third edition, published in 1988, was distributed to state and territory health authorities, medical practitioners, and final year medical students (NHMRC 1988). Although last re-printed in 1992, and rescinded in June 1995 (NHMRC Record No 409), it has continued to be used as an out-dated reference source for many GPs.

The 1996/97 edition of the Antibiotic Guidelines incorporated treatment recommendations from the current National Management Guidelines for STDs and Genital Infections (Victorian Drug Usage Advisory Committee 1996). STI treatment is described in two out of more than 25 chapters, entitled Human Immunodeficiency Virus Infection, and Genital Tract Infections. Alternative treatments are listed under individual disease headings. Chapters on the principles of antimicrobial use and getting to know drugs are also included.

In the National Management Guidelines for STDs and Genital Infections treatment is detailed under the heading of each disease (Venereology Society of Victoria 1997). Where appropriate a choice of treatment is offered, and warnings are also given of treatments that should not be used. A section on prescribing information is also included.

HIV treatment is very complex, as it can be difficult to decide when treatment should commence, or when it should be altered. Treatment advice is therefore rarely seen in general medical journals, but is commonly seen in journals specialising in HIV Medicine (HIV/AIDS Clinical Trials and Treatments Advisory Committee 1997).

When a case of syphilis, gonorrhoea, or chlamydia is notified to the Department of Human Services either by a GP or the testing laboratory, a letter is sent from the laboratory (on behalf of the Department) to the GP requesting further information for surveillance purposes (Appendix 1). A Fact Sheet for the appropriate disease, which includes recommendations for treatment, accompanies this letter. In the case of syphilis the information sheet acknowledges that the treatment regimen described is that recommended by the Venereology Society of Victoria 1997.

Discussion of specific treatment is beyond the scope of the RACGP Training Program Curriculum. However, trainees are advised to know about 'current effective treatments' for common STIs, 'treatment of genital warts' 'drug therapies' for Hepatitis B and C, and 'medication' for HIV/AIDS (RACGP 1999a: 5-34, 37, 58).

Specific mention of presumptive treatment is not made in the curriculum.

Some specific treatment recommendations

In the Antibiotic Guidelines, specific recommendations for urethritis and cervicitis state that ‘in up to 50% of cases no pathogen is isolated but nevertheless, treatment is recommended’ (Victorian Drug Usage Advisory Committee 1996: 73). In describing chlamydial and other non-gonococcal infection, it is advised that ‘sexual partner/s should also be treated empirically to prevent reinfection and to guard against chlamydial salpingitis developing in the female’ (page 74). These guidelines thus endorse presumptive treatment for both patients and sexual partners. For the patient, it implies that clinical diagnosis should outweigh microbiological testing. For the sexual partner, it appears to be recommending treatment regardless of whether confirmatory testing is performed.

The National Management Guidelines for STDs and Genital Infections takes a slightly different approach. The treatment of cervicitis is described under the headings of ‘gonococcal cervicitis, proven or presumptive’ and ‘chlamydial cervicitis, proven or presumptive’ thus also acknowledging the need for presumptive treatment on occasion (Venereology Society of Victoria 1997: 23, 24). While these guidelines state that partner treatment is mandatory, they also remind readers that ‘most STDs are asymptomatic and require specific testing at specific genital sites for their detection’ (page 10), thus implying that testing is essential to confirm the presence of disease in partners.

Presumptive treatment of chlamydia is advised on the Genital Chlamydia Fact Sheet sent to Victorian GPs in response to a chlamydia notification. It states:

A person who is nominated as a contact of a person who has microbiologically confirmed chlamydia is treated presumptively after they have had appropriate swabs taken to establish a diagnosis. If the result is negative, this may be a false negative test result or represent unnecessary treatment. If the result is positive, the person is treated as a new index case and contact tracing is done of all their sexual contacts (see Appendix 1).

These recommendations suggest, like the Antibiotic Guidelines, that sexual partners should be treated ‘empirically’ which means based on the practitioner’s experience. However, unlike the Antibiotic Guidelines, these recommendations state that confirmatory tests should be performed for sexual partners.

These recommendations, from three different publications, quite possibly have the same objectives, but may appear confusing to a GP who consults more than one of these for advice.

A close comparison of the 1996/97 Antibiotic Guidelines (Victorian Drug Usage Advisory Committee 1996) and the National Management Guidelines for STIs and Genital Infections (Venereology Society of Victoria 1997) revealed a number of inconsistencies in STI treatment recommendations. Before finalising the new edition of the Antibiotic Guidelines (Therapeutic Guidelines 2000), the editors sought the advice of the Venereology Society of Victoria on the chapters containing information on STI treatment (D. Tibbits, VSOV, personal communication, 2001).

STI treatment – theory-in-use

To determine the theory-in-use of STI treatment, GPs' use of clinical guidelines as well information in relation to their STI management practices was examined.

GPs' management of STIs

Despite increasing numbers of GPs diagnosing STIs and the rise in viral STIs, there is little information about the way in which GPs, as a subgroup of other medical practitioners, actually manage STIs.

A UK study of nearly 500 GPs examined management of genital warts by GPs (Estcourt et al 1996). Almost half of the doctors managed patients with genital warts without referring them elsewhere. Of these, less than 12% tested patients for possible co-infection with chlamydia, gonorrhoea and trichomoniasis – the three most common STIs in the UK. The study found widespread prescribing of podophyllin for patients to treat themselves. This was worrying, given that 31/33 genitourinary specialists stated that they would never prescribe podophyllin self-treatment for patients. Two principal reasons were given for this. Podophyllin is contraindicated in pregnancy, and specialists were aware of the difficulties faced by female patients in accurately applying the podophyllin.

Australian GPs' treatment of genital warts was surveyed in 1998. Cryotherapy was the most common form of treatment for both male (51%) and female (41%) patients, followed by podophyllin (29% and 33%), although a variety of treatments were used. Most GPs referred patients on if first line treatment was unsuccessful (Streeton and Harris 1998). Although distributed to more than 1200 GPs, this study had a response rate of less than 25%. The authors assumed that the non-responders were GPs who did not manage genital warts.

The number of GPs in Victoria managing both symptomatic and asymptomatic HIV almost doubled to 39% between 1990 and 1997 (Mulvey and Temple-Smith 1997). A more recent study of over 2,000 Australian GPs found that two-thirds of the 766 respondents had been consulted by an HIV positive patient. Approximately 25% were treating or managing non-HIV complaints of an HIV positive patient. Whilst the majority of GPs managed HIV positive patients in a shared care arrangement, a considerable number of GPs saw HIV positive patients who were not receiving anteviral therapy (Kirkman 1999a). This is of concern, given that evidence-based

guidelines on standards of care now recommend early intervention in the course of HIV disease to decrease progression to AIDS (HIV/AIDS Clinical Trials and Treatments Advisory Committee 1997). The overall proportion of Australian HIV patients receiving antiretroviral treatments rose from 46% in 1994 to 71% in 1997 (Law et al 1999).

GPs' use of topical treatments for genital herpes has been examined. Warm salt baths (60%) and applications of betadine (76%) were often recommended, whilst the completely inappropriate treatment of topical antibiotic was fortunately prescribed by very few (5%) (Mulvey et al 1997). GPs were asked whether acyclovir was a useful agent for various presentations of genital herpes. While 97% understood acyclovir to be beneficial for treating primary herpes, and 93% found it useful in treating recurrences of genital herpes, only 80% believed it to be of use in providing prophylactic treatment for frequent occurrences of herpes (Unpublished Data, Project 2).

This study also found that in relation to the treatment of STIs with which they were likely to be unfamiliar, such as abnormal syphilis serology, respondents generally sought consultant advice (Mulvey et al 1997). GPs appeared to opt for conservative approaches to management issues for which there were no clear consensus guidelines. Evidence for this was the nearly 75% of respondents who, in the case of a Pap smear showing HPV infection, would repeat the smear in 6 months (an NHMRC recommendation) and the fact that more than half would advise on the need for safe sex in this situation despite epidemiological evidence suggesting condoms do not prevent transmission of HPV infection.

GPs' use of clinical guidelines

One key informant expressed concern that GPs might not be using appropriate treatment in accordance with current clinical guidelines (KI 2:5), however, there is little research reporting on Australian GPs' attitudes to, and use of, clinical guidelines. One national study of nearly 300 GPs suggested GPs generally supported guidelines, particularly those which are evidence-based and endorsed by a respected organization such as a State Health Department or the NHMRC (Gupta et al 1997). Although 92% of the study's participants believed that guidelines were 'good educational tools' (page 70), 44% thought that guidelines were unlikely to alter clinical outcomes, and 85% agreed with a statement that guidelines were produced by experts who did not understand clinical practice. This may be due to the fact that the quality of clinical practice guidelines in Australia developed prior to the NHMRC publication *Guidelines for the Development and Implementation of Clinical Practice Guidelines* (NHMRC 1995) fell 'far short of recognised international criteria for quality' (Ward and Grieco 1996: 575).

A small Victorian study examined the utilisation of the Antibiotic Guidelines by Victorian GPs who had purchased a copy, by asking GPs to annotate their copy of the guidelines each time they used them (Harris and Vafiadis 1994). Of the 614 annotations, 409 indicated an intention to prescribe, and only 17 of these were not in accordance with the guidelines. On 25 occasions, participants made a decision not to

prescribe after referral to the guidelines. Approximately 16% of the total annotations related to genital lesions, urinary tract infections, urethritis and vaginitis, demonstrating that it is important that these topic areas are included. Results showed that GPs who were sufficiently motivated to buy the guidelines used them, although 5 out of the 80 participants did not use them in the month during which data collection took place, stating they had no need to do so. A subsequent focus group study identified that some GPs purchased the Antibiotic Guidelines to use as a reference for unusual or difficult clinical presentations.

GPs' use of specific STI guidelines

Research on the influence of guidelines on GPs' management of STIs is rare, although those that exist suggest that GPs find guidelines helpful. Guidelines on chlamydia testing developed and distributed to a small local sample of 14 general practices in London recommended that all women under the age of 35 years attending for a speculum examination be tested for chlamydia. Of the combined sample of 53 GPs and 11 practice nurses, 85% stated that they had changed their practice as a result of these guidelines (Hay and Oakeshott 1996).

Another British study devised guidelines for the management of new patients presenting with genital warts. They found significant improvement in the outcome of treatment; as a result of the more successful treatments, the number of clinic visits per patient decreased (Reynolds et al 1997).

Within Australia, no formal evaluation of STI guidelines has been conducted. For Victorian GPs the National Management Guidelines for STDs and Genital Infections were the preferred reference source for STIs, with 36% of the 444 respondents reporting their use, in comparison to 29% who used the NHMRC Handbook on STIs (Temple-Smith et al 1998). Interestingly, as it contains information on treatment only, 71% indicated that they used the Antibiotic Guidelines as their major reference source for STIs. Those who used the National Management Guidelines for STDs and Genital Infections were more likely to score better on STI knowledge questions. It is unclear whether this reflects cause or effect. We also carried out a small annotation study (Project 4, Chapter 2) similar to that conducted by Harris and Vafiadis on the Antibiotic Guidelines (Harris and Vafiadis 1994). As previously discussed, results showed that the guidelines were used exclusively for specific diagnostic and treatment purposes rather than broader management issues (Temple-Smith et al 1998).

Presumptive treatment

I only ever treat after testing. I never treat presumptively...I would rather say 'This ulcer looks painful, let's find out what it is' than to state my suspicions up front. Otherwise the patient might go home and accuse her partner for no reason. It can have terrible repercussions (KI 47:115).

This key informant was one of the very few who spoke against presumptive treatment. Other informants in this study confirmed the practice of presumptive treatment in Victoria was common (KI 2:5, KI 6:13,14). Some acknowledged it as necessary at times due to the difficulty of getting some patients to return for test results and treatment (KI 13, KI 14:40). Westgarth, in her sample of over 300 Melbourne GPs, reported that 35% of GPs diagnosing chlamydia at least monthly treated presumptively (Westgarth et al 1994). In our large survey of GPs' STI knowledge, attitudes and practices, we also found presumptive treatment to be common. Presumptive treatment was defined in our questionnaire as treatment without first confirming the presence of infection by laboratory diagnosis (Temple-Smith et al 1997). For a patient in whom chlamydia was suspected, 60% of GPs mostly or always treated presumptively, whilst for a suspected genital herpes infection nearly 70% did so (Table 5.1).

Table 5.1 - Frequency of presumptive treatment by GPs in Victoria

<i>How often do you treat presumptively?</i>	Chlamydia (Temple-Smith et al 1997)	Genital herpes (UNPUBLISHED DATA)
Always	28%	29%
Mostly	32%	39%
Sometimes	28%	30%
Never	13%	10%

As was shown in Chapter 4, GPs who treated presumptively were asked the three most common reasons in their experience for doing so. Many respondents gave as two of the three main reasons for treating presumptively the difficulty in following up patients or their contacts (57% for chlamydia, and 47% for genital herpes) and the recurring of previously diagnosed infection (57% for chlamydia, 68% for genital herpes) (Table 4.5). All of the remaining reasons centred on issues related to the testing procedure.

GPs in this study claimed to be diagnosing, on clinical grounds, about two STIs per month. Of the GPs who stated that they treated presumptively, 60% claimed to always perform confirmatory tests, and 34% stated they mostly did so (Temple-Smith et al 1997). If this were the case, then laboratories confirming positive cases should also be notifying them, which would have increased the notification rate for chlamydia. We suspect that GPs were not performing confirmatory tests as frequently as they maintained, or that they were obtaining negative results either through inadequate swabs, or misdiagnoses. Nonetheless, it is apparent that a high proportion of Victorian GPs believe that presumptive treatment is acceptable, despite the fact that they are practising in a setting with low STI caseloads, where it is also likely that the prevalence of STIs is low. Key informants offered these comments:

This is an individual decision for each GP. If no follow-up is possible, it is probably best to treat presumptively (KI 4:10).

But it does depend on the patient and how compliant they'll be – they may not come back (KI 15:42).

Thompson et al found, in a surveillance call-back of 259 notified cases of chlamydia, that while the antimicrobial treatment prescribed for patients was generally within the available guidelines, patients were not well managed considering the risk they presented to the broader community (Thompson et al 1997a). In keeping with this

concern, management guidelines for chlamydia devised in Victoria suggested that some cases of chlamydia might be presumptively treated. They encourage the epidemiologic treatment of sexual partners (Garland et al 1994). At least half of Victorian GPs surveyed would, at least sometimes, prescribe medication for a sexual contact without seeing the contact first (Keogh et al 1998). This practice was significantly associated with the age of the GP. Fifty three per cent of 23 to 34 year old and 57% of 35 to 44 year old GPs always, mostly or sometimes prescribed medication for the sexual contact of a partner without seeing them, in comparison to 49% of 45 to 54 year olds and 34% of those over 55 years. In a subsequent focus group study of 25 GPs who discussed the issues of contact tracing, the practice of prescribing medication for partners without seeing them was often raised. Some GPs considered it a dangerous practice which should never be considered, others claimed to do it occasionally, and a few used it routinely although with some anxiety:

On the first occasion, I flatly refused to prescribe without seeing the patient, but on the second occasion, I tried every other way, and decided it was the only way to get treatment to her – I don't feel comfortable about it.

I don't feel comfortable, but I have done it.

With thrush I say, if your partner has it, they can use some of your cream (all participants nodded and agreed).

Participants, Focus Group 2, Project 3

I give the script because the partner may be too scared to come in and they may be more likely to take the medicine if they don't have to come in.

Always with chlamydia if someone asks about their boyfriend, I give them an extra script... they wouldn't come in for a penile swab anyway.

Participants, Focus Group 1, Project 3

I do it; it's negligent not to do it.

Participant, Focus Group 3, Project 3

Medico-legally, what if the partner is allergic or pregnant? I wouldn't do it.

Participant, Focus Group 5, Project 3

If a GP does not know whether the patient will return, then for that patient and the health of their sexual partners, presumptive treatment seems justifiable. The decision

is an individual one, because there is no consistent information available about what is the correct course of action.

Summary of espoused theory of STI treatment:

The policy documents demonstrated a clear understanding of the general issues in relation to treatment of STIs within the limits of their specific areas of interest of HIV/AIDS and Indigenous Australians. The issues of access to treatment featured strongly in these documents. The most commonly used information on STI treatment is provided in the Management Guidelines for STDs and Genital Infections, and the Antibiotic Guidelines. Both of these publications offered comprehensive advice in relation to the treatment of STIs. Victorian GPs diagnosing cases of notifiable STIs receive information from the Department of Human Services about appropriate treatment and further STI management. However, this information is sent to the GP after he or she has notified the disease. By this time it is likely that treatment would have been prescribed for that particular patient. While the GP could attempt to contact the patient to alter the treatment if necessary, it is likely that this information would be of more benefit in managing the GPs' future STI cases. The RACGP publications clearly demonstrated that GPs are expected to know about appropriate treatments for STIs. Recommendations on presumptive treatment were the subject of inconsistent advice.

Summary of theory-in-use of STI treatment:

There is little published information about the way in which GPs manage STIs, particularly within Australia. Other than our own, most Australian studies examining specific STI management issues have attracted very low response rates, limiting any conclusions which can be drawn from this work. Other Australian research has shown that GPs were generally supportive of the benefit offered by clinical guidelines in assisting them in the management of disease. Although only a little over a third of GPs referred to them at all, the National Management Guidelines for STDs and Genital Infections was the STI reference source most often used by the Victorian GPs in our study. A small qualitative study of the use of these guidelines suggested GPs referred only to sections containing specific diagnostic and treatment advice. This is in keeping with the fact that almost three quarters of the Victorian GPs in our study claimed that they used the Antibiotic Guidelines, which provide treatment information only, as their major STI reference source. Such results imply that, despite clear evidence of the need to upgrade their STI knowledge and practices, GPs are not utilising the guidelines which would provide advice on such issues. It is also evident

from our own research that presumptive treatment is a common practice although there is widely varying opinion among GPs about its appropriateness.

Table 5.2 Main features of espoused theory and theory-in-use of STI treatment

Espoused theory	Theory-in-use
<ul style="list-style-type: none">• Treatment advice available• Recommendations on presumptive treatment inconsistent	<ul style="list-style-type: none">• Little information on GPs' STI treatment practices• Presumptive treatment widely practiced but GPs' opinions vary about its appropriateness

Issues arising from the comparison of espoused theory with theory-in-use of STI treatment

Opportunities for Victorian GPs to learn about new treatments is limited and is often offered through printed material, such as journals and drug company releases.

Pharmaceutical company representatives visit GPs to talk about new drugs, and may offer free samples to GPs to promote their drugs and thereby influence the GP's future prescribing patterns. If GPs perceive themselves to have a low caseload of a particular disease or condition, it may be easier to prescribe whatever treatment was most recently left by a representative, than to search information sources for advice. It therefore should be made as easy as possible for GPs to acquire the information on diseases or conditions which they may see less frequently, such as STIs.

It is understood that the major beneficiary of clinical guidelines is the GP who sees the condition or disease described in the guidelines infrequently. It is also often assumed that when such guidelines are available, a GP will be able to make a diagnosis without difficulty or ambiguity (Harris and Vafiadis 1994). This is, however, not always the case, particularly with infections such as the many STIs which have asymptomatic presentations. Research has shown a number of weaknesses in GPs' STI diagnosis and management, despite the fact that such information is available to them in the National Management Guidelines for STDs and Genital Infections. This suggests that, apart from drug dosage information, GPs may find these guidelines too difficult to refer to in the context of a general practice consultation. Reorganization of these guidelines into a problem-based format rather than a diagnostic-based format may be of benefit to GPs. The under-utilisation of the guidelines therefore suggests that GPs are either unaware of the breadth of information offered in the guidelines, or else they find it too difficult or time-consuming to access such information during a consultation. This would be in keeping with the finding many Australian GPs have real concerns about the relevance of guidelines in general to general practice and that many are unfamiliar with their contents.

While the majority of Victorian GPs routinely diagnosed and treated STIs, only a little over a third reported using the guidelines, although they were the preferred reference source for STIs. While these guidelines have been widely distributed, little effort has been given to their promotion. It would seem that in order to improve the uptake of these guidelines, consideration should be given to ways of alerting GPs to their usefulness. A recent large scale survey of Australian GPs showed clear support for the concept of academic detailing, in which a professional health care worker explains the

usefulness and salient features of particular guidelines. Overseas, Grimshaw and Russell reviewed 59 rigorous studies which evaluated clinical guidelines. They concluded that implementation strategies which use 'information technology to focus on consultations with individual patients rather than general performance are very likely to change practice' (Grimshaw and Russell 1994: 50). A strategy to actively promote the use of the guidelines would be beneficial, particularly given the fact that the uptake of these and other evidence-based practices has to date had little effect in Australian general practice.

Presumptive treatment for chlamydia is advocated by two information sources referred to by Victorian GPs. Both of these state the importance of confirmatory tests when treating presumptively. The most commonly used reference source, the Antibiotic Guidelines, recommends empirical treatment for sexual partners of confirmed cases. If confirmatory STI tests are considered to be important, then recommendations need to be made much more strongly in guidelines endorsing presumptive treatment, as the evidence suggests Victorian GPs are not performing such tests.

Summary of needs arising from this chapter

- ◆ Continuing medical education and updates on STI treatment need to be provided on a regular basis
- ◆ A number of changes are needed to increase uptake of the National Management Guidelines for STDs and Genital Infections. These include their presentation in a problem-based format and actively promoting their usefulness
- ◆ Recommendations for presumptive treatment need to stress the importance of confirmatory testing

Chapter 6

Notification and contact tracing in general practice

STI notification – introduction

1917

We would urge on medical practitioners that the desire to assist in the endeavour to check the spread of these disastrous diseases should suffice to impel them to notify every case (Editorial 1917b: 447).

1928

Only 488 of some 1500 practising members of the profession have sent in notifications...notifications fail to a considerable extent because the medical profession as a whole does not obey the law and the authorities do not enforce it (Editorial 1928: 692).

1967

Notification from privately practising doctors...is not reliable, and to determine the extent of under-reporting by this group, who after all see the majority of venereal disease patients, is essential if any accurate incidence of diseases is to be made (Adams 1967: 145).

2000

There are deficiencies in the completeness and timeliness of notification by GPs (Allen et al 2000: 325).

Surveillance is defined as the ongoing systematic collection of information on a health event or health state and should include timely collection, analysis, interpretation, dissemination, and use of data (Teutsch 1994). Surveillance data is an essential component in determining the extent and distribution of infection and in evaluating the management of diagnosed cases. It is used in setting health priorities, in planning treatment and support services. It is also valuable in establishing control measures, for example by identifying the target populations of preventive campaigns as well

providing information to determine their success (Crofts et al 1994; Thompson et al 1997a: 88).

Information on the frequency with which certain infectious diseases occur are routinely collected by the health authority in each of the states and territories of Australia. There are some variations between states and territories in those diseases designated as notifiable. This has occurred because not all diseases are commonly found in all parts of Australia. States and territories therefore initially made their own decisions about which STIs should be notifiable. Although integration of surveillance data is now underway at a national level through the National Notifiable Diseases Surveillance System, notification is still managed by the individual states and territories.

Notification was first introduced in Victoria as part of the VD Act of 1916. Until that time, with the exception of the 'Melbourne Experiment' described in Chapter 1, no systematic collection of VD statistics had been undertaken and it was hoped that notification would provide an accurate picture of VD prevalence. Notification also allowed follow up of those who did not comply with the very lengthy treatment then available. While initial notification was anonymous and patients were identified by number only, under the Act doctors were obliged to release the names and addresses of those 'defaulting' from treatment (Tibbits 1994). In the first five years after the introduction of the Act, 5639 people failed to continue treatment until cured, of which almost 3,000 were never traced (Cumpston 1989).

By 1930 it was acknowledged that notification had failed in its aim to treat all those infected with VD and keep track of them until they were cured (Editorial 1930). A number of reasons were offered for this. Extra administrative work was required to keep in contact with patients during treatment (which amounted to months for gonorrhoea, or years for syphilis). There were reports of GPs declining to notify their wealthier private patients and of other patients threatening GPs who had reported them for defaulting from treatment (Editorial 1922; Editorial 1930). Despite this, revisions of the VD Act continued to include compulsory notification of VD (Lewis 1998).

From the introduction of notification in 1916 until the late 1920s, records indicate that around 40% of cases were notified by private practitioners (Tibbits 1994). Victorian surveillance data for the subsequent decades do not routinely report the proportions of notifications originating in private practice. A government report, however, which compared the 1959 notification figures for NSW and Victoria stated that while in NSW GPs supplied about 20% of the notifications of VD, in Victoria only 5% of notifications were from GPs (Tibbits 1994). Subsequently a study of all privately

practising doctors in Sydney demonstrated GPs' poor notification practices by showing that over 90% of syphilis and gonorrhoea encountered by this group was not notified (Adams 1967). The quotes at the start of this chapter demonstrate that GPs' notification practices have been an issue of ongoing concern in the medical literature since its introduction. Yet, as will be seen, little effort appears to have been made to overcome this.

While the particular stigma attached to STIs has resulted in some GPs keeping confidential the details of their patients' STIs (Condon et al 1992 ; Thompson et al 1997b), under-reporting has long been an issue for all infectious diseases, not just STIs (Bek et al 1994; Allen et al 2000). Reasons offered for under-notification, as will be seen later in this chapter, include being unaware of reporting requirements as well as a lack of interest by the medical community (Thompson et al 1997b).

In addition to under-reporting, there are other problems associated with the surveillance system for STIs. For many years in different parts of Australia, what was designated as a case of infection was defined differently. Although uniform diagnostic criteria for individual STIs have now been defined, the way in which these are used may still vary within the states and territories (Longbottom et al 1994). Another issue which is problematic in the national surveillance of infection relates to the collection of ethnicity data. Australia is recognised as having one of the world's most ethnically diverse populations (Young 1992). Although some states and territories' STI notification data includes information on country of birth, more appropriate indicators of ethnicity are not collected (Temple-Smith et al 1996b). This may result in misleading information. For example, having Vietnam as a country of birth does not distinguish between ethnic Vietnamese or Chinese Vietnamese, or between those who arrived in Australia as infants and those who arrived in middle age. This has implications for effective prevention and treatment, as sexual beliefs and practices, which are largely determined by the socio-cultural environment, are more likely to contribute to an individual's STI risk than the country of birth. This issue is particularly important in Australia, where so many Australian-born people have strong ties to particular ethnic groups, and where a significant proportion of the population was born outside Australia (Temple-Smith and Gifford 1996).

To be truly effective in controlling disease, it has been argued that surveillance systems should collect more information than just the incidence of infection. Dore and Kaldor have recommended that additional data be collected on the occurrence of both symptomatic and asymptomatic disease and the extent of treatment seeking, as well as information on sexual behaviour. They believe this information should be compared within demographic areas (Dore 1998).

Current notification requirements in Victoria

Notifiable STIs in Victoria are AIDS, chancroid, chlamydia, Donovanosis, gonococcal infections, Hepatitis A, B and C, viral hepatitis, HIV infection, lymphogranuloma venereum and syphilis (Venereology Society of Victoria 1997). Until recently in Victoria, only doctors were expected to notify cases. In an effort to make notification more complete, pathology notification was introduced in 1990 for syphilis and chlamydia, and in 1994 for gonorrhoea. Now when a patient is diagnosed with these notifiable STIs, the requirement to notify the disease to the Victorian Department of Human Services rests with both the diagnosing doctor *and* the laboratory confirming the test, except in the case of AIDS where the doctor alone has responsibility for notification. In theory therefore, for every case of chlamydia, gonorrhoea and syphilis, notification should be received from two sources. While notification has improved under this system, the large number of STI notifications made from only one source is a demonstration of the frequency with which under-reporting occurs (Thompson et al 1997c).

In addition to this reporting, data on genital warts, genital herpes and "enhanced" data on syphilis (reason for testing and stage of disease) are collected from the Melbourne Sexual Health Centre. Information about specific aspects of gonorrhoea (site of infection, and probable place of acquisition) are also gathered by the Microbiological Diagnostic Unit at the University of Melbourne for the Australian Gonococcal Surveillance Program (Public Health Division 2000a).

In contrast to the other STIs, the notification system for HIV and AIDS is of a consistently high standard (Department of Human Services 1998). It is maintained by the National Centre in HIV Epidemiology and Clinical Research in collaboration with the states and territories. In Victoria, information on HIV/AIDS is collected using four separate mechanisms – notification of AIDS diagnoses, and since 1996, notification of HIV diagnoses; basic laboratory data on all HIV tests conducted in Victoria, and laboratory and clinical reports of new diagnoses of HIV infection (Public Health Division 1999). Great efforts are made to obtain complete information about notified cases of HIV and AIDS. This may involve the expensive process of calling back the doctor or laboratory which notified the case, to obtain data which is requested to accompany each notification but which may not have been provided at the time the notification was made. In 1997, for example, 74% of HIV testing was carried out in laboratories outside the major public HIV testing laboratories. Some of these laboratories were not as consistent at recording data used for surveillance, such as risk factors for HIV and reasons for testing. This resulted in information on the reasons for HIV testing being available for only half of all of the HIV tests conducted during 1997 (Department of Human Services 1998).

STI notification – espoused theory

The ways in which the issue of notification is promoted among GPs was examined to determine policy and stakeholders' views of ideal practice in relation to notification.

Acknowledgement of the need for surveillance

The first National HIV/AIDS Strategy stressed the need for information on the extent of HIV infection in Australia, and outlined the process of notification of HIV infection to the national surveillance system. While not ruling out the need for it in the future, the strategy also stated that ‘anonymous, non-consensual testing programs should not be undertaken without compelling scientific justification’ (page 76). It also noted the almost total lack of appropriate data and research in STIs in indigenous Australians, who were recognised as a priority group (Commonwealth of Australia 1989). The second National HIV/AIDS Strategy underlined the importance of epidemiological information and the need for surveillance to continue (Commonwealth of Australia 1993). The third Strategy acknowledged the development of the National Communicable Diseases Surveillance Strategy and its implementation in improving the integration of surveillance activities across Australia (Department of Health and Family Services 1996). The fourth Strategy referred to the need for the high quality social and epidemiological evidence in monitoring and evaluating its success (Commonwealth Department of Health and Aged Care 2000).

The National Indigenous Australians’ Sexual Health Strategy described in detail the current state of knowledge about STIs and HIV/AIDS in indigenous communities (ANCARD Working Party on Indigenous Australian’s Sexual Health 1997). It identified the limits of the national surveillance data as due to differences between surveillance systems through both variation in which STIs are notifiable and which bodies are responsible for notification. It further warned that a contributing factor to the apparently low STI rate amongst indigenous Australians in Queensland is the non-reporting of indigenous background. The Strategy also recommended the development of protocols for the collection and use of sexual health data, highlighting the need for consensus on collection methods, ownership of information, confidentiality, privacy, access and use of data. It also stressed the need to resolve the issue of how best to ask people about their racial identity.

Dissemination of details of notification requirements

It is not clear when GPs are first informed about their responsibilities to notify infectious diseases. While one key informant believed this information was distributed to graduating doctors when they first register with the Medical Practitioner’s Board of Victoria (KI 2:4), another assumed that this information to be passed on by other GPs or at medical school (KI 6:14). A third stated:

While they (GPs) are given a list of notifiable diseases, the details of how to do it (notify) aren’t, to my knowledge, spelt out formally (KI 11:31).

In fact, I have been unable to identify anyone whose responsibility it is to inform graduating medical students about notification.

The way in which learning about notification took place was examined for medical graduates undergoing training to become GPs. Knowledge of notification

requirements is referred to in the RACGP Training Program Curriculum as 'Legal responsibility for reporting' (RACGP 1999a: 5-38). In 'Making Sense of General Practice', the companion guide to the curriculum, it stated that 'The GP will have a working knowledge of, and involvement in, the health of the community locally, regionally and nationally including...involvement in public health systems and strategies eg. notifiable diseases.' (RACGP Training Program 1999:11).

Given that little emphasis is placed on the issue of notification for both undergraduate medical students and GPs in training, it is not surprising to find that sources of information provided to practising GPs are limited. The Health (Infectious Diseases) Regulations 1990 resulted in a pamphlet entitled 'Notifiable Infectious Diseases' which is distributed periodically to medical practitioners. The National Management Guidelines for STIs and Genital Infections summarised the notification requirements in all states and territories of Australia, including information about who is responsible for notifying, the time allowed for notification (7 days in Victoria), the patient identifier required (full name for hepatitis, others by code in Victoria) and a contact telephone number for further information (Venereology Society of Victoria 1997). The Contact Tracing Manual also includes information on whether a disease is notifiable, in which states or territories this applies, and who is responsible for the notification (Sydney Sexual Health Centre et al 1998). There is one other route by which GPs receive information on STI notification. As is described in Chapter 5 under 'Specific Recommendations for Treatment', when a case of syphilis, gonorrhoea or chlamydia is diagnosed in Victoria, a letter is sent to the GP outlining treatment recommendations. If the GP has sought confirmation of diagnosis from a laboratory, and the laboratory diagnoses a positive case, it will send the test results to the doctor along with an accompanying letter which includes a questionnaire and a sheet of facts about that particular STI. The questionnaire requests information such as where and from whom the disease was acquired, why the STI test was carried out, and the sexual orientation of the patient. Different additional questions are asked for each disease. If the GP has notified the diseases on the basis of clinical signs alone, then the Department of Human Services will send the request for additional information.

Feedback for notification

GPs do not receive positive reinforcement for notifying. In the past all Victorian GPs (whether they had notified or not) received a copy of the Department of Human Services Annual Surveillance Report which covered all infectious diseases. While this very detailed report would be unlikely to provide strong encouragement to an individual GP who had not already notified to do so in the future, it did at least allow GPs to see that notifications were utilised in some way.

Currently only GPs with a special interest in surveillance receive the Victorian Infectious Diseases Bulletin, published quarterly by the Victorian Department of Human Services. The Bulletin provides summaries of infectious diseases surveillance data as well as brief articles of relevance to those working with infectious diseases. It is distributed to about 2,000 subscribers, of which only an estimated 300-400 are GPs (T.Lauer, Department of Human Services, personal communication 2000). STI surveillance statistics are compiled annually into a report, which is also distributed to those with a particular interest in STIs. The last such annual report was 'Surveillance of Sexually Transmissible Diseases 1999' (Public Health Division, 2000a).

STI notification – theory-in-use

There is limited information available about GPs' behaviour in relation to notification (Dore et al 1998; Thompson et al 1997a; Crofts et al 1994).

A study of more than 450 GPs in NSW showed that their notification rates remained suboptimal following the distribution of an information kit describing changes to the surveillance system under new legislation. There was no increase in notification by GPs, despite an increase in favourable attitudes towards notification (Bek et al 1994).

In Victoria, although STI surveillance has been substantially improved in recent years (Crofts et al 1994), interpretation of the surveillance data is hampered by under-reporting and duplicate reporting of diseases with 'persistent markers', such as syphilis and hepatitis C (Dore et al 1998). Although, as stated earlier, chlamydia notification is required to be completed by both the diagnosing doctor and the testing laboratory, a review of chlamydia surveillance found that many notifications were made by only one source. Only 34% of cases had been notified by *both* the GP and the laboratory (Thompson et al 1997c). GPs, rather than doctors in STI clinics or hospitals, were found to have notified 70% of cases. However the study showed that GPs were only notifying cases which had been confirmed by the laboratory, perhaps showing either a reluctance to trust their own clinical decision (Thompson et al 1997a) or their misunderstanding of the definition of a case. A number of reasons for failure to notify were offered, including an assumption that the laboratory would do so, and a lack of awareness that notification was required. The authors suggested that an alternative to requiring doctors to spend time in duplicating notification would be to strengthen laboratory reporting, and then ensure that the diagnosing doctor has adequately treated the patient and his or her sexual contacts. However, one key informant suggested that it would be impossible to rely on the laboratories for notification as they do not receive enough information about the patient initially to provide the details necessary for surveillance (KI 2:4).

Some GPs have difficulty in re-identifying their own patients from patient records. After a laboratory has notified a positive case of disease, if a notification from the

diagnosing doctor has not also been received, the GP may be contacted to provide additional details on the patient for surveillance purposes. With only the two first letters of the patient's surname to assist in identification, a non-computerised practice may not be able to accurately locate the patient, particularly if the original laboratory notification did not include the patient's date of birth. This is a particular problem in practices with large numbers of patients with the same surname, such as is common in the Vietnamese community (KI 6:17).

In 1994, a survey of genital chlamydia diagnostic practices of GPs in Melbourne indicated that under-diagnosis of chlamydia was very likely, given a low level of clinical suspicion and inappropriate specimen collection (Westgarth et al 1994). In addition, only 41% of the GPs in that survey knew chlamydia to be notifiable, although it had been so since 1990. A survey conducted two years later showed that 62% of Victorian GPs knew chlamydia was notifiable (Temple-Smith et al 1997). Results from this survey suggested, based on GPs' estimates of the number of chlamydia cases they had diagnosed in the preceding four weeks, that approximately 18,000 cases of chlamydia were diagnosed in Victoria in 1995 by GPs. This finding was highly discrepant with the actual number of notifications, which was 1,317 for that year (Temple-Smith et al 1997). In addition to poor notification practices there are a number of other possible reasons for this disparity – an overestimation of caseloads by GPs, the widespread practice of presumptive treatment, and incorrect diagnosis of genital chlamydia, possibly related to uncertainty about the case definition. However, key informants confirm that many GPs still are unaware of the need to notify chlamydia (KI 6:13), whilst others offered what is quite likely to be, given the data described above, a common view:

I don't notify. I never have. It's a waste of time. The labs do it anyway, so what is the point of doing it twice? (KI 47:116).

It's almost a waste of time for GPs to notify, as it is a legal requirement for pathology providers to do it. The notification includes the referring GP's name and address, so the department could contact them if they needed to (KI 21:59).

Many pathology laboratories send a comment with positive test results to the diagnosing doctor stating that they have notified the case and that the GP also has a responsibility to do this (KI 21,26). Despite this, that there is genuine confusion amongst some GPs about notification was evident from the following excerpt of dialogue from one focus group, where only one participant appeared to have any real understanding of the notification process:

What happens when you report a disease?

HIV, syphilis and gonorrhoea are traced.

What's the penalty for not reporting?

Doesn't the lab do it?

Yeah, but you're supposed to do it too.

Whenever the lab says they've done it, I presume it's done (all agree, nod heads).

Participants, Focus Group 3, Project 3

The patient's view of surveillance was an issue raised by the same GP who seemed most knowledgeable about notification, who advised others in the focus group:

When giving drugs (for patients) to take to (sexual) contacts, stress that you don't need to report them, some people are still concerned about those issues.

Participant, Focus Group 3, Project 3

This poor understanding of the notification process and concern about damaging the doctor-patient relationship was also noted in a NSW study of notification by GPs (Allen et al 2000).

A problem with the surveillance system is that it is seen as remote by some GPs:

I have a number of unanswered questions. For example, why are the names of patients with HIV and measles coded, but a full name and address required for patients with hepatitis B? (KI 39:101).

Little appropriate feedback is offered to GPs who notify (KI 11:33).

Notification and surveillance have an image problem. Part of this is to do with how surveillance data is presented – its often incredibly boring (KI 20:57).

In contrast to other STIs, notification for HIV is good (Department of Human Services 1998). It was suggested that there could be two reasons for this. GPs who see a lot of HIV are aware of the importance of notifying and have established it as part of a routine practice. In addition, GPs who are seeing their first case of HIV may feel nervous and therefore be likely to adhere to correct practice of notification (KI 5:13).

Very little research has examined ways of improving notification by GPs. Many years ago in Victoria, letters of acknowledgement were sent to GPs who had notified an STI case. This practice had some disadvantages. Often the GP's address would be incomplete or incorrect, resulting in a wasted effort to communicate. For some GPs who notified significant numbers of infections, the constant acknowledgement was also considered problematic (M. Kirk, Department of Human Services, personal communication, 2000). Several GPs in the NSW study commented on the lack of feedback and some claimed that remuneration would improve their notification rates. Some believed that memory aids such as fridge stickers and regular circulars in an easily understood format would raise the profile of notification. Others supported the idea of a dedicated 1800 telephone number operated by a person who was knowledgeable about notifiable diseases (Allen et al 2000).

Summary of espoused theory of STI notification:

The policy documents accurately described the limits of Australia's current notification system. While the RACGP documents noted in a general sense the GP's legal responsibilities, only the Contact Tracing Manual and the National Management Guidelines for STDs and Genital Infections actually listed specific STI notification requirements. It is unclear when and by whom GPs are first informed about notification. No advice is offered to GPs about how to inform patients of the need to notify.

There is no apparent reward for GPs who notify STIs. Feedback about notification appears to be limited to those with a special interest in the topic.

Summary of theory-in-use of STI notification:

Information from both the literature and the key informants confirm the problems of notification described in the policy documents. There are major inconsistencies in GPs' reporting practices. Many GPs are unaware of their responsibility to notify STIs.

Table 6.1, at the end of the chapter, summarises the main features of espoused theory and theory-in-use for notification and contact tracing.

Contact tracing – introduction

1916

Before you can treat your patient you must catch him, and in these enlightened days no civilized community should hesitate for a moment to enforce compulsory methods of the most drastic character to bring this about (Arthur 1916: 361).

1949

We cannot agree that the private practitioner should have anything to do with the discovery and examination of contacts; this would be the task of the public health officer (Editorial 1949:141).

1967

Less than 30% of GPs responded ‘always’ or ‘often’ to ‘Do you bring to examination and treatment the regular sex partner of your venereal patients?’ (Adams 1967: 150).

1997

Contact tracing by GPs, who diagnose the greatest proportion of STDs is...haphazard. Doctors are often unaware of what sexual contacts their patient has had, and commonly have no knowledge of whether the patient’s sexual partner received or completed treatment (Thompson et al 1997d: 108).

Contact tracing is the ‘process of identifying the relevant contacts of a person with an infectious disease and ensuring they are aware of their exposure’ (Sydney Sexual Health Centre et al 1998: 3). For STIs, anyone who has had sex with the index case during the time he or she was infectious is at risk of having acquired an infection.

Informing an individual that they were the sexual partner of someone with an STI, has been an important aspect of STI control in the UK and Australia since the turn of the century and in the USA since the 1930s (Cowan et al 1996; Tibbits 1994; Brandt et al

1990). This process of contact tracing is important from both economic and epidemiological perspectives (Oxman et al 1994; Millson, et al 1994; Ramstedt et al 1991). Contact tracing diminishes the period of infectiousness, particularly in those who are asymptomatic, and reduces the likelihood of complications of undiagnosed disease. By increasing the number of cases identified, contact tracing contributes to more accurate statistics of the incidence and prevalence of STIs (Crofts et al 1994).

The quotes above encapsulate the history of contact tracing in Victoria. In the first half of the 1900s, contact tracing was seen both as punitive and a somewhat sordid task which was beneath the GP. It is hardly surprising to find therefore, that since the mid-1950s, GPs have been criticised for poorly performing contact tracing.

In the early 1900s, contact tracing appeared to have taken second place to notification. As outlined at the beginning of this chapter, one of the primary aims of notification was to keep track of all of those who had commenced the invasive and very lengthy treatment required for both gonorrhoea and syphilis. Given the high incidence of VD, this was a challenging task (Cumpston 1989). With the particular difficulties involved in contact tracing described below, coupled with limited resources for VD services in general, it is likely that greater success was obtained by concentrating on tracing defaulters from treatment rather than the sexual contacts of cases.

The Victorian VD Act of 1916 stated that a person who was suspected of having VD could be apprehended on receipt of a statutory declaration or certificate signed by a doctor and requested to attend for treatment. Although it implied that once their identity was ascertained those who were infected could not escape treatment, in practice this aspect of the Act was a failure due to its poor implementation. Most of the work of tracing the sexual contacts of VD cases fell to the police who had no authority to do anything other than to request them to seek treatment. If the person refused, the police were required to seek further authorisation to detain the person. By the time this had been obtained they had frequently left their address and were unable to be traced (Anonymous, 1942b). In the first five years after the introduction of the Act, 62 orders were issued requiring people to attend for treatment, and 12 statutory declarations had been made by civilians nominating certain people as the source of infection (Cumpston 1989). Many of the latter were said to have been made inappropriately, possibly out of spite (Tibbits 1994).

In 1928, the director of the Commonwealth Department of Health's Division of Tuberculosis and Venereal Diseases conducted a review of the VD control across Australia. He recommended that contact tracing by health authorities should be performed as a last resort, only after the doctor had attempted to obtain the identity of the source of infection by tactful means (Lewis 1998). The onset of the Depression saw the closure of the Division of Tuberculosis and Venereal Diseases, and the

withdrawal of all Commonwealth funding from state's VD control initiatives (Tibbits 1994). Subsequently the issue of contact tracing seemed to disappear from Australian medical literature for several years.

In 1942, however, the Federal Government was faced with rapidly rising VD rates and was under pressure from the United States military who were concerned at their men losing 10,000 fighting hours per month due to VD contracted in Australia. In response, the National Security (Venereal Diseases and Contraception) Regulations were introduced, which stated that any person suspected of harbouring VD could be detained and examined against his or her will (Darian-Smith 1990). These regulations were aimed at promiscuous girls who, it was believed, were infecting soldiers (Anonymous 1943a) (Temple-Smith 1992). The regulations allowed for communication between the Chief Health Officer and the armed forces in relation to those believed to be infected. In 1942/3, the joint efforts of the police and the army resulted in 400 women being reported to the Victorian Health Department. Less than half were traced and only 80 of these were, in fact, infectious (Tibbits 1994).

With the introduction of penicillin in the mid-1940s and a diminishing incidence of VD came a decline in VD services generally. Despite this, and a major overhaul of the Health Act, the VD Act remained unchanged. In the 1960s the Medical Director of the MSHC advised Victoria's Chief Health Officer that the incidence of VD in Victoria was too low to necessitate the employment of special contact tracers (Tibbits 1994). However, a decade later it was acknowledged in an editorial in the Medical Journal of Australia that contact tracing was inadequate in Australia. It was claimed that the real problem lay with GPs, who would 'probably be unwilling to utilise the services of contact tracing officers if such were offered to them by the public health authorities' (Editorial, 1973: 270). There is, however, no evidence to suggest, either then or until now, that GPs were ever asked to make contact tracing a priority in their management of an STI patient. Interestingly, the medical literature in the 1970s advised that 'female infectors of male patients' should be contacted and advised to seek treatment, since a large proportion of infected females were asymptomatic. It was deemed 'not essential to look for male infectors of females, as the infected male is likely to seek treatment anyway' (Editorial, 1973: 270), a view which has changed with increasing awareness of asymptomatic STIs in the male (Mulvey et al 1997a).

It was not until the beginning of the 1980s that specially trained contact tracers were employed by the Victorian Health Department (Tibbits 1994). Victoria's Department of Human Services currently employs three contact tracers known as 'Partner Notification Officers', who are based at the Melbourne Sexual Health Centre.

Strategies for contact tracing

Different strategies for contact tracing have been used in different countries. Legislation on contact tracing has been seen to have had a profound effect on its success. In Sweden, physicians of patients with diagnosed STIs including HIV are legally required to notify their sexual partners and to verify that reported partners have actually been examined (Ramstedt et al 1991). This practice has made a major contribution to Sweden's extraordinarily low rates of bacterial STIs. This situation is in complete contrast to that in New York, where under a law passed in 1988, a doctor may only undertake contact tracing if he or she believes that a sexual contact is of significant risk of HIV infection, and that they will not be informed by an HIV positive partner. Even then, a GP must notify the index case that contact tracing will proceed, and offer the choice of the doctor or a Health Department official to actually carry it out. This legislation was put into effect to protect the men who have sex with men who were the group at highest risk of infection early in the epidemic (Norwood 1995).

In Sweden, contact tracing is most often carried out by the health practitioner. In the USA, trained interviewers attached to public health departments or clinics (Centers for Disease Control 1988) usually perform contact tracing. In the UK, a 'conditional referral', allowing the index patient an agreed amount of time before the health professional steps in, is common (Radcliffe and Clarke 1998). In Canada, like Australia, the patient is most likely to be asked to notify his or her sexual partners of the possibility of an STI (Rasooly et al 1994). Contact tracing can therefore be performed by the patient ('patient referral'), by the patient with professional support ('conditional referral' or 'negotiated referral'); or by the professional alone 'provider referral' (Radcliffe and Clarke 1998; Rasooly et al 1994).

In recent years the term 'contact tracing' has been replaced by that of 'partner notification' by both the World Health Organization (World Health Organization 1990) and the Centers for Disease Control (Centers for Disease Control 1988). The National Venereology Council of Australia (NVCA) did not adopt this title in its 1989 statement on contact tracing in HIV infection. Although acknowledging that this would not be intended by WHO, the NVCA was concerned that 'partner notification' could be interpreted by patients as suggestive of a bureaucratic process of notifying

names and addresses (Bradford 1990). One of the tenets of contact tracing is that the confidentiality of the index patient is maintained (Cowan et al 1996a), although in some clinics, it is policy for the name of the infection also to remain undisclosed to the sexual contact (Pattman et al 1993). Additional underlying principles of contact tracing include respect of human rights and the dignity of patients, and that the process should be voluntary and culturally sensitive (Mindel 1995c).

Recently there has been debate about the effectiveness of contact tracing despite its almost universal acceptance and implementation (Cowan et al 1996a; Brandt et al 1990; Andrus et al 1990; Radcliffe 1998). Results of published studies generally support contact tracing, but clear and reliable evidence is rare. In many countries, the aim of contact tracing is simply to successfully contact sexual partner(s) of an index patient and to warn them of their past risky sexual contact. This, of course, does not guarantee that they will seek treatment. Another major issue in the debate on contact tracing is who should be responsible for informing past partners of their possible infection. Evidence exists that experienced contact tracers are more effective at contact tracing than the physician of an index case (Alary et al 1991) or than patients themselves (Spencer et al 1993; Landis et al 1992).

Cowan et al argue that although partner notification has been an important aspect of STI control for the last few decades, this should be re-examined in light of the changing rates of bacterial versus viral STIs (Cowan et al 1996). They point out that epidemiologically, partner notification of the incurable viral STIs is only beneficial if those with the STI modify their behaviour as a result of the notification, unless co-existent bacterial STIs are identified and treated. The recent increase in viral STIs means that it is difficult to show a direct effect of contact tracing on the incidence and prevalence of STIs. Cowan and colleagues (1996) suggest that a randomised controlled trial is needed to establish the benefits of contact tracing in the current situation.

Contact tracing – espoused theory

Ideal practice in relation to contact tracing has been determined by examining Australian policy and the contact tracing advice offered in guides available to GPs.

Australian policy on contact tracing

The first National HIV/AIDS Strategy described a policy of partner notification stating that partner notification should be ‘undertaken voluntarily by the patient, after appropriate counselling’ although it allowed that professional care-givers may ‘undertake the notification with or on behalf of the patient’ (Commonwealth of Australia 1989). It also acknowledged that partner notification might need to be undertaken independently of the patient, although suggesting that this only be done in consultation with other colleagues and with legal support. The second, third and fourth Strategies and the National Indigenous Australians’ Sexual Health Strategy did not discuss partner notification as an individual issue (Commonwealth of Australia 1993; Department of Health and Family Services 1996; Commonwealth Department of Health and Aged Care 2000).

Advice on performing contact tracing

Victorian GPs receive mixed messages about contact tracing. The specialist document on the topic, the Contact Tracing Manual, states that ‘For most STIs and blood-borne infections the primary care provider bears the major responsibility for ensuring that contacts are properly assessed and counselled wherever possible’ (Sydney Sexual Health Centre 1998). This document is a comprehensive guide to all aspects of contact tracing. In addition to providing advice on getting started, choosing the best method, how to make initial contact, and managing reluctant patients it also offers advice on legal, ethical and confidentiality issues. Under the headings of individual diseases, a range of relevant details are provided such as how far back to trace, the likelihood of a longterm partner being infected, the protective effect of condoms, and the usual management of contacts. However, the Contact Tracing Manual has only been distributed to GPs with a special interest in HIV medicine or STIs.

In contrast to the Contact Tracing Manual, the National Management Guidelines for STDs and Genital Infections state that ‘Partners are often their own best contact tracers and they should always be made aware of their responsibility to ensure that recent sexual partners are checked and treated’ (Venereology Society of Victoria

1997). While acknowledging that for difficult cases, or where time, cross-cultural issues or experience make contact tracing by the patient or GP impossible, the GP should seek the assistance of professional contact tracers or indigenous health workers, these guidelines also offer advice on how to make contact tracing easier. In addition, under specific diseases where it is appropriate, the section ends with a reminder that partner notification and partner treatment is mandatory.

In Victoria, partner notification is considered by the Department of Human Services to be the responsibility of the diagnosing doctor rather than the Department (KI 2:4):

When a case of STD is notified, the Department receives only the coded name of the patient, and so it does not have enough information to trace contacts, unless it is provided by the diagnosing doctor (KI 2:4).

The Fact Sheets which accompany the positive pathology results sent to the diagnosing doctor include information on contact tracing. It is stated on the Genital Chlamydia Fact Sheet accompanying the mail-back form for chlamydia that 'Doctors should encourage patients to notify partners, and have a responsibility to ensure that it happens'. On the Gonorrhoea Fact Sheet, the message 'The diagnosing doctor should ensure that sexual partner(s) are examined and treated appropriately' is given. On the information sheet sent out for confirmed cases of syphilis, details are given in relation to how far back sexual contacts should be traced for primary, secondary, and early and late latent syphilis (Appendix 1).

This information, however, is only provided to those GPs who have notified a confirmed case of STI. Those GPs who may have diagnosed an STI, but not notified it, may therefore be still unaware of their responsibility to trace sexual contacts.

Doctors who are training to become GPs are expected to know about 'contact tracing and the management of partners with STI's (sic)', which is listed under the content area of 'Sexually Transmitted Infections' (RACGP 1999a).

Issues in contact tracing

One of the many issues to be considered in contact tracing is how far back in time sexual contacts should be sought. For many STIs, but particularly those which are asymptomatic, it can be difficult for patients to estimate the time of infection, and thus which sexual partners should be notified. For each STI, the Contact Tracing Manual states how far back contacts should be traced. Recommendations in relation to this can vary widely, particularly between countries. As an example, the US Centers for Disease Control recommend that sexual partners be treated for chlamydia if exposure occurred within 60 days preceding the onset of symptoms or diagnosis in the index patient, although it has been shown that this may miss men with longstanding

infection (Zimmerman-Rogers et al 1999). In contrast to these US recommendations, the Contact Tracing Manual suggests that for chlamydia, sexual partners from the six months preceding infection should be traced (Sydney Sexual Health Centre et al 1998).

Contact tracing– theory-in-use

While little research on GPs' actual contact tracing practices has been conducted in Australia, a number of studies have examined contact tracing overseas.

Contact tracing strategies

A number of strategies have been used to assist patients to encourage past sexual partners to seek STI testing. In the UK, patient referral is facilitated by the use of a contact slip system, where the patient is issued with a contact slip with the hospital number and diagnostic code for the infection treated. The same diagnostic code is used by all STI clinics in the UK. Partners of the index patient can attend the clinic of their choice, and the slip is ultimately returned to the original clinic to confirm that contact tracing has occurred (Patel et al 1994). Health adviser telephone calls and visits are also used (King et al 1996). Comparisons of such strategies have been undertaken. For example, Montesinos et al (1990) showed that a follow-up telephone call to the index patient by a trained counsellor if the sexual partner(s) failed to seek treatment after one week was more effective than the strategy of waiving the clinic fee for both patient and partner(s) who returned within a week.

Oxman et al conducted a systematic overview of the effectiveness of contact tracing. They commented on the paucity of well-designed studies evaluating the effectiveness of alternative strategies for partner notification. Indeed, of the 12 studies fulfilling their criteria for inclusion, nine were published before 1990 (including one in 1948, and four from the 1970s). In these 12 studies were compared at least two strategies identifying the sexual contacts of patients with gonorrhoea, chlamydia, syphilis, HIV or Hepatitis B. The authors found:

- strong evidence for simple methods of assisting patients to notify their sexual partners (eg. follow-up phone calls offering support from the health advisor to the patient)
- strong evidence for experienced contact tracers over patient notification for HIV
- weak evidence for experienced contact tracers over patient notification for syphilis
- conflicting evidence for experienced contact tracers versus patient notification for gonorrhoea and syphilis

- weak evidence that experienced contact tracers are more effective than GPs at identifying partners, but no evidence that this results in ‘practically important benefits’ (Oxman et al 1994: S46).

The authors stated that they were able to identify a number of papers discussing the legal and ethical issues relating to HIV, but that despite the fact that these same issues were applicable to other STIs, comparable published discussions did not exist. Additionally, they noted that studies on contact tracing to date have not examined the potential of negative psychosocial effects resulting from contact tracing, such as anxiety, domestic violence or violence towards the contact tracer (Oxman et al 1994). They concluded that while it was possible to argue that all partners of a patient with an STI should be told of their exposure, there was little research on which to base a recommendation for the most appropriate strategy for doing so. Furthermore, given that the concept of contact tracing is based on the premise of reduced transmission of disease and lowered likelihood of complications due to a shorter period of infection, there was little data which could be used to estimate the size of such effects.

Cost-effectiveness of contact tracing

The cost-effectiveness of contact tracing has been questioned (Radcliffe and Clarke 1998; Cowan et al 1996), although little work has been published in this area. Some have argued that any contact tracing which results in the treatment of sexual contacts will be less expensive than the costs of morbidity and mortality if such cases remain untreated (Rutherford et al 1991; Katz et al 1988). Howell et al demonstrated that for contact tracing of chlamydia to be cost-effective, 11% of the named female partners of male index cases, and 43% of named male partners of female index cases would need to receive treatment (Howell et al 1997). No cost-effectiveness studies of contact tracing have been carried out in Australia.

Contact tracing in Australia

In Australia, while the majority of states and territories appear to have embraced the concept of contact tracing for HIV, this is not always the case for the other STIs. Of 100 sexual health clinics in Australia and New Zealand, 81 responded to a survey which was comparing the services offered by each (Marks et al 1997). Although 87% offered contact tracing for patients with STIs, only 30% of the services employed a contact tracer. Patients were encouraged to inform their own sexual contacts in 39% of clinics. Some clinics did not trace sexual contacts at all, while others did so only for specific diseases. Only 20% of Family Planning Clinics responding to the survey performed contact tracing for chlamydia, an STI seen frequently in this setting .

A Brisbane study examined more than 200 male sexual partners of women with genital tract abnormalities associated with HPV. It showed that almost 75% of these men were also infected with HPV, the majority unknowingly, suggesting that they would be highly likely to reinfect their female partner after her treatment had been completed (Kennedy et al 1988). These findings are in accordance with others from overseas, suggesting that male partners of females with pelvic infections are often overlooked in women's treatment (Robinson et al 1995).

Contact tracing in Victoria

The major part of the work of Victoria's Partner Notification Officers is tracing the sexual partners of those who have been diagnosed with HIV, and tracing the source of cases of gonorrhoea which have been identified by a laboratory but not by a GP (KI 13:38). Although the work of the contact tracers has not been 'systematically reviewed' (KI 2:5), Victoria's contact tracers receive very few referrals from general practice. They believe that many GPs are reluctant to persist with contact tracing STIs other than HIV (KI 13:35). In 1997, a study found the 'failure to use the effective expertise of the health department's existing professional contact tracers or referral to a public sexual health centre was notable and consistent' (Thompson et al 1997c: 86). Partner notification was 'overwhelmingly left' to the patient, despite doctor's reservations about whether patients would inform their partners (Thompson, 1997b:108). Such concerns about the likelihood of patients informing their partners has been raised in other studies (Langille et al 1992; Keogh et al 1998). A study of adolescent girls revealed the most common reasons for adolescents not to tell a partner about an STI were that they were no longer involved with the person, that they expected a negative response, or because they blamed the partner for the infection (Rosenthal et al 1995).

In a surveillance call-back study of Victorian GPs which was collecting further details of 250 notified cases of chlamydia, no contact tracing had been carried out for 44 patients, and it was unknown whether GPs had made an effort to trace sexual partners of 32 cases (Thompson et al 1997c). Sixty-four patients were instructed to notify their partner of the diagnosis, and 17 sexual contacts were advised by letter of their contact

status and advised to seek medical advice. Partners of 47 patients were offered treatment; some of these were treated presumptively because of a refusal to attend the doctor or to have tests.

GPs' views of contact tracing

In Victoria, our research found that many GPs are uncertain about their responsibilities in regard to contact tracing (Keogh et al 1998). This was confirmed by key informants, some of whom believed that:

Many GPs find contact tracing too hard (KI 11:33).

Others apparently 'don't even think of it' or 'don't see it as of concern to them' (KI 13,14:38). In common with notification, it is unclear when and by whom, GPs are first informed of their responsibilities in relation to contact tracing:

There's no point that I know of when GPs are given information about notification and contact tracing specifically (KI 5:14).

GPs have no formal education in contact tracing (KI 11:31).

While no information on contact tracing is sent from the Department of Human Services to new graduates, one key informant observed that:

The GP's responsibility is clearly stated in the covering letter accompanying positive laboratory results (KI 2:5).

Although STI Fact Sheets, which contain information about contact tracing, are supposed to be distributed to GPs by the laboratories for each positive case of STI, it was acknowledged that some rural laboratories may not do this (KI 2:5).

In our Victorian survey of GPs, only 14% of GPs saw contact tracing as always and 31% as mostly their responsibility (Keogh et al 1998). A large proportion of GPs claimed to always tell a patient with an STI to advise their partners to seek medical

treatment, but far fewer, only 22%, always checked with the patient to see whether this had been done. Not surprisingly, GPs with higher STI caseloads were more likely to check with patients that they had notified their partners. GPs who were very uneasy or uneasy treating a gay man or a lesbian woman were significantly less likely to always tell their patients to advise their partners to seek medical advice than their colleagues who were comfortable or very comfortable treating gay men or lesbians. Doctors who had attended an update course in STIs were also more likely to always tell patients to advise contacts to seek medical treatment, to check whether patients had contacted partners, and to review the patient's history in regard to risk behaviour. Use of the contact tracers was significantly more likely among urban (45%) than rural GPs (34%) (Keogh et al 1998).

As part of this research a number of focus groups, involving a total of 25 GPs (Project 3), were held to elucidate the results of questions about contact tracing which formed part of the survey of GPs described in Project 2. Some of the quotes from these focus groups were reported in Keogh et al (1998) and others are reported below for the first time. Analysis of the focus group discussions revealed widely differing levels of commitment to contact tracing among the participants, as well as variations in the way it was performed. There was a lack of consensus about whether contacts should be traced on the basis of a clinical diagnosis, and whether partners should be prescribed medication without a consultation. GPs made subjective judgements about which STIs were important to trace, resulting in some never tracing HIV but tracing chlamydia, and others doing the reverse. The variety of opinions about which STIs should be traced are exemplified by comments made during the focus groups:

I grade it, HIV. I'd think 'got to find contacts'. Herpes or chlamydia – probably be shot down for this – I'm reluctant.

More energetic in the case of chlamydia. HIV in the gay community, there's not much to do there, (it) depends on the incubation period and whether it's curable.

My perception of the seriousness of an STD – a subjective judgement – helps me to decide whether to pursue contact tracing more forcefully. Weigh up how much you want to pursue a fragile relationship with a patient. Gonorrhoea is serious, there's a sense with chlamydia that it's, well, gonorrhoea is more serious.

For genital warts I talk about mode of transmission, but I wouldn't ask about partners.

(Keogh et al 1998: 35)

GPs expressed doubts about the patients' commitment and capability of contacting past sexual partners. One stated:

The biggest barrier (to contact tracing) is the patient, whether or not they care about someone's health. We have no control over that, they may not even be in a relationship with that person.

(Keogh et al 1998: 38)

Confidentiality was of concern, particularly among rural GPs:

These two gay guys who went to Melbourne and got an STD didn't want to go to a particular place to get their blood test done because they knew nursing staff or a technician.

Yeah. It's an issue. We take the blood ourselves.

It's a problem.

Participants, Focus Group 5, Project 3.

While the time constraints experienced in general practice are acknowledged as making issues such as contact tracing more difficult (Keogh et al 1998; KI 14:38), some GPs were unaware of the professional help available to them (KI :39). Others knew of the existence of the Partner Notification Officers, but had possibly unfounded misgivings about requesting their assistance. When asked if they had ever thought about using them, participants of one focus group stated:

It's so cloak and dagger, it put me off. How could you do that to a patient?

Too extreme.

No, I didn't know they (Department of Human Services) had them.

But it brings in someone else who is nothing to do with your patient and impinges on the rights of a person who is not your patient.

Participants, Focus Group 1, Project 3

One key informant who regularly spoke to GPs with patients with STIs observed that at times GPs are aware that a patient's sexual partner has been treated. However, few GPs know whether this treatment resulted from a positive test result, or whether it was offered to the patient on the presumption that the partner was infected. Furthermore, GPs were usually unable to say whether if the partner's infection was confirmed, it had been notified (KI 6:17; Thompson et al 1997d). It has been noted that GPs may find it difficult to notify the sexual partner of their longstanding patients (Cates and Toomey 1990). A participant in one focus group shared his experience:

(In) a couple of cases I was going to give a letter (for the patient to take to his wife) and the patient said 'You've got to be joking, there's no way I'm going to tell my wife. Give me the pills, I'll make sure she gets them'.

Participant, Focus Group 2, Project 3

The issue of infidelity can be a stressful for both patient and doctor, and the GP may be additionally anxious about creating a need for marriage counselling, particularly if he or she has no skill or experience in this area (Mindel 1995c).

In fact, to avoid such a situation, almost 200 medical practitioners stated they would lie by allowing the wife of a patient with gonorrhoea to 'be misled about her husband's diagnosis' if it meant she could be treated without knowledge of her husband's infidelity (Novack et al 1989). Yet other research shows that the patients with STIs who do not disclose their infection to their partners are quite likely to continue to acquire infections. A study of 138 HIV positive men in Los Angeles showed that while 45% had been sexually active since they learnt of their HIV status, 52% had not disclosed their infection to their sexual partners. The likelihood of disclosure decreased in direct proportion to the number of sexual partners (Marks et al 1991). This finding was supported by a survey conducted in Columbia, USA, which showed that those who refuse to report the number of sexual partners in the preceding 12 months were also most likely to report characteristics compatible with a high risk of acquiring HIV (Peruga et al 1993).

The under performance of GPs as a group in relation to contact tracing has been highlighted both overseas (Millson et al 1994; Rasooly et al 1994) and within Australia (Thompson et al 1997c). In Canada, the need for medical education in contact tracing and its place in STI control has been called for at both the undergraduate and continuing education levels (Millson et al 1994). A survey of UK STI clinics identified a lack of training both in health advisors and doctors likely to undertake HIV partner notification (Fenton et al 1997).

Summary of espoused theory of contact tracing:

Australia's attempt to control the spread of HIV has been recognised internationally (Coates et al 1996). One critical aspect of our HIV strategy is the voluntary tracing and treatment of sexual partners of people diagnosed as HIV positive. Similar success

in contact tracing in Australia has not been achieved with the other STIs (Fairley 1997). Although the documents examined do not provide completely consistent information about the GP's responsibilities to trace the sexual contacts of patients, it is apparent that the GP has a significant duty in this regard, either by contacting the sexual partners him or herself, or by ensuring the patient does so. The difficulty is that the details of this responsibility are not clearly spelt out in readily accessible form. The Contact Tracing Manual is not freely available to GPs, and our own research has shown the Management Guidelines for STDs and Genital Infections are not well-utilised for this type of issue (Temple-Smith et al 1998). The letters sent from the Department of Human Services which contain advice on contact tracing are of unknown benefit.

Summary of theory-in-use of contact tracing:

While it is apparent that professional contact tracing is beneficial for HIV, and that there are some effective ways of assisting patients to notify contacts, there is little evidence that informing sexual contacts of their possible infection results in treatment. The exception to this is in Sweden, where the responsibility to treat sexual contacts is the legal responsibility of the doctor diagnosing the index case. Our own research showed that contact tracing is complex, sensitive and at times, confusing area in the general practice setting. The main features of espoused theory and theory-in-use are summarised in Table 6.1.

**Table 6.1 Main features of espoused theory and theory-in-use
of STI notification and contact tracing**

Espoused theory	Theory-in-use
<ul style="list-style-type: none"> • Policy documents recognise that notification not well performed • Little or no encouragement for GPs who notify • HIV contact tracing good • GPs' contact tracing responsibilities not clearly promoted • Information on contact tracing not readily accessible to GPs 	<ul style="list-style-type: none"> • Many GPs are unaware of their responsibility to notify • Contact tracing is complex and confusing for GPs

Issues arising from the comparison of espoused theory with theory-in-use in relation to notification and contact tracing

Notification and contact tracing are similar in a number of ways. In Victoria both were established in legislation at a time when infection with VD was seen as shameful and when treatment was lengthy and painful. Many GPs in the first half of the 1900s were reluctant to report their patients for defaulting from treatment or to be questioned by public health officers about their sexual partners. Such unpleasant and perhaps even punitive associations may well have coloured the views of doctors into the 1960s and 1970s, and even beyond.

Both notification and contact tracing are important public health issues. They may therefore not be seen by GPs to be as critical as problems which relate more directly to the patient's needs, even though the absence of contact tracing might directly affect a patient through their re-infection by a current untreated sexual partner.

For many decades limited attention has been paid to the public health aspect of general practice. The problem of providing a balance between a GP's responsibilities to the individual patient and his or her responsibility to the community is not isolated to STIs. Since its introduction, notification of all diseases, not just STIs, has been poorly performed by GPs (Editorial 1980; Tibbits 1994), suggesting that little effort has been made by health authorities to engage the support of the medical community in this task. Recently work has commenced on a consensus statement between the General Practice Partnership Advisory Council (GPPAC) and the National Public Health Partnership (NPHP) on the role general practice can play in population health (Population Health Division 2001). It is to be hoped that such an initiative will identify ways to encourage and reward GPs for actively contributing to population health. GPs are, in general, not remunerated for the public health aspects of their practice. The difficulties faced by GPs in attempting to establish preventive practices in the current fee-for-service structure will be discussed in Chapter 8. Quite recently, however, the multifaceted role of the GP and the GP's potential to improve the health of the community has been acknowledged by specific funding aimed at increasing GPs' involvement in public health. Examples of this include research and education projects run by the Divisions of General Practice (described in Chapter 1), and the General Practice Immunisation Scheme, which has been successful in increasing the rate of childhood vaccination round Australia (Immunise Australia Program).

Is it, however, really necessary for GPs to notify cases of STIs? Interpretation of notification data requires information on sexual behaviour, which isn't routinely collected by many GPs. One of the reasons given for need for notification is that it helps to identify risk factors for STIs. It has been argued that enough is known about the risk factors for STIs in Australia to supersede the currently unreliable notification system and to replace it instead with a sentinel surveillance system. Under this system, surveillance data would regularly be collected from representative groups within the community, such as sexual health services, family planning clinics, and gay men's health clinics. Such sentinel surveillance is already used for more detailed reporting for some diseases (Dore et al 1998). Given that in the current system GP

notification is simply duplicating laboratory notification, it has been suggested that more serious consideration could be given to strengthening the laboratory notification, and then checking with the GP that appropriate treatment and contact tracing have been carried out (Thompson et al 1997a). If laboratory notification alone was mandatory, Thompson et al suggest laboratories might need to be accredited and their income rewarded for good performance in notifying.

However, one key informant expressed concern about removing surveillance entirely from general practice, believing that:

If surveillance from general practice was dropped altogether, contact tracing could be at risk (KI 5:14).

However, given that contact tracing is not generally performed well at the general practice level, it is hard to imagine that removing surveillance from general practice would greatly affect contact tracing.

In Victoria, it is clear that there is confusion amongst GPs about which diseases are notifiable and whether it is currently necessary to notify, now that laboratories are required to do so. If it is deemed essential for GPs to continue to notify cases of STIs, then the process of notification from the GP's perspective needs to be upgraded. The need to notify and which diseases are to be notified must be explained regularly to GPs. The notification itself should be made as easy as possible; for example by using a pre-stamped postcard. However, notification rates will only improve if GPs understand the importance of surveillance and feel rewarded in some way for notification. There are a number of ways this could be done:

- a phone call to a GP notifying for the first time, expressing thanks, and asking if the GP would like further information about other STIs
- individualised six-monthly or annual feedback to GPs about the number of their notifications, along with updated surveillance news
- feedback could be given with an offer to upgrade skills in some relevant area
- summary information about notifications within Divisions could be published in Divisional newsletters
- efforts could be made to inform GPs about the process of notification and its purpose by visits to group practices and advertising through GP Divisions.

One key informant noted the need for good public relations:

They should publicise what they do by going to the bigger practices. Putting the face to a name always helps (KI 5:15).

Besides improving the overall notification rate, such strategies may also provide the additional benefit of improving GPs' confidence in the public health system more generally (Bek et al 1994), which in turn may promote further compliance with public health policy.

GPs need to be introduced to the concept of, and the need for, both notification and contact tracing as undergraduates, and this should be reinforced frequently during the undergraduate years, in vocational training, and at every opportunity during CME. These strategies should be discussed as part of the doctor's broader responsibility to the health of the community, as well as one aspect of STI control which can be performed by GPs.

Notification and contact tracing may be mentioned in undergraduate courses but are unlikely to have any real impact until the student is a doctor and is required to undertake these activities. It is thus important that consistent information on both notification and contact tracing be provided and firmly reinforced at the vocational level as well as part of CME activities whenever possible. Such information can and should be included in other more mainstream topics, as well as those relating more specifically to sexual health.

Contact tracing involves a similar level of sensitivity and many of the same skills as sexual history taking. It is therefore easy to understand why contact tracing might not be attempted by some GPs. Other GPs may simply be unaware of their responsibility in relation to contact tracing. I was unable to identify any reference to a policy document written during the last century which stated that GPs should now take on the responsibility for contact tracing. As with notification, it is unclear whose responsibility it is to inform GPs about the concept and practice of contact tracing. As stated earlier The Contact Tracing Manual has had limited distribution (Sydney Sexual Health Centre et al 1998). The National Management Guidelines for STDs and Genital Infections (Venereology Society of Victoria, 1997) which have been widely distributed, are not commonly used for information other than prescribing (Temple-Smith et al 1998). Victoria's policy on contact tracing needs to be explicitly stated and this information should be properly disseminated to all GPs, including those who have never notified a case of STI. If reference is made in this policy to the Contact Tracing Manual, then it must be ensured that this in turn is widely available so that all GPs would be able to refer to as necessary.

To encourage GPs to carry out contact tracing they may need to feel gratified for doing so. It is easy to understand that this is an unlikely scenario, as most patients will feel uncomfortable or even distressed at the thought of informing their sexual partner(s) that they have been possibly infected with an STI. With a regular patient who has a regular partner, the GP may feel able to explain the need for partner notification in terms of possible re-infection of the patient. However, for a new patient, or one who claims not see the sexual partner regularly, a GP would need to have an extremely strong conviction about his or her duty to the health of the wider public to persist with contact tracing. Since discussion about informing sexual partners may be upsetting for the patient, the GP may perceive contact tracing as too

stressful to attempt. It would therefore be useful to offer as many strategies as possible to support GPs in this. Such strategies could include:

- knowing about and referring to the Partner Notification Officers
- use of dialogue or cue sheets
- form letters ready to hand to patients
- referring patient elsewhere for contact tracing (see Chapter 8)
- STI information leaflets for patients
- use of cards to notify partners of their possible infection

Most of these items are included in the extremely comprehensive, but not widely distributed Queensland Sexual Health Package (HIV/AIDS and Sexual Health Section 1995). Their business size partner referral cards state: 'I've just seen a doctor who told me I have a sexually transmitted infection. You could have one too. Please have a check-up. Contact your doctor for an appointment.' On the reverse of the card, it states 'Play it safe. Have a check-up'. Similar cards were used during the Pelvic Inflammatory Disease Campaign conducted in Victoria in the early 1980s. The cards were given to GPs to distribute to patients who had been diagnosed with PID. Although this campaign was never properly evaluated, this concept has merit, particularly for use with new patients and may be worth trialling in Victoria.

Summary of needs arising from this chapter

- ◆ Designation of responsibility to a party to inform undergraduates and new graduates about their notification responsibilities
- ◆ Designation of responsibility to a party to inform undergraduates and new graduates about their contact tracing responsibilities
- ◆ The introduction of strategies to publicise the surveillance system
- ◆ The introduction of strategies to publicise the importance of contact tracing
- ◆ The introduction of strategies to publicise the existence of the Partner Notification Officers
- ◆ The introduction of consistent 'rewards' for GPs who notify
- ◆ Good dissemination of clear policy guidelines in Victoria for contact tracing
- ◆ Wider distribution of the Contact Tracing Manual

Chapter 7

Acquisition of STI knowledge

Introduction

1916

Again, it is absolutely necessary that the average medical man must either be better equipped for the recognition and treatment of venereal diseases, or be prepared to hand over his cases to a specialist (Arthur 1916: 361).

1929

The training of medical students is a matter of particular importance. They should be compelled to attend clinics at which both male and female patients with gonorrhoea and syphilis are treated...we have neglected this particular part of training for medical students for too long (Cooper Booth 1929: 515).

1954

The year 1954, in addition, sees the end of the University lectures in Venereal Diseases. One wonders if the reduction in the number of cases warrants this step, as the figures suggest that the 'fall' is not yet imminent. One wonders if a student, unfortunate enough not to have seen a case of primary syphilis, and without the benefit of lectures, will be able to recognize such a case for what it is (Melville 1954: 54).

1977

Venereal disease has been virtually ignored by medical schools throughout the world...The primary solution to inadequate medical information resides with the medical schools (Hart 1977: 170).

Previous chapters have examined GPs' practices, ideal and actual, in the areas of sexual history-taking, STI testing and screening, treatment, notification and contact tracing. Such practices are influenced by basic knowledge of STIs. In this chapter, the ways in which GPs acquire their knowledge of STIs is examined.

Although little is known of the place of STIs in the undergraduate medical curriculum over the last century, calls to improve the training of medical students in this area has

been a consistent feature in the literature (Holmes 1928; Cooper Booth 1929; Editorial, 1967; Hart 1977). This was despite concerns, in the late 1920s, that such training could place students at personal risk as the teaching of the physiology of sex itself could arouse students' sexual appetites. Evidence for this was to be found in Europe, where well-informed medical students were shown to have high rates of VD infection (Lewis 1998). As can be seen from one of the quotes above, the introduction of penicillin led to complacency about the need to educate medical students about VD, despite the concerns of some (Melville 1954). In 1967 the AMA Federal Co-ordinating Committee on the problem of VD in Australia recommended that a systematic course of lectures, laboratory and clinical experience in venereology be given to all medical undergraduates (Australian Medical Association 1967). It was, however, not until the 1970s that STIs were seriously re-instated into the undergraduate medical curriculum and the MSHC began to host lectures for 5th year medical students from Monash University. Subsequently these were offered to later year medical students from University of Melbourne (Lewis 1998).

Very little has been written about general practice post-graduate training in STIs historically. This is because general practice has only relatively recently become a specialist area of training. Until the 1930s, the majority of practising doctors were GPs, since even those who specialised in a particular field were essentially GPs with a special interest and extensive experience in a specific area (Pensabene 1980). After the 1930s, specialists were increasingly doctors with post-graduate qualifications from a specialist organization, whilst GPs were essentially doctors who had no specialist qualifications. In 1950 a Victorian GP, Joseph Collings, published a lengthy article in *The Lancet* which criticised the poor standards of general practice in the UK (Kamien 2001). This resulted in the establishment of an organization to set standards in general practice in the UK – the College of General Practitioners. The Victorian faculty of the Australian College of General Practitioners was established in 1956, and the Royal Australian College of General Practitioners was proclaimed as such in 1958 (Pensabene 1980). The Family Medicine program, commenced in 1974, was in recognition that a medical graduate required vocational training for independent practice (Kamien 2001). To train as a GP, a student must now complete the standard 6 years of undergraduate medical training, the last year of which in Victoria is spent in the hospital system. Following this, vocational training in general practice is an 'apprenticeship' which takes approximately two years. During this time GP trainees spend at least nine months completing further hospital training in addition to 12 months training in the general practice setting. They also continue to extend their knowledge by attending workshops, lectures, seminars and demonstrations (RACGP, 1999b).

After completion of training, a GP who is a member of the RACGP must continue to update his or her medical education by attending educational events, or achieving designated educational goals. This process of professional development is known as continuing medical education (CME) and is monitored by the College through the allocation of points. As described in Chapter 1, the originator of CME was the BMA, who held the first course for GPs in response to their requests for VD education following the proclamation of Victoria's VD Act in 1916. Once again, little has been published about the availability of CME in the area of STIs during the last century. That it was either infrequently available or infrequently utilised can be assumed from the consistent comments about GPs' poor STI knowledge (Arthur 1916; Cooper

Booth 1929; Editorial 1967). In 1967 the AMA recommended that the various postgraduate committees in medicine should offer 'refresher courses in venereal diseases in both metropolitan and country centres' (Australian Medical Association 1967: 24).

It has been acknowledged that a 'serious disjunction' exists at two places in general practice training – the first between the end of the undergraduate medical degree and the start of vocational training, and the second between the vocational training and continuing medical education. One of the recommendations from a recent review of general practice is the introduction of vertical integration – a linking of medical education from undergraduate education, through vocational training to professional development (Commonwealth of Australia 1998b). This concept was supported by key informants (KI 3:7; KI 9:26), one of whom stated:

Vertical integration is essential because little of medical school prepares you for medical practice (KI 4:11).

The same key informant continued on to comment about the problems of shifting teaching styles:

In the undergraduate years the teaching is didactic. In vocational training there is little teaching, but more self-directed learning based on reflection. In continuing medical education, the learning plan is entirely undirected. These teaching styles need to dovetail in order to allow people to move more easily between them, and to ensure the foundations that are assumed at each level are provided (KI 4:11).

While vertical integration should assist the GPs of the future to maintain their level of knowledge, among the GPs who are currently practicing in Victoria there is a wide variety of interest and expertise, particularly as many have moved to Victoria from interstate or overseas.

In this chapter, GP learning has been categorised into undergraduate, postgraduate (vocational) training and continuing medical education. Each of these has evolved in a disparate manner.

Basic undergraduate general practice education was developed largely independently by medical schools. It was only in 1985 that an accreditation committee for undergraduate medical education was established in Australia (Hamilton 1998). The Australian Medical Council (AMC) now has the responsibility for accrediting medical schools. It has designed a set of guidelines which emphasize the general principles regarded as essential requirements for basic medical education. The AMC does not define core curricula, set hours for individual subjects, or set specific skill lists. Medical schools are expected to define their own objectives which should be broadly consistent with those of the guidelines. Each medical school thus determines the

requirements of its graduating students (A.Walters, AMC, personal communication, 2000).

Therefore in reality there can be quite significant differences between the philosophy and approach of different medical schools. The medical school at Newcastle was established in 1973, and led many of the innovations subsequently adopted by other medical schools. These included an emphasis on communication skills, early clinical contact and a problem-based approach to learning (Hamilton 1998).

Vocational training for general practice was first introduced in the 1970s, but it was 1997 before the RACGP introduced a comprehensive core curriculum and began to develop the materials which would support it (Commonwealth of Australia 1998b).

In contrast to undergraduate and vocational training, continuing medical education in general practice has been offered by a variety of specialist organizations. One key informant explained that in the past, the RACGP was the major provider of continuing medical education, but with the introduction of Divisions of General Practice which have now made this an area of strength, the main role of the RACGP is now as an arbiter of standards (KI 4:9). Special interest groups or organizations usually offer continuing education in their areas of expertise - examples of organizations relevant to the area of sexual health for GPs are the Venereology Society of Victoria and the Family Planning Association of Victoria. Pharmaceutical companies frequently finance medical education seminars in order to use the opportunity to promote their latest drugs. The content of the education is not always necessarily biased in support of a specific pharmaceutical brand, but the participants would certainly be aware of the company's financial backing of the event.

As each of these aspects of GP training are so disparate, the espoused theory and theory-in-use will be described separately for each category.

Undergraduate medical education in STIs – espoused theory

The UK General Medical Council has acknowledged the impossibility of teaching medical students of today all of the knowledge and skills they will require during their professional careers. In 1993 they made nine recommendations for undergraduate medical education:

- a reduction in the burden of factual information necessary for students to know
- encouragement of learning through exploration
- development of proficiency in essential skills
- inculcation of appropriate attitudes
- integrated core curriculum
- special study modules
- communication skills
- public health medicine
- appropriate assessment

(Cowan et al 1996b: 6).

While similar recommendations have not yet been published by the Australian Medical Council, recent major changes, discussed below, in the length and timing of the medical degree in Australia will undoubtedly result in similar processes for streamlining medical teaching.

In Victoria, there is a variety of places in the undergraduate medical curriculum which may include some general discussion on STIs. Different aspects of STIs may be covered in different subjects, such as Immunology, Community Medicine and Obstetrics/Gynaecology. Different universities, however, may have very different approaches to teaching STIs. During GP Education Seminars held to disseminate the results of my past research, positive references were frequently made to the Human Sexuality Course for third year medical students at Monash University which covered every aspect of sexuality, sexual dysfunction and disease. It was held in a single two week period, allowing students to concentrate entirely on that subject matter. Unfortunately, to accommodate timetable changes, the structure of this course was altered in the early 1990s. In common with many other Australian universities, teaching of STIs and sexuality is now spread over several subjects and several semesters.

As there are no university departments devoted to the study of sexual health, departments of general practice have often taken responsibility for teaching the non-clinical aspects of sexual health, such as communication skills. Before 1990, the average time in the undergraduate curriculum which was devoted to general practice training was 3.5 weeks in a five or six year course (Commonwealth of Australia 1998b). Since then, general practice departments have secured considerably more teaching time, although this varies between universities. However, general practice departments frequently end up overseeing the teaching of subjects in which a number of departments have vested interest. Ethics is such a subject. So also is the topic of cancer, where :

You have the palliative care people, oncologists, and surgeons all with a major interest (KI 22:60).

Such topics must be taken on in addition to the not inconsiderable volume of teaching which has traditionally been the role of the general practice department. It seems hardly surprising that a topic such as STIs might find it difficult to compete for teaching time with other diseases seen as more common and life-threatening by the public.

Changing the volume or the balance of subjects taught in the medical degree can be very challenging. One of the major difficulties is that length of the training in medicine precludes the possibility of making major changes to the curricula frequently. The coursework is very heavy, and changes in one area can impact significantly on another. Major change can therefore only be made after careful planning, often over a long period of time. In 1999 the University of Melbourne introduced the first major overhaul to its undergraduate medical curriculum since the early 1980s (D Mead, Faculty of Medicine, University of Melbourne, personal communication, 2000). This has coincided with the adoption in other universities in Australia, of medical training as a post-graduate rather than an undergraduate course.

At the University of Melbourne, two-thirds of the medical students who commenced in 1999 are undergraduates, and a third will commence their medical studies halfway through 2000 as postgraduates. Monash University will continue to offer their medical degree to undergraduates, with a newly designed 5 year curriculum commencing in 2002 replacing the former 6 year curriculum previously offered (Monash University, Faculty of Medicine, personal communication, 2000).

For the last 5 years, all of the University of Melbourne and half of the Monash University 5th year medical undergraduates have attended the Melbourne Sexual Health Centre for a single training session. During this session, totalling 3.5 hours, students are allocated to a doctor on duty to enable them to sit in on consultations. However, not surprisingly, given the sensitive topic of the consultation, many patients may refuse to allow the student to sit in (KI 27:73). Students are also given a 'Show-Bag' which includes an article on chlamydia, a sheet on female genital examination, pamphlets on contact-tracing and notification, contact numbers for information on Hepatitis C, a booklet on genital herpes, an order form for the National Management Guidelines for STDs and Genital Infections, and a condom (T Schmidt, MSHC, personal communication, 2000). For many students, this may represent their major clinical training in STIs. Some universities aim to have had every medical student perform a sexual health examination on both a male and a female patient as part of their training. However, anecdotal information from GPs suggests that this is the exception rather than the rule.

The National Management Guidelines for STIs and Genital Infections or their predecessors have been distributed free of charge to final year medical students in Victoria since 1987, through government funding obtained by the Venereology Society of Victoria, or the National Venereology Council (Venereology Society of Victoria 1997). The importance of informing graduating medical students about STIs has therefore been recognised by at least some special interest groups. However, within the sexual health policy documents examined for this thesis, undergraduate medical students have not been identified in any way, suggesting they are not seen in general as a group which will be making a contribution to the control of STIs in Victoria.

Undergraduate medical education in STIs - theory-in-use

Although in recent years in Australia more time is allocated to general practice teaching in the undergraduate curriculum, there is little time to spend on diseases that are not commonly seen. Many Australian GPs have found aspects of their undergraduate training in sexual health and STIs to be inadequate (Temple-Smith et al 1996). This has also been reported commonly overseas (Leino and Ojanlatva 1994; Maheux et al 1995; Fredman et al 1989; Merrill et al 1990).

In general, in the literature, there are very few recent studies examining medical students' knowledge and attitudes to issues of sexual health. A number of US residency programs have attempted to introduce and/or evaluate a sexual history taking curriculum. Ross and Landis found that a pre-curriculum self-reported rate of 7% for sexual history taking increased to 36% after the educational intervention (Ross and Landis 1994). Farquhar et al found that when students were directed to take a

sexual history, performance was excellent, but if undirected to do so, even if a patient clearly displayed an HIV risk factor, sexual history taking performance was variable (Farquhar et al 1995).

There are problems in interpreting such data. The way in which many of these curricula have been presented, examined, and evaluated makes it difficult to judge their efficacy. Additionally, many courses have been offered to very small groups of residents, thus making the results even harder to generalise.

Interestingly, it has been observed that in British medical schools the amount of time devoted to STIs has diminished with the increasing numbers of AIDS cases, when there is more reason than ever to educate students about sexual health (Peters and Weber 1994). In addition, a decline in the clinical experience of medical students has been recorded in general in the UK and is believed to coincide with the introduction of health service reforms (McManus et al 1993). Given the absence of a common genitourinary medicine curriculum (which has traditionally covered STIs in the UK), it has been suggested that Genitourinary Medicine Departments should run optional courses for medical students so that at least a proportion of graduating students will understand about STIs (Cowan et al 1996b).

An important aspect in teaching about any infectious disease is that the doctor has a responsibility not only to the patient, but also to the wider public. While useful in theory, this can be difficult for some GPs to achieve when dealing with STIs. One key informant commented

It's true that GPs focus on the individual, and that in general the public health issues of (the patient's) disease are less important to the GP (KI 11:33).

Another, noting the dilemma between managing the patient as an individual and managing the disease or condition, pointed out that

While evidence for the population at large may say one thing, for a GP dealing with an individual it can be less clear (KI 9:26).

As stated in Chapter 6, GPs' performance of notification and contact tracing suggests that the issue of the GP's responsibilities to the individual's health versus their responsibilities to the community's health has not been comprehensively addressed in the undergraduate medical teaching of sexual health in Victoria. Indeed, it has been observed that although Australia is committed to the concept of primary health care, the adoption of such principles into medical curriculum has not been consistent across all medical schools (Shapiro and Shapiro 1995). This, however, does not appear to have been a topic of research in undergraduate medical education. It has also been suggested that our system of illness-based fee-for-service payment which focuses on the individual patient discourages public health thinking and practice by GPs, despite individual practitioner's interests in such activities (Clarke 1995).

No published research has examined Victorian medical students' satisfaction with their undergraduate studies in the area of sexual health. In my past research, during

discussions on sexual health issues in GP focus groups, participants frequently stated that their undergraduate medical education had not prepared them for sexual health consultations, in particular for sexual history taking:

Most medical students have had no exposure to sexual history taking. We sometimes have to say (to ourselves) 'Well, what's the worst thing that could happen if you ask this question?'

Participant, Focus Group 1, Study 1.

We had a purely microbiological approach (to STIs).

Obviously it hasn't been done (taught) properly. I recall one video as being vaguely helpful.

You need to know normal anatomy. I had a male (patient come in) with pearly papules. I thought it was warts! We don't get taught this – good general knowledge of anatomy and physiology (of genitalia). Or how to take a sexual history.

Participants, Focus Group 4, Study 1

Students don't practise taking a sexual history with real live people.

Participant, Focus Group 3, Study 1

As students, if a patient comes in with a pain we know exactly where to go, what to ask. In this day and age we need to work on a scheme for sexual history taking, which would need to be adapted depending on the patient. I don't think we've even begun to get a group of questions that it is possible to ask.

Participant, Focus Group 2, Study 1.

There is currently no standardised sexual health course or STI curriculum in Australian medical schools, although a collaborative project currently underway is developing a Women's Health Core Curriculum for use by all of the Australian Departments of Obstetrics and Gynaecology. In an (unpublished) survey I conducted in 1996, teaching staff of Victorian medical schools were asked about the amount of time devoted to various aspects of their teaching of sexual health and STIs, and their perceptions about whether this had changed over the preceding 5 years. A general criticism from almost all of the 10 respondents was the lack of co-ordination between departments and between clinical and non-clinical teaching. This is understandable

given that at one university, 13 subjects within 6 departments covered some aspects of sexual health and STIs.

The variation in GPs' STI knowledge and skills is not so surprising once it is known that one Victorian medical school devoted only half as much time to teaching sexual health as the other. Similar variations have been observed in the UK (Cowan et al 1996b), so that even GPs educated outside the state or outside Australia probably have very similar weaknesses in their STI knowledge.

One of the difficulties of teaching sexuality and sexual health is that in most medical schools, this topic of education has never found an institutional base, and thus does not have a 'turf and budget' of its own (Karlen and Moglia 1995). This is a serious concern in the teaching of this subject, not only because of STIs, but also because in our generally aging population, the importance of sexuality at every stage of life is now recognised.

It has been observed in the US that a major problem in tertiary education in general is the assumption that anyone appointed to academic staff can teach the correct information correctly and effectively. But as one KI stated:

During the clinical years, they (the medical students) are exposed to 'best practice' through quality assurance in the hospital system. However, if the clinicians who teach them at this time don't practice 'best practice' but rely on anecdotal information or the fact that things have always been done that way, then the students will not be exposed to 'best practice' (KI 3:6).

Another key informant gave an example of the extensive consequences of good teaching of the wrong information.

Many years ago in a (postgraduate) student project examining the quality of Pap smears a difference was observed between GPs who had attended the University of Melbourne and those who had attended Monash University. This difference was later found to be due to a single instructor who had advised GPs as undergraduates to take a Pap smear with the patient lying in a particular position (one not routinely recommended) (KI 4:11).

It has been observed that many staff feel underconfident or dislike their teaching duties, and some may even see them as punishment (Novack et al 1993). As a former member of staff of a medical school, I can confirm that this is certainly the case in some academic departments. Such an attitude is certainly not conducive to quality teaching.

The practice of inviting guest speakers to talk about specific issues outside the expertise of staff is common, particularly in areas such as STIs which are less commonly seen in medical practice. There are a number of difficulties with this

approach. Guest lecturers may only be given the barest outline of the content to be covered, and if these lecturers change from year to year it may result in little standardisation of knowledge for graduating students. At times it may also mean that a cluster of unrelated or barely related specialist lectures may be offered to students, who then may not have the benefit of acquiring such information in the most appropriate context. For example, one key informant observed that it would be of greater benefit to students if seminars on contact tracing were given towards the end of the undergraduate degree rather than near the beginning (KI 14: 39). If students learn about contact tracing when they have already had the experience of interviewing patients, they may understand more easily the sensitivity required in an interview where information on past sexual partners must be elicited. The timing of lectures may be a critical element for this particular issue.

One KI had noted how changes in social attitudes were helping in the teaching of sexual health:

Nowadays, education at school is more open about sexuality, which makes it much easier at university to discuss these matters. For the last 10 years or so, it seems to me that students have not felt uncomfortable talking about the body (KI 9:24).

The same KI made some other interesting observations about student attitudes and the fact that these are strongly influenced by the student's own cultural beliefs:

In the last 20 years there has been a big change in the demographics of the student population. There is now a much bigger ethnic mix and many more women medical undergraduates. Many Asian students are used to the didactic style of teaching and may be uncomfortable with our style. We often see a great change in the way they cope with this over the years. However there is frequently a very small but resilient core of extremely conservative students of non-English speaking background in each year (KI 9:24).

Summary of espoused theory of undergraduate STI

education :

With the exception of the VSOV guidelines, which have been distributed to them for several years, the importance of stimulating and maintaining the interest of undergraduate medical students in STIs appears to have been overlooked in the largely national policy documents.

Summary of theory-in-use of undergraduate education STI education:

Aspects of sexual health and STIs are covered by a number of different subjects run by different departments within the Victorian medical schools. Although GPs have expressed dissatisfaction with the STI knowledge they gained as medical students, no published Australian research has examined what undergraduate medical students actually learn about sexual health.

Contributing factors to the considerable variation in the levels of sexual health and STI knowledge of graduating medical students are: the lack of a standardised curriculum, the absence of a department wholly responsible for overseeing the teaching of sexual health and STIs, and the paucity of teaching staff with an interest in sexual health.

Postgraduate medical training in STIs – espoused theory

Vocational registration was first introduced by the Commonwealth Government in 1989, and following this only doctors trained and recognised as GPs, qualified for GP-level Medicare rebates under the Health Insurance Act (Commonwealth of Australia 1998b). Since November 1996, only registered GPs, specialists or doctors in a training program have been eligible to obtain a Medicare provider number (Commonwealth of Australia 1998b). General practice training is completed through an apprenticeship model and the existing curriculum is offered only as a guide. Formal assessment is completed by a written examination. The RACGP encourages public health activities as an integral part of general practice, for example, ‘through the delivery of illness prevention and health promotion messages, through practices and directly to patients during consultations, and through implementing evidence-based screening programs.’ (General Practice Strategy Review Group 1998: 87).

The State offices of the RACGP take responsibility for the design of the education program within their jurisdiction:

The State offices develop the education programs for registrars on an annual basis; they examine priorities and ask registrars what they feel they need (KI 1:1).

As has been seen in earlier chapters describing sexual history taking, STI screening, testing, treatment, notification and contact tracing, the RACGP Training Curriculum has appropriately and comprehensively included STIs in its Content for Teaching and Learning. From this it is clear that GP trainees are expected to have knowledge of each of these aspects of STI management and control. While the formal assessment of vocational training is by written examination only, for 5 content areas, one of which is Women’s Health, particular suggestions regarding feedback and assessment are made. Thus it is suggested that each registrar be assessed on their ability to:

- competently perform a Pap smear and pelvic examination, demonstrating appropriate communication skills
- investigate and manage STI's (sic) and vaginal discharge
- communicate sensitively with women about sexual issues and violence
- discuss contraception options with a patient and educate a woman about commencing an oral contraceptive pill
- manage shared antenatal care
- counsel a woman about an unwanted pregnancy
- other procedures listed in the Companion (RACGP 1999a: 4-93).

These 'other procedures' relevant to Women's Health which are listed as Essential Procedural Skills are vaginal swabs for a variety of STIs. It is recommended that all registrars should have achieved competence in these skills by the end of their training (RACGP 1997c: 24). For each item on this list, registrars are asked to write the date on which they performed the skill under one of three headings - 'not confident', 'confident supervised' or 'confident unsupervised'. When the procedure is next performed the date and level of confidence is again recorded, allowing registrars to reflect on their progress. The intention is presumably that registrars will continue to practise performing these skills until they feel completely competent. This is a good idea in principle, but such skill acquisition is not ever objectively assessed; indeed in the worst case scenario an irresponsible or disinterested registrar could complete vocational training without ever having attempted any of these procedures.

Apart from the RACGP Training Curriculum, the policy documents examined for this thesis made no specific mention of vocational training for GPs.

Postgraduate medical training in STIs – theory-in-use

No published research has examined the efficacy of vocational training for general practice in the area of sexual health.

One key informant offered further insight into vocational training. Although it is the registrar's responsibility to 'learn what they need to know' (KI 1:1), the advancement of learning for GP registrars is to some extent limited by the general practices in which they are placed. As the key informant stated:

.. if their patient profile is elderly, they (the registrars) are most likely to learn about the health of the elderly (KI 1:1).

If, then, the practice has an extremely low STI caseload, it is unlikely that the registrar will pursue additional learning in this area. For example, issues such as notification and contact tracing may arise when trainees are on placement in general practice. However, the importance placed on these activities is likely to vary between supervising practitioners, and these views may well be passed onto the registrars they are supervising. So in addition to the absence of or limited acquisition of sexual health procedural skills mentioned earlier, trainees in practices with low STI caseloads are unlikely to acquire new sexual health knowledge or even reinforce what was learned at the undergraduate level.

In addition, the vocational training program offers new stresses for registrars:

In a hospital, an inexperienced doctor has more access to other medical advice, and has access to the patient for a longer period of time. In general practice, the doctor only has 15 minutes to 'solve' the patient's presenting complaint (KI 1:2).

Nevertheless, one key informant believed that GP trainees still are

probably largely influenced by the consultants...there is an expectation that they will appraise the literature, but they are often given that literature, I don't think they search for it themselves (KI 9:23).

So are GP trainees taught 'best practice' in sexual health? In addition to the limited time available to spend with the patient, there appears to be a greater emphasis on time rather than skill in the training program:

The Log Book is an example of this – how the registrar must document not their level of competence but the times and dates of each of their terms (units of time spent in a particular setting) (KI 1:3).

Assessment of vocational training is by examination only, and so no check is made on whether trainees have achieved competence in procedural skills. Although the Essential Procedural Skills Checklist is provided in the Companion:

....it is not compulsory to have completed them. Even if there were some way to make these compulsory, the difficulty is that the medical supervisors and educators don't see their role as assessors (KI 1:3).

One key informant summed up this problem:

Most students have had experience with vaginal examinations when they graduate... but postgraduate experience is really important in determining how well they handle it in general practice (KI 9:25).

One key informant commented on the difficulties experienced by trainees:

You can't expect GPs to do everything well, but there is a pressure to do this, especially with vocational registration. Don't mind the quality – feel the breadth of the things we do.

Summary of espoused theory of postgraduate STI

education:

The fact that, in common with undergraduate training, postgraduate training is not considered in the policy and stakeholder documents suggests that sexual health education at these levels is assumed to be of an adequate and standardised quality. Alternatively, the importance of early training in the medical workforce may have been overlooked.

Sexual health is an infrequent topic of consultation for many GPs. It would appear that references to STIs are appropriately featured in the RACGP training curriculum given the current average STI caseload, although there is evidence to suggest that there are increasing numbers of sexual health consultations in general practice. While it is clear that there is an expectation that GPs will complete their vocational training with a standardised level of sexual health knowledge, there is currently no way of ensuring that every trainee receives an equivalent baseline experience in sexual health.

Summary of theory-in-use of postgraduate STI education :

While the key informants comments offered some insight into the RACGP training program, there is virtually no published information to determine the success of otherwise of vocational training in the area of sexual health. Given that the written curriculum has only recently been introduced, it would seem to be a natural progression that within the next few years attention will be paid to ensuring that trainees are made aware of the limitations of their training.

Continuing medical education in STIs - espoused theory

The first National HIV/AIDS Strategy noted that many professional care-givers were inadequately trained to offer the emotional support necessary for people with HIV and their families. It suggested the need for professional education in four areas:

- basic education about HIV and its transmission
- training to enable professional care-givers to act as community educators
- education specific to the workplace setting
- professional update (Commonwealth of Australia 1989: 35).

The second National HIV/AIDS Strategy stated that training for health care workers would continue to be a priority, and that this would be developed in consultation and collaboration with relevant bodies, including the RACGP (Commonwealth of Australia 1993). The participation of GPs in the early treatment and care of people with HIV was observed to have increased significantly over the period of the first Strategy. Also observed was the fact that barriers to GP involvement in HIV medicine

continued to exist. The third Strategy placed HIV/AIDS within a broader communicable diseases context (Commonwealth of Australia 1996). The ongoing need to educate and train sexual health care workers (page 46), the states and territories' responsibility for the provision of workforce training (page 31), and the need for HIV guidelines in primary care management were noted (page 54,55,57). The fourth Strategy noted the importance of keeping GPs informed about psychosocial and clinical markers which might suggest a patient' sexual behaviour had placed them at risk of HIV/AIDS (Commonwealth Department of Health and Aged Care 2000).

The National Indigenous Australians' Sexual Health Strategy noted that health professionals working in Aboriginal community-controlled health services require training to effectively manage the sexual health of their patients (ANCARD Working Party on Indigenous Australians' Sexual Health 1997). The report recommends such education be developed by indigenous training institutions and health organizations in collaboration with relevant bodies, such as the RACGP, Australian College of Sexual Health Physicians and the Australian Nursing Federation (page 93).

For many GPs, who have not attended continuing education in the area of HIV/AIDS, the National Management Guidelines for STDs and Genital Infections may provide their only reference source (Venereology Society of Victoria 1997). The Contact Tracing Manual (Sydney Sexual Health Centre et al 1998) and a number of other publications from the Australian Society for HIV Medicine have also been made available to members of this society, who have a declared interest in this area.

Education research has demonstrated that quality assurance and continuing education activities can improve GPs' knowledge and practice and benefit patient health outcomes (Spike, internet RACGP, 1999). As one key informant stated:

CME can update or upskill GPs who didn't have the opportunity to study various topics or techniques as undergraduates (KI 3:7).

A number of opportunities for continuing medical education exist for Victorian GPs who have an interest in the area of STIs. These range from seminars or information evenings to full-time diploma courses. There appear to be few opportunities for rural GPs to update their knowledge. The majority of the following courses and seminars are held only in Melbourne, or require participants' attendance at coursework in Melbourne at some stage.

- Diploma of Venereology

The Diploma of Venereology is offered through the Melbourne Sexual Health Centre. It was established in 1989 at Monash University, and attracts several students each year. In 1997 the course was transferred to the Melbourne Sexual Health Centre. Since its establishment, more than a dozen students have completed the Diploma, some from interstate.

- Diploma of Obstetrics and Gynaecology

This course is offered by the Royal Australian and New Zealand College of Obstetrics and Gynaecology (RANZCOG), and is completed by 200-250 GPs

each year. An advanced course is also offered for those who wish to practice independently of an obstetrician in rural areas. This course includes STIs in women.

- HIV and Hepatitis C GP Education Program
Several short courses are offered in both Melbourne and rural Victoria each year. These attract around 10-15 participants on each occasion (Graeme Clark, GP Education Program, Personal Communication, 1998).
- The Family Planning Association of Victoria holds two training courses annually each for 20 GP participants on sexual health (Louise Marson, FPV, Personal Communication, 1998).
- A seminar update on STIs has been held by the Royal Australian College of General Practitioners and the Venereology Society of Victoria (VSOV) annually for most of the last seven or eight years.
- The Venereology Society of Victoria holds several STI-related seminars each year.
- Drug companies which market the drugs most often used to treat STIs hold educational seminars for GPs, where current research and information about the appropriate treatment is presented by a leading clinician, often from overseas, in a specific area. The mailing list advertising such drug company funded evenings, however, is usually limited to those who have previously expressed an interest in STIs, through membership of organizations such as the Venereology Society of Victoria.
- At the most basic level, the RACGP has been offering the 'Check' program (Continuous Home Evaluation of Clinical Knowledge) since 1972 (Commonwealth of Australia 1998b). This journal is issued monthly, with each unit examining a different topic. Specialists or GPs with a particular expertise provide case histories, and the reader is required to make a diagnosis and offer case management before reading the correct answers. In July 1996, for example, a unit on Infectious Diseases included some questions relating to STIs.
- There are a number of sources of information for GPs about how to take a sexual history. While some of these are in books which may not be readily available to GPs, many appear in journals which are accessible to GPs, such as the Australian family Physician.
- The RACGP offers a QA and CE program which is compulsory for members, but open to non-members who pay an administration fee. Participating GPs must earn 130 points for each three year period. At least 20 of these points must be awarded for a clinical audit – activities where a GP reviews aspects of his or her own performance with the aim of improving patient care. Requirements are the same for both full-time and part-time GPs. GPs are able to earn points for a wide variety of activities such as:

- individual CME (clinical attachments, diploma/certificate studies, university courses, conferences, seminars, workshops, portfolio-based learning)
 - medical media (medical journals, distance learning packages, CD-ROMs, clinical education software programs)
 - professional development (education in non-clinical subjects such as training in computer packages, research skills, medico-legal skills, and teaching to medical students and GP trainees, writing articles)
- (RACGP 1999c).

CME activities are generally designed by organizations external to the RACGP, which then apply to the RACGP for approval for participants to earn CME points.

Other programs for CME based on incentives are available to GPs. One such program is the Practice Incentives Program (PIP), which aims to 'compensate for the limitations of fee-for-service arrangements' which rewards GPs for a high throughput of patients (Practice Incentives Program, page 3). PIP payments are intended to reduce the pressure to see more patients, and therefore to promote quality care. Currently, GPs can apply to be rewarded for ensuring provision for after hours care, for providing a rural service, for teaching medical students, and for using information technology. In addition a number of targeted incentives are offered. One of these is participation in a program operated by the National Prescribing Service which aims to improve health outcomes through appropriate and cost-effective prescribing of medicine. A general practice completing at least three proscribed activities per full-time GP per year is eligible to receive \$1000 per practitioner. The number of CME opportunities relating to STIs is small all throughout Australia. Of 548 CME activities currently on offer in the various states of Australia, only 27 have 'sexual health' or 'STI' in the title (RACGP, personal communication, 2000). Of course, STIs may well be covered in CME with less specific titles, such as 'Women's Health'.

The General Practice Immunisation Incentives Scheme provides a financial incentive to GPs who promote and provide immunisation to children under seven in their practices (Immunise Australia Program). GPs receive \$118.50 for each child who has completed their immunisation schedule, and a further payment is made for achieving immunisation in a certain proportion of children within the practice. Given the success of this program, it is of interest that only one key informant commented, in relation to improving STI control in general practice:

You can improve best practice by offering more money (KI 11:32).

Two specific examples of CME in sexual health are the following. A typical medical media continuing education activity is a quiz for readers which followed an article on the National Management Guidelines for STDs and Genital Infections, which appeared in an edition of 'Rural Practice' (Editorial 1997). Readers were able to earn 1 CME point by completing the quiz which asked questions on the diagnosis and

management of STIs. The editors of the publication subsequently reported that 28 GPs completed the quiz, 10 of whom scored 100%. One GP failed, and the overall average score was 76% (Storrie, Rural Practice, personal communication, 1998). Interestingly, two of the questions were answered consistently incorrectly by many of the participants, indicating common gaps in participants' knowledge of STIs. Unfortunately, these types of quizzes do not offer the opportunity of correcting such misperceptions.

A clinical audit for sexual health has been offered for the first time to GPs by Med-E-Serv, a company providing continuing medical education. The audit aims to improve GPs' performance in identifying and counselling patients at risk of STDs and related diseases by collecting data from their practice for comparison with standards deemed to be best practice (RACGP 1999c). Few GPs expressed an interest in this course (RACGP, Personal Communication, 2000).

Continuing medical education in STIs - theory-in-use

What do practising Victorian GPs actually know about STIs? The key informants for this thesis offered a variety of views:

Many GPs seem to have a lack of specific knowledge about STIs (KI 8:21).

STIs vary from place to place.....there's not much chlamydia here, we're pretty clean living down here (KI 15:43).

I have heard many negative stories about patients being given misleading and incorrect information...patients who have been told by their GP that they have herpes and that they should never have sex again.... I've been told by young women patients that their doctor told them they will never be able to get pregnant, without the doctor having done any investigations (KI 8:21).

I have clients coming to me saying 'I went to a GP, then got a second opinion from another. Now I get here and find all the information they gave me is wrong' (KI 7: 20).

...the doctor stated that genital warts were so infectious that it could be transmitted by touching 'infected' bench tops and utensils (KI 7:19).

A number of surveys of STI-related knowledge, attitudes, behaviour and practices (KABP) of GPs have been conducted overseas (Driscoll et al 1986; Lewis and Montgomery 1990; Boekeloo et al 1991; McDougall et al 1992). Indeed, one study

identified that continuing education about sexuality and STIs is desired by GPs (Leino and Ojanlatva 1994).

Within Australia, however, very little research has examined GPs' STI knowledge and practices. Of the few studies which have been conducted, most have focused on HIV/AIDS. Early studies of GPs' KABP in relation to HIV positive patients identified a range of research and practice issues (Paine and Briggs 1988; Commonwealth AIDS Research Grant Committee Working Party 1990). More recent studies have examined the level of GPs' involvement with the management of patients with HIV/AIDS rather than level of knowledge (Mulvey and Temple-Smith 1997), (Kirkman et al 1999a, 1999b).

While there is limited information available about GP's STI knowledge more generally, the research which has been conducted in this area has identified a number of issues which could be taken up in CME programs. For example, the findings that 5-10% of Australian GPs have never treated an HIV positive patient because of concerns about the reactions of other patients or the safety of their staff or themselves (Kirkman et al 1999a) could be addressed by CME. Indeed, small group educational sessions about HIV/AIDS, facilitated by a trained peer, were offered to over 1,000 South Australian GPs. Although barely 20% of GPs participated, there were sustained improvements in self-reported STI knowledge and practices (Steven and Montanaro 1996). The findings from our large scale survey of Victorian GPs, discussed in some detail in the preceding chapters, indicated specific gaps in GPs' STI knowledge, many of which would be easily overcome through CME. These included sexual history taking, STI testing, STI treatment, notification, and contact tracing as well as specific information on the asymptomatic presentations of STIs, particularly in men (Mulvey et al 1997).

In general, key informants believed that very little CME on the topic of sexual health was offered in Victoria. Several GP key informants who stated they had a low STD caseload could not recall ever seeing any CME on sexual health offered in the last 3 years, although this may reflect their lack of interest in the topic. Other key informants noted that the sexual health CME that was held, was not well-attended.

It is usually a case of preaching to the converted – getting together with a small network of people who have something in common – an interest in sex and health, and are determined not to miss anything new. Those who might benefit from it don't come (KI 19:53).

While CME sessions are often evaluated by the attendee, evaluation of what the participant has learnt is less common:

CME points encourage the GP to have CME and hopefully GPs will do this in an area where they need to strengthen their own learning. However there is no mechanism to ensure that GPs keep up to date in any area of practice, which is

really the same in many areas of employment. GPs are not best practice on anything really, because they are generalists (KI 11:31).

Evidence from a single study has provided a warning that GPs may not be the best judges of their own educational needs. A study of 60 GPs in New Zealand found that they were unable to accurately assess their own knowledge, leading the authors to conclude that CME programs relying on the GPs' own perceptions to assess their needs were likely to be flawed (Tracey 1997). This study suggests the need for further research to demonstrate how best to determine GPs' educational needs.

During key informant interviews and focus groups I found that GPs themselves, if given the opportunity, were easily able to both *identify* and *solve* many of their own problems in relation to sexual health consultations:

We have no problem solving approach to deal with sexual issues. If we had protocols it would make it easier.

Participant, Focus Group 2, Project 1.

GPs don't often do contact tracing, you need scripts for GPs to use to prompt them about this.

Participant, Focus Group 1, Project 3.

It is important to build into your practice a strategy for taking a sexual history. With women it's easy to say, each woman who comes in for a Pap smear, I'll take a sexual history. It's harder for men.

Participant, Focus Group 1, Project 1.

Personal experience alters the way you ask questions. I ask with more depth and consideration now I've had experience.

Participant, Focus Group 2, Project 1.

..... I'd like to sit in and see someone do it well.

I've done that, it gave me the words, it's about having the confidence.

Participants, Focus Group 1, Project 3.

You don't get GPs to events about contact tracing, so you want to drop all of this stuff into a day about gynaecology, or 'News in General Practice'.

Participants, Focus Group 1, Project 3.

Yet, discussion with one key informant showed that in a Divisional survey of GP members offering forty or so topics for future CME, not one encompassed any aspect of sexual health, despite the fact that an earlier survey had identified 93% of GPs as stating they had an interest in women's health (KI 25:68).

Another KI commented:

...sadly there are often issues other than the need to learn which attracts GPs to CME – things such as the meal and the venue can be drawcards (KI 24:65).

Summary of espoused theory of continuing medical education in STIs:

Both the HIV/AIDS Strategies and the National Indigenous Australians' Sexual Health Strategy acknowledged the importance of, and continuing need for, skilled sexual health practitioners, and made recommendations for training. A variety of STI-related courses and seminars are available but these target GPs with a special interest in sexual health. There is very little, if any, CME which is marketed appropriately for GPs with a low sexual health caseload.

Summary of theory-in-use of continuing medical education in STIs:

Research has demonstrated that there are a number of areas where GPs could benefit from improved knowledge in relation to STIs. Reports from key informants and focus group participants confirm that GPs have a number of specific needs in terms of CME. There is a need for the development of innovative techniques in continuing education to attract and sustain GPs' interest in STIs.

Table 7.1 summarises the main features of the espoused theory and the theory-in-use for the acquisition of STI knowledge.

Table 7.1 Main features of espoused theory and theory-in-use of acquisition of STI knowledge

Espoused theory	Theory-in-use
<ul style="list-style-type: none"> • Policy documents do not discuss undergraduate medical training 	<ul style="list-style-type: none"> • No research on medical students' knowledge of STIs • Factors contributing to perceived variability in STI knowledge are a lack of standardised STI curriculum, absence of a university department wholly responsible for teaching STIs, and few academic staff with an interest in STIs
<ul style="list-style-type: none"> • Postgraduate STI education not discussed in policy documents • RACGP training curriculum includes STIs • No way to ensure all trainees receive equivalent baseline experience with STIs 	<ul style="list-style-type: none"> • No research to determine success of STI training at postgraduate level
<ul style="list-style-type: none"> • Policy documents acknowledge importance and need to educate GPs in STIs • Little CME targeted to GPs with a low sexual health caseload 	<ul style="list-style-type: none"> • Research has demonstrated many of the weaknesses in GPs' STI knowledge and practices • Need for innovative techniques to attract and sustain GPs' interests in STI CME

Issues arising from the comparison of espoused theory with theory-in-use:

It seems apparent from comments made during focus groups and by key informants that many GPs remember very little of their undergraduate education in the area of sexual health. It is possible that this topic is covered at a time when it has little relevance to the patients the medical students are seeing.

It is quite likely that the assumption has been made by policy makers that all graduating medical students have much the same basic knowledge about most areas of medicine. While acknowledgement is made that some GPs require professional updates about STIs, no mention is made in policy documents of ensuring that medical students graduate with appropriate levels of knowledge or expertise in this field. Yet these early years are the ones in which a great impact can be made, particularly given that the age of the majority of medical students coincides with the burgeoning interest in sex generally demonstrated by most young adults.

Overall it is clear that the lack of a common core curriculum for STIs or even sexual and reproductive health more generally, has contributed to the divergent levels of sexual health knowledge and competence in related skills seen in Victorian GPs. Not all undergraduate medical students in Victoria attend the Melbourne Sexual Health Centre, and those that do may not have the opportunity to sit in on a consultation. The teaching of STIs varies quite markedly between the universities, and is notable for the large number of departments which have something to contribute to the topic. The establishment of a committee of stakeholders with an interest in STIs and sexual health which could oversee the development of a common core curriculum would be of great benefit. There is, however, a need for a single departmental or institutional base with a specific interest in sexual health to oversee the contribution of STI teaching from relevant departments, and to ensure that lecturers are appropriately qualified to teach this material.

While the RACGP curriculum is reasonably comprehensive in relation to STIs, acquisition of sexual health knowledge is more likely to be dependent on the sexual health caseloads of the practices in which trainees are placed than on its coverage in the curriculum. Similarly, observing that their mentors always use best practice when dealing with sexual health issues is far more likely to have an impact on the trainees' own future practice than simply reading about best practice. The fact that trainees are not required to demonstrate competence in procedural skills, including the taking of cervical swabs, minimises the importance of sexual health investigations to trainees.

If the trainee does see an STI and treats it presumptively, or if the first few cases they test are negative, then even the Fact Sheet, routinely sent out after a GP has made an STI notification, will not reach them. This may result in a GP trainee who, as an undergraduate, did not attend the Melbourne Sexual Health Centre, or was unable to sit in on a consultation there, feeling very cautious of or even avoiding the possibility of a sexual health consultation. Such a scenario endorses the need for vertical integration of STI teaching. A committee with representatives from undergraduate, vocational and continuing medical education could examine the areas of highest need in relation to STI teaching, and ensure that opportunities for GP trainees and GPs to upgrade their knowledge in this area are offered. One key informant felt the teaching styles used at the different levels was an important issue in vertical integration:

The teaching styles need to dovetail to allow people to move more easily between them, and to ensure that the foundations assumed at each level are provided (KI 4:11).

Given that the majority of GPs do not have a special interest in sexual health, and that STIs are seen infrequently in the majority of general practices it is no surprise that GPs find it difficult to keep up with the latest advances in diagnosis and treatment of STIs. Even more importantly for such GPs, opportunities for practicing the difficult skill of sexual history are diminished, resulting in a downward spiral of decreasing knowledge and confidence.

Policy and stakeholder documents examined for this thesis acknowledged the need to upskill GPs in the specific aspects of sexual health. Research into Victorian GPs'

knowledge of STIs has identified specific gaps which could be easily addressed by CME, yet opportunities for CME in the area of STIs currently offered are limited to those which are relevant for GPs with a special interest in sexual health. There is a clear need for the development of innovative CME, which is aimed at the GP with a low STI caseload. Such GPs may not even have recognised that the acquisition of such skills could be beneficial for their practice. Rather than attempting to attract GPs to what may be seen as 'unpopular' CME topics, it may mean that sexual health issues have to be embedded in other topics of more general educational interest, such as women's health, and men's health.

Summary of needs identified in this chapter

- ◆ The establishment of a committee with representatives from the medical schools, the Australian College of Sexual Health Physicians, RACGP, and the Australian and New Zealand College of Obstetricians and Gynaecologists to develop a common sexual health curriculum for introduction to medical schools.
- ◆ Management of STI curriculum by a single departmental or institutional base.
- ◆ The establishment of a committee with representatives from the medical schools, the Australian College of Sexual Health Physicians, RACGP, Australian and New Zealand College of Obstetricians and Gynaecologists, and the Divisions of General Practice to oversee the vertical integration of STIs into undergraduate, postgraduate and continuing medical education.
- ◆ Development of innovative CME programs to encourage the attendance of GPs who may not have recognised the importance of such knowledge to their practice.

Chapter 8

Discussion:

STI control in general practice

Introduction

1995

GPs play a significant role in STD surveillance and management. It has been recognised for many years that there are inadequacies in the manner in which this service is delivered and recorded (Dunne et al 1995:71).

1996

Some doctors and patients fail to consider chlamydia as an important STD...this may reflect a poor knowledge of chlamydia infection and its sequelae (Thompson et al 1996: 175).

1996

HIV infection has been recognised relatively recently with many doctors graduating before it became important in clinical practice. This has led to concern that GPs may not be fully aware of the important issues in its recognition and management (Steven and Montanaro 1996: 130).

1997

Research continues to document that patients generally find it difficult to talk to doctors about sexual health issues (Hays et al 1997: 120).

1998

Some patients attending GPs with a suspected STD may have the diagnosis delayed and once a diagnosis is made, contacts are less likely to be seen and treated (Marks et al 1998: 31).

The preceding five chapters have examined different aspects of STI control from the general practice perspective. Each chapter opened with a series of quotes which demonstrated that these aspects have been seen to be of concern over the course of the last century. The quotes above illustrate that these issues have continued to draw comment in the literature in recent years.

Comparison of GPs' ideal practice with their real practice resulted in the identification of a number of needs which were summarised on the final pages of each of Chapters 3-7. In order to ensure these needs accurately reflected the current shortcomings in STI control in general practice, they were re-worded and offered for comment as a series of recommendations to 33 key informants, including 20 whose primary employment was as a GP. Characteristics of the key informants are described in Chapter 2, and outlined in Table 2.4.

Seeking the opinion of key informants on each individual recommendation would have provided only minimal information about the ways in which they could be implemented. The recommendations were therefore summarised and grouped into four clusters which examined specific tools to assist GPs in particular aspects of consultations involving sexual issues, as well as strategies for improving STI control on a population basis :

- **Education**

Three recommendations covered aspects of undergraduate, postgraduate and continuing medical education.

- **Specific aids**

Five suggestions which would assist GPs in a very practical way with STI control were offered.

- **Establishment of a single institutional base**

The recommendations arising from several of the chapters could be addressed either through the establishment of an institution dedicated to sexual health, or by extending the functions of an existing institution to fulfill a broader range of responsibilities.

- **Innovative strategies**

Two recommendations suggested ways for GPs with little or no STI caseload to augment the sexual health aspect of their practice through the use of health practitioners with expertise in this area.

The proposed recommendations were assembled into a four page document which included a brief preamble and details concerning how the interview would be conducted (Appendix 5). Although the term 'sexually transmissible infection' (STI) has been used throughout this thesis, the term 'sexually transmitted disease' (STD) was used in the recommendations offered to key informants, as this term was more familiar to GPs. For the final recommendations, to be consistent with the literature, the term 'STI' has been substituted.

Proposed recommendations are shown in Table 8.1. Key informants were asked to comment on the usefulness of the recommendations, their practicality and whether they are likely to be effective (Appendix 2). They were also asked to comment on whether the introduction of these recommendations would be acceptable to GPs.

Each proposed recommendation appears individually below in italics, and is followed by a discussion of key informants' views. Based on the key informants' comments, some recommendations were subsequently modified. The final version of each appears at the end of the discussion on the recommendation. The entire list of final recommendations is shown at the end of the chapter in Table 8.2.

Table 8.1 Proposed recommendations arising from the study which were offered to key informants for comment

EDUCATION	
1.	There is a need for a common undergraduate STD curriculum . This should be developed in collaboration with expert groups such as the Australian College of Sexual Health Physicians, the RACGP, and the Australian and New Zealand College of Obstetricians and Gynaecologists as well as relevant university departments.
2.	A committee with representatives of these groups and the Divisions of General Practice should be established, to assist in the vertical integration of undergraduate, vocational and continuing medical education . This will ensure that GPs are offered professional development in the areas of identified need in sexual health.
3.	In recent years little CME in the area of STDs has been offered and what has been offered has not been well attended. Almost all general practices offer some opportunities to assess patients for STD risk. The development of innovative CME

programs to attract GPs who may not have recognised the need for such skills in their practices would be beneficial.

SPECIFIC AIDS

1. **Dialogue or cue sheets** should be designed to assist GPs who see STDs infrequently. They would provide a series of appropriate questions to assist GPs in taking a sexual history.
2. **Posters, signs and pamphlets** stating that the GP is comfortable discussing sexual health issues would create an environment that may encourage patients to initiate such discussion.
3. The inclusion of sexual history questions on the **RACGP Health Summary Sheets and Patient Practice Prevention Questionnaires** would remind GPs of the importance of a sexual history to the patient's overall health.
4. The introduction of a **problem based STD testing kit** would relieve GPs of the need to keep up-to-date with rapidly changing tests. Such a kit would contain instructions and all the testing equipment necessary for laboratory confirmation of STDs. GPs would be instructed to use particular combinations of tests according to whether the patient had symptoms of, for example, "vaginal discharge", "genital ulcer", "genital lump".
5. Australian research on **patients' views** is needed. This will identify how best to make patients feel comfortable enough to initiate discussion of sexual concerns, as well as the way in which they prefer to hear a GP ask questions of a sexual nature.

CO-ORDINATION OF STD CONTROL IN VICTORIA

1. Many of the needs identified in this project have arisen because of the lack of a single institutional base which co-ordinates all of the different aspects of STD control, and which has a general practice perspective. Such an institution would need to:
 - have a strong clinical focus on STDs
 - auspice steering committees to oversee medical and nursing STD education
 - provide outreach services to GPs, as well as the community
 - contribute to STD policy e.g. advise on the percentage of patients of specific age on whom an assessment of STD risk should be made
 - develop or endorse specific recommendations on issues such as notification, contact tracing, presumptive treatment and asymptomatic testing. This would include positive feedback for GPs who notify, and refer patients on for contact tracing
 - oversee or advise on the dissemination of regularly updated STD related policy documents to both graduating medical students and GPs

INNOVATIVE STRATEGIES FOR STD CONTROL IN GENERAL PRACTICE

My research has identified two key strategies to improve the way in which STDs are controlled in the general practice setting.

1. GPs who genuinely have no interest or skill in the area of sexual health should be encouraged to refer a patient on to a GP colleague with a special interest in sexual health. This practice is not uncommon for other areas requiring specific skills, such as management of drug and alcohol use, sports injury and the area of mental health. To deflect GPs' concerns about patient poaching, a collegiate support network should be fostered within the Divisions of General Practice.
2. GPs should use the services of a visiting sexual health nurse practitioner to augment their practice as needed. The visiting sexual health nurse practitioner, who could be part of an outreach program (based at the institution described above) could see patients in the GP's own practice for sexual health checks and Pap smears. This nurse practitioner could complete the time-consuming aspects of a sexual health examination. All pathology requests, test results and treatments would be seen by the GP and kept as part of the patient's records held by the GP. The visiting sexual health nurse practitioner could also assist with contact tracing, notification, and keeping the practice up to date with developments in sexual health. He or she could also be used as a sexual health educator in the local community, acknowledging the GP from which he or she works as the homebase in that locality.

Education - Proposed Recommendation 1

- *There is a need for a **common undergraduate STD curriculum**. This should be developed in collaboration with expert groups such as the Australian College of Sexual Health Physicians, the RACGP, and the Australian and New Zealand College of Obstetricians and Gynaecologists as well as relevant university departments.*

There was considerable support for the development of a common undergraduate curriculum for STIs from both key informants with an interest in sexual health, and those who were GPs with no special interest in STIs. One key informant pointed out that during the undergraduate years, students might get a rundown on individual STIs, but

The public health issues (for STIs) are also important and not generally well-covered (KI 20:56).

While some key informants observed that different STIs were common in different parts of Australia, and that these could alter the emphasis given to certain aspects of STI teaching in those geographic regions, in general a basic core curriculum would be helpful. Several noted that a precedent had been set for such a common curriculum with the development of common undergraduate courses in paediatrics and women's health currently underway. STIs were seen as an appropriate topic in the problem-based curriculum which is now offered in medical schools. The need for ownership of the course was stressed, and it was suggested that highly motivated university staff would be essential (KI 18:50), particularly given the level of competition for teaching time in the undergraduate years (KI 19:53) and the vested interests of many departments in the subject matter (KI 22:60).

Key informants observed that an STI curriculum should be integrated into general sexual health teaching (KI 17:48), as

The nature of undergraduate medicine has shifted remarkably in the last few years, so this is a good time to try to rethink our approach to sexual health (KI 16:46).

Specific issues which were highlighted by key informants included the current fragmentation of STI training, some of which appeared to be based on poor communication between teacher and teacher and teacher and student.

Current STI training is very fragmented. There is a lot of criticism, particularly about the final year – they forget about teaching them ordinary stuff. They are seeing complex medical problems rather than community-based medicine (KI 32:85).

One of the biggest single issues for GPs to overcome is the notion of sexual diversity – our experiences with practitioners showed that they are really often uncomfortable about their own and other people's sexuality (KI 30:81).

Terminology is also something to take into consideration, because there is not always a shared understanding of what sexual health means. While some agree it is an important topic, when it is broken down into its component parts, they are not always so enthusiastic (KI 31:83).

Traditionally STIs have been taught as part of Obstetrics and Gynaecology but the disadvantage there is that it moves it away from male STIs (KI 43:108).

For ages I didn't understand how to interpret results in high and low risk populations and the importance of a false negative and a false positive. The trouble is that medical students are not taught to inquire about the validity of tests. There is very didactic teaching in this area. Without some training in public health or statistics, GPs wouldn't think of asking the question 'How valid are these tests?' (KI 39:101)

A common theme, however, was the need for more clinical experience.

The clinic side of things is what makes an impact, not the lectures (KI 35:91).

Clinical visits should be compulsory (KI 39:100).

The visits to MSHC were fantastic. I learnt a lot, but we could have done with more, especially at a later stage of the undergraduate course (KI 36:93).

Specific advantages of a core curriculum common to a number of universities included the possibilities for shared materials, particularly in the development of information technology (KI 22:60). However, one key informant pointed out that

A more practical approach would be to offer essential core requirements, and let each university write their own curriculum. Core principles are really much more manageable than a core curriculum (KI 50:121).

Outcome:

There was a consensus among informants that common undergraduate learning would be of value. The recommendation was modified, however, to accommodate informants' suggestions that an STI curriculum would be most appropriately placed within a broader common curriculum in sexual health.

Education - Final Recommendation 1:

There is a need for common undergraduate STI teaching within the context of a common sexual health curriculum. This should be developed in collaboration with expert groups such as the Australian College of Sexual Health Physicians, the RACGP, and the Australian and New Zealand College of Obstetricians and Gynaecologists as well as relevant university departments.

Education - Proposed Recommendation 2

- *A committee with representatives of expert groups (as outlined in Recommendation 1) and the Divisions of General Practice should be established, to assist in the vertical integration of undergraduate, vocational and continuing medical education. This will ensure that GPs are offered professional development in the areas of identified need in sexual health.*

While most key informants agreed with the need for vertical integration of STI teaching, some had concerns about the way in which this would be translated into practice. The importance of good communication between the undergraduate, vocational and CME stakeholders was stressed. Some concern was expressed that the

key organisations involved largely underestimate the importance of sexual health in general, so that

....you are often pushing uphill (KI 18:50).

The problem is what is the right structure? There's no co-ordination for vertical integration. Any outsider would think this exists already, but no-one sits down and looks at the whole spectrum of medical education as a continuum (KI 38:98).

There's a lack of integration for medical training as a whole – it is managed by too many different groups (KI 40:102).

Other key informants stressed the need for strong GP representation on committees examining vertical integration of STIs, arguing that

Specialists often tell GPs lots of stuff they feel they need to know, but GPs simply don't have enough space in their memories to retain everything...They don't need to know what a specialist knows...they need practical advice that is relevant to general practice (KI 25:68).

STIs were seen as well-suited to vertical integration as they offer opportunities for learning about basic science, as well as psychosocial issues. One key informant explained the potential of STIs to be used as the subject in 'clinical skills laboratories', where multiple tasks are based around a single disease (KI 22:60). An example of this might be a single STI, where students would be asked to examine the pathogen under the microscope, and then asked to consider the social significance of the disease, as well as what types of questions in a sexual history would be necessary to assist in clinical diagnosis of the infection. This type of learning is appropriate at the undergraduate, postgraduate and continuing medical education levels.

You could have a unit or module on some aspect of STIs which could be offered at the undergraduate, postgraduate or CME level, and people would get different things out of it depending on their current level of education (KI 36:93).

However, key informants also pointed out the importance of not overloading medical students and GPs with too many facts.

We need to enhance the concept of learning for life at all levels. The emphasis should be on where to find the information, rather than having to learn the facts (KI 40:102).

Outcome:

This recommendation was supported unchanged by key informants.

Education - Final Recommendation 2

A committee with representatives of expert groups (as outlined in Recommendation 1) and the Divisions of General Practice should be established, to assist in the vertical integration of undergraduate, vocational and continuing medical education. This will ensure that GPs are offered professional development in the areas of identified need in sexual health.

Education - Proposed Recommendation 3

- *In recent years little CME in the area of STDs has been offered and what has been offered has not been well attended. Almost all general practices offer some opportunities to assess patients for STD risk. The development of **innovative CME programs** to attract GPs who may not have recognised the need for such skills in their practices would be beneficial.*

It would seem apparent that those GPs with a special interest in STIs or who have a reasonably heavy STI caseload do have opportunities to keep up-to-date with the current developments in the diagnosis and management of STIs. In reality, however, the majority of GPs see STIs infrequently, and may not regularly consider the possibility that their patients might have acquired such infections. They would therefore have little opportunity to practice the sensitive history taking skills so necessary in a consultation discussing sexual matters, and could have difficulty in maintaining current knowledge about the latest tests and treatments.

Key informants were very aware that CME on sexual health issues was not generally well attended.

Those who are comfortable dealing with sexual issues don't go because they have little need of it. Those who aren't comfortable don't go either because of their discomfort or because they probably have a low STI caseload (KI 34:89).

Current CME is not attracting GPs to sexual health so clearly something needs to be done to improve this (KI 30:81).

Varying reasons were offered for poor attendance at sexual health CME.

I usually base my choice of CME on two things. If the topic is interesting and something I haven't done for a while, and if it is a venue I'm interested in attending or if it is new to me, I'll go (KI 41:104).

STD CME is probably often seen as slightly distasteful (KI 38:98).

Key informants agreed there is a need to develop innovative CME programs to attract GPs to what may be seen by some as unpopular topics of little or no relevance to their practice. Some believed that sexual health topics could be integrated into CME on other topics.

You might attract more GPs to a topic on relationship counselling, for example...GPs are basically conservative, and most would hate to be labelled as someone interested in sexual health (KI 28: 76).

You could focus on adolescence or older women and sexual health. These topics might attract GPs rather than using the terminology of STIs (KI 32:85).

It would be useful to include STDs and sexual health into CME on antenatal issues (KI 43:108).

You need to combine STIs with other things. You could have CME on the sexual health of young people, it's more digestible that way (KI 33:87).

Sexual health really needs to be included in everything (KI 42:106).

Key informants were able to offer excellent ideas for innovative CME. The importance of taking every opportunity to embed STI related topics into CME of an apparently more general nature, such as general annual updates for GPs, was highlighted:

This will often have a snowball effect and people subsequently become more receptive to getting more of that type of education (KI 18:50).

Some believed that GPs might value the opportunity to attend education sessions at the Melbourne Sexual Health Centre:

GPs could attend the staff seminars there, they'd learn a lot (KI 27:73).

To go into MSHC would be really good for some GPs. Many have never been there. You should actually hold a course there, it also becomes a visual cue then, it reminds GPs of the importance of things like contact tracing (KI 18:50).

Other suggestions included a visiting doctor scheme, where a GP needing to develop specific skills could sit in with a doctor with a special interest in that area (KI 16:45).

In our Division we are promoting the idea of interpractice visits, so GPs can learn from each other (KI 46:114).

The importance of looking at the education needs of different subgroups was stressed. For example, since the majority of Pap smears are performed by female GPs,

education strategies could be specifically designed to attract them, at a time which best suits them (KI 16:45).

You need to cater for GPs who have different needs eg. lunchtime and evening sessions, because no one time is good for everyone (KI 18: 50).

People get sick of going out at night to meetings (KI 17:48).

You need to offer CME at three different levels – for those wanting the bare minimum of information, those with some interest, and those who are almost like GP specialists in the area (KI 40:102).

Part-time GPs also need to be considered in the delivery of CME, as they need to earn the same number of CME points as GPs in full-time practice each triennium. One key informant described how difficult it can be to access part-time GPs to offer them CME:

Part-time GPs are really difficult to get to. Their whole relationship with their practice is difficult. They don't always get mail which is sent to the practice in general, they have to have mail specifically addressed to them. If a fax is sent one day, and they don't come in for another two days, the fax may no longer be around (KI 25:68).

The concept of multiple strategies for CME was popular, as it was clear that not all GPs liked to attend meetings for CME.

Anything appearing in Modern Medicine or Australian Family Physician would be good – most GPs peruse these even if they don't do the CME in them – and they keep them on their bookshelf. They are more up to date than textbooks too (KI 36:93).

The major issue was, however, that GPs needed to be made aware of the importance of sexual health, and the ways in which it can be easily incorporated into practice:

A lot of STI work can be quickly slipped in with something else, but it needs a particular mindset. It doesn't take a lot of effort to make a real difference.

With chlamydia, for example, it's the awareness that's often lacking. It can be so easy. You see a woman who comes in for a Pap smear. If she's 15-25 years, and has recently changed partners, why not do a chlamydia swab? (KI 16:45)

Outcome:

There was agreement among the key informants that there is a need for innovative CME within the area of sexual health. The recommendation was modified to incorporate some of the specific suggestions offered by the key informants.

Education - Final Recommendation 3

A range of CME programs in the area of sexual health are required. Factors to be considered include the need to offer a range of times and places for education programs and the utilisation of a variety of methods. For maximum coverage, STIs as part of sexual health should be included in discussions on a broad range of topics. Defining a shared terminology is an important aspect of CME programs. The possibility of a visiting doctor scheme in sexual health general practices or MSHC to encourage the improvement of STI skills should be examined. The development of innovative CME programs to attract GPs who may not have recognised the need for such skills in their practices would be beneficial.

Specific Aids - Proposed Recommendation 1

- *Dialogue or cue sheets should be designed to assist GPs who see STIs infrequently. They would provide a series of appropriate questions to assist GPs in taking a sexual history.*

Key informants supported the introduction of dialogue or cue sheets, particularly if they were linked with common presentations, such as Pap smear request, request for contraception, or a men's health screen, because

You can be nervous about initiating a sexual health discussion without an excuse to do it (KI 17:48).

Key informants offered ideas about what should be included in the dialogue or cue sheets.

You could have information on what tests to use and when to use them, with diagnostic diagrams (KI 33:87).

You need some mandatory questions that should be asked every 12 months or so, or of every new patient (KI 32:85).

You could include questions to ask for certain circumstances, such as when the morning after pill or termination of pregnancy might be needed (KI 35:91).

It should include suggestions of the actual words to use when asking sensitive questions and something to tick to prompt you to ask about things such as sexual contacts and follow-up (KI 36:93).

This seems to be particularly important given the possibility of assault of female GPs by male patients:

I have had a negative experience taking a sexual history from a male, which led to assault, so I have been reluctant to take a sexual history from men since then...Dialogue or cue sheets are a good idea. You could go through the list

and make sure you covered it all.... Then I can say to the patient ‘These are the standard questions I ask – no reflection on you’ (female GP, KI 29:70).

There were suggestions that these dialogue sheets be laminated and contain the minimum number of words (KI 25:69) and that they also be interleaved in the computer software system most commonly used by GPs, called ‘Medical Director’ (KI 24:65; KI 19: 53; KI 24: 65). Another suggested the cue sheet be attached to the cover of the National Management Guidelines for STDs and Genital Infections (KI 39:100).

Two key informants offered words of caution.

I’m not really sure how patients perceive this, I suppose it depends on how you do it, and whether it seems as if you are floundering. You need to find out patient’s views on this (KI 37:95).

Flow charts can be useful but in the end these are only as good as the user (KI 42:106).

Outcome:

The recommendation was supported. However it was modified to include key informants’ suggestions.

Specific Aids - Final Recommendation 1

Dialogue or cue sheets would assist GPs who see STIs infrequently. They would provide a series of appropriate questions to assist GPs in taking a sexual history, and should incorporate a flow chart to assist in decision-making in relation to testing. Information on incubation periods and the best time for testing should be included.

Specific Aids - Proposed Recommendation 2

- ***Posters, signs and pamphlets*** stating that the GP is comfortable discussing sexual health issues would create an environment that may encourage patients to initiate such discussion.

Posters, signs and pamphlets about sexual health were seen as potentially useful tools for preparing the patient for a sensitive discussion:

These are a good idea, especially if you want the patient to initiate the discussion (KI 25:69).

These are important – helpful for patients to feel they have permission to raise these issues (KI 42:106).

A few years ago, as part of a research project, we were asked to display posters on domestic violence in the practice and then asked to record the number of inquiries made. The poster did seem to act as a prompt (rural female GP, KI 46:113).

Another key informant offered an alternative view.

Posters might put people off - might make them think they don't belong in that practice...Some practices produce pamphlets about themselves. They could put such statements into these pamphlets (KI 50:121).

One key informant suggested that even displaying certificates received for completing CME courses in the waiting room could pave the way for either the GP or the patient to initiate dialogue about the subject matter (KI 28:76). Another commented that in her practice, photos of GPs were shown with their special interests listed beneath.

Occasionally someone will come in and you can tell they have chosen me because there is a particular sexual health question they would like to ask (KI 37:95).

One key informant pointed out the paucity of three-dimensional models for demonstrating human anatomy to patients:

At the moment the only one I know of that's often used is the three dimensional one for a diaphragm, and it is really expensive. A good cheaper model would be useful (KI 16:45).

Outcome:

Overall, the vast majority of key informants agreed this recommendation had practical value.

Specific Aids - Final Recommendation 2

Posters, signs and pamphlets stating that the GP is comfortable discussing sexual health issues would create an environment that may encourage patients to initiate such discussion.

Specific Aids - Proposed Recommendation 3

- *The inclusion of sexual history questions on the **RACGP Health Summary Sheets** and **Patient Practice Prevention Questionnaires** would remind GPs of the importance of a sexual history to the patient's overall health.*

There were mixed views about the frequency of use of the RACGP Health Summary Sheets. While some believed the inclusion of sexual history questions would not have much impact on practice (KI17:49; KI 25:69), others agreed that a prompt on the front of the medical history would be of benefit. In addition to providing a visual reminder to the GP to take a sexual history, it places sexual health on the agenda:

...its inclusion would validate sexual health for some GPs (KI 18:51).

It helps normalise sexual history taking and acts as a memory jogger (KI 39:100).

One key informant suggested that a colour coded desk calendar sized flip chart, listing recommended preventive health checks for patients of different sex and age would be useful (KI 28:76). By being clearly visible, a patient would understand that they had not been targeted for sexually explicit questioning.

There is increasing use of computers in general practice. As stated earlier, Medical Director is the most popular software used by GPs. For each patient, a row of icons prompts the GP to perform a variety of tasks such as taking the patient's blood pressure. Under the section "new patient", there is a prompt labelled 'sexuality', of which only some GP key informants were aware.

GP key informants were of mixed opinion about the value of sexual history prompts for a number of reasons.

The prompt for 'sexuality' is never filled out in this practice. In the context of a low STI caseload practice, it would be very difficult to incorporate a non-threatening prompt on Medical Director (KI 33:87).

I would shy away from using a prompt on the summary sheet. This is because the information you write on the summary sheet stays there forever. It is quite obvious on the record, and might be seen by reception staff (Female rural GP, KI 46:113).

One key informant's comment demonstrated both the need for, and the problem with, a sexual history taking prompt.

I don't think a prompt for sexual history taking would help me, because my patients feel so comfortable initiating discussion about anything. In any case we are so busy here that we just treat the specific problem the patient comes in with (KI 47:115).

Others could see such prompts might be helpful.

I imagine GPs who are uncomfortable would be more uncomfortable with this, although perhaps some would see it as a way of justifying to the patient why they were asking those questions (KI 34:90).

Other GPs in this practice don't complete the box on sexuality (on Medical Director) because they don't see it as relevant (KI 37:95).

I think this prompt would be helpful. I use the summary sheets for new patients – I basically go through the list. I would only do it on the first occasion though, because patients would stop coming if every time they walked in you asked them about sex (KI 41:104).

Taking a sexual history would be of benefit to the GP for a number of reasons, not just for STDs (KI 40:102).

Outcome:

In general there was support for this recommendation; however it was clear that there were mixed views about whether it would be of value to incorporate a prompt on Medical Director. The recommendation was therefore modified.

Specific Aids - Final Recommendation 3

To remind all GPs of the importance of a sexual history to the patient's overall health, GPs should be offered the choice between RACGP Health Summary Sheets and Patient Practice Prevention Questionnaires, which include sexual history questions, and those which do not. Further research is needed to determine the most appropriate place to incorporate such questions on Medical Director.

Specific Aids - Proposed Recommendation 4

- *The introduction of a problem based STI testing kit would relieve GPs of the need to keep up-to-date with rapidly changing tests. Such a kit would contain instructions and all the testing equipment necessary for laboratory confirmation of STIs. GPs would be instructed to use particular combinations of tests according to whether the patient had symptoms of, for example, “vaginal discharge”, “genital ulcer”, “genital lump”.*

There was enthusiastic support for the concept of an STI testing kit, which would include instructions to inform the GP of exactly what they should test for under the specific circumstances, and contain all the components required for doing so.

I really like this idea. Half of the time I have to go looking for the swabs and the bottles for viral testing. We have the transport medium in the fridge and you have to hunt for it. Having a kit would make it all much easier (KI 46:113).

In general practice, half of the time we are not sure if we are taking the right samples (KI 42:106).

If I now saw, say herpes, and I had a kit it would prompt me to test for other infections while I was checking for herpes (KI 43:109).

Some informants became quite enthusiastic about the potential format of the kit.

It would be good to have a very basic kit that had a list on it which could be put directly onto the pathology request slip, and then you could tick the tests you wish to order (KI 36:94).

This would be good to direct you clinically. For example, vaginal discharge can vary depending on age and mean different things accordingly. So such a kit should be age-specific (KI 42:106).

You could have the 'broken condom' kit, the 'unprotected sex' kit (KI 24:66).

Only three of the GP key informants had tried the STI testing kits currently available from one small pathology provider in Melbourne. While they supported the concept, these GPs felt these kits did not offer the greatest simplicity possible.

I think the idea has merit but the current kit could be little easier (KI 37:96).

The following objection raised by one GP to the general idea of a STI testing kit has not been found to be insurmountable to date by the pathology laboratory in Victoria producing the kits.

I think this would be a costly exercise. The swabs would go out of date too quickly and create a lot of wastage (KI 33:87).

Another pointed out that:

There is so much money involved in pathology testing and treatment – it ought to be possible to sell the idea of trialling different kits properly to the Health Insurance Commission...the pathology piloting really needs to be done (KI 38:99).

Interestingly, when the recommendation of an STD testing kit was offered, some key informants realised their current practice could be improved. For example:

When women come in telling me the condom burst, mostly pregnancy is my concern – I don't think of infections – I suppose I should (KI 29:80).

Outcome:

This recommendation was supported unchanged by key informants.

Specific Aids - Final Recommendation 4

The introduction of a problem based STI testing kit would relieve GPs of the need to keep up-to-date with rapidly changing tests. Such a kit would contain instructions and all the testing equipment necessary for laboratory confirmation of STIs. GPs would be instructed to use particular combinations of tests according to whether the patient had symptoms of, for example, 'vaginal discharge', 'genital ulcer', 'genital lump'.

Specific Aids - Proposed Recommendation 5

- *Australian research on patients' views is needed. This will identify how best to make patients feel comfortable enough to initiate discussion of sexual concerns, as well as the way in which they prefer to hear a GP ask questions of a sexual nature.*

Key informants agreed that to receive reassurance that patients in general were happy for the GP to initiate a discussion about sexual health would be encouraging to GPs.

Some days you are more comfortable about discussing sensitive issues than others.... I think its worth confirming that it is the GP's own discomfort rather than the patient's which is the barrier (KI 37:96).

Yes, I'd be interested in this research. I find it difficult to initiate discussion about sexual health, but if the patient brings up the subject I have no difficulty at all
(KI 41:104).

I really like to know what patients' views are, particularly in today's litigious environment (KI 42:107).

It was thought that information on the most appropriate ways of asking questions would be of value to GPs:

How do you ask an enormous truckdriver covered in tattoos with a sore bottom if he's recently had penis-in-anus sex with another man? It would be great to know the best way to ask (KI 24:66).

Patient research should cover a wide spectrum of ages – to find out how a widowed 50 year old matron would react to these questions, not just a teenager (KI 19: 54).

That kind of information is better coming in a bulletin from a respected centre....I think you automatically turn off if you see it's American research, so if the research results are local it would mean more to GPs (KI 17:49).

Interestingly, one key informant observed that, in general, the rationale for offering CME rarely encompassed patients' views (KI 28:77) Another, involved in GP education, recalled that when participants of a series of education programs were told that research in the US and UK demonstrated that the vast majority of patients were happy for their GP to initiate a discussion of sexual health with them:

GPs were astonished to hear what patients really thought about their GPs taking a sexual history (KI 30:81).

Such information needs to be widely disseminated.

Projects which have demonstrated that patients feel comfortable with GPs discussing sensitive issues should be published where they will be accessible to GPs (KI 31:84).

Another key informant suggested it would be useful to properly trial the technique of asking patients to complete a checklist in the waiting room to indicate their reason for seeing the GP (KI 37:96).

Outcome:

This recommendation was supported unchanged by key informants.

Specific Aids - Final Recommendation 5

Australian research on patients' views is needed. This will identify how best to make patients feel comfortable enough to initiate discussion of sexual concerns, as well as the way in which they prefer to hear a GP ask questions of a sexual nature.

Co-ordination of STI control in Victoria - Proposed Recommendation

*Many of the needs identified in this project have arisen because of the lack of a **single institutional base** which co-ordinates all of the different aspects of STD control, and which has a general practice perspective. Such an institution would need to*

- *have a strong clinical focus on STDs*
- *auspice steering committees to oversee medical and nursing STD education*

- *provide outreach services to GPs, as well as the community*
- *contribute to STD policy e.g. advise on the percentage of patients of specific age on whom an assessment of STD risk should be made*
- *develop or endorse specific recommendations on issues such as notification, contact tracing, presumptive treatment and asymptomatic testing. This would include positive feedback for GPs who notify, and refer patients on for contact tracing*
- *oversee or advise on the dissemination of regularly updated STD related policy documents to both graduating medical students and GPs.*

Overseas, policy documents commonly provide specific goals to encourage health practitioners to upgrade their practice. For example, one of the U.S. National Health Objectives for 2,000 was to increase to at least 75% the proportion of primary health care providers who provide age appropriate counselling on the prevention of STIs (Centers for Disease Control 1994). The Guidelines for Adolescent Preventive Services demonstrate how, during recommended annual check-ups, GPs can ‘guide’ young people’s health and assist in the prevention of behavioural and emotional disorders as well as more traditional medical conditions (American Medical Association 1992). Such sexual health policy guidelines have not been promoted in Victoria. This is quite possibly due to the fact that no single Victorian institution considers such advocacy as its responsibility. This lack of leadership affects all other aspects of STI control, including medical training at all levels.

Two decades ago Bradford and Bradshaw (1985) completed a review of STI services in Victoria. They proposed the establishment of a specialist STI reference centre with a number of functions – clinical, consultative/advisory, training, health promotion, contact tracing and epidemiological surveillance, and research. Whilst no direct outcome of their proposal is evident, it reinforces the longstanding need for a population-based strategy for STI control in Victoria. Key informants concurred with the view that:

Victoria lacks a population based approach to STI control (KI 20:57).

There is currently no co-ordination of STD control in Victoria (KI 38:99).

There is certainly no-one currently to call for advice. I have trained myself on the job (KI 47:116).

While various aspects of STI control are outsourced, but overseen by the Department of Human Services, there is no single organisation which is clearly associated by the community with STI control. The Melbourne Sexual Health Centre is funded for STI treatment, and does do some outreach work in the community, but is severely limited by funding. Surveillance is undertaken by the MacFarlane Burnet Centre for Medical Research on behalf of the Department of Human Services. Contact tracing is based at the Melbourne Sexual Health Centre, although the workers are independent of the Centre. Despite the fact that the majority of STI notifications originate in general practice, GPs have only limited access to the other health professionals in the STI area. There is no single organisation co-ordinating the approach to STI control.

It's hard to get good figures on prevalences of STDs. It's possible to access the data on the net but it's hard to interpret. If I am seeing a lot of what I think is, for example, scarlet fever, it's useful to know I am not over-diagnosing it (KI 43:109).

I'd like to know chlamydia rates in rural high schools and whether I should be screening all the teenagers at risk who come in through the door. There's not anyone for me to call with specific questions about STDs (Rural GP, KI 46:114).

Currently if I need advice about an STD, which is unavailable in a reference, I call the pathology lab (Rural GP, KI 45:111).

Key informants named a variety of other organisations they saw as being an authority for a particular disease or condition, recognised by professionals and public alike, which offered a model for STIs. These included the AntiCancer Council, the National Heart Foundation, the Perinatal Data Collection Unit and Turning Point (a drug and alcohol organisation). Some of these organisations are associated with health promotion, which make them easily recognisable within the community.

Key informants were in favour of an organisation to co-ordinate STI control in Victoria.

I think this is very important – it would facilitate the whole management of sexual health (KI 40:103).

There doesn't seem to be a place providing the sort of information I would like (KI 42:109).

A single institution for STDs which conducted research and advocacy and was recognised by the public and professionals alike... I would be supportive of that (KI 22:61).

GPs may have a feeling they can look after STDs, but they need an institution they can refer to (KI 25:69).

Key informants supported the functions of the centre suggested to them in the recommendation I offered to them for comment – advocacy, education, research, clinical work. The production and dissemination of policies and guidelines was seen as an important contribution that could be made. Informants stated they would like specific guidelines or policy on treatment, contact tracing, rural sexual health services (KI 30:81), outreach and education for surveillance (KI 32:86; KI 39:101) as well as updates about what is new in sexual health (KI 33:88).

A clinical arm of a university department would be good, especially as it could conduct research to clarify process issues that you've identified (KI 24:66).

It would need to be a primary care based centre, if it were not to fall through the cracks (KI 31:84).

A number of key informants proposed a range of additional functions, acknowledging that these needs were currently unmet from any other source:

The Centre would need to be a resource centre for GPs (KI 31:84)

This could be a good source of education – once something is known as a good provider, it attracts people. This has worked for Family Planning Victoria (KI 18:50).

This institution could send bulletins to GPs about STI epidemiology. We never get any information about STIs. We need a punchy bulletin telling us who is at risk for STIs. And with tips for practical management (KI 17: 49).

Fax-back. This is currently available for travel information. The practice is issued with an identification number, and after phoning the general number you dial in the code of the country the patient is going to. There are some other choices which you dial in, and then you hang up, and then a fax comes through telling you all the health information you need for that country (KI 18:51).

It could also provide positive feedback to GPs who notify and carry out contact tracing. It would make such a difference if within 24 hours, someone called you and said thanks and asked if you wanted more information about testing and treatment. It's nice to get a pat on the back (KI 18: 51).

Convenient phone advice and distribution of patient education information (KI 37:96).

A newsletter every 6 months or so updating us with what is new in the area would be helpful. Just a single sheet – not too many words (KI 33:88).

There were a number of suggestions about specific centres which could take on aspects of this Centre.

The Venereology Society of Victoria could act as more of an advocate (KI 38:99).

Even an STD network group would be useful (KI 49:120).

It was a role perhaps the Australian Research Centre in Sex, Health and Society could have filled (KI 40:103).

If it was built up around a family planning organisation it would probably tend to focus on women (KI 18:51).

Some additional functions could be taken on by the notification people. If there was an outreach/education arm, that would help (KI 32:86).

The Melbourne Sexual Health Centre would be the place to take on that role... they will presumably develop it as a centre of excellence. They will need to develop links with GPs (KI 35:92).

Currently the Melbourne Sexual Health Centre would be unable to take on all of the functions suggested in the recommendations, as there are clearly enough resources only for the clinical work. However, with the recent success of the Women's and Children's Health Network in winning the tender to manage the MSHC, changes are likely. A Professor of Sexual Health/Director of MSHC was appointed at the start of 2001.

Outcome:

The recommendation was supported unchanged by key informants.

Co-ordination of STI control in Victoria - Final Recommendation

Many of the needs identified in this project have arisen because of the lack of a single institutional base which co-ordinates all of the different aspects of STD control, and which has a general practice perspective. Such an institution would need to

- have a strong clinical focus on STDs
- auspice steering committees to oversee medical and nursing STD education

- provide outreach services to GPs, as well as the community
- contribute to STD policy e.g. advise on the percentage of patients of specific age on whom an assessment of STD risk should be made
- develop or endorse specific recommendations on issues such as notification, contact tracing, presumptive treatment and asymptomatic testing. This would include positive feedback for GPs who notify, and refer patients on for contact tracing.
- oversee or advise on the dissemination of regularly updated STD related policy documents to both graduating medical students and GPs.

Innovative Strategies - Proposed Recommendation 1

- *GPs who genuinely have no interest or skill in the area of sexual health should be encouraged to refer a patient on to a GP colleague with a special interest in sexual health. This practice is not uncommon for other areas requiring specific skills, such as management of drug and alcohol use, sports injury and the area of mental health. To deflect GPs' concerns about patient poaching, a **collegiate support network** should be fostered within the Divisions of General Practice.*

Those GPs who feel uncomfortable or unprepared to initiate discussion of the patient's sexual history could be encouraged to refer to colleagues who are more comfortable with this area of health. The concept of GPs referring to other GPs with a special interest or expertise is not new. It is not infrequently practiced within a group of GPs, and at times is done so outside of the group for specific conditions. The most common of these is obstetric care, where patients may be referred to a GP who has completed a Diploma of Obstetrics and Gynecology. The understanding in this situation is that the patient will return to her regular GP after the birth of the baby. Referral between GPs also occurs in other areas, such as sports medicine and problematic drug and alcohol use. Despite the fact that many GPs acknowledge their lack of confidence and skill in the area of STIs, and that a number of GPs in Victoria are widely known for the special interest and expertise in sexual health, inter-GP referral is not known to occur widely in this area. Although some GPs acknowledged that patients are likely to seek an alternative GP specifically for sexual issues alone, the concept of GPs taking this further and actually referring patients regularly to their colleagues with a special interest in sexual health was supported by some.

Underpinning the education is the 1950s view of a GP operating alone in a country town. We forget that the reality for most GPs is that 5 minutes away by car are other GPs, who may well have the skills that they don't. It makes good sense to refer to other GPs, then the patient will feel confident that they are getting the best (KI 28:77).

The idea of a collegiate network is very good. Divisions need a service directory, but you'd need enough GPs to be a part of this (KI 23:64)

Those who really don't want to deal with sexual health will be glad and relieved to refer the patient on (KI 18:52).

I'm happy to refer away patients with drug and alcohol problems - I'd rather have the Mums and babies ...I think it is especially important to refer appropriately for HIV because these patients need a lot of long visits (KI 43:109).

Good idea. Divisions could take on a supportive role by employing a sexual health practitioner to undertake clinical skills education and health promotion of STIs and to promote GP referral within the Division (KI 22:62).

The most common criticism of referral within a collegiate network centred on concerns of GP 'poaching'. The term 'patient poaching' is used to describe the situation when the GP who receives a referral does not insist that the patient return to his or her original GP after the problem which was the basis of referral has been dealt with. Although this issue was commonly raised by key informants, another commented:

It's quite strange, all GPs say they are overworked, and there are clearly enough patients to go around, but they all still worry about patient poaching (KI 25:69).

It's partly to do with the small business mentality of GPs (KI 31:84).

GPs are very territorial – they don't like to lose patients (KI 29:90).

I think GPs would feel more comfortable referring patients to GPs way out of their own suburbs, because then they know that they are less likely to lose the patient to that GP (KI 34:90).

One key informant gloomily noted an additional problem with the concept of the collegiate network.

If a GP doesn't think to ask a patient about sexual health, how will they know to refer the patient elsewhere for this service? (KI 38:99).

While there was clear support for the concept of a collegiate network from non-GP key informants, GP key informants with different levels of STI caseloads offered clustered but differing views. While the clear majority of low caseload STI GPs would be happy to refer a patient with a sexual health problem to a GP colleague, GPs with medium or high STI caseloads often commented that such a collegiate network would be viewed as contentious, and that other GPs would have difficulty with it. They saw referring the patient on to another GP as detrimental. Typical reasons for this view were that:

It undermines the GPs' ability to provide whole patient care – it could fragment this part of general practice (KI 29:80).

It's not the same as referring someone with drug and alcohol problems, because that's usually the main problem with the patient. An STD is more likely to be just one reasonably minor problem, so the GP wouldn't want to lose the patient over that (KI 39:101).

To refer a patient to another GP is a bit like admitting you can't manage. Then the patient might think 'He knows nothing about this. What does he know about heart disease? Or anything else?' (KI 35:92).

I think a patient would feel odd if he or she was referred to another GP. As a patient I would expect the GP to refer me to a specialist organisation, if the GP couldn't manage the problem (KI 20:57).

GPs were more likely to argue that if they were unable to handle a patient's problem, then the patient should be referred to a specialist. This notion that patients would prefer to be referred to a specialist could, of course, be investigated under the recommendation on research into patients' views.

I wouldn't refer to another GP. I'd be more likely to send a patient to the MSHC (KI 33:88).

If I had a difficult problem I'd be more likely to refer to a gynaecologist or urologist (KI 41:105).

There were some GPs who had no concerns about losing patients.

I believe we doctors should all chip in and be supportive, I would like to think we could all do each other a service (KI 47:116).

As a start, an attempt could be made to link up GPs with a special interest in sexual health in some meaningful way within Divisions (KI 16:45). These linked GPs could then be used to lead the way in developing continuing education strategies appropriate to that local area. Another GP pointed out that:

I think there are plenty of GPs who don't feel comfortable with sexual issues, and the patients perceive it. If GPs are made to feel it's not wrong to refer a patient on then they will do it (KI 37:96).

Structural details are also important in developing strategies such as this.

You'd need two or three nominated special interest GPs in each Division, plus a mechanism by which the patient got referred back to their own GP. There'd need to be a proper exchange of referral letters (KI 17:49).

Other suggestions offered were:

Local female GPs banded together to run a Well Women's Clinic in Mornington. They did this away from their normal general practices, and now they find that male GPs will refer female patients to it (KI 24:66).

We should encourage some GPs to acquire a special interest in sexual health. It's unrealistic to expect all GPs to be capable of managing sexual health really well, but we could try to ensure that one GP in every group practice had a special interest in sexual health (KI 32:85).

Outcome:

This recommendation was supported by the majority of key informants, although a proportion claimed that other GPs would not be as supportive as they were. The recommendation was modified in keeping with GPs' concerns, and is included as part of a single final recommendation on innovative strategies for STI control shown below.

Innovative Strategies - Proposed Recommendation 2

- *GPs should use the services of a visiting sexual health nurse practitioner to augment their practice as needed. The visiting sexual health nurse practitioner, who could be part of an outreach program (based at the institution described above) could see patients in the GP's own practice for sexual health checks and Pap smears. This nurse practitioner could complete the time-consuming aspects of a sexual health examination. All pathology requests, test results and treatments would be seen by the GP and kept as part of the patient's records held by the GP. The visiting sexual health nurse practitioner could also assist with contact tracing, notification, and keeping the practice up to date with developments in sexual health. He or she could also be used as a sexual health educator in the local community, acknowledging the GP from which he or she works as the homebase in that locality.*

GPs and nurse practitioners have been described as having overlapping functions on a bio-medical and psycho-social continuum. Whilst individual practitioners may place themselves at varying positions along this continuum, in general GPs work more closely to the bio-medical end, and nurse practitioners to the psycho-social end of the continuum (NSW Department of Health 1995: 5). It would be important that a visiting sexual health nurse practitioner (VSHNP) be seen by GPs not as a competitor but as a way of providing an already established practice with a valuable additional service, as a sexual health nurse practitioner would have a higher level of interest and expertise than a GP who does not have a special interest in this area.

The VSHNP model offers a number of advantages. The NSW Nurse Practitioner Project found that 'women do not feel they are being unfaithful to their (GP) by visiting the nurse' (NSW Department of Health 1995: 8). They also found that patients could be encouraged to see their GP about medical issues which arose during the consultation with the nurse practitioner, and that there was 'potential for co-consultation and shared care about potentially embarrassing health issues' (NSW Department of Health 1995: 8). In sexual health consultations, one of the most time-consuming tasks for the GP is taking a thorough sexual history. This is something that could be done well by an experienced VSHNP, and has been the practice for some years in family planning clinics. Nurse practitioners have more time to spend with a patient, and many patients find communication with nurses easier, as they feel they are on a more similar social level:

Maybe its more or less easier to talk to a nurse than a doctor sometimes...

You're on the same level with them in some respects... You're more likely to

question a nurse than a doctor...you feel freer to do it (NSW Department of Health 1995:62).

In addition, a VSHNP would be able to ensure that the sexual history includes information required for notification and contact tracing purposes, both of which he or she may carry out. With the patient's permission, the VSHNP could have access to the patient's medical record, although the patient could choose not to have the details of the consultation with the VSHNP recorded, only that it took place. The VSHNP could offer STI counselling and health promotion in an environment with which the patient feels familiar.

GPs who felt their general practice would benefit from a VSHNP could arrange for regular sessions. The VSHNP program could be managed from a central base, such as the Melbourne Sexual Health Centre, a GP Division, or another institution with a special interest in STIs such as some community health centres or Family Planning Victoria.

All around Australia, moves towards the introduction of nurse practitioner services have been taking place for some time (Policy Development and Planning Division 2000). NSW has led the way, and has recently passed legislation to allow nurse practitioner services to be implemented in the public health sector. In South Australia, Western Australia and the Northern Territory projects are underway to examine the scope or the introduction of nurse practitioner services. In Queensland, all nurses have recently been given extended authority to prescribe particular drugs in certain practice settings – isolated practice, sexual health programs and immunisation programs. Victoria has recently announced its support in a report discussing the first phase of implementation of nurse practitioner services in Victoria (Policy Development and Planning Division 2000). The introduction of nurse practitioners with a special interest in sexual health to assist GPs in this aspect of their practice would therefore be in keeping with current national and international trends.

VSHNPs could upskill and educate GPs in the latest developments in sexual health, provide educational material for the waiting rooms, and outreach education to local schools and institutions. As one key informant said:

If nurses specialise in the area of sexual health it is because they are interested in it. If they are working constantly in the field, they have a high level of knowledge, expertise and management information. GPs with a special interest in sexual health may make an effort to keep up to date in the area, but even so not all of their work will be sexual health so they are unlikely to have the experience that a sexual health nurse will have (KI 7:19).

Not surprisingly, there were very mixed views about the concept of a visiting sexual health nurse practitioner. Of the GP key informants, it was GPs with a low STD caseload who were most likely to support the concept of a VSHNP. However, others offered alternative opinions on the use of a VSHNP.

In a low caseload area, I think the nurse practitioner would end up twiddling her thumbs (KI 19:54).

GPs may feel threatened by nurse practitioners (KI 7:20).

The problem with a VSHNP is that the patient comes to the GP with a discharge or a sexual health concern but can't wait two days until the nurse practitioner comes (KI 23:64).

It can be bad time management. A nurse may see a patient as part of a Well Women's clinic and then when they notice a discharge they will have to send the patient in to see the GP, and the GP virtually goes through the whole consultation again (KI 37:96).

I enjoy the hands-on aspect of the sexual health consultations, so a nurse practitioner wouldn't help me personally (KI 37:96).

We need to ask what the patient would think about this (KI 9:25).

Despite these comments, key informants could see that the idea of a nurse practitioner could be of benefit under specific circumstances.

This is certainly an excellent idea for the solo male GP, but are they a dying breed? (KI 17:49).

I see no problem at all with health promotion assisted by a nurse practitioner...it might be different in an over-doctored area, but here we are short on doctors

(KI 42:107).

In areas where there are high numbers of Muslim women it would be good (KI 35:92).

When young people present they are often in crisis mode and come without an appointment. A nurse practitioner could provide an opportunity to be responsive to this need (KI 42:107).

In rural areas where there is a general lack of access to GPs and limited access to sexual health, a nurse practitioner would probably be very good (KI 22:62)

A VSHNP could also be helpful in awkward situations which sometimes arise for both male and female GPs.

Sometimes male patients request female GPs to examine them inappropriately. We need strategies to overcome this (Female, high STI caseload GP, KI 39:101).

I will sometimes find an excuse not to do a Pap smear at night. You need to be careful as a solo male GP (Male, low STD caseload GP, KI 44:110).

In contrast to the perceived need for clinical assistance, the concept of a VSHNP as a sexual health educator for GPs was widely supported. A number of GPs based their view on their appreciation of nurse practitioners currently working as patient educators in other areas, such as diabetes education. A number of specific education strategies were suggested for the VSHNP.

If the VSHNP was based in a Division, (s)he could target a single GP in a group practice to be the 'sexual health' partner for that practice, and focus the education on to that GP (KI 18:52).

They could come to talk to the GPs and practice staff over lunch about sexual health (KI 34:90).

A nurse practitioner could be useful for academic detailing of specific aids like the cue sheets. You could have a dial-a-CME (KI 33:88).

The VSHNP could work out well if he or she came in once a month on a regular day. It could be interactive, where the GP could pick up some new information about sexual health from the nurse practitioner. Coming in like that, you could cover 16-20 practices each month (KI 17:49).

I have a vision for the future which would see Health Promotion Officers employed by Divisions, who would visit GPs to do academic detailing. In this way best practice in general practice would increase (KI 11:33).

Only one key informant raised concerns that a nurse practitioner would not be the most appropriate choice as a sexual health educator.

I think if there were specific questions a GP with a special interest in sexual health would still be able to respond more appropriately. Nurse practitioners may not be able to answer in enough depth (KI 39:101).

Others believed that a visiting GP with a special interest in sexual health would be a concept which would be more attractive to GPs. Unlike a VSHNP, a visiting GPs could make independent decisions. In addition,

In a different geographical area the fear of patient poaching would not be a problem. Having a GP come from across town to do it would work, especially in Arabic, Greek, Vietnamese and Italian communities where privacy is such an important issue (KI 19:54).

However, one GP key informant admitted:

I'd feel just as comfortable if not more comfortable with a nurse practitioner rather than a GP who had an interest in sexual health; it can be very intimidating having another GP there (KI 17:49).

Another stated:

I wouldn't be concerned about whether the person was a nurse practitioner or a GP. I actually think the gender is more of an issue (KI 45:112).

It was clear that in some practices, female GPs bore the brunt of the responsibility when it came to seeing female patients for sexual or reproductive health consultations:

Some male GPs are extremely reluctant to do Pap smears, and will refer these onto their female partners (KI 25:69).

Female GP trainees are overwhelmed by the volume of women's health consultations they have when they are in their general practice placements (KI 4:10).

At the end of my morning's work I'll sometimes go into the prep room and see a whole pile of speculae. Someone has been doing Pap smears all morning, and it wasn't me. (Male GP, KI 17:49)

Indeed, female GPs have been shown to manage female genital tract problems at almost three times the rate of male GPs (12.6 compared to 4.3 per 100 patient encounters) (Sayer et al 2000). This was particularly apparent for Pap smears, which female GPs performed at a significantly higher rate than their male colleagues (4.3 compared to 0.8 per 100 patient encounters). In some practices, however, it was clear that female GPs were not expected to perform most of the practice's Pap smears.

Here we see taking a Pap smear from a patient as an opportunity for a general check-up, and so we all do it, even though we have female GPs in the practice. We all need to keep up our skills (Male, KI 33: 88).

Whether provided by a VSHNP or a visiting GP with a special interest in sexual health, key informants saw the need for a widening of the availability of current sexual health services:

The sexual health service is too centralised...we need more places in the suburbs (KI 8).

We certainly need to do more outreach in rural areas, we need to have an STI clinic in a bus (KI 27:75).

However, there was also a clear consensus that GPs needed to be able to manage at a certain minimum level of competence in sexual health consultations.

Just because a GP feels uncomfortable or doesn't like a particular aspect of work, does that mean he or she should not have to do it? (KI 31:84).

All GPs should become STI friendly. The majority of GPs should have the basic skills for STIs (KI 23:64).

While it makes good sense that GPs should all be able to manage an acute presentation of an STI, there are some aspects of health promotion which GPs may prefer to be undertaken by a nurse practitioner. Sexual health promotion might be effectively managed by nurse practitioners, particularly issues such as encouraging patients to know the risk status of their partners, and teaching them to negotiate safer behaviours with future partners (Cates and Toomey 1990).

In the short-term, a visiting sexual health nurse practitioner would be able to address many of the problems around STIs currently existing in general practice. However, on discussion with GPs it became clear that many STI presentations are opportunistic, and the consensus appeared to be that unless a practice has at least a medium caseload of STIs, the VSHNP would be unlikely to be busy enough to make his or her salary justifiable. However, it is important for low STI caseload GPs to understand that

Stating a special interest doesn't mean that you need that amount of training to be of value (KI 42:107)

Outcome:

This recommendation appeared to be the most contentious. There was, however, clear support for nurse practitioners under specific circumstances, so the final recommendation was modified to incorporate this view.

Innovative Strategies - Final Recommendation

All GPs require a basic minimum knowledge of sexual health, including STIs. All GPs should be encouraged to identify a colleague with a special interest in sexual health either within or outside their practice from whom they would feel comfortable seeking sexual health advice or to whom they would feel happy to refer patients. This collegiate networking could be undertaken within Divisions of General Practice or sponsored by the MSHC.

Either a VSHNP or a permanently employed nurse practitioner in sexual health may be suitable under specific circumstances and in specific communities eg. with young people or in particular ethnic communities and in rural areas. Consideration should be given to the use of a VSHNP for academic detailing of STI diagnostic and management skills. Such a nurse practitioner could be employed by a Division of GPs, or other institution interested in promoting sexual health. The nurse practitioner could conduct CME programs for interested GPs in the traditional way, but also within group practices or on a more personalised level as requested.

Discussion

Before discussing how these recommendations might be implemented, it is necessary to consider some general issues which may have an influence on STI control in general practice in the future.

Policy changes

Two policies currently in development, one a national policy and one a state policy, potentially could have a significant impact on the way in which STIs are controlled in Victoria. At this stage, however, the direction of such an impact is unclear.

National Sexual Health Strategy

For many years there has been a call from professional stakeholders for the development of a national communicable diseases strategy for sexual health. Early in 2000, the Commonwealth Department of Health and Aged Care commissioned a consultancy to establish the need for, and scope of, a National Sexual Health Strategy. The report, completed in September 2000, has not yet been released for public comment (McCallum et al 2000). It confirmed the role that GPs have to play in the management and control of STIs. A number of shortcomings in the way GPs are supported in this role were observed:

- there was an inconsistent approach by medical schools to the inclusion of sexual health material in their curricula
- lack of identification and documentation of best practice
- absence of outcome targets for STI prevention
- lack of documents and mechanisms to link STI clinical work with health promotion programs

The report noted that if GPs are to play an effective role in STI management and prevention, Health Insurance Commission regulations would need to allow some flexibility to accommodate longer consultation times. It was also recognised that the Commonwealth could play a leading role by promoting and resourcing alternative service models in sexual health such as the increased use of practice nurses and counsellors to complement the work of the GP. Some of the needs of GPs and resulting recommendations which were identified in this thesis were therefore confirmed in this report on the National Sexual Health Strategy.

It is unclear whether work will proceed on the National Sexual Health Strategy. Its fate will be decided by the National Public Health Partnership (NPHP). The NPHP's

Strategies Co-ordination Working Group, which advises on new strategies, met early in April 2000. Its recommendation to the NPHP will be that, rather than a national strategy, a sexual health framework be prepared as a way of addressing gaps and ensuring that current strategies are better coordinated when they are addressing sexual health issues. A process for developing the content has not yet been suggested. The recommendation will be considered by the NPHP at its meeting in June (C. Mead, NPHP, personal communication, April 30, 2001).

Victorian Chlamydia Strategy

As mentioned in Chapter 1, in Victoria in 1999, a working party was established by the Department of Human Services to develop a comprehensive strategy for the control of chlamydia in Victoria. The draft strategy, which was released in November, 2000 for public comment, addresses issues of protocols for clinical management, laboratory testing, surveillance, prevention and education of patients, health providers and the public (Victorian Chlamydia Strategy 2000). Key recommendations include:

- sentinel surveillance of chlamydia
- targeted screening of people in high risk groups for chlamydial infection
- increased awareness of health care professionals of chlamydia, its management and its notification requirements
- increased awareness in the community, in particular the target groups, of the significance of chlamydial infection
- strengthening partner notification processes for each case of chlamydia.

Comment on these recommendations have now been received, and the final strategy is very close to completion (M. Morgan, Department of Human Services, personal communication, April 30, 2001). If implemented, this strategy should improve both public and practitioner knowledge of chlamydia. Unfortunately no information is available about the likely funding of this strategy, so it is not possible to predict its impact on STI control in general practice.

Shifting models of care

Primary health care, with its core principles of social justice, equity and human rights, has been advocated as part of Australian public health policy (Australian Health Ministers Conference 1994; Legge et al 1996). Under this model, 'GPs...will play a critical role as co-ordinators of their patient's health care, without necessarily providing all that care themselves' (General Practice Strategy Review Group 1998: 334).

While this view was supported by some key informants

Community care can benefit from a range of disciplines (KI 16:47).

all did not agree.

We don't need another level of primary care...The whole issue of workplace reform needs to be examined (KI 31:84).

The competitive nature of health providers has been clearly evident in some key informants' comments on collegiate networking noted earlier in the chapter. Some GP key informants' comments on nurse practitioners demonstrated their discontent with the blurring of professional boundaries and the resulting encroachment of other health professionals on services which were previously thought to be provided only by GPs. This has been an increasing theme in recent literature (Van Der Weyden 2000).

The changing face of the medical workforce more generally was recognised by a number of key informants. One, for example, predicted that:

Solo practitioners will become a thing of the past, and consortiums of GPs will become common (KI 32:86).

Indeed, this is quite likely, as the proportion of GPs working in solo general practice has been decreasing. In 1991 just over a quarter of GPs worked in solo medical practice. This decreased to 16.4% in 1998 (Britt et al 1999).

Symptomatic versus asymptomatic presentations

As identified early on in this thesis, STI control needs to be considered from two perspectives – the symptomatic presentation and the asymptomatic condition.

Although the process of testing and treatment is the same for both presentations, clinical diagnosis in the asymptomatic case requires the GP to be far more skillful in detecting the patient's exposure to infection, where such exposure may not be evident

to the patient. Under these circumstances, the GP must be capable of making the patient comfortable enough to offer accurate information about their sexual practices. To do so requires a greater level of commitment to STI control than is necessary if the GP was planning to treat only a symptomatic STI. While many GPs would argue that they are able to manage symptomatic STIs, far fewer would claim that they take every opportunity to determine a patient's likely STI risk. Yet it has been observed that asymptomatic carriers of STIs are more likely to be sexually active than patients with symptoms of an STI because they do not feel unwell or concerned about the presence of an infection (Ripa 1990).

Interestingly, two different types of STI related health service usage have been identified in Victoria (Pope 2000). The majority of patients use health services close to home, where health providers are generally those who appear to have poorer levels of STI knowledge, and demonstrate low notification rates. Pope argues that these services are detecting symptomatic STIs only, and are probably missing asymptomatic disease. The other services are those which patients will travel some distance to attend for a particular reason such as a termination of pregnancy or because the clinic is known to be sensitive to the needs of men who have sex with men. These health services are most likely to diagnose an asymptomatic STI through screening. Some STIs are associated with specific risk factors. Syphilis, for example, more commonly occurs in men and women of lower socio-economic status, while gonorrhoea is more often seen in men who have sex with men and who have a higher socio-economic status. Chlamydia, Victoria's most common STI, is by contrast extremely widespread and is not associated with any specific community group. A population-based approach is therefore necessary to manage this disease (Pope 2000). This means that it is essential that the local service providers, who do not normally screen patients for STIs, must be made aware of the importance of their role in the control of STIs, and provided with the opportunity for CME relevant to general practice.

Recent reviews of general practice have suggested the need to strengthen the role of GPs in population based health (General Practice Strategy Review Group 1998). The Commonwealth Department of Health and Family Services has established a Joint Advisory Group (JAG) on general practice and population health. While the first discussion paper released by the group has not identified sexual health as a current priority area, the mechanism proposed for broadening GPs' involvement in other areas of population health could be applied to sexual health (Joint Advisory Group 2001).

Health promotion

Two factors make a significant contribution to the lower likelihood of a GP investigating a patient for asymptomatic STIs. One is that GPs are not appropriately remunerated for preventive activities, and the other is that health promotion remains a poor relative in general practice.

Interestingly, in this study, not one key informant whose primary employment was as a GP raised the issue of inadequate remuneration for sexual health consultations directly, although one or two commented on the amount of time they spent in labelling STI pathology specimens and completing notification forms. Reference was made to appropriate remuneration as a structural change necessary to encourage GPs to conduct preventive health checks by a number of non-GP key informants. Although there is considerable variation, research has shown that the average direct consultation time (estimated from 100 patient encounters in 1,000 Australian GPs) is 12 minutes (Sayer 2000). Female genital examinations take, on average, 17.2 minutes, and male genital examinations 15.8 minutes. While Australian GPs were generally satisfied that in this time they had managed the patient's presenting problem, in about 1 out of every 5 consultations with a patient they were dissatisfied with the preventive care advice they offered to the patient (Sayer 2000).

Recommendations to improve health promotion in general practice have been made. The paucity of training in health promotion available to GPs was highlighted in the National Health Strategy in 1993 (National Health Strategy 1993:120-121). The issue of appropriate financing of general practice, including preventive care, was a major issue in the recent review of general practice (General Practice Strategy Review Group 1998). In Victoria, a recently published strategy aimed at strengthening health promotion has identified GPs as requiring better integration with other parts of the health system (Public Health Division 2000c). However, the effect of such recommendations is not clearly evident, except perhaps in the area of childhood immunisation. Here, as mentioned earlier, significant financial investment by the Commonwealth Government has resulted in increased health promotion by GPs. It is within this context of shifting health care models and concern about health promotion more generally that the recommendations from this study must be viewed. While such broader changes in the health care system may ultimately benefit STI control in the general practice setting, it is unclear how long it will be before progress is made. In the meantime GPs need assistance to maximise the sexual health service they can offer to patients within the standard consultation time. The recommendations made in this thesis have identified how this can be achieved .

Implementation of recommendations

It has been observed that we should be attempting to promote an environment for positive sexuality which is not dependent on the fear of HIV/AIDS (Winn 1996). This is happening to some extent within Australia, where sexual health promotion appears to be gaining momentum amongst those who work with young people. An example of this is the recently released National Curriculum Framework for Sex Education (Commonwealth of Australia 1999). Sexual health for the remainder of the population, however, continues to be focused more on disease treatment than disease prevention. This focus needs to be modified at the beginning of medical undergraduate training, particularly as it would seem that the prevailing social

attitudes to sexuality are now much more open than a decade ago. This does not appear to be reflected in current medical training in STIs.

One key informant pointed out that

Consumer groups generally say of their GPs that they want the GPs to deliver medicine well, not to know medicine well (KI 4:11).

This is the thrust of the philosophy of lifelong learning which is being introduced with the new shorter undergraduate medical degree. It is also in keeping with the philosophy of the RACGP training program. However, to ensure that GPs are able to deliver medicine well in the context of sexual health, it is essential that STI investigation and management be made as simple as possible for GPs.

As a minimum, this would require that all GPs be 'STI friendly', which requires a level of open communication between the GP and the patient, which may not always be forthcoming from either party. For example, patients attending the GPs in one study, regardless of their reasons for attending, were asked to identify themselves as being at risk for hepatitis (Sayer 2000). To protect the privacy of the patient, patients were not asked to divulge which particular risk factors applied to them, only whether or not they were in a risk group. Results showed that 13% were at risk of hepatitis B, 9% for hepatitis C and 7.5% for hepatitis A. Yet less than 50% of patients in the overall sample stated they had been tested for this infection. Communication problems are often the cause of inadequate diagnosis and may result in less than optimal care (Sanders 1997). If the GP is comfortable in dealing with this area, it will be obvious to the patient, who is then more likely to seek help again should a similar circumstance arise. As one key informant pointed out

One good consultation can last a lifetime (KI 23:64).

Although communication skills are being increasingly taught at medical schools and social survey evidence has demonstrated a shift in recent years to more permissive attitudes (Lewis 1997), there is still a sizeable number of practicing GPs who trained at a time when this was not the case. For these and other GPs who are under confident about their STI related skills the specific aids identified in this thesis - dialogue and cue sheets, posters, signs, pamphlets, sexual history-taking prompts on patient records, STI testing kit, and research into patients' views - are essential tools in improving STI control in general practice. Clearly some GPs would prefer some specific aids, different GPs might prefer others, but all potentially offer some assistance to some GPs.

One key informant pointed out it would be helpful to introduce such aids to GPs in an appropriate context.

You also need a concept with which to introduce these aids – a kind of theoretical underpinning (KI 31:83).

If STIs could be packaged better and could get increased Government funding it might improve uptake by GPs (KI 11:32).

If things arrive to a GP and they are easy to incorporate, then I don't think there'd be any trouble with introduction. It's important to give GPs a good spiel at the start to make them want to use it. There's also a roll-on effect, once a certain number of GPs are doing something, then it encourages others to do the same (KI 18:52).

Thus key informants believed that to be successful, the introduction of such aids should be part of a wider strategy. This could be carried out as part of an outreach program based at a Centre which was seen to co-ordinate state policy and action on STI control, especially if this program was clearly in keeping with other general practice based population health initiatives.

In the short-term, it is unlikely that funding for a large-scale overhaul of STI control will be forthcoming. There are strategies to improve STI control at the general practice level which could be carried out successfully on a smaller scale. Some functions could be performed by different agencies under the guidance of a steering committee. Group practices could be encouraged to designate at least one member to focus professional development on acquiring in depth STI related knowledge. This GP could then act as a resource for other members of the practice. Not previously identified in the literature as needs of Victorian GPs were two problems highlighted by key informants: the need for easier access to STI surveillance data relevant to general practice, and the need for access to an STI health professional by telephone. Both of these problems could be solved by approaching the organisations currently involved with these issues. The MacFarlane Burnet Centre for Medical Research which carries out STI surveillance for Victoria, may be able to provide surveillance information in a GP friendly format if requested. Currently the MSHC offers a telephone enquiry service which is used more by the public than health practitioners. Some GPs in this study were unaware of the existence of the MSHC and even those who knew of it were not always aware they could seek advice there. A start could be made to rectifying this situation by advertising the MSHC through GP Divisional newsletters. Recently staff of the MSHC met to discuss ways of improving outreach

to general practice. The recommendations arising from this study were used as a starting point for discussion (K. Berzins, MSHC, personal communication 2001).

Conclusion

Australia's response to STIs has been shaped uniquely, as in every country, by a variety of social, economic, cultural and political factors. Of these, social stigma has had the greatest influence on STI control (Lewis 1997). Moralistic views of STIs have affected not only the attitudes of individuals towards seeking and giving STI treatment, but also the introduction and implementation of policy for controlling STI infections.

Although recognised 100 years ago as a world leader in planning STI control, Victoria failed to follow through. The prevailing morality made control of these infections too complex. The complacency which followed the introduction of penicillin was not shaken until the advent of HIV, and then attention became focused on control of this infection, while increasing rates of other STIs were overlooked. Health authorities did little to contain, for example, the spread of chlamydial infection which contributes so heavily to infertility. Paradoxically this occurred even as public expenditure on In Vitro Fertilisation Treatment rose.

Earlier chapters in this thesis have discussed different aspects of STI management and control in relation to general practice. Evidence has been offered to show that an historical precedent exists for these areas to be problematic for many GPs. The introduction to each chapter has demonstrated that GPs have always been viewed as treating a significant proportion, if not the majority of STIs. Yet their management practices have been consistently criticised. In particular, the tendency of many GPs to treat an STI before confirming the diagnosis, and their sub-optimal performance of public health duties in relation to STI control have been held up to censure. As has been seen at the beginning of this chapter, current literature confirms that these are still issues of concern. However, GPs cannot be held entirely responsible for this state of affairs. For many decades, health authorities and medical educators have expended little effort to ensure that GPs were appropriately trained to manage these STIs effectively.

It is hardly surprising, therefore, to find that this study identified a number of discrepancies between ideal practice (as defined by policy and stakeholder documents) and GPs' actual practice in the management and control of STIs. Analysis of these discrepancies led to the development of a series of recommendations aimed at supporting GPs in more effectively contributing to STI control. Key informants, the majority of whom worked in general practice, were asked to comment on these recommendations.

Overall, key informants strongly believed that all GPs should have a minimum level of competence in managing sexual health consultations, and in preventing and managing STIs. Key informants supported recommendations relating to undergraduate, vocational and continuing STI medical education. Recommendations that were most strongly supported, however, were those that would assist GPs in very practical ways. These included access to specific aids such as cue sheets, STI testing kits, poster, signs and pamphlets, and information about patients' views on the manner of conduct of sexual consultations. Key informants highlighted an urgent need for STI advice and epidemiological information which is relevant to general practice. A recommendation relating to the establishment of a single institutional advocate to oversee STI control from the general practice perspective was strongly supported. Key informants had mixed views on the concept of visiting sexual health nurse practitioners, but strongly supported their use in specific situations (such as in rural or adolescent services) and as sexual health educators and academic detailers. There was mixed response to the recommendation that GPs who genuinely have no interest or skill in the area of sexual health should be encouraged to refer a patient on to a GP colleague with a special interest in sexual health. Interest was expressed in the concept of a sexual health collegiate support network that could be fostered within the Divisions of General Practice. This recommendation was supported by low STI caseload GPs, but viewed as contentious by those with medium and high STI caseloads who felt such referrals might be detrimental to patient care.

A unique aspect of this study was that in addition to seeking the views of those with a special involvement in the field of sexual health, opinions were also sought from GPs with a low STI caseload and no particular interest in STIs. This situation is typical of the majority of GPs practising in Victoria. The recommendations arising from this thesis are therefore firmly grounded in the real world of general practice.

Recent decades have seen a number of changes in Australian society which would lead an observer to believe that more liberal attitudes towards sexual issues in general are now widely held. Behaviour suggestive of explicit sexual interaction is shown on billboards and in magazines. The Sydney Gay and Lesbian Mardi Gras attracts a wide audience and can be seen on the daytime news. Television shows like *Sex in the City* discuss sexual issues openly. Gay and lesbian literature is freely available, and sexually explicit material is accessible not only on the internet, but on news stands and in public libraries.

All of this would imply that society has a greater comfort with sexuality in comparison to times gone by. While morality was considered to be the social norm 100 years ago, the historical evidence presented earlier in this thesis on the rate of venereal disease at that time would suggest that people's private lives do not necessarily reflect the social norms of the day. Similarly, openness about sexuality may be considered a current social norm. However, I would argue that this is the public view, and that how people feel as individuals and in their private relationships may be quite different. Furthermore, their relationship with their GP may not reflect the degree of comfort with sexual concerns that is evident in public discourse.

Until the private world mirrors its public face, it is therefore likely that discomfort about STIs will remain for most GPs and their patients. It is thus imperative to minimise the potential for discomfort around sexual concerns in any medical consultation.

The final and most important of the three aims of this thesis was the identification of key strategies to enable GPs to better contribute to STI prevention and treatment. Recommendations have been made in relation to medical education, the introduction of specific aids, the co-ordination of STI control in Victoria and a strategy for STI control in general practice. The adoption of these recommendations would facilitate significant advances in the practical and effective management of STIs by General Practitioners.

Table 8.2 Summary of Final Recommendations

Education

Recommendation 1

There is a need for a common undergraduate STI curriculum within the context of sexual health. This should be developed in collaboration with expert groups such as the Australian College of Sexual Health Physicians, the RACGP, and the Australian and New Zealand College of Obstetricians and Gynaecologists as well as relevant university departments.

Recommendation 2

A committee with representatives of these groups and the Divisions of General Practice should be established, to assist in the vertical integration of undergraduate, vocational and continuing medical education. This will ensure that GPs are offered professional development in the areas of identified need in sexual health.

Recommendation 3

A range of CME programs in the area of sexual health are required. Factors which need to be considered include the need to offer a range of times and places for education programs, utilising a variety of methods. For maximum coverage, STIs as part of sexual health should be included in discussions on a broad range of topics. Defining a shared terminology is an important aspect of CME programs. The possibility of a visiting doctor scheme in sexual health general practices or MSHC to encourage the improvement of STI skills should be examined. The development of innovative CME programs to attract GPs who may not have recognised the need for such skills in their practices would be beneficial.

Specific aids

Recommendation 1

Dialogue or cue sheets should be designed to assist GPs who see STIs infrequently. They would provide a series of appropriate questions to assist GPs in taking a sexual history, and provide a flow chart to assist in decision-making regarding testing, include information on incubation periods and best time for testing.

Recommendation 2

Posters, signs and pamphlets stating that the GP is comfortable discussing sexual health issues would create an environment that may encourage patients to initiate such discussion.

Recommendation 3

To remind all GPs of the importance of a sexual history to the patient's overall health, GPs should be offered the choice between RACGP Health Summary Sheets and Patient Practice Prevention Questionnaires, which include sexual history questions, and those which do not. Further research is needed to determine the most appropriate place to incorporate such questions on Medical Director.

Recommendation 4

The introduction of a problem based STI testing kit would relieve GPs of the need to keep up-to-date with rapidly changing tests. Such a kit would contain instructions and all the testing equipment necessary for laboratory confirmation of STIs. GPs would be instructed to use particular combinations of tests according to whether the patient had symptoms of, for example, 'vaginal discharge', 'genital ulcer', 'genital lump'.

Recommendation 5

Australian research on patients' views is needed. This will identify how best to make patients feel comfortable enough to initiate discussion of sexual concerns, as well as the way in which they prefer to hear a GP ask questions of a sexual nature.

Co-ordination of STI Control in Victoria

Recommendation

Many of the needs identified in this project have arisen because of the lack of a single institutional base which co-ordinates all of the different aspects of STI control, and which has a general practice perspective. Such an institution would need to:

- ◆ have a strong clinical focus on STIs
- ◆ auspice steering committees to oversee medical and nursing STI education
- ◆ provide outreach services to GPs, as well as the community
- ◆ contribute to STI policy e.g. advise on the percentage of patients of specific age on whom an assessment of STI risk should be made
- ◆ develop or endorse specific recommendations on issues such as notification, contact tracing, presumptive treatment and asymptomatic testing. This would include positive feedback for GPs who notify, and refer patients on for contact tracing
- ◆ initiate and participate in relevant research
- ◆ oversee or advise on the dissemination of regularly updated STI related policy documents to both graduating medical students and GPs

Strategies for STI control in general practice

Recommendation

All GPs require a basic minimum knowledge of sexual health, including STIs. All GPs should be encouraged to identify a colleague with a special interest in sexual health either within or outside their practice from whom they would feel comfortable seeking sexual health advice or to whom they would feel happy to refer patients. This collegiate networking could be undertaken within Divisions of General Practice or sponsored by the MSHC. Either a VSHNP or a permanently employed nurse practitioner in sexual health may be suitable under specific circumstances and in specific communities eg. with young people or in particular ethnic communities and in rural areas. Consideration should be given to the use of a VSHNP for academic detailing of STI diagnostic and management

skills. Such a nurse practitioner could be employed by a Division of GPs, or other institution interested in promoting sexual health. The nurse practitioner could conduct CME programs for interested GPs in the traditional way, but also within group practices or on a more personalised level as requested.

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Appendices