STD CARE IN THE SOUTH AFRICAN PRIVATE HEALTH SECTOR

H Schneider, D Blaauw, E Dartnall, D J Coetzee, R C Ballard

Objectives. To establish the accessibility and quality of sexually transmitted disease (STD) care provided by private general practitioners (GPs) and workplace health services in South Africa.

Design. Structured telephone interviews were conducted with a random national sample of 120 GPs and 244 occupational health nurses (OHNs) between May and July 1997. The interview schedules covered indicators of access (including utilisation) and processes (drug treatment, partner management, counselling and condom promotion) of STD care.

Results. An estimated 5 million STD-related visits were made to private general practices in 1997. Reported treatment of STDs was assessed for effectiveness using well-established syndromic case management guidelines. Only 28% of GPs reported effective treatment for urethral discharge. This dropped to 14% for genital ulcer and 4% for pelvic inflammatory disease. Fifty-five per cent of the OHNs interviewed indicated that their workplace clinics provided STD care. Nurses provided this care, with or without the support of doctors, in 87% of clinics. Reported urethral discharge and genital ulcer treatment regimens were assessed as effective in 34% and 14% of responses, respectively.

Conclusions. The private sector is a major provider of STD care and is key to national efforts to achieve better STD control, thereby preventing the spread of HIV. However, the results of the research suggest that the poor quality of STD care may be undermining attempts to control these epidemics in our society. Although a complex task, strategies need to be found to improve the quality of care provided within the private sector.

S Afr Med J 2001; **91**: 151-156.

Centre for Health Policy and Medical Research Council Research Group on Health Policy, University of the Witwatersrand, Johannesburg

H Schneider, MB ChB, MMed

D Blaauw, BSc, MB ChB, FFCH

E Dartnall, BAppSc, MSc

National HIV/AIDS and STD Directorate, Department of Health, Pretoria

D J Coetzee, BA, MB BCh, FFCH

National Reference Centre for Sexually Transmitted Diseases, Department of Clinical Microbiology and Infectious Diseases, University of the Witwatersrand and School of Pathology, South African Institute for Medical Research, Johannesburg

R C Ballard, PhD, MI Biol

In 1995, the private health sector accounted for 55% of total health expenditure and 58% of medical practitioners in South Africa.[1] Although only 18% of the country's population has full access to the private sector through a medical scheme,[2] the non-insured population makes frequent use of private providers, particularly for ambulatory care. It has been estimated that 5% of total health expenditure in South Africa involves out-of-pocket, cash payments to private general practitioners (GPs),[3] of whom there were 8 620 in 1997 (Decision Surveys International — personal communication). These GPs are widely spread across the country; even in rural areas doctors in private practice outnumber those in the public sector.[2]

Sexually transmitted diseases (STDs) appear to be one set of conditions for which treatment is regularly sought in the private sector. STDs often cause acute symptoms that can be dealt with in a once-off consultation. Because of the associated stigma and embarrassment of STDs, patients tend to prefer the privacy and anonymity of GP consulting rooms. In the Hlabisa district of KwaZulu-Natal, for example, 50% of all STD cases are seen in the private sector[4] and in urban Alexandra (Gauteng) 63% of health service visits for STDs in 1994 occurred in private general practice.[5] While patients may experience GP care as more humane than public sector care, the evidence from small-scale studies is that the technical quality of STD care provided by GPs is often less than ideal.[6,7]

Work-based health services are a small but significant additional source of private primary care in South Africa. A total of 1 233 workplace clinics were registered with the Department of Health in 1996, and an estimated 400 medical practitioners (mostly part-time) and 1 000 nurses work in the occupational health setting.[2] Studies in three provinces (Gauteng, the Western Cape and KwaZulu-Natal) have found that between 51% and 58% of workplace clinics provide STD care.[7-9] Two of these studies[7,8] assessed the quality of STD care, and in both, less than 10% of clinics providing STD care reported effective treatment for urethral discharge.

The Department of Health (DOH) has adopted and promoted the World Health Organisation (WHO)-recommended, syndromic approach to STD care.[10] Syndromic STD case management has as its central principle the effective treatment of all major diseases associated with particular STD syndromes, such as urethral or vaginal discharge, rather than trying to diagnose and treat specific diseases. It is based on the understanding that laboratory tests are expensive and not available in many settings and that the aetiological diagnosis of an STD (e.g. gonococcal urethritis, chancroid) on clinical grounds alone, even in the most experienced hands, is very often inaccurate.[11] In a recent study in Lesotho,[12] only 62% of patients with genital ulcer disease were correctly diagnosed clinically by STD specialists, whereas the use of a syndromic protocol ensured that more than 90% of patients were adequately treated. The ability of STD organisms such as

Neisseria gonorrhoeae and *Haemophilus ducreyi* to develop resistance to commonly used antibiotics, has also led to significant changes in recommended STD treatment regimens over the last few years.

Since 1994, a concerted effort has been made in the public sector to implement an updated and effective approach to STD management that reflects the current understanding of best practice. This appears to have been at least partially effective. In a 1998 national survey[13] of 294 public sector clinics, 82% and 72% of nurses interviewed knew the correct drug management for urethral discharge and genital ulcer, respectively. Eighty-six per cent of clinics had ciprofloxacin in stock.

Increasing recognition of the role of the private sector in STD control prompted the DOH to commission a national evaluation of STD care in the private sector. This formed part of a broader national HIV/AIDS and STD review conducted during the course of 1997.[14] The aim of the evaluation was to establish the accessibility and quality of STD care provided by private GPs and workplace health services.

METHODS

For the purposes of this study, two cross-sectional descriptive surveys were conducted, one of private GPs and one of workplace clinics. A private research company, Decision Surveys International (DSI), was contracted to draw a national, random sample of 120 GPs, representing 1.4% of the total GP population. DSI does regular surveys of prescribing patterns of private practitioners and is regarded as having one of the most accurate listings of GPs in the country. The list of nurses who are members (paid and unpaid) of the South African Society for Occupational Health Nurses (SASOHN) was used as the sampling frame for workplace clinics. In mid-1997, there were 704 members of SASOHN, constituting nearly three-quarters of the estimated population of nurses in workplace clinics. A simple random sample of 248 members was drawn from the list.

Structured telephone interview schedules were designed and tested for the two groups of providers. The interview schedules combined open and closed-ended questions, covering indicators of access (including utilisation) and processes (drug treatment, partner management, counselling and condom promotion) of STD care. The GP and occupational health nurse (OHN) interview schedules were administered by trained interviewers. GPs were paid a nominal fee of R50 for the time taken by the interviews. The data were collected during the months of May, June and July 1997.

Data were entered and analysed using the Statistical Package for the Social Sciences (SPSS). Treatment practices were coded and analysed for each STD syndrome at two levels: (*i*) the proportion of respondents that reported recognised, effective treatment of the STD syndrome; and (*ii*) the proportion of respondents that reported treatment regimens containing more than one antibiotic and therefore implicitly accepted the need for management of syndromes rather than single aetiologies.

The influence of various factors on whether or not the GPs and occupational clinics prescribed effective treatment was evaluated using multiple logistical regression for each of the STD syndromes.

Ethical approval for the studies was obtained from the Committee for Research on Human Subjects of the University of the Witwatersrand. Participation was voluntary and this was made clear to respondents before each interview.

RESULTS

STD care by GPs

All the GPs contacted agreed to be interviewed. Of the 120, 67% were based in a city or metropolitan area, and more than one-third came from Gauteng (Table I). Approximately three-quarters (76%) dispensed medication from their practices. On average, 63% of their patients were covered by health insurance (range 0% - 100%).

Table I. Distribution of GPs interviewed

Province	*N*	%	Area	*N*	%
Gauteng	44	37	Greater Johannesburg	33	28
Western Cape	23	19	Durban	14	12
KwaZulu-Natal	23	19	Cape Town	12	11
Eastern Cape	13	11	Pretoria	8	7
Free State	7	6	Port Elizabeth	4	3
Mpumalanga	4	3	Bloemfontein	4	3
Northern Province	4	3	East London	4	3
North West	2	2	Small town and rural	40	33
Northern Cape	0	0.0			
Total	120		Total	120	

Practices were open between 5 and 7 days a week, and the mean daily load per GP was 28 patients (median 30, range 10 - 80). All 120 GPs treated STDs, and the reported number of STD-related visits ranged from less than 0 to 25 per day (median 1). Assuming that the mean reported utilisation (2.5 visits per day, standard deviation (SD) 3.2) corresponds to reality for at least five days of the week for 48 weeks of the year, and extrapolating this to the entire GP population, it can be estimated that a total of 5.2 million STD-related visits were made to GPs in 1997. This estimate makes no distinction between new and follow-up visits. The latter are likely to be high in the presence of inadequate treatment, and the estimate should not be regarded as an STD incidence rate.

In a series of open-ended questions, respondents were asked to describe their usual management of four STD syndromes: urethral discharge, genital ulcers, vaginal discharge and pelvic inflammatory disease (PID). The findings on three of these syndromes are given in Table II.

Less than one-third (28%) of the GPs reported a drug regimen that was effective against the syndrome of urethral discharge. This dropped to 16% for genital ulcers and 4% for PID. Fifty-seven per cent of respondents indicated that they would administer a long- or short-acting injectable penicillin for urethral discharge. Overall, 60% of urethral discharge regimens contained a quinolone or other antibiotic effective against gonococcal infection, sometimes in combination with penicillin. Depending on the syndrome, between one-third and two-thirds of GPs prescribed only one systemic antibiotic for the syndrome.

Reported treatment regimens for vaginal discharge were analysed differently. There were two distinct types of responses — those who approached vaginal discharge as a vaginal wall infection, and treated it as such, and those who approached it as a cervical infection or combination of cervical and vaginal infection (Table III). Of the 71 GPs in the latter category, 10 (14%) provided effective treatment for both chlamydial and gonococcal infection (the two main causes of cervical infection).

Table III. GP management of vaginal discharge

	Number		Effective cervical infection treatment	
Approach	*N*	%	*N*	%
Vaginal infection	45	39	—	—
Cervical infection	12	10	2	17
Both	59	51	8	14
Total	116			

Several GP responses suggested different management of STDs for 'medical aid' and 'cash' patients, and related to this, for black and white patients. One GP responded to the question 'How would you treat a man presenting to you with urethral discharge?', by saying that 'It depends on his socio-economic situation and what he can afford. For blacks, probably a procaine penicillin injection and Flagyl. I may also use Bicillin or Ciprobay depending on severity and affordability.'

In response to the question: 'How would you treat a woman who comes to you with a vaginal discharge?', another GP replied: 'I have got to give patients the treatment they can afford to pay. If Mrs Jones comes in for treatment and she has medical aid and her maid comes in and she doesn't, obviously treatment is going to differ from patient to patient.'

When asked, all GPs stated that they tried to notify partners through the index case, and 18% reported that they provided a card or a letter to inform partners of the need for treatment.

Table II. Reported treatment of STD syndromes by GPs and workplace clinics

	Urethral discharge (*N* = 120)		Genital ulcer (*N* = 110)		PID (*N* = 114)	
	N	% (95% CI)	*N*	% (95% CI)	*N*	% (95% CI)
GPs						
Effective treatment prescribed	34	28 (20.7 - 37.4)	17	16 (9.5 - 23.9)	5	4 (1.6 - 10.4)
More than one antibiotic prescribed	71	59 (49.8 - 67.9)	36	33 (24.3 - 42.4)	77	68 (58.0 - 75.8)
Workplace clinics						
Effective treatment prescribed	41	34 (25.9 - 43.5)	13	14 (8.2 - 23.8)		
More than one antibiotic prescribed	80	67 (57.4 - 74.8)	42	47 (36.2 - 57.4)		

PID = pelvic inflammatory disease.

When asked, in an open-ended question, what tests (if any) they would do on pregnant women, 52% of GPs mentioned syphilis serology, while 33% indicated that they would test for HIV. Fifty-one GPs (43%) had seen the DOH's 1997 protocols for management of STDs.

Of the variables selected for the multiple regression analysis, there were no significant predictors of effective treatment for urethral discharge or PID. However, urban GPs (odds ratio (OR) 8.69, 95% confidence interval (CI) 1.52 - 49.58) and GPs from KwaZulu-Natal (OR 6.81, 95% CI 1.64 - 28.33) were more likely to prescribe appropriate treatment regimens for genital ulcer disease (Table IV).

STD care in workplace clinics

Of the 248 OHNs contacted, 4 declined to be interviewed, giving a response rate of 98% and a sample size of 244. Respondents were based in a range of sectors and spread across six provinces (Table V). Their workplaces varied in size from 38 to 15 000 employees. Fifty-two per cent of workplaces employed less than 500 people and the overall male-to-female ratio of employees was 3:1, with only 15% of workplaces reporting a greater number of women than men.

The workplace clinics were most commonly staffed by full-time nurses (median 40 hours/week), who were supported by part-time medical practitioners (median 2 hours/week).

Of the 244 OHNs interviewed, 135 (55%, 95% CI 49 - 62%) indicated that STD care formed part of the services at their clinic. When employee numbers were taken into account, 78% of workers served by the OHNs had access to STD care at work. This reflects the fact that workplaces with 500 or more

Table IV. Results of multiple logistical regression analysis to identify factors influencing the provision of effective STD treatment by GPs and workplace clinics

	Urethral discharge		Genital ulcer		PID	
	OR*	95% CI	OR*	95% CI	OR*	95% CI
GPs						
Urban practice	0.91	0.39 - 2.16	8.69	1.52 - 49.58	3.00	0.29 - 31.20
From KwaZulu-Natal	2.08	0.75 - 5.78	6.81	1.64 - 28.33	5.13	0.52 - 50.42
Dispense medication	2.18	0.71 - 6.71	0.43	0.10 - 1.90	0.75	0.06 - 9.71
Predominantly medical aid patients (> 80%)	1.33	0.48 - 3.70	0.67	0.12 - 3.82	4.68	0.49 - 44.67
See STDs frequently (> 2 patients/day)	1.07	0.42 - 2.78	2.81	0.74 - 10.67	1.95	0.20 - 19.53
Have seen DOH guidelines	1.19	0.51 - 2.79	0.43	0.12 - 1.53	1.40	0.20 - 9.75
Workplace clinics						
From KwaZulu-Natal	1.04	0.29 - 3.78	8.40	1.75 - 40.26		
Large factory (> 500 workers)	2.58	0.76 - 8.67	1.27	0.22 - 7.17		
See STDs frequently (> 2 patients/day)	0.59	0.14 - 2.43	0.63	0.96 - 4.08		
Claim to use syndromic management	19.68	6.45 - 60.00	5.74	1.02 - 32.34		

* Adjusted.
PID = pelvic inflammatory disease; OR = odds ratio; CI = confidence interval; DOH = Department of Health.

Table V. Distribution of OHNs interviewed

Province	N	%	Industry	N	%
Gauteng	129	53	Manufacturing	151	62
KwaZulu-Natal	41	17	Mining and minerals	33	14
Eastern Cape	38	16	Service industry	27	11
North West	19	8	Construction and engineering	9	4
Western Cape	16	7	Agriculture	9	4
Mpumalanga	1	0.4	Retail	8	3
Northern Province	0		Other	7	3
Free State	0				
Northern Cape	0				
Total	244		Total	244	

employees were more likely to provide STD care, probably as part of a package of primary care services, than those with less than 500 employees (univariate, OR 2.4, $P = 0.001$). The OHNs reported daily clinic attendances of between 3 and 320 patients (median 25/day), and in the 135 clinics that provided STD care there was a median of 0.6 STD-related visits per day (range 0 - 34). Extrapolating the mean utilisation (1.8 STD visits/day, SD 3.9) to 55% of all workplace clinics, and using similar types of assumptions as for GPs (availability of a nursing service for a mean of 4.86 days a week, 48 weeks per year), about 285 000 STD-related visits were made to workplace clinics in 1997. As with GPs, this utilisation rate cannot be regarded as an STD incidence rate.

STD care was provided by nurses, with or without support from doctors, in 87% of the 135 clinics. In the remaining 13%, care was provided by doctors only. Of the total sample of 244 OHNs, 42% had heard of the syndromic approach to STD management, and 17% indicated that they had used this approach. One-quarter (27%) of clinics providing STD care also treated the partners of STD cases, and 36% routinely handed out a letter, slip or card to notify partners of the need for treatment.

Respondents were asked to describe the usual treatment of two STD syndromes in men, namely urethral discharge and genital ulcers. Of the 135 OHNs whose clinics provided STD care, 120 and 90 were able to describe the management of urethral discharge and genital ulcers, respectively. Thirty-four per cent of the urethral discharge regimens were judged to be effective (Table II). Penicillin was mentioned in 30% of responses. As with GPs, a low proportion of clinics (14%) reported effective drug regimens for genital ulcer disease.

Occupational clinics that indicated they used syndromic management were more likely to prescribe appropriate treatment for both urethral discharge (OR 19.68, 95% CI 6.45 - 60.00) and genital ulcers (OR 5.74, 95% CI 1.02 - 32.34). In addition, workplace clinics in KwaZulu-Natal were more likely to provide effective treatment for genital ulcers (OR 8.40, 95% CI 1.75 - 40.26) (Table IV).

Condoms were distributed in nearly all workplaces (98%), almost always for free, although in one-third (33%) of these workplaces, condoms were only supplied on request. A nurse trained in counselling was present in 63% of workplaces; more than half (52%) of these nurses had been trained by the government-sponsored AIDS training, information and counselling centres (ATICCs).

Discussion

The results of this study emphasise the enormous opportunity for addressing the burden of STDs through the private sector. Currently, however, this opportunity is largely being missed. GPs see an estimated 5 million STD cases per annum, yet a distressing number of these appear to be inadequately managed. In particular, women who present to their GPs with PID have very little chance of being adequately treated. Only half the pregnant women presenting are likely to be screened for syphilis.

There are several possible reasons for this situation. Firstly, reported management may not correspond with actual management, although the tendency would be to report better rather than worse practice. More probable is a lack of knowledge and acceptance of the syndromic approach to STDs in the private sector. GPs may rely on outdated knowledge gained at medical school, and despite evidence to the contrary, many may believe that an aetiological STD diagnosis and single therapy are appropriate. For example, more than two-thirds of GPs prescribed only one antibiotic for genital ulcer disease. Lack of consensus in the scientific community, particularly concerning the management of vaginal discharge, may have also delayed acceptance of the principle of syndromic management on the part of certain doctors.

Alternatively, single therapies may be prescribed in the expectation that patients will return for follow-up care if co-infection is present or if the infection does not respond to treatment. However, the probability of poor clients returning (and paying) for a follow-up consultation is low. Moreover, modelling work has shown that the dynamics of STD epidemics are highly sensitive to the duration of an infective episode,[15] and one of the key goals of syndromic management is to treat STDs as early as possible. In our experience many GPs are simply not aware of current trends in STD management, and at the time of the research were not accessing reliable information on the topic. This may change with recently introduced compulsory re-certification.

Cost is often cited as a reason for poor quality of private STD care. The biggest cost factor in STD care is the need to prescribe newer antibiotics effective against particular STD organisms that have a high ability to develop antibiotic resistance. However, it is interesting to note that 60% of regimens for urethral discharge contained a quinolone, suggesting awareness of antibiotic resistance. By the same token, levels of resistance may be deemed sufficiently low to continue prescribing ineffective regimens for cash-paying patients, where drugs are provided as part of the package of care and the overriding incentive is to minimise costs.

Workplace health services also represent a missed opportunity. Of those workplaces that do employ an OHN, just over half actually provided treatment for STDs. In those that did provide treatment, the quality was poor. Partner management was suboptimal and although condoms were widely available, very often they were provided on request only. In key informant interviews conducted as part of the evaluation process[16] the non-issuing of permits for nurse prescribing, and problems of trust and perceived lack of

confidentiality, were raised as key barriers to expanding STD care in this sector. The last problem has been noted by others[8] and may be a significant reason for low utilisation of these services by workers.

This evaluation had a number of limitations. Firstly, while the focus of the evaluation was on the more easily measurable aspects of drug management, it is important to emphasise the other equally important components of good-quality STD care. These include establishing a relationship of trust with the client, partner management, provision of appropriate and sensitive advice and condom distribution. Secondly, the sample of GPs was relatively small and both surveys relied on reported practices. Utilisation data, in particular, are likely to be rather crude estimates, and the inability to distinguish between new and follow-up visits means that the estimates should not be regarded as incidence rates. Finally, it was beyond the scope of this study to address STD care by other private practitioners such as pharmacists and traditional healers. We do not believe that these limitations, while real, change the overall conclusions of the study.

CONCLUSIONS

The private sector is crucial to the success of STD control in South Africa. In the context of a devastating and growing HIV epidemic, providing early and effective STD care is one of the most feasible and immediate measures that could be invoked, and is far easier to achieve than change in sexual practices. STD care is but one example of the broader public health impact of private health care, and points to the need for a stronger interaction between public and private sectors around problems of national priority. However, the international evidence suggests that improving the quality of privately provided services is a complex task that requires careful thought as to the economic, professional and patient factors influencing the nature of this care.[17] Recent changes in the professional, regulatory and organisational environment in the private sector may provide opportunities for reaching this sector and need to be investigated.

This evaluation was done on tender (GES 131/96-97) for the HIV/AIDS and STD Directorate of the Department of Health. The authors would like to thank the DOH for permission to publish the results, as well as Zanele Hlatshwayo and Francesca Clews who participated in the fieldwork.

References

1. Wolvaardt G, Palmer N. Private sector. In: Barron P, ed. *SA Health Review 1997*. Durban: Health Systems Trust, 1997.
2. Soderlund N, Schierhout G, van den Heever A. Private Health Care in South Africa. Technical Report to Chapter 13 of the *SA Health Review 1998*. Durban: Health Systems Trust, 1998.
3. Valentine N, McIntyre D. *A Review of Private Health Care Expenditure in South Africa — National Health Expenditure Review. Technical Paper no 9*. Cape Town: Health Economics Unit and Medical Research Council, 1994.
4. Wilkinson D, Connolly A, Harrison A, Lurie M, Abdool Karim S. Sexually transmitted disease syndromes in rural South Africa: Results from health facility surveillance. *Sex Transm Dis* 1998; **25**: 20-25.
5. Rispel L, Beattie A, Xaba M, *et al. A Description and Evaluation of Primary Health Care Services Delivered by the Alexandra Health Centre and University Clinic*. Technical Report. Johannesburg: Centre for Health Policy, 1995.
6. Connolly AM, Wilkinson D, Harrison A, Lurie M, Abdool Karim SS. Management of STDs in private general practice in a rural health district (Abstract). Presentation at the 18th African Health Sciences Congress, Health Research in Africa: Meeting the Challenge. Cape Town, 14 - 17 April 1997.
7. Schneider H. *Assessment of Services for the Control of Sexually Transmitted Diseases in the PWV Province*. Technical Report. Johannesburg: Centre for Health Policy, 1995.
8. Colvin M, Abdool Karim Q, Hoosen A. Management of sexually transmitted diseases in workplace-based clinics in KwaZulu-Natal: Implications for HIV prevention. *S Afr Med J* 1997; **87**: 245-249.
9. London L, Naidoo K, Woolf L, Diedricks H. AIDS prevention programmes at the workplace. *S Afr Med J* 1995; **85**: 539-540.
10. World Health Organisation. *Management of Sexually Transmitted Diseases*. (WHO/GPA/TEM/94.1). Geneva: Global Programme on AIDS, WHO, 1994.
11. Dallabeta GA, Gerbase AC, Holmes KK. Problems, solutions, and challenges in syndromic management of sexually transmitted diseases. *Sex Transm Infect* 1998; **74**: suppl 1, S1-S11.
12. Htun Ye, Morse SA, Dangor Y, *et al.* Comparison of clinically directed, disease specific, and syndromic protocols for the management of genital ulcer disease in Lesotho. *Sex Transm Infect* 1998; **74**: suppl 1, S23-S28.
13. Pick W, Fisher B, Kowo H, *et al.* Measuring the quality of care in South African clinics and hospitals. Technical Report to Chapter 14 of the *SA Health Review 1998*. Durban: Health Systems Trust, 1998.
14. Frolich J, ed. Comprehensive Report: National STD/HIV/AIDS Review. Pretoria: Medical Research Council, 1997.
15. May RM, Anderson RM. Transmission dynamics of HIV infection. *Nature* 1987; **326**: 137-142.
16. Dartnall E, Schneider H, Hlatshwayo Z, Clews F. *STD Management in the Private Sector: A National Evaluation*. Johannesburg: Centre for Health Policy, 1997.
17. Brugha R, Zwi A. Improving the quality of private sector delivery of public health services: challenges and strategies. *Health Policy and Planning* 1998; **13**: 107-120.

Accepted 3 June 2000.