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Quality and equity of private sector care for sexually transmitted diseases in South Africa

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The private sector plays a major role in the delivery of health care in South Africa. Over the past two decades, the quality and equity of such provision has been questioned internationally. A study was conducted in Gauteng Province to explore these issues, using care for sexually transmitted disease (STD) as a case study. Private general practitioners (GPs) were interviewed by telephone. Each was presented with a set of STD syndromes and requested to describe how s/he would manage the patient, first if the patient was insured, then secondly if the patient was paying cash (uninsured). Reported prescriptions were costed and assessed for effectiveness against main causative pathogens using local standard clinical guidelines. Knowledge of recent developments in STD syndromic management and effectiveness of prescribed drugs was poor, especially for genital ulcer and pelvic inflammatory disease, and less than half the prescriptions overall were judged as effective. Although the effectiveness of prescriptions for insured and uninsured patients were similar, for most syndromes uninsured patients were offered significantly cheaper and less convenient antibiotic regimens. Effective regimens were also significantly more expensive than ineffective regimens. The results suggest that GPs' perceptions of patients' willingness or ability to pay for drugs have a bearing on quality of care. The paper concludes that STD patients who present to GPs are often offered poor quality of care, and the choice of inconvenient antibiotics impacts disproportionately on the poor. Improvements in the quality and equity of GP care will require interventions that address the factors that determine their behaviour.

Key words: equity, sexually transmitted diseases, private sector, South Africa

Introduction

In South Africa, private general practitioners (GPs) typically have a mixed clientele of insured and uninsured patients. Services to insured clients are most commonly reimbursed directly by insurers (known as medical aid schemes) on a fee-for-service basis. Uninsured (or cash paying) clients are provided with an all-inclusive package of care (consultation and drugs) in return for a fixed cash fee. A high proportion of the uninsured as well as the insured use private care. In Gauteng Province, the urbanized industrial heartland of South Africa, 50% of households in a 1995 survey reported some utilization of private health care in the previous month (Central Statistical Services 1996). More than half (60%) of these did not have insurance cover. These high levels of private sector utilization reflect the widespread availability of private primary care providers in urban areas, three-quarters of whom dispense medication from their practices (Schneider et al. 2001).

In the face of scarce resources for public health care and the increasing burden of ill health attributable to HIV/AIDS and poverty, the participation of the private sector in health has been the subject of considerable debate. Current government policy favours public–private collaboration in the delivery of health services (Department of Health 1997), and the contracting of private providers for the provision of essential curative care has been suggested as a mechanism to increase coverage (Department of Health 1996). However, there are significant concerns around the quality and equity impacts of privately provided services. There is growing international evidence that in the face of stiff competition for clients and narrow profit margins, privately provided services in developing countries often aim to satisfy patient demand, but not necessarily their needs (Benjarattanaporn 1997; Brugha and Zwi 1998).

There is also substantial anecdotal evidence in South Africa that private GPs manage cash-paying and insured patients differently, with implications for equity between racial and ethnic groups as well as in relation to socioeconomic status. The apartheid system created boundaries between social groups along racial lines that generally corresponded to the socioeconomic status of various communities, thus also influencing the purchase of private services. This is illustrated by the 1995 October Household Survey (Central Statistical Services 1996) findings that suggest a link between medical insurance cover and household income levels. The highest proportion of insured (72%) was found in the richest quintile of the urban (mostly white) population, compared with 5% in the urban poorest quintile and only 1% in the rural poorest (mostly black) quintile (Table 1).

Despite considerable efforts to improve access to public sector care for sexually transmitted diseases (STDs), private GPs in South Africa are still important providers of such care, possibly treating more STD cases than the public sector (Wilkinson et al. 1998; Schneider et al. 2001). Ease of access, privacy, confidentiality and short queues are some of the features of the private sector that generally attract patients with STDs (Aljunid 1995; Swan and Zwi 1997). Although there are no data on the distribution of STDs by social class in South Africa, it is plausible to assume, on the basis of data elsewhere (Santelli et al. 2000), that they disproportionately affect poor people. In contrast to other services, such as for chronic diseases, the uninsured make frequent use of private providers for STD care (Schneider et al. 2001), thus allowing for comparison in care received between the insured and uninsured. In this typical South African private primary care setting with a mixed insured/uninsured clientele, STD care therefore provides a useful case study of both quality and equity in the provision of private primary care services.

This paper presents the results of a study which assessed the quality of privately provided STD care in two low-income urban areas of South Africa, and explores differences and possible inequities in the treatment offered to insured and uninsured patients. The findings are part of a baseline for a larger study, currently underway, which aims to design, implement and evaluate strategies to improve the quality of STD care in the private sector.

- How would you normally manage a male *on medical aid* who presents for the first time with a thick yellow urethral discharge? (URD-MA)
- How would you normally manage a male *without medical aid* who presents for the first time with a thick, yellow urethral discharge? (URD-Cash)
- How would you normally manage a male *on medical aid* who presents for the first time with two large painful and bleeding genital ulcers? (GUD-MA)
- How would you normally manage a male *without medical aid* who presents for the first time with a genital ulcer? (GUD-Cash)
- How would you normally manage a female patient *on medical aid* who presents for the first time with pelvic inflammatory disease? (PID-MA)
- How would you normally manage a female patient *without medical aid* who presents for the first time with pelvic inflammatory disease? (PID-Cash)

Box 1. Clinical scenarios presented to general practitioners for comment on care and service provision (interviewer instructed not to prompt)

Methods

A telephone survey was conducted amongst private GPs in two urban districts of Gauteng Province in South Africa (Tembisa/Kempton Park and Katlehong/Tokoza), with a combined population of 563 059 people (Central Statistical Services 1996). More than 90% of the population is black and 60% are less than 30 years of age. Unemployment in the region is estimated at 32%. The two districts have a history of political and civic mobilization against the apartheid regime where professionals including doctors played an important role.

The survey was completed between March and May 1999. The two sites have between them an estimated 80–100 private practices. An attempt was made to contact and recruit to the larger study all practising GPs in the two sites. The sampling frame was constructed using several sources of data as GPs are not required by law to register their practices with local health authorities. Simply establishing an accurate listing of active practices in each of the areas necessitated supplementing and reconciling incomplete lists from the local and national doctor associations with site visits. A final list of 82 practices was established in both districts. Despite repeated attempts, we were unable to establish contact or hold interviews with 15 GPs. A further two refused to be interviewed; hence a total of 17 GPs (20.7%) did not participate in the study. The interviews required a median of three phone calls (range 1–9 calls) before GPs were free or willing to be interviewed.

A team of four researchers at the Centre for Health Policy, experienced in interviewing, conducted all the interviews, using a semi-structured questionnaire. One of the investigators (H.S.) used a similar tool in a 1997 national telephone survey of STD management by GPs (Dartnall et al. 1997). The questionnaire was designed to collect data on the profile of GPs, proportion of insured and cash-paying patients, GP knowledge of STD syndromic management; and the presence of inputs (STD education material, drugs, condoms, partner notification slips, STD protocols, examination lights and speculum) and processes related to STD care. GPs were presented with three clinical scenarios, each reflecting a typical presentation of three key STD syndromes: urethral

Table 1. Use of private care and medical scheme membership by income quintiles, urban and rural areas

Income quintile	% of ill persons covered by medical scheme	
	Rural	Urban
1	1	5
2	1	9
3	2	22
4	4	49
5	16	72

Source: 1995 October Household Survey (Central Statistical Services 1996).

Table 2. Effective prescriptions for the three syndromes (n = 65)

	Effective prescriptions					
	URD		GUD		PID	
	%	[95% CI]	%	[95% CI]	%	[95% CI]
Effective drug combination						
Insured	53.8	[41.1–66.1]	20.0	[11.5–32.1]	33.8	[22.9–46.7]
Uninsured	46.2	[33.9–58.9]	20.0	[11.5–32.1]	30.8	[20.2–43.6]
Effective drug combination, dose and duration						
Insured	36.9	[25.6–49.8]	10.8	[4.8–21.5]	3.1	[0.5–11.6]
Uninsured	35.4	[24.2–48.3]	10.8	[4.8–21.5]	3.1	[0.5–11.6]

URD = urethral discharge; GUD = genital ulceration; PID = pelvic inflammatory disease; CI = confidence interval.

discharge (URD) in a man, genital ulceration (GUD) in a man and pelvic inflammatory disease (PID) in a woman (see Box 1). They were asked how they would manage the client, first if the patient was covered by medical aid, then secondly if the patient was paying cash.

The interviewer recorded, without prompting, the reported names of drugs prescribed, and doses and duration of treatment. These were assessed against STD syndromic management[1] guidelines, produced by the STD Reference Centre of the South African Institute of Medical Research (Ballard et al. 2000). Also noted was any spontaneous mention of laboratory investigations, education/counselling, partner notification and issuing of condoms.

For each syndrome, the effectiveness of prescriptions for both insured and uninsured patients was assessed and compared. Effectiveness was evaluated at two levels: first by comparing reported drug combinations with the recommended regimen in the guidelines; secondly assessing the appropriateness of the drug dose and duration for each syndrome. The costs of prescriptions for the insured and uninsured were also compared. Prices of antibiotics prescribed were obtained from a local wholesaler supplying the GPs (Amalgamated Pharmaceutical).

Data were entered and analyzed using the Statistical Package for Social Sciences (SPSS) version 10.0. Differences between the insured and uninsured were assessed using the χ^2 test for categorical data and the Mann–Whitney U mean sum test for numerical data.

Results

A total of 82 GPs were identified in the study sites. Sixty-five (79.3%) consented to the interview. The majority (73.8%) of the 65 GPs interviewed were male. The period of time since qualification ranged from 3 to 49 years, with a median of 13 years. Only 20.0% had any postgraduate qualifications but 84.6% had attended at least one continuing medical education seminar in the 6 months prior to the interview, and 50.8% had attended five or more during that period.

Three-quarters of the GPs were in solo practice and most of their practices were open 6 or 7 days a week. A significant proportion of GPs (43.1%) also claimed to do some part-time work in public sector facilities. On the last working day prior to interview, GPs had seen between five and 84 patients (median 25 patients) in their practices. The median number of STD cases seen on the previous day was three, while only twelve practices (18.5%) indicated that they had had no STD patients on that day. All GPs reported a mixed clientele of 'medical aid' (insured) and 'cash-paying' (uninsured) patients. The percentage of clients with insurance ranged from 20 to 95% in the study practices. The majority of GPs (90.7%) dispensed medicines from their practices.

GP knowledge of recent developments in STD management was poor: 58.5% had not heard of syndromic management and only 21 (32.3%) claimed to apply syndromic management in managing STD patients. The responses to the clinical scenarios revealed similar deficiencies (Table 2). The combination of antibiotics prescribed for the URD scenario was judged to be inadequate in approximately half of the cases. Only a third of GPs prescribed an effective combination of drugs for PID, and only 20% prescribed effective drugs for GUD.

Furthermore, GPs tended to prescribe drugs in inadequate dosages or for inadequate periods of time so that the proportion of prescriptions judged to be effective was even lower. At most, only 36.9, 10.8 and 3.1% of URD, GUD and PID prescriptions, respectively, had the correct combination of drugs in the right dose and duration (Table 2).

Thirty-three GPs (50.8%) reported that they prescribed different drug combinations for insured and uninsured patients for at least one of the syndromes. However, at the first level of assessment (drug dose and duration not taken into consideration), the effectiveness of GP prescriptions for insured and uninsured patients were generally similar. The largest difference was seen for URD, where uninsured patients were less likely to receive effective treatment, but none of the differences were statistically significant.

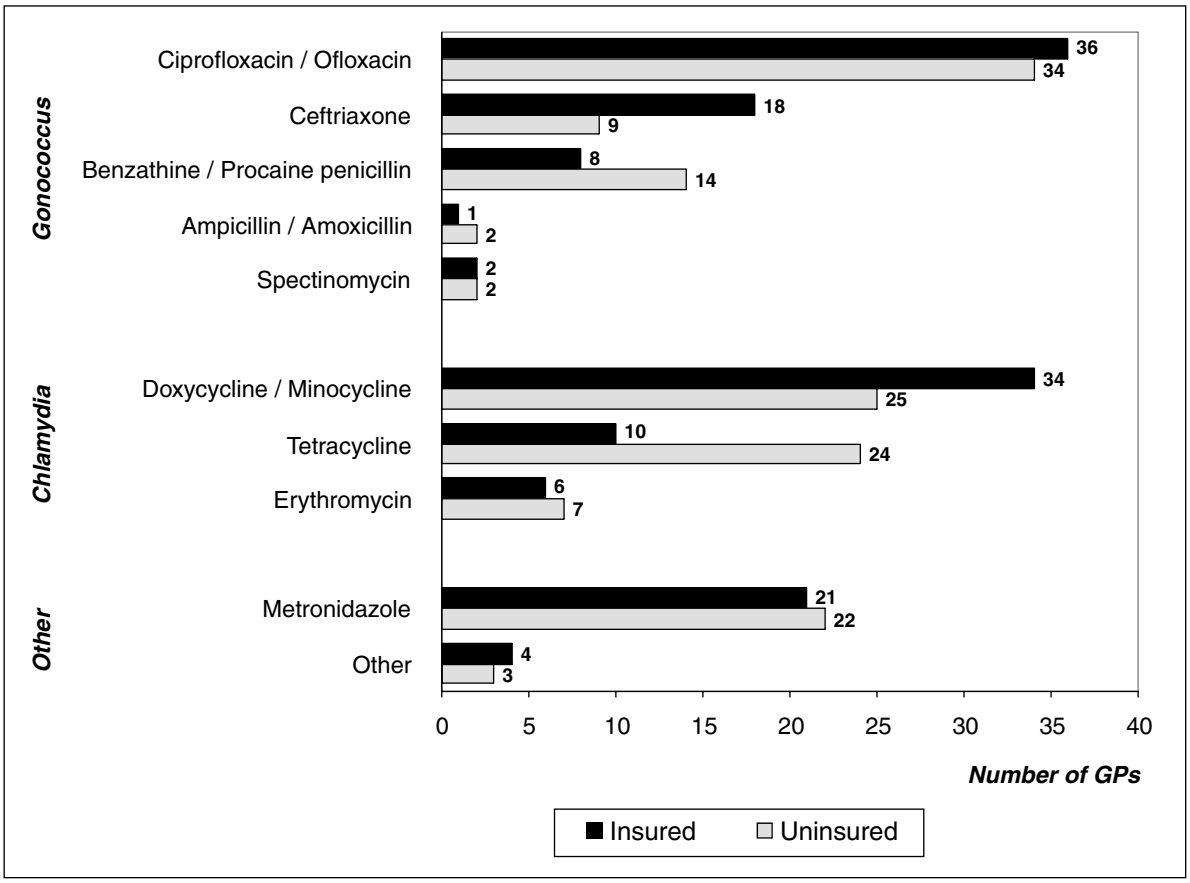

Figure 1. Reported antibiotics prescribed to male patients with urethral discharge (URD), with and without medical insurance (n = 65)

A wide range of different antibiotics was prescribed per syndrome, reflecting the lack of a standardized approach to antibiotic therapy within the GP community. For URD, for example, the 65 GPs in the study prescribed 16 different antibiotics in 46 different combinations. Figure 1 compares the frequency with which antibiotics active against different organisms were prescribed for URD in insured and uninsured patients.

A quinolone (ciprofloxacin or ofloxacin), effective against gonococcal infection, was prescribed with similar frequency in the two groups. However, insured patients were more likely to receive ceftriaxone, which is significantly more expensive; whereas penicillin, which is no longer effective against gonococcus, was prescribed more frequently for uninsured patients. For antibiotics effective against chlamydial infection (the other common cause of URD), insured patients were more likely to receive doxycycline or minocycline, which is taken twice a day, whereas uninsured patients tended to receive tetracycline, which requires four doses a day. Metronidazole was frequently prescribed for URD for both insured and uninsured patients but is not generally recommended.

Supporting patients to adopt sexual behaviour that reduces the risks of re-infection and transmission to partners is an important objective of the syndromic management approach, but less than half of GPs (43.1%) spontaneously mentioned information, education, counselling or promotion of condom use.

Table 3 shows the results of the cost analysis of the GP prescriptions using wholesaler prices charged to GPs in the study area. For all three regimens, GPs tended to prescribe less expensive drugs for uninsured patients. The difference for URD was statistically significant at the 5% level. This prescribing pattern could be interpreted as efficient in favour of uninsured patients. However, on average, effective regimens (appropriate drug combination, dose and duration) prescribed by GPs were significantly more expensive than ineffective regimens suggesting some association between low cost and ineffectiveness of the prescription.

The cost of drug treatment for STDs, using the National Department of Health Guidelines, was ZAR[2] 21.61, ZAR 21.00 and ZAR 32.03 for URD, GUD and PID, respectively. These prices are similar to the median cost of effective regimens in the survey. For URD, the cost of the guideline regimen is equivalent to what GPs are already prescribing, on average, for uninsured patients. However, the median cost of GP regimens for both GUD and PID in uninsured patients is significantly lower than the standard guideline costs.

Table 3. Cost per prescription for the three syndromes

	Cost (ZAR)[a]					
	URD		GUD		PID	
	Median [IQR]	p[b]-value	Median [IQR]	p-value	Median [IQR]	p-value
Insured	28.33 [17.98–55.62]	}0.008	16.94 [7.77–37.53]	}0.08	24.03 [11.33–49.23]	}0.228
Uninsured	21.61 [9.90–35.17]		9.98 [4.40–22.42]		22.86 [9.27–29.51]	
Effective	28.59 [23.30–52.24]	}<0.001	21.46 [19.58–32.21]	}0.008	38.67 [23.74–48.67]	}0.049
Ineffective	16.15 [8.52–48.41]		10.46 [5.50–27.67]		23.58 [9.67–46.78]	

URD = urethral discharge; GUD = genital ulceration; PID = pelvic inflammatory disease; IQR = Interquartile range.
[a] 1 ZAR [a] US$ 8.
[b] Mann–Whitney U test.

Discussion

This study used telephone interviews of GPs to obtain self-reported data on their management of cases of STD, and the implications for quality and equity. Telephone, rather than face-to-face, interviews were conducted because this target population can be difficult to locate (almost half were working part-time); and because of time and budgetary constraints. This method has been shown to be an acceptable and more efficient survey method for widely dispersed GPs in the Scottish highlands (Harris et al. 1993); and has achieved similar response rates to face-to-face interviews with GPs in a randomized control trial (Chwalow et al. 1989). The use of provider-reported data to assess adherence to practice guidelines has become more common in the past two decades (Adams 1999). However, when compared with more objective measurements of practice, provider-reported case management has been shown to result in response bias (Adams 1999). There is a tendency for them to report what they believe to be ideal management (Franco 1997). In our study, this might have resulted in GPs wishing to downplay discrimination between patients on the basis of insurance status. Therefore, the use of GP reports of how they managed STD cases is more likely to have under-estimated than over-estimated true differences between cash-paying and insured patients. However, the caveat remains that the results probably reflect the GPs' knowledge of guidelines and best intention to treat patients, perhaps more than their actual practices.

Inequities in the quality of care

This study provides some evidence that the economic status of the patient and GP perceptions of patients' ability to pay had some bearing on the reported care provided to insured and uninsured patients, in line with the incentives of the payment mechanisms (De Brock 1992; Safran et al. 1994). Differences between the quality of care offered to insured and uninsured patients become more apparent when factors such as dose and duration of antibiotics, convenience of their administration and cost are taken into consideration. Drugs for poorer patients tended to be less convenient in terms of route and frequency of administration (e.g. the use of erythromycin and the substitution of doxycycline by tetracycline). They were also substantially cheaper than those for insured clients for at least two of the STD syndromes. When specifically asked, half the GPs volunteered that they would treat insured and uninsured patients differently. Schneider et al. (1999) describe similar findings in a survey of factors influencing providers' poor quality of care, with GPs providing different STD care to patients, depending on their social class and medical insurance status. The systematic difference in price between effective and ineffective regimens, and the fact that ineffective regimens tended to be cheaper than those recommended by the State, suggest that the cost of drugs, together with the financing mechanism, is at least one determinant of the quality of care offered.

Ceftriaxone (one of the more expensive patented antibiotics in the range of effective STD drugs) was used more frequently for insured patients in doses higher than required for STD treatment. Hence, the findings suggest that payment mechanisms also contribute to over-treatment, excessive costs and wastage of resources. This could have been due to targeted promotional interventions by the company producing the drug, known to have occurred in the area; and the promotions may have been accompanied by some form of incentive to dispensing providers to prescribe the more expensive drugs to insured clients, reducing efficiency. Frequent visits to GPs and 'product detailing' by drug company representatives have historically been the most common forms of knowledge transfer to private practices in South Africa (Schneider et al. 1999). The distribution of drug

samples that accompany these visits is a simple incentive to GPs to use a particular drug, as free samples can be sold to patients. More sophisticated forms of targeting by pharmaceutical representatives and additional material inducements (e.g. gifts) have been reported in other settings where private practice is common (Kamat and Nichter 1997).

General quality of care and public health implications

The study confirmed the generally poor quality of STD treatment in the private sector and a considerable gap in private provider knowledge. In the best case scenario, namely, urethral discharge, only 36.9% of providers reported a drug regimen that was effective and was adequate in its duration and dosage, significantly lower than the reported practice amongst primary care nurses in South Africa (Schneider 2001). However, it compares favourably with the quality of URD prescriptions reported by GPs in other parts of South Africa ranging between 0% in Hlabisa (Wilkinson 2001) and 28% in a nationwide survey (Schneider 2001). Similarly, private pharmacists elsewhere fail to treat the syndrome appropriately. Besides a group of pharmacists in Ghana who treated the URD syndrome effectively in more than 60% of cases (Adu-Sarkodie et al. 2000), in Hanoi (Chalker et al. 2000), Lima (Garcia et al. 1998) and the Gambia (Leiva et al. 2001) less than 12% of pharmacists' prescriptions were appropriate for URD.

Despite extensive efforts by the South African State to popularize STD syndromic management and success in implementing it in the public sector, it is not yet widespread in the private sector, an important player in STD care. Fewer than half of the GP respondents had heard of the concept. While STDs, a group of diseases associated with poverty and disproportionately affecting the poor, may not be a high priority for GPs, policy-makers need to prioritize efforts to improve GP practices in this area. In a country plagued by a devastating AIDS epidemic, substandard STD management in a private sector responsible for over half the STD caseload has serious implications for HIV as well as STD control. Where infectious diseases are treated with inadequate courses of antibiotics, as demonstrated in this study, externalities go beyond the immediate problems of disease transmission to include a growing problem of anti-microbial resistance by organisms causing STDs (Adu-Sarkodie 1995; West 1995). This, in turn, will increase the future complexity and costs of STD care.

Conclusion

The poor quality and inequitable prescribing practices uncovered in this study may be undermining efforts to control STDs, especially among those that need it the most, the poor. The uninsured face more difficulties in adhering to treatment, given the tendency of GPs to dispense more inconvenient drugs to them. Any attempt to incorporate the private sector in STD control must, therefore, not only include strategies to ensure the selection of effective drugs, but also to protect the uninsured from discriminatory practice in respect of the convenience of the drug regime prescribed. This requires a fuller understanding of the factors influencing private provider behaviour (Brugha and Zwi 1998). It would be simplistic to deduce that provider behaviour responds to financial incentives alone, although the results of this study suggest that unnecessarily expensive drugs are prescribed where a third party payment mechanism covers the cost.

Endnotes

[1] STD syndromic management is a WHO-advocated approach to STD care that 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.

[2] ZAR = South African Rand; 1 US$ = 8 ZAR July 2001 exchange rate.

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