

Differences in Public and Private Health Services in a Rural District of Malaysia

S M Aljunid, PhD*, A B Zwi, PhD**, *Department of Community Health, Faculty of Medicine, Universiti Kebangsaan Malaysia, Jalan Raja Muda, Kuala Lumpur, **Health Economic and Financing Programme, Health Policy Unit, London School of Hygiene and Tropical Medicine, Keppel Street, London WC1E 7HT.

Summary

A cross-sectional study, comparing the nature of services in 15 private clinics and 6 public health facilities, was undertaken in a rural district of Malaysia. Semi-structured interviews and observations using check-lists were employed. Public health facilities were run by younger doctors (mean age = 31.1 years), supported mostly by trained staff. The private clinics were run by older doctors (mean age = 41.2 years) who had served the district for much longer (8.9 years vs 1.5 years) but were supported by less well trained staff. The curative services were the main strength of the private clinics but their provision of preventive care was less comprehensive and of inferior quality. Private clinics were inclined to provide more expensive diagnostic services than the public facilities. 'Short hours' private clinics had very restricted opening hours and offered limited range of services.

Key Words: Rural health services, Public health facilities, Private health providers, Public-private mix in health provision

Introduction

Health services in the non-urban areas of Malaysia are traditionally the domain of the public sector and are mainly provided by the Ministry of Health. Through its network of Health Centres and District Hospitals, services are provided to the rural populations. With the growth of the private sector these rural areas were penetrated by the private providers. The exodus of public sector doctors, the rapid economic growth of the country since the late 80's and the increasing acceptance of private providers of health care by consumers and policy makers are among the important reasons for such growth. Facing stiff competition in the saturated urban areas, private providers were turning to rural areas for their practice. In contrast to the planned and organised services of the public sector, the private sector has been less organised, responding only to market forces.

The growth of the private sector in rural areas has both advantages and disadvantages. The presence of

private providers increases human resources availability for health care; this is particularly so given that the shortage of trained staff is one of the main problem faced by the Ministry of Health in serving the rural population. As in many other low income countries, mobilisation of resources through private health care is one of the options open to government seeking to increase the availability of services and to decrease the load placed on the public sector. Agencies such as the World Bank and International Monetary Fund have specifically promoted this option in developing countries¹⁻².

On the other hand, the lack of regulation of private health care may fail to ensure that quality services are provided by the private provider³⁻⁴. In the rural areas with less educated population than their urban counterparts and where competition is less fierce, the impact of this is likely to be exacerbated. There have recently been calls for the introduction of regulatory mechanisms to control the behaviour of the private providers³⁻⁶.

To reap any advantages which may result from private sector growth and at the same time to protect the consumers, policy-makers need information on the distribution, form and quality of private health services. This is, however, often lacking, especially in those less developed and newly industrialising countries where the private providers are largely unregulated.

The aim of this study was to describe the kinds of services provided by private providers and to compare these with those provided by the public sector in a rural area of Malaysia. It formed part of a larger study focusing on the providers in this district: other components to be published elsewhere, examined the attitudes and practice of these providers towards one another; the views of the users of their services; and a description of patient utilisation and drugs prescribed by these professionals.

Materials and Methods

This study was carried out in a district in Malaysia. The district is located about 100 km from Kuala Lumpur. It covers an area of 1,181 square kilometres and contains 11 small towns, 47 villages and 16 rubber and oil palm estates. It has a population of 146,435 of which 58.5% are Malays, 20.1% Chinese, 21.3% Indian and 0.1% of other ethnic groups. The size of the district and its population is typical of rural districts in Malaysia. About 75% of the population reside in villages and the remainder in small towns. Agricultural activities are the main source of income for the population; 46% of the land is utilised for agricultural purposes with rice, rubber and palm oil the main crops.

The Ministry of Health delivers public health services through Health Centres and the District Hospital. In 1993, there were 5 Health Centres, 12 Midwifery Clinics, 7 Community Clinics and one District Hospital. The private health services were provided by 15 private clinics in the district.

The facilities included in this study were all the 15 private clinics, 5 Health Centres and the Out-patient Unit of the District Hospital. The Midwifery Clinics and the Community Clinics were not included, as they did not have similar private counterparts.

Data were collected through semi-structured interviews and structured observations. The study tools were revised after a pilot study carried out in a nearby rural district.

The semi-structured interviews were conducted with the doctors in-charge of the clinics by the researcher and lasted 45 minutes to one hour. The doctors were asked about the ownership of the clinic, the number and type of personnel, clinic operating hours, types of services provided and the types of diagnostic investigations offered.

Following the semi-structured interviews, observations were carried out in the clinics using a checklist to assess the quality of vaccines storage in public and private facilities. This was carried out to assess the quality of preventive services provided by both type of providers. Items in the checklist were developed based on guidelines on vaccine storage issued by Ministry of Health and circulated through the MMA newsletter in July 1990⁷.

The study was undertaken between December 1992 to July 1993.

Results

Doctors

There were altogether 27 doctors serving in the district, 13 of them worked in the private sector and 14 served in the public service. The doctor to population ratio was 1 to 5,424 for the district, about half the national figure of 1:2441⁸. Eight of the 14 public doctors worked in the District Hospital and the remaining six served in the Health Centres. The 13 private doctors worked in 15 clinics in the district. Four of them had two clinics and another one had three clinics and the remaining eight has one clinic each. Four of these five private doctors had one of their clinics in the nearby district. Two of the 15 private clinics were run by two doctors while the rest were run by a single practitioner.

Most of the doctors in the district were males while female doctors were more likely to be found in the public sector (Table I). Most of the public doctors

Table I
Differences in characteristics of doctors and supporting staff in public and private facilities

		Public facilities	Private facilities
Doctors			
Ethnicity	Malays	10 (71.5%)	2 (15.4%)
	Chinese	1 (7.1%)	2 (15.4%)
	Indians	3 (21.4%)	9 (69.2%)
	Total	14 (100.0%)	13 (100.0%)
Gender	Male	6 (42.9%)	12 (92.3%)
	Female	8 (57.1%)	1 (7.8%)
	Total	14 (100.0%)	13 (100.0%)
Age (years)	Mean	31.1	41.2
	SD	5.8	5.2
Duration in public service (years)	Mean	5.3	5.4
	SD	4.4	1.9
	Range	(0.5 - 20.0)	(3.5 - 9.0)
Duration in the district (years)	Mean	1.5	8.9
	SD	1.3	6.3
	Range	(0.3 - 4.8)	(0.5 - 21.0)
Supporting staff			
Training status	Trained staff	198 (49.4%)	1 (2.0%)
	Untrained staff	203 (50.6%)	49 (98.0%)
	Total	401 (100.0%)	50 (100.0%)
Doctor to staff ratio	Doctor to trained staff ratio	14.1	0.1
	Doctor to untrained staff ratio	14.5	3.7
	Doctor to total staff ratio	28.6	3.8

were Malays (71.5%) while those in private practice were mostly Indians (69.2%). The public sector doctors were substantially younger, on average. The private doctors had on average been serving the district for 7.4 years longer than the public doctors. Ten out of the 14 (71.5%) of the public sector doctors lived in the district but only 6 of the 13 (46.2%) of the private doctors stay in the district, the rest stay in the capital and travel daily to their clinics.

Supporting staff

The number of the supporting staff in the public

sector was very much higher than in the private sector. The doctor to staff ratio was 7.5 times higher in the public than the private sector. About half of the supporting staff in the public sector had received formal training while most of those in the private clinics were untrained.

Operation

The public facilities were open for 38.5 hours per week. In this study the private clinics which opened for shorter than 38.5 hours per week are called 'short hours' clinics and those open for longer are called 'long hours' clinics.

Table II
Opening hours and days for public and private facilities

Facilities	Total Number	No. open on Sundays	No. open on PH	Average hours on weekdays	Average hours on Sundays	Average total hours per week	Percentage of operating hours with doctors
Short hours PCs	5	1	0	2.6	4.0	15.9	60.5
Long hours PCs	10	6	6	10.1	7.9	62.8	93.8
Health Centres	5	0	0	7.0	0	38.5	46.7
District Hospital (OPD)	1	0	0	7.0	0	38.5	100.0

(PCs = Private Clinics)

(PH = Public Holidays)

Out of 15 private clinics in this study, 5 of them were 'short hours' clinics and the remaining 10 were 'long hours' clinics. The 5 'short hours' private clinics were all owned by doctors with more than one clinic, and travelled from one clinic to the other during the day. The average operating hours per week for 'long hours' clinics was about one and a half times longer than public facilities and about four times longer than the 'short hours' clinic (Table II). The public facilities were closed on Sundays and public holidays except for the District Hospital where the Accident & Emergency Unit is open 24 hours a day, every day. However, the Medical Assistants and the Staff Nurses in Health Centres were on call during weekends and after office hours to attend emergency cases. Six of the 'long hours' private clinics were open during Sundays and holidays, three of them operate their usual weekdays hours (between 10 and 12 hours) and the other three were open between 4 and 7.5 hours. Most of the 'short hours' clinics were closed during these periods.

Only the District Hospital had the doctors present throughout the whole of its operating hours. The Health Centres has the lowest proportion of their operating hours being run by doctors and the 'long hours' private clinics the highest.

Services

a) Curative services

All the 15 private clinics provide general out-patient services. Among the public facilities only one Health

Centre out of the six facilities in this study did not provide this service because it was located close to the District Hospital (Table III). Treatment of malaria was only available in the District Hospital. This is because malaria is quite rare in the district and all suspected cases were admitted to be managed as in-patient. The District Hospital and all the private clinics treated sexually transmitted diseases but, none of the Health Centres treated these cases. All sexually transmitted cases diagnosed in the Health Centres were referred for treatment in the District Hospital. Further enquiries with the public sector doctors revealed that there were two main reasons for this: absence of doctors in the Health Centres during most of the operating hours and lack of drugs for treatment of sexually transmitted diseases. Since doctors were present less than half of the operating hours of Health Centres, cases were mainly seen by Medical Assistants who were not allowed to prescribe most of the antibiotics according to the Ministry of Health guidelines. Lack of drugs in Health Centres to treat resistant strain of organism causing sexually transmitted diseases was the main reason for cases to be referred to District Hospital even if they were seen by doctors.

Most of the tuberculosis cases in the district were referred to the State General Hospital and National Tuberculosis Centre for treatment. After being discharged from these hospitals these cases sent out for supervised treatment in public or private facilities. All the public facilities managed these tuberculosis cases but only five of the 15 private clinics provided this service.

High cost of managing this chronic illness and poor demand from patients were the main reasons cited by the private doctors for their reluctance to offer service to manage tuberculosis.

All the public and private facilities in the district treated people with hypertension and diabetes mellitus, in the public facilities a particular day of the week.

Despite the importance of emergency services (defined as services given to patients with life-threatening conditions and which need immediate medical attention such as severe haemorrhage, shock and acute asthmatic attack) five out of 15 private clinics did not provide them. Two of these clinics were located close near to the District Hospital while the other three were between 30 to 50 km away. One of the Health Centres, that nearest to the District Hospital, also did not provide emergency services. None of the private clinics provide ambulance services for their patients whereas they were available in the District Hospital and three of the five Health Centres.

Domiciliary visits by private doctors were provided by more than half of the private clinics. In the public sector, only health workers other than doctors conduct home visits for preventive care such as for the tracing of defaulters from the childhood immunization scheme and mothers who failed to attend for antenatal care follow-ups.

b) Preventive services

i) Antenatal care

Antenatal, family planning and immunizations were all more readily available in the public facilities than in the private clinics (Table III). The antenatal services provided by public sector were more comprehensive and included home-visiting to trace defaulters, domiciliary and hospital delivery services, and postnatal care. The private clinics only follow-up their patients in the early part of pregnancy. These patients were then referred to the Health Centres or District Hospital at the end of the second trimester or early part of the third trimester until delivery.

Table III
Number of facilities offering curative and preventive services in public and private sector

	Short hours PCs (N = 5)	Long hours PCs (N = 10)	Public facilities (N = 6)
Curative services			
General OPD	5	10	5
Malaria treatment	0	0	1
Tuberculosis treatment	1	4	6
STD treatment	5	10	1
Hypertension treatment	5	10	6
Diabetes treatment	5	10	6
Ambulance service	0	0	4
Emergency services	2	8	5
House calls	1	8	0
Preventive services			
Antenatal care	0	2	6
Family Planning	5	10	5
Immunisations	4	10	6

In the District Hospital, antenatal clinics ran for one and a half days per week. Once a fortnight an obstetrician from the State General Hospital visited the hospital to see cases referred by the medical officers. All the Health Centres allocated one day per week for antenatal clinics. These clinics were run by medical officers and public health nurses. Antenatal cards, recording their progress throughout the pregnancy, were provided to all attenders to public sector antenatal clinics. This card is kept in the clinics, with the mothers being given a smaller card (usually called the 'Red Card') containing the summary of the record from clinic attendances. The mothers present this card when attending for delivery in the district hospital. In contrast, none of the private clinics had a special antenatal card and pregnant mothers on follow-up were recorded in the routine out-patient cards.

ii) Family Planning services

Family planning services were available in all the private clinics and the Health Centres but not in the District Hospital. Oral contraceptives and condoms were the two most common methods of contraception offered in both types of facilities. Intrauterine devices (IUDs) were not inserted in the public facilities: the reason in none of the public doctors received any training to carry out this procedure. IUDs were available in five of the 15 private clinics.

In the Health Centres one afternoon a week was allocated for family planning consultations with public health nurses. New clients were physically examined, PAP smears were taken and were advised on methods of

contraception. Oral contraceptives and condoms were provided free of charge. Women requested for IUDs were referred to the private clinics. Oral contraceptives were only given to those below the age of 35 years and their blood pressures were checked during the follow-up.

In the private clinics no standard procedures were followed by the doctors for providing these services: new clients were not normally screened, PAP smears were only done at the patient's request and women taking oral contraceptives could do so without seeing the doctor. It was observed that some women who wanted to take oral contraceptives pills but were not allowed to do so when they visited the Health Centres because of age limits or other health reasons, came to purchase these pills from the private clinics.

iii) Immunization services

In the health centres, immunization services for children were provided one day per week during child health clinics. The District Hospital only provided the BCG and first dose of Hepatitis B vaccine for the newborn. The private clinics provided all immunizations for the children except for BCG, which was not offered by any of the clinics. Another marked difference in immunization services was the availability of Mumps, Measles and Rubella (MMR) vaccines in the private clinics. This combined MMR vaccines were not available in the Health Centres but measles and rubella vaccine were given separately.

In the Health Centres, children who received immunizations were given a small book in which these

Table IV
Quality of vaccine storage in public and private sector

Quality indicators	Short hours PCs (N = 5)	Long hours PCs (N = 10)	Public facilities (N = 6)
Refrigerator absence or in poor conditions	3	2	0
No temperature monitoring	5	10	0
Absence of ice-packs in freezers	3	9	0
Presence of food stuff in fridge	3	8	0
Vaccine stored in door shelves	3	8	0

(PCs = Private Clinics)

were recorded. In the private clinics, all records were held by the doctors. The health personnel in the Health Centres closely monitored the immunization status of all children and visited children at home to trace those who defaulted. There was no equivalent activity in the private clinics.

The cold chain is well maintained in the public facilities and the following of guidelines was found to be satisfactory in all cases (Table IV). This differed greatly in the private sector where the cold chain was poorly maintained especially in the 'short hours' private clinics.

It was quite common to find refrigerators which were very old, rusty with leaking door seals in private clinics. Food and medicine were commonly stored together and none of the private doctors monitored their refrigerator temperatures. Since the refrigerator were often full, vaccines were placed on the door shelves of the fridge rather than the recommended general compartment.

c) Diagnostic services

The 'short hours' private clinics rarely offered diagnostic services to their patients as compared to the

'long hours clinics' (Table V). On the other hand, 'long hours' private clinics were more likely to provide expensive diagnostic services than the public facilities. Basic investigations such as blood films to detect malaria parasite (BFMP), sputum and stool microscopic examination (FEME) were only carried out in the public facilities. However, services to check blood for cholesterol and glucose level, X-rays and Ultrasound scan were more commonly found in the private than the public facilities.

All the five ultrasound machine in the district were owned by private practitioners. These were used for obstetric cases to ascertain the gestational age and locate the site of the placenta. Three of the five private practitioners had had the ultrasonography equipment for about eight years, one for two and a half years and another only for the six months before the interview. Two of the five private practitioners who owned the machines had not undergone any training at all; one of them had learned to use the equipment through video-tapes provided by the supplier of the machine. Three of the doctors had undergone some form of training organised by drug companies when they first bought the machine; two

Table V
Number of facilities offering diagnostic services in public and private sector

	Short hours PCs (N = 5)	Long hours PCs (N = 10)	Public facilities (N = 6)
Urine analysis	0	4	6
Blood haemoglobin	0	7	6
Sputum FEME	0	0	6
Stool FEME	0	0	6
BFMP	0	0	6
Blood glucose	0	7	2
Blood cholesterol	0	5	1
PAP smear	1	9	5
ECG	1	8	4
X-ray	0	3	1
Ultrasound-scan	0	5	0

of them had been to a two-week course and the other had attended a two-day course. None of them had used ultrasound machines when previously in government service.

Three of the four X-ray machines in the district were owned by private doctors; the fourth was in the District Hospital. The private doctors had had this equipment for 5 to 10 years. None of them had been trained in radiology or had worked in a radiology department before. The only training they had undertaken was during their undergraduate days; since purchasing the equipment they had depended only on sales representatives and maintenance personnel for advice. All the machines were licensed by the Ministry of Health whose inspectors visited their clinics every two years for licence renewal. While the private clinics provided only plain X-rays, more sophisticated contrast studies such as barium meal and intravenous pyelogram were carried out in the District Hospital.

The X-ray machines in the District Hospital were run by a trained radiographer whereas in the private clinics, clinic assistants had been trained by the private doctors to take X-rays.

Discussion

This study is limited by the small number of private and public facilities, but has the advantage of allowing in-depth analysis of the different types of services provided. Caution is required before making generalizations to other rural districts in Malaysia because of the variations in the socio-economic status of the rural population and the distribution and type of health services in different parts of the country. These factors might influence the uptake of private services and may also influence the different services offered by the private doctors.

In terms of human resources, the public services are run by younger doctors partly because young doctors are retained in the public services through a three-year compulsory service scheme. Only those who have completed this mandatory service can resign to start their private practice. Young doctors also worked in the public health sector to gain more experience or save enough capital to start their own practices. The

older and potentially more experienced doctors were thus to be found in private practice. This suggests that compulsory service schemes such as this, may provide temporary human resources to the public sector, but that this is not an effective means of retaining people in the public sector.

The private doctors are also more stable in the district and had served the district for much longer than their public sector counterparts. In the public service, rural postings are often regarded as a necessary requirement for applying for speciality training. Most of these training courses are centred in the city where the urban hospitals are usually recognised by professional bodies for postgraduate courses. Public sector doctors who want to specialise often try to go back to the urban hospital for their training. However, Roemer⁹ had suggested that government medical posts in the cities are often easily filled because these public sector doctors can easily work in private practice after office hours. If this is true, even those doctors who do not want to specialise tend to prefer to work in urban areas where there are more chances to do locum sessions in private practice than in rural areas. On the other hand the private doctors in the rural district are those who have decided to start their practice there and normally are committed to remaining there unless they do not have enough patients to operate in that area.

This study highlighted another clear difference between the two sectors: the number and level of training of non-doctor personnel. The employment of mostly untrained supporting staff in the private clinics was also reported by Gilson *et al*¹⁰ in Tanzania and Greenhalgh¹¹ in India. The reasons are likely to be lower costs and absence of any regulation forbidding such practice in the country at this moment. Most of the time these workers are school leavers and they are 'trained' by the private doctor him/herself. In this district these workers were observed to carry out various tasks ranging from simple reception work to the more skilled ones such as dispensing drugs or even taking X-rays. Although one may argue that these workers are supposed to be working under the supervision of the private doctors, in practice, this is most unlikely because private doctors were not present in the clinics during all operating hours. This was

especially for those with multiple clinics. Even private doctors who own single clinics may find it difficult to supervise these workers in tasks like drugs dispensing during the busy hours of the clinic.

Encouraging the private doctors to employ more highly trained workers would need to be carefully considered. Currently there are no training programmes available in the public or private sector to train these particular staff. Currently available nurse training programmes are unlikely to be suitable for the workers in private clinics because of the differences in the nature of their job. The national shortage of trained nurses would also make this suggestion unfeasible. Even if the trained nurses were to be employed by the private doctors, the costs would be high and would have financial impact on the consumers where the extra costs will be passed on to them. Another option is to stop some risky procedures from being practised in the private clinics such as the dispensing of medicine done by untrained staff. This is likely to be resisted by the private doctors who would not want to lose one of the most profitable parts of their business. The shortage of pharmacists in the country and the public acceptability of such a change need to be studied before this option were to be considered.

Opening more than one clinic is one of the mechanism used by the private doctors to attract as many patients as possible in order to sustain their practice in rural areas which are more sparsely populated than urban ones. Doctors could also use their time more efficiently by having multiple clinics. However, the impact on quality of care need to be further studied since this study showed that doctors who owned more than one clinic often maintain them poorly and left the clinics to be manned by untrained personnel.

The private clinics were generally more accessible than the public facilities in terms of their operating hours and the flexibility of their clinic schedules. In contrast to public facilities, private clinics do not have fix schedule for services provided. So patients can visit the private clinics on any day of the week for any services offered by the doctors. Allocation of certain days of the week for specific services such as for antenatal care, childhood immunizations, hypertension or diabetes

treatment in the public sector could reduce accessibility even though this is done to optimise staff and the doctors' time.

The main strength of the private clinics is in curative care. They provide services for both acute and chronic conditions any day of the week. They even provide services which is not available in the public sector such as treatment for sexually transmitted diseases and house calls. Nevertheless, quality of care provided need to be studied further. A major weakness in curative care in private sector is their failure to provide emergency services especially in the 'short hours clinics'. The need for this service is unpredictable and it may be unethical for the clinics to turn away such patients, as such facilities could be expected to be prepared to handle them. Furthermore emergencies can occur as a result of treatment itself such as anaphylactic reactions to antibiotics. A possible reason for this situation was the likely cost to be incurred by the private doctors if they had to stock emergency drugs, many of which might expire without being used. Secondly, it may be difficult to charge such patients since they are not in the position to pay for the treatment, both because of their condition but also that they may not have cash on them at the time. Thirdly the private doctors usually have to refer these cases to hospitals after the early resuscitation and it is not widely accepted by the community for the doctors to charge for referral cases even in non-emergency cases. The private clinics also depended on the public sector and the District Hospital for ambulance services. It is inefficient to expect every private clinic to have their own ambulance and on the other hand it may not be feasible for public facilities to provide ambulance services to private clinics. One possible solution is for the government to encourage private doctors, possibly through tax incentives, to group together to buy and maintain their own ambulance.

The absence of services for treatment of sexually transmitted disease in the Health Centres is a matter of concern. Treatment of this condition was left to the District Hospital and the private clinics. It is important, however that these common and treatable conditions be managed as soon as they are diagnosed if they are to be effectively controlled. The current failure to treat those conditions at the Health Centres

may lead to patients who cannot afford to go to the private clinics or those staying far from the District Hospital suffering for longer and will further spread the disease.

The involvement of private doctors in preventive care was very limited and of poor quality. The private clinics were not able to provide equivalent services to those provided by Health Centres in all the three components of preventive services examined in this study. In antenatal care, the lack of private clinics offering this service and the restricted services offered by those who provided them suggest that this service is probably better left to the public facilities. Immunization services by the private clinics were undermined by the poor maintenance of the cold chain in vaccine storage, a factor which could potentially undermine their whole participation in such schemes. This was perhaps due to the doctors' ignorance. While working in the government services before joining the private sector, this aspect of the service would have been taken care of by other categories of staff such as nurses. Unless the doctor had worked in the Health Centres where immunization is one of the main activities or had made an effort to know about it before going into private practice, he/she will not be exposed to the proper storage of vaccines. The availability of intrauterine devices in private clinics provides more choice of contraceptive methods to private patients but they were exposed to dangerous practices of selling oral contraceptives to those with contraindications. Some control of inappropriate sale of such drugs is worth considering.

In reference to X-rays and ultrasound machines, the issue of quality is important here. Most of the private doctors who owned such equipment were poorly trained. Without proper control mechanisms, these machines were probably used to increase profits without necessarily providing any benefits to the patients. A study by Hillman *et al*¹² in USA, found that patients were at least four times as likely to have diagnostic imaging (ultrasonography and radiography) done if they sought care from a physician who had the facilities in his office rather than from one who referred patients to a radiologist. Ways to ensure that only doctors with adequate training were allowed to

use those expensive diagnostic equipment through regulation should be considered by policy makers.

Conclusion

The private health services played a significant role in providing curative services in the rural area. The longer operating hours, more flexible clinic schedule and more experienced doctors were the main advantages to clients of the private clinics over public facilities. The main weakness of the private clinics were the absence of emergency services, untrained supporting staff, poor quality of preventive care and uncertain quality of diagnosis based on X-rays and ultrasound.

Although the doctors in the public facilities were less experienced, they were supported by more highly trained staff. Antenatal care, immunization services and family planning services were of higher quality and more comprehensively covered by the public facilities. Private facilities offered a wider range of expensive diagnostic services although the public service provided a cheaper and basic ones.

While it is possible to suggest a variety of policy recommendations including the need to regulate the private health sector, it is desirable to draw the Ministry of Health, public sector workers and private providers into dialogue before putting forward any particular policies. It is hoped that descriptive work as this, and more analytic studies which are to follow will provide useful material and ideas to stimulate such debate.

Acknowledgements

We would like to thank Universiti Kebangsaan Malaysia for providing the grant (PCB 8/92) for this study; the Ministry of Health and Socio-economic Research Unit of Prime Ministers Department for their permission to carry out this study and all the participants in the district who offered their time and insights. The Health Economic and Financing Programme is funded by the United Kingdom Overseas Development Administration; responsibility of the views represented here are those of the authors and do not represent those of any organisation.

References

1. World Bank. Health Care Financing: An agenda for reform. Washington DC: World Bank, 1987.
2. World Bank. Investing in Health: The World Development Report. Washington DC: World Bank, 1993.
3. Bennet S, Dakpallah G, Garner P *et al*. Carrot and stick: state mechanism to influence private provider behaviour. *Health Policy and Planning* 1994;9 : 1-13.
4. Aljunid SM. The role of private medical practitioners and their interactions with public health services in Asian countries. *Health Policy and Planning* 1995;10(4) : 333-49.
5. Bennet S. The Mystique of markets: Public and private health care in developing countries. PHP Departmental Publication No. 4, London School of Hygiene and Tropical Medicine, 1991.
6. Bhat R. The private/public mix in health care in India. *Health Policy and Planning* 1994;8 : 44-56.
7. Malaysian Medical Association. Guidelines for vaccine storage. *Berita MMA*, July 1990;6 : 8-10.
8. Ministry of Health, Malaysia. Annual Report 1991.
9. Roemer MI. Private Medical Practice: Obstacle to health for all. *World Health Forum* 1984;5 : 195-210.
10. Gilson L, Alilio M and Heggenhougen K. Community satisfactions with primary health care services: An evaluation undertaken in Morogoro region of Tanzania. *Social Science and Medicine* 1994;39 : 767-80.
11. Greenhalgh T. Drug prescription and self medication in India: an exploratory survey. *Social Science and Medicine* 1987;25 : 307-18.
12. Hillman BJ, Joseph CA, Mabry MR, *et al*. Frequency and costs of diagnostic imaging in office practice – A comparison of self-referring and radiologist referring physicians. *N Engl J Med* 1990;323 : 1604-8.