

EFFECT OF PAYMENT MECHANISMS ON DIABETES MANAGEMENT BY PRIVATE PRIMARY CARE CLINICS IN KUALA LUMPUR, MALAYSIA: A QUALITATIVE STUDY ON PROVIDER BEHAVIOR

Murallitharan Munisamy^{1,2,*}, Tharini Thanapalan³, Pa Murelitharan²,
Vijayan Munusamy⁴, Kumaran Krishnan⁴

¹ College of Public Health Sciences, Chulalongkorn University, Bangkok 10330, Thailand

² Klinik Suria, Jalan Kasipillay off Jalan Ipoh, Kuala Lumpur, Malaysia

³ Klinik Kesihatan Ibu dan Anak Cheras Makmur, Cheras, Kuala Lumpur, Malaysia

⁴ Hospital Kuala Lumpur, Kuala Lumpur, Malaysia

Abstract:

The growth of Malaysia's economy in the past 2 decades has spurred the development of a comprehensive private healthcare sector in parallel to the public healthcare system, including hospitals and private primary care clinics, fuelled also by the development of numerous health financing methods such as managed-care-organizations, private insurance and provider-payment-schemes. Over the past decade, Malaysians increasingly prefer to frequent private primary care clinics, including for treatment and follow-up for chronic diseases such as diabetes mellitus. Previous studies have shown that payment mechanisms have an effect on treatment of chronic diseases, yet such studies, especially those exploring provider behavior, are limited in Malaysia. In this study the behavior of private primary care providers in the capital city of Kuala Lumpur were explored to determine the effect of payment mechanisms on the management of their diabetic patients. In-depth interviews were carried out with 30 selected medical officers/family physicians who were owners/doctors-in-charge of their own private primary care clinics. All recorded conversations were transcribed and analysed using the principles of qualitative research. More than 80% of the doctors reported making changes to their management upon establishing the patient's payment mechanism, which did not necessarily depend on clinical status of the patient or on established clinical practice guidelines. Views on various management regimens tailored to correspond to the specific payment mechanism was explored. Around 65% were dissatisfied with current managed-care-organizations/private health insurance due to the lack of comprehensive reimbursement for comprehensive management of the patient's diabetes. Almost all of the doctors agree that out-of-pocket (OOP) payment mechanisms were the worst in terms of patient management as the patients were non-compliant to medication and had poorer disease control although they still made up almost 40% of most of the clinic's total patients. In conclusion, private primary care doctors in Kuala Lumpur incorporate their diabetic patients' payment mechanisms into their clinical decision making and acknowledge they frequently alter their clinical management accordingly due to this. Serious considerations need to be made to find alternative payment mechanisms for diabetic patients who are currently paying OOP as this is not a feasible mechanism for good control and outcome of the disease.

Keywords: Payment mechanism, Private primary care, Diabetes, Health insurance, Malaysia

Received April 2014; Accepted July 2014

INTRODUCTION

Malaysia is a developing middle-income ASEAN country with a rapidly expanding middle-class population stratum. The sustained growth of the Malaysian economy over the past 3 decades has

developed an urban populace with a demand for better goods and services, including in healthcare [1]. This has spurred the development of a parallel multi-level private healthcare sector in parallel to the tax-funded public healthcare system which is heavily subsidized and accessible at the minimal RM1 at point-of-care for citizens [2]. The private healthcare sector, which comprises of independent

* Correspondence to: Murallitharan Munisamy
E-mail: murallimd@gmail.com

Cite this article as:

Munisamy M, Thanapalan T, Murelitharan P, Munusamy V, Krishnan K. Effect of payment mechanisms on diabetes management by private primary care clinics in Kuala Lumpur, Malaysia: a qualitative study on provider behavior. *J Health Res.* 2015; 29(1): 15-21.

or networked private primary care (PPC) clinics as well as stand-alone multi-speciality hospitals, have developed in no small part due to the development of numerous alternative payment mechanisms to out-of-pocket (OOP) such as through managed-care-organizations, private insurance and employer-funded schemes at panel clinics [3]. Despite its almost universal access to Malaysians, utilization of public healthcare services has decreased, especially at primary care level, due to the fact that the 'nouveau riche' middle-class Malaysian opting for shorter queues and waiting times, personalized services and better facilities which are the hallmark of the private healthcare sector [4]. Over the past decade Malaysians increasingly prefer to frequent PPC clinics for treatment of acute conditions as well as to follow-up for chronic diseases. Besides, these clinics which are often located in the proximity of their residence areas, are open on weekends and outside normal working hours as well as function as a one-stop-center where consultations, medicine and diagnostic tests can all be done at the same time [2]. However despite the existence of various alternative payment mechanisms, more than half of the patients visiting private primary care clinics use out-of-pocket (OOP) as their main method for payment [5]. Studies have shown that especially in chronic diseases such as diabetes mellitus, patients who use OOP for payment have poorer disease outcomes [6]. This is partly due to the patient's own difficulties in purchasing medicine (cost-related adherence) or taking required laboratory tests at regulated intervals, but the payment mechanism influences disease management in no small part due to its influence on the consulting physician or healthcare provider [7]. Few studies have explored the effect of payment mechanisms on the provider alone especially from a qualitative perspective, and neither has any Malaysian study addressed this. This study aims to determine the effect of payment mechanisms on PPC providers in Malaysia for a single chronic disease; diabetes mellitus.

MATERIALS AND METHODS

This study was developed following an extensive literature review of published material describing the effect of various payment mechanisms on chronic disease management in terms of patient and provider behavior, an evaluation of available data in Malaysia pertaining to these differences and consultations with senior family physicians in Malaysia. Qualitative methods were used to investigate PPC providers'

attitudes, perceptions and experiences related to dealing with diabetic patients who utilized different payment mechanisms to pay for their care. In-depth interviews were selected as they can provide reliable and comparable data, and allow for control over the questions and the topics to be covered in the discussion while leaving the interviewee the opportunity to tell his/her own account of issues related to the selected topics [8]. In-depth interviews were conducted with PPC providers to explore 3 broad areas: current types of payment mechanisms and PPC providers perceptions of them; problems faced with managing patients with the various payment mechanisms and the effects of these on diabetic management and outcomes; and preferences or improvements the PPC providers would like seen among various payment mechanisms to improve disease outcome.

This study was set in Kuala Lumpur, the capital city of Malaysia which consists of a largely urban area consisting of around 460 square kilometers. The population of the city is estimated to be around 1.7 million and is the most densely-populated in Malaysia [9]. It has the largest number of PPC clinics, with a 2010 report revealing 444 PPC in Kuala Lumpur. These PPC clinics ranged in size, from single owner/doctor clinics which were open during office hours to larger partnership setups which were open 24 hours 7 days a week or even franchise clinics that employed doctors to work in their clinics [10]. 30 PPC providers (owner/doctor or employee/doctor-in-charge) were recruited for this study from the list of contact numbers and addresses for PPCs in Kuala Lumpur from the Ministry of Health Malaysia. PPC clinics were purposefully selected to reflect the wide range of differences in residential income areas (high-income, middle-income, low-income), geography (city-center, suburban) as well as ethnic population in order to get as many diverse and complete views as possible. One of the study team members (also a doctor) called these selected clinics and invited the owner/doctor or the employee/doctor-in-charge to participate in the study after giving them basic study information and objectives. Those who declined to participate were thanked and the next name on the list called until all 30 participants were recruited. The study team member then made appointments with each PPC provider to meet for administering the in-depth interview at their convenience. At the meeting, the study team member who conducted the interview first obtained informed consent from the participant, giving permission to participate in the study. Inclusion

Table 1 Background characteristics of participants

Characteristics	Male (N=18) n(%)	Female (N=12) n(%)
Race		
Malay	6(33.3)	4(33.3)
Chinese	4(22.2)	3(25.0)
Indian	8(44.4)	5(41.7)
Age		
25-34	1(5.6)	2(11.1)
35-44	6(33.3)	4(33.3)
45-54	5(27.8)	3(25.0)
54-64	4(22.2)	2(11.1)
65 and older	2(11.1)	1(8.3)
*Years of working		
5-9	4(22.2)	2(11.1)
10-14	6(33.3)	4(33.3)
15-19	5(27.8)	3(25.0)
20 and more	3(16.7)	3(25.0)
Qualification		
Family physician	4(22.2)	5(41.7)
Non family physician	14(77.3)	7(58.3)
Employment status		
Owner/doctor	12(66.7)	4(33.3)
Employee/doctor-in-charge	6(33.3)	8(66.7)

criteria for the study was that the PPC provider had to have at least one year experience in practicing primary care medicine, as well as having at least one year of working at the particular PPC where he/she was based currently so that they could base their experiences in the local setting. In addition, the PPC's where they worked should also have alternate payment mechanisms for patients besides out-of-pocket (OOP) i.e cash. PPC clinics that had only locum medical officers and no permanent doctor were excluded from the study.

Semi-structured in-depth interviews were conducted using open-ended questions by a member of the study team (also a doctor) over a 4 month period in 2013 with each of the participants; each interview running between 45 and 90 minutes. Interviews were done in English and if necessary, supplemented in Bahasa Malaysia. Participants also filled in a 10 minute demographic survey which contained information about themselves and also their PPC clinic. The interviews began with a question asking the participant: 'what it is like to manage diabetes patients with different payment mechanisms?', followed by questions clustered around the 3 areas discussed above. When the interview no longer provided new information or was repetitive indicating data saturation had occurred, sufficient data was judged to have been gathered and the interview ended. Interviews were recorded electronically and transcribed verbatim into English and Bahasa Malaysia as required

(study team members were bilingual). An inductive approach was used to thematically analyse transcripts [11]. Three of the members of the study team read and re-read the transcripts independently to familiarize themselves with the data. Each of the three then independently analysed the transcripts to find significant ideas and opinions using systematic and comprehensive coding. The coded data was summarized to determine code frequencies and then grouped by similarity into themes and sub-themes. Regular meetings between these three members went on to verify their findings and ensure consistency between them. Comparisons between the participant's answers were then carried out and with patterns and associations being found and explanations for the findings generated before final categorization and conceptualization completed. This study received ethical approval from the Malaysian Research Ethics Committee (MREC) of the Ministry of Health Malaysia. Names of participants and list of PPC clinics are not listed due to agreements of confidentiality but the doctors are numbered from 1-30 and referred as such in the results.

RESULTS

A total of 30 participants participated in the study. Of these 18 were males (60.0%) while females made up 40%. A large number of the participants were Indian (13/30 or 43.3%), both in terms of males and females. A large number of the

Table 2 Characteristics of private primary clinics

Characteristics	N=30 n(%)
Type of practice	
Single	10(33.3)
Group	6(20.0)
Franchise	14(46.7)
Operation hours	
9am-5pm	12(40.0)
8am-10pm	8(26.7)
24 hours	10(33.3)
Number of permanent doctors	
0	3(10.0)
1	18(60.0)
2	6(20.0)
3 and more	3(10.0)
Number of patients per day	
0-50	17(56.7)
51-100	7(23.3)
>100	6(20.0)
X-Ray facilities	
Yes	11(36.7)
No	19(63.3)
Number of full-time staff	
1-3	13(43.3)
4-6	9(30.0)
7-9	5(16.7)
10 and more	3(10.0)

participants were in the 35-54 age groups (18/30 or 60.0%) and had worked for at least between 10-20 years as doctors (18/30 or 60%). A large number of the participants (21/30 or 70.0%) were not trained family physicians. Detailed characteristics of participants are summarised in Table 1. 46.7% of the participants worked in franchise PPC clinics and 40.0% of the clinics worked from 9am to 5pm. Most of the PPC clinics only had a single doctor (60.0) and saw less than 50 patients a day. Detailed characteristics of the PPC clinics are described in Table 2. The participants' answers were grouped around the three main areas focused on in the interviews with some specific centrally occurring themes arising from those areas which are elaborated in length below.

Unrealistic limits on payment/reimbursement

PPC providers voiced out that one of the greatest problems they faced with all payment mechanisms was the fact that there were unrealistic limits in payment, be it from OOP or non OOP parties, with 30/30 participants voicing this in some form. 28/30 participants said that OOP paying patients had a psychological barrier in place when it came to payments for their follow-ups.

"Cash-paying patients are prepared to

pay only what they paid at the last follow-up. If and when their condition deteriorates and you increase their medication, the bill is more expensive and because of this they stop coming ..." - Doctor 11

18/30 said that patients who had alternative payment mechanisms such as employer-funded panel clinic or even MCOs often had limits on how much the total bill could come to per visit. This was due to outdated systems in place where there was a cap on bills per visit rather than on the diagnosis of the visit.

"Some of the panels allow us to only charge RM 30 (~USD 10) per visit for all diagnoses. This is simply not enough for us to treat a diabetic patient and give him his diabetes, cholesterol, antihypertensive and other medications..." - Doctor 17

Due to needing to provide care for their patients this necessitates the doctors having to resort to practices that may border on the illegal. 12/30 doctors admitted to doing this for their diabetic patients.

"I have no choice but to get the patient to sign two or three visit chits which I later fill up for different dates so that I can pay for the cost of the medication. If not there is no way we can afford to pay for his treatment." - Doctor 19

Changing therapeutic treatment

24/30 participants said that the main effect of different payment mechanisms directly caused them to change their therapeutic treatment of diabetic patients. 18/30 thought that the change was not always for the better while 20/30 still felt that although due to costs they could not give the best medications that were most effective for their diabetic patients, they were giving equivalent generic medication that would be able to manage their patient's disease as well as it could. However a small number (4/30) felt that their patients' clinical condition was worsened because they could not be given the best medication.

"My patient is on oral antidiabetes medication but still his sugar is poorly controlled. I thought of starting him on insulin but he cannot afford to pay for it as he is a cash patient. Because I keep

talking to him about starting insulin, he stops coming regularly and when he does come, his sugar is very badly controlled...” - Doctor 17

Changing diagnostic schedules

A large number of participant (23/30) reported that the patients who paid OOP were always changing their planned diagnostic schedules in order to prolong the date in between scheduled tests and even follow-ups. This was done as a cost-saving measure.

“My cash patients treat their bodies like cars. Their logic is that even though tyres are supposed to be changed every 50 thousand kilometers, you can stretch that to 75 thousand. So similarly if you have to come for your follow-up every 4 months, it’s OK to come every 5 ½ months. In the long run they think they save money” - Doctor 9

Patients who were with private insurers or even MCOs were more compliant to diagnostic schedules, especially since their insurers required some form of yearly scheduled testing. Interestingly 14/30 participants reported that they saw a reverse phenomenon in these patients where just because they did not have to pay, they demanded for more frequent tests despite no necessity or requirement to do so.

Patient compliance

Almost all (29/30) of the participants reported that their OOP patients had problems of cost-related compliance, tailoring prescriptions and dosage according to their own financial conditions or even most of the times, a perceived financial condition. According to the participant as many as 60% of their OOP patients are non-compliant to medication, citing various reasons which can be summed up as cost-saving measures.

“I have patients who have hypertension, diabetes and dyslipidemia who take medicine for hypertension on one day, diabetes on the second and dyslipidemia on the third so that their won’t have have to buy all the medications every month.” - Doctor 26

“When one of my diabetic patients started showing a prolonged increased cholesterol level for 2 consequent check-ups I asked him to start a statin (HMG-CoA reductase

inhibitor) but he refused. He told me that it was just too expensive and so he couldn’t afford it.” - Doctor 28

The problem of patient compliance is a complicated multi-factorial one and 17/30 participants mentioned that even in non OOP patients compliance exists and is a real problem to manage. However it is worst in OOP patients because in most cases the patients do not even purchase the medicine that they are supposed to take, let alone considering their compliance rates.

Coping strategies

The Ministry of Health Malaysia advocates medical practitioners to follow the national guidelines compiled for treating diabetes mellitus in different settings with recommended times for follow-ups, laboratory tests to be carried out and medication regimens [12]. However this is a willful dream that is not practicable especially in the private setting, say 19/30 participants. Only 7/30 believe that they treat their patients following these guidelines strictly while another 10/30 keep the general ideas of the guidelines in mind when they are treating their patients, tailoring their management to fit the individual patient as well as his payment mechanism. The remaining 13/30 feel that they do not adhere to the guidelines at all, often treating their patients especially OOP ones according to other socio-economic factors which sometimes have little to do with clinical conditions of the disease.

“When I get a new diabetic patient who is going to pay OOP, I try my best to counsel him/her to be followed up in the public sector because there payment is only RMI (USD 0.30). If the patient is committed to my care I actually spend the first two sessions working out his family monthly expenditure to see how much he can pay for medications. Only then I prescribe and draw out a regimen based on what the patient can pay actually.” - Doctor 9

Improvements in the future

All the participants (30/30) agree that reducing or eliminating OOP as a payment mechanism should be instituted in the near future, although only 4/30 suggest that these patients should be followed up in the public sector instead due to cost issues. 20/30 suggests that OOP patients should be enrolled into a insurance scheme or at least given a government incentive that pays for their treatment if the government is keen on controlling the

diabetes epidemic. For patients who are non-OOP, 17/30 thinks that the present fee-for-service concept where the provider is reimbursed after treatment is not beneficial to the patient especially with the caps in place. 18/30 suggest capitation as an alternative with the insurers/companies/MCOs paying a fixed annual amount to the doctors for managing the patients with 9/30 suggesting incentives be paid out for doctors and patients who manage to keep their blood sugar well-controlled as this would prevent complications.

“Giving the doctor an annual capitation fee for each diabetic patient which is reasonable will allow us to provide the best care while keeping it cost-effective. If you throw in incentives for good disease outcomes, that will enable us to take a more hands-on responsibility in caring for these patients rather than just having to accommodate them as they are the paymasters now...” –Doctor 22

DISCUSSION

This study involved PPC clinics in Kuala Lumpur, the most populous city in Malaysia and also the one with the most number of PPC clinics. A majority of the participants were male and a large number of the participants were of Indian ethnicity, not reflecting the national composition [9]. However this a difference as studies in other countries such as the US have revealed that females have a higher tendency to be in private primary care practice compared to males [13] while in Malaysia the number of Indian doctors has always been disproportionate to the population because of a tendency of the community to be in professional jobs [14]. Participants in this study recognized that they changed their management in diabetic patients in response to the patient's payment mechanism, often not basing management on clinical outcome but rather on this fact most of all. The patient's compliance to medication, choice of medications for treatment as well as scheduled follow-ups are greatly altered in those with different payment mechanisms and the providers have to compensate for this. This is common in private practice where 'customer is king' and the provider has to accommodate these patients who are following up with him/her all while walking a thin line between providing effective, affordable healthcare due to intense competition between both other PPC clinics nearby and the RM1 public primary care clinics [15]. A 2005 study done by

Mafauzy which looked at diabetes control in private primary care in Malaysia found that there was a very poor percentage of diabetic patients with good diabetes control and also suggested that this could be caused by the fact that the majority of the patients were cash-paying patients [16].

Behavior of patients as related by the participants are similar to that seen in other studies done outside Malaysia [7] where patients who are paying OOP are deemed to be the worst in terms of adhering to both follow-up schedules and compliance to medication. It was found that in this American study that when patients had health insurance, they were better able to attend follow-ups, undergo regular laboratory testing and even purchase medicine for their illness without having to worry about their financial condition. This was also true of the findings of this study.

Almost all the participants in the study felt that one of the worst payment mechanisms was OOP with poorer diabetic outcomes to patients although this was not assessed quantitatively in this study. This finding is similar to that of a quantitative study comparing diabetic outcomes within OOP patients and patients with social health insurance in Mexico [6] which found that patients who had social health insurance had better glycemic control and thus lesser complications both in the short and long term compared to those diabetic patients who paid OOP.

Many of the providers felt that they were making changes to their clinical management based on the payment mechanism of their patients, having to compromise on following established clinical guidelines for disease management in order to both satisfy their patients yet manage their diabetes to some degree. In fact many of the providers inferred that these coping strategies that they implemented were not providing a good outcome for their patients' disease control. This was however somewhat conflicting with the findings of Meyers et al. [17] who in their 2006 seminal quantitative paper found that although physicians considered their patients' payment methods and made changes to their own clinical management due to this, this was not necessarily linked to lower quality of care and subsequently a poorer outcome. However this was a cross-sectional paper done amongst only a small group of family physicians in America and thus maybe not generalizable to the Malaysian setting. A long-term observational study such as a cohort would be instrumental in assessing the veracity of this relationship and the effect of OOP on diabetic outcomes in Malaysia.

The strength of this study is that this is the first

Malaysian study to assess provider behavior in terms of how management of diabetics in private primary care is affected by their methods of payment for care. In addition, care has been taken to select as diverse a group of participants as possible to get a wide range of views pertaining to the issue. Findings from this study will come in useful as the backbone for other studies in the area of improving diabetes care and outcomes in the Malaysian PPC setting as well as in improving the Malaysian healthcare system in the private primary care sector. However, this study only drew participants from one single region which is not representative of the whole country as well as being a small sample of only 30 participants and like all qualitative work, is content specific. It must not be forgotten that as in all self-reported studies, there is a shadow of social-desirability bias which may have been in the study especially as the interviewer was also a doctor. Future research should also be focused on the need for alternative payment mechanisms for OOP patients in private primary care and any form of social health insurance could be formulated for this group of society.

CONFLICT OF INTEREST

The authors declare that there was no conflict of interest in this study.

ACKNOWLEDGEMENT

This publication has been supported by the Ratchadaphiseksomphot Endowment Fund of Chulalongkorn University (RES560530243-AS).

REFERENCES

- World Health Organization [WHO], Western Pacific Region. Country health information profile –Malaysia health databank 2011. Manila: WHO. [cited 1 March 2014]. Available from: <http://www.wpro.who.int/countries/mys/en/>
- World Health Organization [WHO], Western Pacific Region. Malaysia health systems review 2012. Manila: WHO. [cited 1 March 2014]. Available from: http://www.wpro.who.int/asia_pacific_observatory/hits/series/Malaysia_Health_Systems_Review2012.pdf
- Hussein RH. Asia Pacific Region country health financing profile: Malaysia. Kuala Lumpur: World Health Organization; 2010.
- Quek D. The Malaysian healthcare system: a review. Intensive workshop on health systems in transition: 29-30 April 2009; Kuala Lumpur; 2009.
- National Clinical Research Centre. National medical care statistics report 2010. Kuala Lumpur, Malaysia: Ministry of Health; 2010.
- Sosa-Rubí SG, Galárraga O, López-Ridaura R. Diabetes treatment and control: the effect of public health insurance for the poor in Mexico. Bulletin of the World Health Organization. 2009; 87(7): 512-9.
- John D P, Wagner TH, Potter MB, Schillinger D. Health insurance status, cost-related medication underuse, and outcomes among diabetes patients in three systems of care. Medical care. 2004; 42(2): 102-9.
- Bernard HR. Research methods in anthropology: qualitative and quantitative approaches. Walnut Creek: AltaMira Press; 2002. p.754.
- Department of Statistics Malaysia. Population and housing census of Malaysia 2010. Kuala Lumpur, Malaysia: Department of Statistics; 2011.
- National Clinical Research Centre. National healthcare establishment & workforce statistics (primary care) report 2010. Kuala Lumpur, Malaysia: Ministry of Health; 2012.
- Pope C, Ziebland S, Mays N. Analysing qualitative data. BMJ. 2000; 320(7227): 114-6.
- Ministry of Health Malaysia. Clinical practice guidelines: management of type 2 diabetes mellitus. 4th ed. Putrajaya, Malaysia: CPG Secretariat, Ministry of Health; 2009.
- Hawkins M. The physicians' perspective: medical practice in 2008. Boston, MA: The Physicians Foundation; 2008.
- Haque MS. The Role of the State in Managing Ethnic Tensions in Malaysia: A Critical Discourse. American Behavioral Scientist. 2003; 47(3): 240-66.
- Kamaliah MN. Primary health care reform in 1 care for 1 Malaysia. International Journal for Public Health Research. 2011; Special Issue: 50-6.
- Mafauzy M. Diabetes control and complications in private primary healthcare in Malaysia. Med J Malaysia. 2005 Jun; 60(2): 212-7.
- Meyers DS, Mishori R, McCann J, Delgado J, O'Malley AS, Fryer ED. Primary care physicians' perceptions of the effect of insurance status on clinical decision making. The Annals of Family Medicine. 2006; 4(5): 399-402.