SURVEYS ON HEALTH AND MEDICAL CARE IN HONG KONG

4. UTILISATION REVIEW OF GENERAL OUTPATIENT SERVICES AT NGAU TAU KOK, LADY TRENCH AND VIOLET PEEL CLINICS

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Previous reports in this series

Readers of this report may find reference to previous reports in this series useful. The following are available from the Department of Community Medicine, Hong Kong University (Price $100 each) or from the Department of Health, Hong Kong Government.

1. Hedley, A.J., Cheng, K.K., Pei, G.K., Fielding, R., Lo, A.Y. and Chung, S.F. (with Pang, K.H., Mak, K.H., Sheung, E., Wong, R. and Yeung, J.) Health and health care choices in a birth cohort of 300 mothers and infants: surveys on health and medical care in Hong Kong. *Report to Health and Welfare. Hong Kong Government* 1990, 29 pp. with appendices 36 pp.

2. Hedley, A.J., Cheng, K.K., Pei, G.K., Fielding, R., Lo, A.Y. and Chung, S.F. (with Pang, K.H., Mak, K.H., Sheung, E., Wong, R. and Yeung, J.) Health problems, choices of care and patterns of utilisation in a well-population telephone survey: surveys on health and medical care in Hong Kong. *Report to Health and Welfare. Hong Kong Government* 1990, 49 pp. with appendices 76 pp.

3. Hedley, A.J., Cheng, K.K., Pei, G.K., Fielding, R., Lo, A.Y. and Chung, S.F. (with Pang, K.H., Mak, K.H., Sheung, E., Wong, R. and Yeung, J.) Health problems, patterns of utilisation, medical work and outcomes in patients attending general outpatient departments: surveys on health and medical care in Hong Kong. *Report to Health and Welfare. Hong Kong Government* 1990, 75 pp. with appendices 101 pp.

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PREFACE

Health services research (HSR) has an essential role to play in the planning, operation and longer term evaluation of all aspects of health care. However HSR has not been a prominent feature of health care in Hong Kong. Instead the emphasis invariably lies with health care delivery and not with the measurement of its effects. The two facets now need to be seen as equal and indivisible components of the system. There are strong and obvious medical, economic and ethical reasons why greater priority should be given to HSR.

The study of Government Outpatient Departments presented in this report was commissioned by the Department of Health, Hong Kong Government. It was designed to consolidate information obtained in a preliminary survey in 1989 sponsored by the Health & Welfare Branch for the Primary Health Care Working Party.

The study was somewhat limited in its scope partly because the operational characteristics of the clinics made the collection of information difficult. However the documentation of those difficulties can be regarded as a valuable step in itself towards greater understanding of the way in which services need to be appraised and re-designed. Because of the way in which services have evolved in Hong Kong, the development of appropriate evaluation techniques requires patience and ingenuity. Health care providers in Hong Kong need to consider now what information they require if service provision is going to meet measured need, be cost effective and lead to acceptable levels of satisfaction on the part of the consumer.

In Hong Kong the resources, skills and experience available for HSR are scarce and on a scale inversely related to their need. How much investment is required to allow us to begin to benefit from the products of health services research? That depends on the nature and size of the tasks, but as a rough guide 0.5% of total budget would revolutionise the analytical and intelligence gathering approach in relation to measuring outcomes. With appropriate targetting of problem areas it would also pay for itself. Health services research requires a stable and supportive environment. With an appropriate supporting infrastructure HSR can produce rapid results and be of immediate use to clinicians and managers. Of course, it is vitally important that results are *applied* and their full value realised; the application of results should be an integral part of policy towards health services research.

The findings in the GOPD studies reported here are striking. They immediately identify problems with both the services and the patterns of utilisation which are likely to be relevant to many other health and medical care facilities in Hong Kong. Further evaluation in this area, including the impact of interventions designed to solve these problems will bring benefits to both health care professionals and their patients.

SUMMARY

The information on the demographic characteristics of patients confirms the findings of previous studies. The proportion of the Hong Kong population served by the GOPD comprises patients who are on average older, poorer and less well educated than the general population and who undoubtedly have important medical care needs that they can only afford from government subsidized services. However, this study also showed that there are groups of patients seen at the GOPD clinics who could receive care elsewhere. These include the large proportion of students, who might be eligible for care from a student health service; relatively well-educated and employed young adults, who might be able to obtain health care from private doctors; and government servants and their dependents, for whom alternative arrangements could be made and all of whose care represents a major proportion of services delivered by GOPD clinics.

1. Features of the clinics

One of the most important features of the clinics in the GOPD system is their heterogeneity. No two clinics are the same. This is not only true for the physical layout, but also in terms of the professional and ancillary support each receives on a day to day basis. Even greater variation exists between session types. Daytime sessions are run by fulltime medical officers of the Department of Health with a full complement of nurses and other para-medical support. The non-daytime sessions, however, are operated by medical officers recruited from other disciplines, often on a temporary basis, and are supported by a smaller number of nurses and para-medical personnel. The rate of patient consultation is higher in non-daytime sessions with 17.5 patients per medical officer compared with 15 patients per session in the daytime.

Services for government servants and their dependents are separate from and operate in parallel to those offered to the general public. The clinics are of a higher quality in that (1) usually the senior medical officer sees the patients; (2) medical records are available; (3) an appointment system is available; (4) the queue is probably shorter; and (5) the services are free of charge.

2. Time study of the clinics

The distribution of time spent by patients in GOP clinics was examined and divided into 5 parts: (1) Disc waiting time, (2) consultation waiting time, (3) consultation time, (4) dispensary waiting time, and (5) dispensary time.

The total time spent in daytime clinics was about 111 minutes. The mean physician consultation time was 2.7 minutes (2.4%) in daytime clinics, whereas time spent in waiting was 106.9 minutes (96.0%). Non-daytime attenders spent even longer amounts of time waiting and shorter time with the doctors.

The first half hour of a session was the most congested period and in general all patients were cleared out of clinic 30 minutes before the official closing time.

40% of the patients' time was spent waiting for a disc. The disc waiting time was associated with the location of the clinic, patient's age and type of illness. Those aged 55 or above tended to queue up earlier as did patients with DM or HT.

Consultation time during the daytime clinics varied as a function of patient age, type of illness and clinic. Patients less than one year old had the longest consultation time. Those with complaints of a "cold" or skin problems had the shortest and those with musculo-skeletal and circulatory diseases the longest consultation times.

Consultation time was not related to the doctor's age, years since graduation or working experience in the GOPD. However doctor behaviour may be affected by the working environment.

3. Social and demographic aspects of the patients

Analysis of the socio-demographic variables of 1065 attendants of the three survey clinics found that a large proportion were from the lower socio-economic strata of the community. Overall, young children, housewives and economically inactive adults together made up nearly 70% of the attenders. Of the adult patients 30% had not attained primary education level and were probably illiterate. Over two thirds of those willing to declare a monthly income reported a monthly household revenue of less than $10,000 and 10% claimed to receive less than $3,000.

Non-daytime clinic attenders were more likely to have full-time employment and were younger than daytime clinic attenders. A larger proportion of patients seen in daytime clinics presented with chronic problems such as diabetes or hypertension and fewer with minor, self-limiting conditions like a "cold."

The patients attending the three clinics had significantly different social and demographic characteristics. For example, nearly half of the adults attending NTK or LT were illiterate while at VP nearly half had received a secondary education or higher. These differences are perhaps best explained by the location of the clinics, since most patients went to the clinic nearest their home or place of work.

Approximately one third of the total patients were government servants or dependants of government servants (GS/DGS). Though a study of this group of patients was beyond the scope and resources of this project, it was obvious that their health care constitutes a major part of the clinic work. They are generally seen by the more senior medical officers and enjoy having an appointment system, medical records and free consultation and medication.

4. Desirability of patient held records

About 70% of patients and 77% of proxies (those who brought patients to the clinic eg mother of infants, children of elderly, etc, and who responded to the interview on behalf of the patients) were in favour of (or not against) having patient held-records. Better educated patients and those younger in age (below 40) were more likely to be in favour of such a scheme.

5. Desirability of an appointments system

About 78% of patients and 86% of proxies were in favour of (or not against) establishing an appointments system in the GOP clinics. An analysis of demographic and social factors indicated that only age was strongly associated with a positive opinion; younger patients (below 40) were more likely to desire an appointments system than older patients.

Appointments systems should be an integral part of a clinical information system providing a wide spectrum of clinical and management decision support in clinics. Simulations based on different patterns of case-mix and clinic throughput would indicate how the use of time and resources would be influenced by an appointments system.

6. Consultation history and recall pattern of patients who did not have diabetes or hypertension

A large proportion of patients consider the GOPD to be the major source of their primary health care. 14% of attenders were returning patients. Of these 26% had been recalled by doctors and 90% of these recalled patients had been asked to return after completing their course of medication. It is likely that many of these patients did not need the attention of a physician.

7. Referral patterns within the past year

The overall referral rates from GOPD to Specialist Outpatient Departments (SOPD) and Accident & Emergency Departments (A&E) within the past one year were 7.5% and 1.7% respectively. New patients were more likely to be referred to SOPD than patients who had visited the present GOPD clinic more than once. This may reflect the perception by patients that the GOPD serves as a gateway to the SOPD.

8. Recall pattern immediately after consultation

Nine percent of patients who did not have diabetes or hypertension and 27% of patients with either of these conditions were asked to return for follow-up. Those with chronic disease should be offered some form of continuous care, especially if they are receiving prescribed medication. That the majority were not specifically instructed to do so might reflect a common assumption that patients know that they need to return regularly for medications. Whether this is a valid assumption has never been tested. In the absence of a useable medical record their is no indication as to the doctors view of what care Should be available for the 73% who were not given a follow-up appointment. Most (88% and 95% respectively) were not given an exact day to return. Equally important in this process is the need to ensure that patients are not seen more often than they need be. Clearly, there is scope for an appointments scheme to support the management of these patients, especially those with chronic illness.

9. Patient's intention to doctor-shop immediately after consultation

Thirty percent of patients without Diabetes or hypertension and 8% with either of these conditions stated their intention to visit elsewhere for their present medical problems immediately after the consultation. Of these, substantial minorities (12% and 31% respectively) intended to go to other GOPD clinics. This duplication of services represents a waste of valuable time and resources. It represents a major challenge to the health care system in terms of the education of both the general population and patients.

10. Patient's expectation and satisfaction

Younger respondents (below 39 years of age) were likely to agree strongly that a full understanding of their disease problems and the medication prescribed is necessary. These respondents might represent a cohort which makes more claims from the providers of health care. Older respondents, or those with a lower level of education, were more likely to expect prescriptions after every medical consultation.

In general, respondents aged 39 or less were found to be more dissatisfied. This younger group may represent a cohort which has different expectations of health care than other attenders and points to an urgent need for improvements in the planning and delivery of care in order to avoid further increases in patient dissatisfaction due to unmet expectations of the quality of care available from the Government service.

Multivariate analyses indicated that patients aged 39 or less who had a short consultation time, high expectations of medication by injections, the desire for short waiting times and who found GOPD services inconvenient, were more likely to be doctor-shoppers than other respondents. These results are consistent with earlier reports on this group of users and reflect what seems to be a growing dissatisfaction among the younger age group and indicates a possible future trend among GOPD attenders.

CONCLUSIONS AND RECOMMENDATIONS

1. The ability to pay

We recommend that when changes in the delivery of care through GOPD's are considered, especially in terms of the cost to patients, the striking differences in the ability to pay be taken into account. We also believe that the system of providing health care to government servants and their dependents deserves careful scrutiny. If in fact the GOPD's are to be used in the future to provide health benefits to government servants, then additional funds should be injected into the system so that the care of the general public is not compromised.

2. Quality of care in non-daytime clinics

As in previous studies this enquiry found marked differences between the characteristics of attenders of daytime and non-daytime sessions. We believe that the non-daytime sessions are important. The workload in the non-daytime sessions is a relatively large component of all medical work done in GOPD and these sessions meet (or should meet) the needs of the working members of the population. It is also possible that non-daytime sessions help to reduce the demands on and inappropriate use of the Accident and Emergency Units of hospitals. We are concerned that the quality of services provided during these sessions was below that offered in the daytime. We would recommend that these sessions be retained in the GOPD and that the quality of service they provide should be upgraded and further evaluated.

3. Consultation times and clinical information

The reasons for the short consultation times observed should be further investigated. The problem is clearly partly due to the large number of patients with trivial complaints in each session. This is aggravated by the fact that there is no continuity of care or opportunity for the development of the doctor-patient relationship because of the absence of medical records in the public sector of the GOPD. In the "Report on the Survey of Doctors Working in Government Out-patient Departments and Family Health Service, 1990" it is stated that The optimal time doctors believe should be spent on patients is 5.5 minutes. If the GOPD service continues in its present form, the *notional allocation* of 5.5 minutes for each patient consultation will not necessarily increase the actual consultation time nor improve the quality of patient care. This is principally because of the absence of an appointments system also because the physician cannot develop a better doctor-patient relationship, nor improve patient education, if he/she does not have a medical record of the patient's history to refer to.

It should be noted that although the mean duration of consultation was less than 3 minutes, the consultation time was found to vary with the patients' age and type of symptoms presented. The physicians were obviously often attempting to respond to the patients and not perfunctorily and indiscriminately prescribing. It appears that the physicians in the GOPD are quite capable of responding positively to patients' needs. We believe that it would greatly improve the quality of patient care if management plans could be formulated to reduce the intellectually and physically fatiguing effects of seeing large numbers of patients with seemingly trivial complaints. In addition

professional stimulation and competence would be enhanced with the implementation of a clinical information system in the GOPD. This would allow the content and quality of medical work to be audited and evaluated by the providers.

4. New management plans

As in previous studies, we found that the majority of patients would support patient-held medical records and an appointments system. In addition to the introduction of these facilities we recommend that the method of providing care to patients with different levels of need is changed.

For example we suggest that the patients could be assigned by specially trained nursing staff to clinic services which are designed to meet their immediate or continuing health care needs.

The classification to be adopted to support this management plan should be the subject of discussion, and eventually trial and evaluation, by a GOPD planning team. However to illustrate a possible approach to this problem three or four possible categories of patients can immediately be identified.

I. New patients

1.1 Those presenting for the first time or with a new episode of illness not immediately identifiable as a problem in category 1.2

1.2 Patients with minor self-limiting illness

A large proportion of patients attending the clinics have minor problems such as upper respiratory infections or "cold". These patients could be offered limited but specific services as a safe and effective alternative to their present heavy use of full GOPD services. Ther could be a facility for patients to elect themselves for the service offered in this category.

II. 2.1 Chronic disease:

For example

Diabetes
Hypertension
Chronic obstructive airways disease
Musculo skeletal problems

2.2 Follow-up patients

Those who have been re-called by their physician or attend on their own account for a further consultation about a persistent problem.

The streaming of patients according to their types of health problems and need for continuing medical care would provide a rational approach to the use of resources in the clinics which has many parallels elsewhere. It would create new opportunities to provide purpose-designed management plans for the wide spectrum of problems presenting to the GOPD service.

5. **Appointments systems**

From the study on the desirability of the appointments system, younger and better educated patients were found to be in favour of it, whereas older patients with chronic disease would prefer the system to remain unchanged. An appointments system would support the plans for allocating patients with different types of needs to different services within the clinics. Thus instead of the present "block system" we suggest that an appointments system is developed as an integral part of a clinical information system. An open "walk-in" facility could continue to cater for older patients, and others who are unwilling (in the short term) or unable to make an appointment. If the physicians could be rotated between these 3 categories of patients, the lack of priority given to patients with serious and acute medical problems might be rectified.

6. Given the consistent finding that adults aged 20-39 years report the greatest sense of dissatisfaction with the GOPD clinics studied and the highest prevalence of 'shopping' behaviour, some adjustment to service is required for this segment of the population. We believe that this is likely to be best achieved by the following:

(1) **Reduce the waiting times for consultation.** This might be done by use of specially trained nurses to attend to some of the return patients or those with minor self-limiting conditions, with the supervision of physicians and using medically-approved algorithms.

(2) **PRovide information for patients**which addresses important current issues in health care, such as the bioequivalence of non-injectable medications and the rationale for the treatment of minor self-limiting illness. Patients should be helped to a better understanding of how they can get the best value from health care services.

(3) **Label clearly all medications dispensed** and provide supplementary advice, for example in the form of packaged advice. Better information is known to contribute to improved patient independence, participation in decision-making and greater responsibility for health care.

(4) **Place greater emphasis on the physician's competence in communication**, specifically in relation to identifying patients' expectations of the consultation, involvement of the patient in clinical decision-making and explanations about the treatment offered. This will serve to involve the patient more and increase the likelihood that adherence to recommended treatment will be higher and dissatisfaction and doctor-shopping lower.

7. We believe that evaluation studies should be conducted on a continuing basis, based on specific objectives to study the health needs and medical services provided in Hong Kong. Although many of the recommendations made here will ultimately be dependent for their success on the availability of modern information technology, innovation should not be wholly dependent on this in the short term. Many new ideas can be developed, implemented and evaluated now as a prelude to the large scale and radical reorganisation of this service which is so clearly needed.

1. BACKGROUND

In 1989, the University of Hong Kong Department of Community Medicine and the Hong Kong Government Department of Health conducted surveys on the health and medical care of patients attending general outpatient departments. These clinics form an integral part of the health services provided by government departments in Hong Kong. It is estimated that 17% of the general population of Hong Kong receive the majority of their health care from Government outpatient departments.

The results of the surveys conducted in 1989 documented some important aspects of health care delivery in this service. The heavy workloads of these clinics, where a wide spectrum of patients and problems stream in to be addressed in a rapid manner, were well-recognized before the onset of the study; the time nominally allocated to each consultation was 3.3 minutes. However, the survey results suggested that many patients received even less time. Furthermore, the 1989 survey results also suggested that many of the patients seen had received or would receive duplicated services. Thirty-nine percent of those surveyed noted that they had already sought medical advice prior to attending the government outpatient department. Forty-one percent of patients surveyed indicated that they change doctors ("doctor-shop") frequently during the course of a given illness.

These findings suggested that in order to improve the delivery of services in this sector (in terms of reducing resource waste and increasing patient satisfaction) further research was necessary. The results clearly indicated the need for (1) systematic operational studies of the management of clinics and (2) a better understanding of patients' expectations of medical care, as well as the factors determining doctor shopping.

2. OBJECTIVES

The principal objectives of this current study were to:

1. Study the flow of patients through the clinics.

2. Determine the patient, provider and organizational factors that affect the process of health care.

3. Recommend changes that may improve the process of care.

4. Examine the recall practices of physicians.

5. Examine the referral practices of physicians.

6. Determine the acceptability of patient-held medical records.

7. Determine the desirability of an appointments system.

8. Construct a profile of patients who doctor-shop.

3. METHODOLOGY

This project can be described under three headings:

1. the collection of data regarding the clinics and providers.
2. a time and motion study to determine patient flow through the clinic.
3. a survey of patients to establish factors affecting patient flow, recall and referral; the desirability of patient-held records, and appointments systems; and information regarding health care expectations and health care seeking behaviour.

3.1 Collection of information on the clinics and providers

A standard form covering information on the number of staff, discs issued, SOPD and A&E referrals, was filled by the nursing officer in charge of the clinic after the survey was over. When the whole survey was completed another form designed to cover the gender, age, working experience, and qualification of doctors in the three GOP clinics, was completed by the Department of Health.

3.2 Time and motion studies

How patients spent their time in clinics was recorded. Four time-keepers (timers) were needed in each session. One was stationed at the shroff, two at each consultation room and one at the dispensary. The timer at the shroff recorded the exact time when the patient was given his numbered disc. Two timers were stationed outside consultation rooms. Each was responsible for the flow of patients at one specified consultation room and recorded the exact times when a patient entered and exited. The timer at the dispensary recorded the time when a patient handed in his prescription form and the time he received his medication.

3.3 Survey of patients

3.3.1 The questionnaire

Patients were interviewed using a structured questionnaire (see appendix 1). The questionnaires were divided into four parts. The first two were administered before the consultation with the doctor. Patients' demographics were covered in the first part. Items in the second part covered patients' medical problems, self-rating of health, health care seeking behaviour of the patients, as well as the desirability of appointments systems and patient-held records. The third part, which dealt with the referral and follow-up of patients, patients' ratings of medical staff, consultation, medical tests and the visit as a whole, was administered after patients had had their consultation. Part four of the questionnaire covered doctor-shopping behaviour, patient expectations and satisfaction.

3.3.2 The interviewers

GOPD survey

The background of the interviewers involved in the GOPD study is listed in Table 3.1. All the interviewers were instructed on the objectives and use of the questionnaire. A period of time was allocated for interviewer training and practice and for resolution of problems that might arise. Throughout the survey, the interviewers were closely supervised. Four interviewers were responsible for the interviewing of patients during each clinic session, two of them interviewed patients before doctor consultations and covered the first two parts of the questionnaire. The third part was completed by the other two interviewers, after the patients had completed doctor consultation and were queuing for medication in the front of the dispensary. The first three parts were completed in the clinic with a face to face interview. The fourth part was administered during a telephone follow-up one month later.

One month telephone follow-up

Ten interviewers, eight full-time and two part-time, were recruited for the purpose of data collection in the present one-month telephone follow-up (Table 3.2).

All the interviewers were female and were recruited specially for the present study. They all participated in a training session prior to the collection of data, in which telephone numbers were given for trial calls in their own time.

3.4 Sampling and method of study

There are a total of 54 GOP clinics in Hong Kong. Three clinics, Ngau Tau Kok Jockey Club Clinic (NTK), Lady Trench Polyclinic (LT) and Violet Peel Health Centre (VP), were selected for this study based on findings of their expected and observed workload from the GOPD survey conducted in 1989. They represent clinics with different workloads from the three major regions of Hong Kong. Although it was recognized that there might be heterogeneity in the characteristics of the clinics, it was felt that data from the three might serve as a composite picture for the entire GOPD system. Each one of the 3 clinics was observed daily for one week starting from Tuesday through to the next Monday. The survey started in NTK (20/11/90 to 26/11/90), followed by LT (27/11/90 to 3/12/90), and then VP (4/12/90 to 10/12/90). NTK was closed in the evenings and the whole of Sunday. Only the morning session was in operation on Saturday, so there were a total of 11 sessions surveyed during the study period. There were evening, and Saturday and Sunday morning clinics in LT and VP. Hence, the number of sessions in each of these two clinics was 17. In each clinic session two consultation rooms out of a total of four or five were selected for study. Consultation rooms dedicated to government servants(GS) and their dependents(DGS) were excluded. All patients assigned to two randomly selected rooms were included in the time and motion study. However, the questionnaire was administered to only a sample of these patients.

Sampling for the daytime sessions was 1 in 2; during non-daytime sessions, the sampling was 1 in 3. To avoid interfering with patient flow in the clinic, the first five or six patients in each clinic session were skipped in the interview. Interviews started randomly from disc number four to six in the morning and afternoon sessions, and six to eight in the evening session. Excluded from the sample were (1) staff from the same GOP clinic; (2) those with speech impediment and (3) a patient's proxy who had already been sampled, e.g. a parent with three children.

There were however minor variations in the sampling methods used in NTK and VP. Being the first clinic in the survey, NTK in the first session had only one room chosen for study and a random sampling of one in three was employed. This was done to ensure that the interviewers and timers had sufficient time to cope with their tasks. After the first session, the sampling method described above was used. In LT, the method was modified slightly in a few day-time sessions. The sampling scheme changed from one in two to total sampling, i.e. one in one, starting from disc number around 30. This was attempted when the total number of discs issued in each room was small, or when the interviewers were sure that they could afford the increased workload of total sampling. The sampling method was employed without any modification in VP.

The subjects in the one-month telephone follow-up were all GOP clinic attenders during the period of November 20 to December 10, 1990. These subjects were divided into two separate groups. The first group were the ones who were interviewed in the clinics for the purposes of the Time and Motion Study (T&M). All of the subjects in this group were contacted in the one-month telephone follow-up. In this group of subjects, those who were asked by their GOPD doctors to have follow-up consultations would be contacted three days (and no later than 10 days) after their return visits to the clinics. As for others who were not asked to return, there were no time specifications as to when they were contacted.

A second group of subjects came from a pool of patients not interviewed in the T&M study. Systematic sampling was carried out for these subjects. Each telephone interviewer was randomly given name lists from two of the three sampled clinics. One in every two patients on these lists were contacted. A general rule for calling was that a subject should be contacted at least three times before he or she was considered to be "not in", or that his or her line was "engaged", or "no answer".

3.5 Data entry

The interviewers were given a coding scheme and were responsible for coding the questionnaires. The accuracy of their coding was checked by a research assistant. Data were entered on IBM PC. The range and simple logic checks were performed at the same time. After completing the data entry, a more sophisticated logic check was employed which aimed to uncover any outliers and coding errors. Suspicious questionnaires detected during this process were taken out for detailed inspection and appropriate correction made. In addition, the data entry of a ten percent sample of questionnaires was verified. To improve the accuracy of coding as well as data entry, the questionnaire was specially designed to include some redundant entries.

3.6 Methods of analysis

Statistical analyses including chi-square test and logistic regression modelling were processed by the statistical package SPSS/PC run on IBM PC. Fisher's exact test (two-tailed) was computed by the package EpiInfo V5. The significance level was set to 0.05 throughout in this report. Missing values were excluded from the analysis. The significance of the relationship between two discrete factors was assessed by chi-square test with Yates' correction applied. In cases where there were too many cells with expected values of less than five, Fisher's exact test was employed. The association between a dichotomous variable and a set of independent variables was examined by stepwise logistic regression analysis. This was quantified by an odds ratio, and a 95% confidence interval for the odds ratio was computed when the corresponding factor was significant.

4. RESULTS

4.1 Clinics

Three clinics were studied. They were Ngau Tau Kok (NTK), Lady Trench (LT) and Violet Peel (VP) which are located in Kowloon, New Territories and Hong Kong Island respectively.

4.1.1 Location and patients served

NTK is situated near some housing estates on a small hill on the outskirt of Kwun Tong Town Centre. It is surrounded by a Chinese Temple and a small public garden on one side and a main road and housing estates on the other. It is easily accessible to residents of the nearby housing estates but the people living or working in or near Kwun Tong Town Centre would find it an inconvenient place to visit. The people it caters for are therefore mainly residents of the housing estates.

LT is situated in one of the busiest parts of Tsuen Wan Town Centre. It is surrounded by shops, offices, schools and roads. Apart from the town dwellers, people in the surrounding suburbs would find it convenient to reach the clinic by public transport. In the building where it is located are also found the Government Accident and Emergency service and methadone treatment centre. LT serves both town dwellers, some office workers and the residents of housing estates just outside town.

VP is located on the first and second floors of a large building complex in down town Wan Chai. In the first floor, there is a physiotherapy clinic and on the second floor, the University of Hong Kong General Practice Unit. In the same building above the clinic are various branches of Government departments. It is surrounded by a shopping complex, recreation centre and high rise office buildings. The people who frequently visit VP are mainly office workers and people living in down town Wan Chai district.

4.1.2 Staff and facilities

Clinics

Each clinic is run by one or two senior medical officers and a team of four to six medical officers. The nursing and support staff comprises about ten nurses, five clerks and ten orderlies and is led by one or two nursing officers. The numbers of nursing and support staff varies from day to day and session to session in each clinic. The dispensary is led by a senior pharmacist and a team of three to six dispensers. The complement of staff varies with the size of the clinic, thus VP being a larger clinic has almost double the number of staff compared to LT and NTK.

The physical set up in each clinic comprises the room for registration, the shroff, four to six consultation rooms, a dressing room, a nurses observation station, a dispensary and a large central area with many benches for the patients. There is no laboratory or X-ray service in the outpatient clinic, however simple routine tests (such as urine dip sticks) are performed by nurses regularly.

Physicians

The number of physicians working in the consultation rooms, their age and experience are shown in Table 4.1. The numbers however do not represent all doctors in the three clinics but only the doctors involved in the time and motion study in the daytime sessions. Of the 12 doctors four were females and two were senior medical officers (SMO). The SMO in NTK and VP were involved in the care of GS and DGS and as such were not included in the time and motion study.

In the non-daytime sessions, the numbers of doctors involved in LT and VP clinics were unknown. These physicians were usually recruited from other government departments, such as Accident and Emergency Departments, the Family Health Service and other GOP clinics. As reported by Department of Health, most of them only worked temporarily for one or two sessions in LT and VP.

It is interesting to note that the experience in terms of the numbers of years the physicians had working in the GOPD was relatively short compared to the number of years they had since graduation from medical school. In LT and VP the number of years since graduation were much lower than NTK (the difference may be due to the absence of an SMO during our study). Since NTK has been designated a model clinic for the future, this may also reflect a bias in the selection of doctors to the clinic. It is possible that young graduates who prefer a career in family medicine were selected for this clinic.

4.1.3 Functions and operating systems in the clinic

Government servants and general public

The patients who attend the clinics are classified by the staff as either government servants (GS) and dependents of government servants (DGS) or the general public. The clinics operate an appointments system and keep medical records only for government servants and their dependents. Care is also provided free of charge for this category . On the other hand, non-government servants have neither an appointments system nor health records and must pay a fee of $18 for every visit.

Daytime, and non-daytime sessions

There are four clinic sessions. The morning or AM session opens between 9.00 am to 1.00 pm from Monday to Saturday. The afternoon or PM session is between 2.00 pm to 5.00 pm. Some clinics have sessions in the evening and on Sunday and public holidays. Evening sessions are

between 6.00 pm to 10.00 pm. On Sundays and public holidays the clinics run from 9.00 am to 1.00 pm. Only the AM and PM sessions are run by regular full time GOPD doctors. The evening and Sunday/public holiday sessions are staffed by doctors from various other departments. The support staff are generally fewer in numbers in the evening and public holidays session. All clinics operate in the morning and afternoon from Monday to Friday, and in the morning during weekends. LT and VP also operate in the evening from Monday to Friday and in the morning on Sunday. Daytime sessions include morning and afternoon sessions; evening sessions and sessions operated on Sunday are categorised as non-daytime sessions.

Disc system and patient load

The patients are controlled by a system whereby each person is issued a numbered disc. Only a person with a disc is entitled to medical consultation. The number on the disc determines the sequence of consultation. Since only a limited number of discs are issued per session, patients are often found queuing up in front of the clinic for a disc long before each session commences. On an average day a doctor sees 50-70 patients in the AM session and another 40-50 in the afternoon session. The patient load on Sunday and in the evening averages 60-80 per session.

Block system

To avoid long waiting periods and congestion in the clinic, a block appointment system was devised whereby patients who had to wait a long time could leave the clinic and attend to other matters and then be back in time to see the doctor. In this system patients with the first 20 disc numbers are seen by the doctor within the first one hour. Patients who had discs numbered greater than 20 may estimate their appointment time with the doctor, attend to other things and return for their appointments.

Referral system

Patients who need investigations are referred to government laboratories located elsewhere or they may be referred to the government specialist outpatient (SOPD) clinics. Similarly patients who need specialist care or emergency treatment are referred to SOPD or the A&E department of public hospitals respectively. The referral may sometimes be entered in the doctor's outpatient register. There is no record linkage between the clinic and other health services. Neither are there facilities to file referral letters from other health care services.

Health information and follow-up

As mentioned above, only the GS and DGS have personal health records kept in the clinic. However the GOPD doctor when attending the general public keeps an out-patient register for every session. He makes a one line entry of the date, patient's name, age, sex, diagnosis, treatment and whatever remarks he may have at the time in the register. The function of this register is purportedly for medico-legal purpose. It is not sufficiently useful for follow-up or review of patient's condition, mainly because of the difficulty encountered in retrieving the data entered.

4.2 Time Studies in Clinics

The time spent in the GOP clinic could be divided into five categories:

1. Disc waiting time:
   the time spent queuing for a disc
2. Consultation waiting time:
   the time spent waiting for a consultation
3. Consultation time:
   the time spent inside the consultation room
4. Dispensary waiting time:
   the time spent queuing for dispensary
5. Dispensary time:
   the time spent at the dispensary

Note that apart from the disc waiting time, which was estimated by the respondents themselves, all above times were recorded by timers.

During each consultation in the GOP clinics, the doctor records the patient's name, age, gender, diagnosis and treatment in a log book. The doctor writes the treatment on the prescription sheet which is held by the patient. The official time nominally allocated to each consultation is 3.3 minutes. The time-in and time-out of each patient were noted by a timer standing near the consultation room. The recorded length of consultation was simply the difference between these two times. Since each timer stood outside the consultation room, in a case where two patients, such as a mother and her son, entered the room, the timer could only record their total time spent inside the room. The consultation time of each patient was estimated by dividing the total time by the number of patients in the room.

Previous studies (GOPD 89) have shown that patients spend excessive amounts of time waiting for very brief consultations. These earlier studies also noted that many clinics finish well before closing time implying that either more patients could be seen in a given session or more time could be spent during the consultations. This study attempted to understand more fully the factors affecting patients flows and consultation times. Section 4.2.3 examines the relationship between disc waiting time and patient factors and clinic attributes, and Section 4.2.4 discusses the factors which influence consultation time.

4.2.1 Overview of daytime and non-daytime clinics

A total of 4514 patients were included in the time and motion study. Of these patients, 1024, 1717 and 1773 paients attended NTK, LT and VP clinics respectively. However only those who were selected for interview were examined in this report (746 daytime and 274 non-daytime).

When a patient visited a day session, an average of 2 hours (111.4 minutes) was spent in the clinic (Table 4.2.1A). 42.5 minutes (38.2% of total time) were spent queuing for a disc and 54.2 minutes (48.7% of total time) sitting on the bench waiting to see the doctor. The time spent waiting for medication was 10.2 minutes (9.2% of total time). The average 2.7 minutes spent inside the consultation room accounts for only 2.4% of the total time in clinic.

The time a patient spent on the visit to non-daytime clinics is shown in Table 4.2.1B. The total time a patient spent in the clinic was 122.3 minutes 52.8 minutes (43.2% of total time) was used up queuing for a disc and 54 0 minutes (44.2% of total time) waiting to see the doctor. The time spent waiting for medication was 11.0 minutes (9.0% of total time). On average, the time allocated to each consultation was 2.0 minutes which is only 1.6% of the total time spent.

Patients attending non-daytime clinics seemed to have a longer disc waiting time and a shorter physician consultation time than those attending daytime clinics.

Summary

1. Total time spent on each visit to daytime clinics was about 111 minutes.

2. Mean physician consultation time was found to be 2.7 minutes (2.4% of total time) in daytime clinics, whereas time spent in waiting was 106.9 minutes (96.0% of total time): this included disc waiting time 42.5 minutes (38.2% of total time), consultation waiting time 54.2 minutes (48.7% of total time), and dispensary waiting time 10.2 minutes (9.2% of total time).

3. Compared with patients attending daytime clinics, non-daytime GOPD attenders spent a longer time in queuing for a disc (52.8 minutes) and a shorter time with the doctors (2.0 minutes).

4.2.2 Operation in daytime clinics

Figures 4.2.1 to 4.2.8 depict the flow of patients through the shroff, consultation room and dispensary in the morning (AM) and afternoon (PM) sessions of the clinics. The disc collection rate at the shroff was highest soon after the clinic opened. One hour after the opening of the clinics in the AM and PM sessions 80% and 90% of the discs were distributed respectively. The rate of disc distribution gradually slowed down after the first hour. About thirty minutes before closing time disc distribution was stopped.

The rates of consultation and drug dispensing were almost parallel from start to finish in both the AM and PM sessions. In the AM session by mid-morning (10.45 am) about 60% of the patients had received their medical consultation and over 70% of the patients had completed medical consultation by mid-afternoon (3.30 pm). This outcome can probably be explained by the fact that the number of discs available in the afternoon sessions is usually smaller than in the morning sessions.

The queue length for consultations and drug dispensing at any point in time in the clinic is reflected by the distance between the graphs A to B and B to C respectively (see Figure 4.2.1). Thus the most congested period in the clinic was around the first half hour after opening of the clinic. Most of the congestion was caused by patients waiting for consultation.

About one hour after the opening of clinic, the rate of patient arrivals dropped considerably and the queue length gradually diminished. The last patient in the AM session left the clinic by 12.30 pm in all the three clinics. Often all patients were cleared 30 minutes before the closure of the clinic, for example in NTK.

Summary

1. The differences in clinic operations in the morning and afternoon sessions can be explained by the variation in the total numbers of discs available.

2. The first half hour after clinics opened was the most congested period.

3. In general all patients were cleared 30 minutes before the official closing time.

4.2.3 Disc waiting time in daytime clinics

Stepwise logistic regression analysis was used to relate disc waiting time to a number of factors including clinic, age, employment status, type of illness and perceived severity of illness. The distribution of disc waiting time was skewed to the right with about 20% of patients with zero disc waiting time; since nobody was queuing for discs, they could obtain a disc straight away from the shroff. Therefore the median of the disc waiting time (around 30 minutes) was regarded as the cut-off point. The disc waiting time was classified as "< 30 minutes" if it was less than 30 minutes and "30+ minutes" if it was greater than or equal to 30 minutes.

Results

About 40% of the total time spent on a visit to GOP clinics was used up queuing for a disc to see a doctor (Table 4.2.1).

The disc waiting time by type of respondents is shown in Table 4.2.2. There was no significant difference between patients and proxy respondents (P=0.9349).

Cross-tabulations of the disc waiting time by different factors are displayed in Tables 4.2.3 to 4.2.7. The disc waiting times at different clinics were varied (Table 4.2.3). The longest waiting time was found in LT (65.3% were 30+ minutes). In relation to the patients demographic characteristics, the older (55 or more) and non-working patients were more likely to queue up earlier than the younger and working patients. (Tables 4.2.4 and 4.2.5). The DM/HT patients had a much longer disc waiting time (71.2% were 30+ minutes) than patients with other health

problems (Table 4.2.6). No significant relationship was found between disc waiting time and perceived severity of illness. (Table 4.2.7).

The results of logistic regression analysis are shown in Table 4.2.8. The group with an odds ratio greater than one is more likely to queue up for 30 minutes or more. The three factors: clinic, age and type of illness were found to be significantly associated with the disc waiting time.

There was no significant difference in disc waiting time between the clinics NTK and VP. However the patients attending LT clinic were more likely to queue up longer (OR=1.79) than patients in the other two clinics. The patients aged 55 or above (ORs=0.55 and 0.49) and DM/HT (OR=0.50) patients were more likely to queue up early than the younger and non-DM/HT patients respectively.

Discussion

Logistic regression analysis showed that LT clinic had the longest disc waiting time after controlling for the other factors. The significantly longer waiting time in LT may reflect differences in clinic operations or patients' characteristics.

It is likely that DM and HT patients rely very much on drugs for their well being and as such are more anxious to obtain a disc than those patients who did not need regular follow-up or, if they are regular attenders, maybe they know better than most exactly how the system works.

Summary

1. Forty percent of a patient's time was spent on queuing for a disc.

2. The disc waiting time was found to be associated with clinic, patient's age and type of illness.

3. Those aged 55 or above tended to queue up for discs earlier than the younger patients.

4. Patients with diabetes and hypertension were more likely to queue up for discs earlier than other patients.

4.2.4 Consultation time in daytime clinics

Stepwise regression analysis was employed to model the relationship between the length of consultation and other factors including clinic, patient's age, educational attainment, type of illness, and perceived severity. According to the existing block system, each doctor sees 20 patients within an hour, which means that the average consultation time will be 3.0 minutes (60 minutes per 20 patients). So for this analysis the consultation time was dichotomized as "< 3 minutes" and "3+ minutes".

Results

The actual time spent in the consultation showed marked variation, the average consultation time for the day clinic was around 2.7 minutes (Table 4.2.1).

4.2.4.1. Clinics' factors

Consultation time varied by clinic (Figure 4.2.9); the longest consultation times were in LT (3.3 minutes) compared to less than 2.5 minutes in NTK and VP. This pattern was also seen when comparing the consultation time of patients with the condition described as "cold" in the three clinics (Figure 4.2.10).

This study examined the relationship between consultation time and doctor qualifications (Table 4.1). Physician experience, as reflected by the number of years since graduation or years in GOPD, did not correlate with length of consultation. Also consultation time was not affected by age or gender of physician.

4.2.4.2. Patients' factors

The relationship between consultation time and age group, employment status, educational attainment and disease categories are as shown in Figures 4.2.11 to 4.2.14. Since the consultation time is less than 3 minutes any variation detected would be small in absolute terms. However trends might still be discerned.

The consultation time seemed to increase gradually with increasing age, beginning after the age of one year (Figure 4.2.11). Children of less than one year as a group had the longest consultation time (3.1 minutes). The shortest consultation time (2.3 minutes) was experienced by the 1-9 year group.

Figure 4.2.12 shows that part-time workers and the unemployed had the longest consultation time (about 3.2 minutes). Students on the other hand had the shortest consultation time (2.2 minutes).

Consultation time seemed to be quite uniform (around 2.7 minutes) for all levels of educational attainment except for those who had tertiary education (Figure 4.2.13). They had the shortest consultation time (around 2.2 minutes).

Duration of consultation varied with disease categories (Figure 4.2.14). "Cold" and skin problems took 2.2 minutes. Chronic problems, such as musculo-skeletal and circulatory diseases, had the longest consultation time (3.3 minutes).

4.2.4.3. Factors related to consultation time

The length of the consultation by respondents is presented in Table 4.2.9. This table shows that patient respondents (45.5% of total patient respondents) were more likely than proxy respondents (36.2% of total proxy respondents) to have a consultation time of 3 minutes or more.

Cross-tabulations of length of consultation by clinic and various patients' factors including age, educational attainment, illness, and perceived severity, are shown in Tables 4.2.10 to 4.2.14. Table 4.2.10 shows that LT had the longest consultation time (65.2% were 3+ minutes) among the three clinics. With regards to patients' characteristics, older (40 or above) or less educated patients seemed to have a longer consultation time (Tables 4.2.11 and 4.2.12) Those with DM/HT had slightly longer length of consultation (Table 4.2.13). Tables 4.2.14 shows that there was a trend in consultation time across various categories of perceived severity of illness. That is, the patients who perceived themselves to be in serious condition usually appeared in the "3+ minutes" category.

The results of stepwise logistic regression is displayed in Table 4.2.15 in which only clinic location was found to be significant. An odds ratio of greater than one means that the length of consultation in the corresponding group is more likely to be 3 minutes or more, than in the other clinics. NTK is the site of a future "model clinic"; this table shows that the consultation time in LT (OR=3.51) was more likely to be longer than NTK or VP, which had similar consultation times (OR=0.96).

Discussion

The length of consultation with a doctor appeared to be one of the factors determining the flow of patients through the clinic. Although consultation time was less than 3 minutes, it was considerably longer than drug dispensing time (1.3 minutes) and disc distribution time at the shroff (approximately 0.5 minutes).

Variations in consultation time occurred with age, employment status, and the types of illness seen. Patients at the extremes of the age range were given more time. This may be because their problems were more complicated or demanded a more careful appraisal by the physician. The unemployed and part-time employed were also given more time; it seems that they required or demanded more attention. The finding that consultation times are closely but inversely related to levels of educational attainment, age and employment status is a curious paradox. In the United Kingdom higher socioeconomic groups tend to manipulate the National Health Service so that they obtain a relatively greater share of services at the primary level and more referrals to higher level of care. This occurs in spite of the fact that levels of need are higher in less privileged groups of health services users. It is surprising that younger and better educated users of GOPD's are satisfied or at least prepared to accept a consultation of between two to three minutes. However we also know that members of this group often leave the clinic with the intention of seeking help elsewhere. A better understanding of the reasons for this pattern of utilisation behaviour seems to be essential if rational approaches to the planning and provision

of services at this level is to be achieved. Of course relatively simple interventions, such as means tested charging for clinic services, may have a marked effected on utilisation patterns.

It is interesting to note that the consultation time did not vary with the doctors' age, gender or experience, but with the clinic where they work. It seemed that the pace of consultation was determined by the work load and management of the clinic. The behaviour of doctors may have adapted to the needs and demands of the clinic workload, the nurses and other para-medical staff. The health care delivery pattern appears to have evolved more in response to the dictates of the clinic rather than the specific needs of individual patients. Clearly the consultation time was influenced by the activities of all staff in the clinic because the activities of doctors, nurses and dispensers were inter-related. For example, the doctors could not finish all the consultations too late, otherwise the dispensary would be closed. Also there may have been a "peer group effect" among the doctors in the clinic.

It should also be noted that the huge workload, limited case-mix and fast pace of work could affect the morale and professional interest of the doctors working in the GOPD. Such robotic conditions of rapid repetition and monotony do little to stimulate interest or thought and rob the physician of the opportunity for real human interactions with patients, the source of much professional satisfaction. To improve the primary health care of the GOPD it is important to consider the working conditions and professional development of this group of physicians. Physicians should be asked how the conditions could be improved and to participate in the improvement process. For example, physicians could contribute to streamlining clinic operations, the design of quality control measures, the development of patient care algorithms, providing better patient education and the development of medical records.

If length of consultation is accepted as an evaluation measure of the GOP services (ie, better service is related to longer consultation time), then among the three clinics, the LT provides the best GOP services to the general public. On the other hand, the length of a consultation which is sufficient for an individual patient is debatable and depends on what kind of illness. The "Report on the Survey on Doctors Working in Government Out-Patient Departments and Family Health Service, 1990" indicated that the average optimal time doctors believe should be spent with each patient is 5.5 minutes. Under the current situation, however , the majority of patients spend less than the allocated 3.3 minutes with the doctor. During this brief period, the patient must communicate his/her concerns, an examination may be necessary, paper work completed, and advice given. The scope for establishing proper communication with patients, let alone any semblance of empathy is strictly limited.

Summary

1. Children of less than one year old have the longest consultation time. Among adults consultation times are inversely related to levels of educational attainment, age and employment status.

2. The patients with "cold" and skin problems had the shortest consultation (2.2 minutes) and those with musculo-skeletal and circulatory diseases had the longest consultation time (3.3 minutes).

3. Consultation time was not related to doctor's age, duration of graduation, and working experience in GOPD.

4. The length of consultation time was related to individual clinic. After adjusting for patients' factors, LT was found to have the longest consultation time, followed by NTK, and then VP.

5. The clinic workloads and case-mix preclude any rational approach to the delivery of quality care in these clinics at the present time.

4.3 Patients

The patient load and other patient variables affect the operation of any primary health care facility. The type of services provided, the location of the clinic, patients' expectations and the composition of medical personnel will affect patient attendance.

This section attempts to characterise the patients attending the three GOP clinics and then compare patients in the daytime and non-daytime sessions. Differences in the three clinics are also compared. The numbers of patients attending the three GOP clinics during our survey, and patients sampled for interviews are summarized in Table 4.3.1. There were respectively 1140 (81%), 2941 (82%) and 1786 (64%) general patients seen at NTK, LT and VP clinics during our study period compared to a total of 1401, 3586 and 2774 patients attending the three GOP clinincs.

4.3.1 Demographic data of GOPD patients

Results

A total of 1110 patients were sampled for interview. Of these patients, 15 were excluded because they did not satisfy our sampling criteria, 16 could not be found, and 14 refused. Of these respondents, 235, 398 and 432 patients attended NTK, LT and VP clinics respectively. The overall response rate was 97%.

The distribution of GOPD attenders at the three clinics during our study is summarized in Figure 4.3. There were 1065 GOPD attenders of which 123 were newcomers (patients who had never been to these GOP clinics for any problem), 903 non-newcomers, and 39 were not classified because their demographic data were found to be inadequate for analysis. Of these missing patients, 1 was non-DM/HT patient, 1 was DM/HT patient, and there was no information about the remainders. Of the non-newcomers, there were 242 (26.8%) DM/HT and 660 (73.2%) non-DM/HT patients. Out of these non-DM/HT patients, 139 (21.3%) were return patients (they had visited the GOPDs in this survey for the present episode of illness) and 514 were non-return patients; they had not been to the present GOPDs for the present episode. Among the newcomers, there were 119 (96.7%) non-DM/HT and only 4 (3.3%) DM/HT patients. Combining the non-newcomers and newcomers, there were 247 (24.1%) DM/HT patients and 780 (75.9%) non-DM/HT.

Tables 4.3.2 to 4.3.9 are frequency tables of patients from the three clinics. The age distribution is shown in Table 4.3.2. About 25% were under 20 years of age. 59% were females (Table 4.3.3). 63% of the patients were married (Table 4.3.4). Table 4.3.5 shows that among the patients less than 20 years of age, 52.5% were below school age; 26.8% were from secondary schools. In the adult population, patients who had no formal education (30.2%), and those with primary education (31.9%), and secondary education (32.3%) were approximately equally distributed.

About 25% were students or below school age (see Table 4.3.6). Those who were retired, unemployed or with only part-time employment together made up approximately 20% of the whole. Housewives made up another 21%. Those with full-time employment made up the remaining 33.3%. Thus over two thirds of the attenders were non wage earners.

Of the 35.6% with full/part time employment, 43.6% were production and related workers; 26.8% were related to clerical work; 19.9% were service workers and only a few (4.1%) were professional (Table 4.3.7).

Inquiry into patients monthly income was met by refusal or "don't know" in 29% (Table 4.3.8). Analysis of these categories found 72.4% to be unemployed of which 28.7% and 24.7% were housewives and the retired respectively (not shown in the table). Of those who responded over two thirds had a monthly household income of less than $10,000. Ten percent claimed to have less than $3,000 per month.

Forty five percent of the patients lived in public housing and 46.7% lived in private housing (Table 4.3.9). Those in temporary housing, wooden huts and institutions made up approximately 5%.

Discussion

Patients who attended the GOP clinics were mainly from the lower social economic level. A large proportion were housewives, young children, retired or unemployed adults. Thus most attenders were economically unproductive or dependent. 30.2% of the adult population were illiterate and this feature deserves special consideration when planning health education or the implementation of new procedures in the clinics.

The reported monthly household income appeared to be low compared to the population of Hong Kong (Hong Kong 1991 Population Census, Summary Results). These figures need to be viewed with some reservations because 29% refused to respond or claimed not to know about household income. It should also be noted that most of the respondents were not breadwinners being mostly housewives and retired adults. In general their responses may understate household income. However the pattern suggests that the majority of attenders consider their income to be at or below the median for Hong Kong.

Summary

1. Analysis of the social demographic variables of 1,065 attenders of the three clinics, shows that a large portion of the patients were from the lower social economic strata of the community.

2. Young children, housewives and economically inactive adults together made up nearly 70% of the attendance.

3. Of the adult patients 30% have not attained primary education level and were probably illiterate.

4.3.2 Comparisons between daytime and non-daytime sessions

A daytime session was defined in this study as one operating between 9.00 am to 1:00 pm and 2:00 pm to 5.00 pm on Mondays through Fridays, and 9:00 am to 1:00 pm on Saturdays. Night clinics and sessions held on Sunday morning and public holidays were classified as non-daytime sessions.

Results

Tables 4.3.10 to 4.3.13 illustrate how non-daytime sessions were different from the daytime session in terms of patients' age groups, employment status and presenting symptoms. A total of 783 (73.5%) and 282 (26.5%) patients attending daytime and non-daytime sessions respectively were studied (Table 4.3.11). It is shown in Table 4.3.10 that 60.5% were below 55 years of age in the daytime sessions whilst 73.5% belonged to this age group in the non-daytime sessions. There was no difference in gender (Table 4.3.11). 49.8% of patients attending non-daytime sessions had full time employment, compared with 27.2% of full time workers in daytime sessions (Table 4.3.12). Of those patients attending daytime sessions, 35.4% had "cold" and 25.7% were DM/HT patients. On the other hand, in non-daytime sessions, 46.5% and 19.6% came for "cold" and DM/HT respectively (Table 4.3.13).

Discussion

Patients attending non-daytime sessions in general were younger than those attending daytime sessions. As expected, full time workers were more likely to attend non-daytime than daytime sessions.

In the daytime sessions, there were more patients with DM/HT as compared with non-daytime clinics. It may be because DM/HT patients tended to be older than patients with other complaints and not working, so they were more likely to be able to attend daytime clinics.

The fact that "cold" as a stated problem was found to be more common in non-daytime clinics than in daytime clinics may partly reflect the relative urgency of the case-mix at daytime and non-daytime clinics.

Because of these patient differences and since the medical staff running the non-daytime sessions were non-GOPD staff (they were recruited from the hospital service), daytime and non-daytime sessions were analyzed separately.

Summary

1. Non-daytime clinic attenders were more likely to have full time employment and be older than daytime clinic attenders;

2. Patients attending non-daytime clinic sessions were more likely to have minor self-limiting illness (such as "cold") whereas the proportions of patients with diabetes and hypertension were higher in those attending daytime sessions.

4.3.3 Comparisons between NTK, LT, VP daytime sessions

Results

Patients attending the three daytime GOP clinics were compared (Tables 4.3.14 to 4.3.24). Table 2.2.14 shows that around 99% of patients went to the clinics near their home or offices, except for VP in which about 10% were from Kowloon and 10% from New Territories.

It was found (Table 4.3.15) that the majority of patients in NTK (24.9%) and LT (26.8%) were aged above 64 and between 55 to 64 respectively; the majority in VP were 20 to 39 years of age. Table 4.3.16 shows that there were more males in LT (42.9%) and VP (44.6%) than in NTK (30.6%). Of patients older than 15, 26.2% in VP were single compared with 12.6% in NTK, and 14.7% in LT (Table 4.3.17).

The profiles of the educational attainment of patients attending NTK and LT were very similar in that a large proportion of them were illiterate (47.4% and 42.6% respectively). Patients attending VP, on the other hand were better educated. 46.6% had attained secondary education or above.

Most of the patients in VP (39.6%) and in LT (30.6%) had full/part time employment compared with 16.5% in NTK (Table 4.3.19). Of those patients with employment, the largest category in NTK (42.1%) and LT (70.7%) were production workers while 43.0% were related to clerical work in VP (Table 4.3.20).

Patients attending NTK and LT mainly lived in public housing (73.0% and 59.0% respectively); whilst 74.5% in VP lived in private housing (Table 4.3.21).

The disease patterns in the three clinics were similar in the sense that "cold" problems and DM/HT were very common. However VP had the greatest difference between the proportions of "cold" and DM/HT (Table 4.3.22).

Tables 4.3.23 shows the monthly household income of the attenders of the clinics. Of those who did reply, 29.1% in VP claimed to have $10000 or above compared with 17.6% in LT and 13.1% in NTK. Table 4.3.24 indicates that 62.1% of patients in VP spent not more than $100 on health care over the past 3 months as compared with smaller proportions of 47% in NTK and 44% in LT.

Discussion

There were very significant differences between the three clinics in terms of age, gender, clinical symptoms, and marital status. The socio-economic status of patients as measured by educational attainment, employment status, household income, types of housing and occupation was also significantly different between the three clinics.

NTK, being located near housing estates, tends to cater for the elderly, retired, unemployed and housewives. VP being located in down town Wan Chai in a commercial/office complex catered for the 20-39 age group that had full-time employment: the professional, clerical and service workers and those with a higher household income. The patients in VP were mainly from Hong Kong island but a substantial portion of them resided in the NT and Kowloon and probably had their offices near VP clinic. LT being located in the more established part of Tsuen Wan away from office complexes had a patient population in between NTK and VP with respect to their demographic and social and economic characteristics.

The differences encountered in the three clinics can best be explained in terms of the difference in location. An understanding of this relationship has useful implications for planning GOP clinics in the future and in the evaluation of existing services. The service needs in terms of clinic management, resource allocation, health care and education programmes could be estimated by a careful study of the location of clinics and their predicted case-mix.

Summary

1. The three clinics had significantly different social and demographic patterns, best explained by the differences in their location.

2. These differences highlight several factors that are important in determining patient flow pattern and priorities in the provision of services for attending patients.

4.3.4 Desirability of patient-held medical records

One of the most important functions of medical records is to facilitate the continuity of patient care by the transfer of essential patient information from one health care provider to another. In Hong Kong, patients have open access to the government health care facilities. Except for government servants, the GOPD does not have a system of medical records for the general public. Because patients in Hong Kong, including GOPD attenders, tend to doctor-shop, a reliable and convenient system for patient-held medical records in the GOPD may resolve both the need for record keeping and the transfer of essential health information. Patient-held records may also serve to motivate patients to assume an active role in their health care and promote better patient understanding. Critics of the concept of patient-held records argue that some patients may prefer not to have potentially sensitive information appear on their medical records for fear of breaches in confidentiality and that patients might not understand or carry and use

the document reliably and appropriately. The desirability of a patient-held medical record for GOPD attenders was therefore assessed in the questionnaire survey.

Methods of analysis

Patients were asked whether they would like to keep their own medical records. Those not in favour were asked to give their reasons. The response to the question about desirability was coded as "against" if the answer was "no", and "for/no opinion" if they responded "yes" or "doesn't matter".

As there was no information on the employment status and educational attainment of the proxies, they were left out of this analysis, and only data corresponding to patient respondents were analyzed in this section and in sections 4.3.3, 4.3.4, 4.3.5, 4.5.2, 4.5.3 and 4.5.4.

A logistic model was developed to study the relationship between the perceived desirability of medical records and various patient factors including age, educational attainment, employment status, and type of illness. Stepwise logistic regression analysis was employed to develop this model.

Results

Table 4.3.25 shows that the response from both patients (70.4% "for/no opinion") and proxies (77.1% "for/no opinion") were similar (P=0.1352).

Cross-tabulations of the desirability of patient-held records, by different patient factors, are exhibited in Tables 4.3.26 to 4.3.29. Patients below 40 years of age would prefer to have their own medical records. On the other hand patients with diabetes and hypertension, the illiterate and non-working attenders tended not to be in favour of patient-held medical records.

The reasons offered by those who did not like the idea of having patient-held medical records included the fact that 83% did not appreciate the usefulness of such records and 11% felt that they would be unable to understand the records.

Age and educational attainment remained in the final regression model. That is, from a range of factors including age, educational attainment, employment status and type of illness, age and educational attainment were found to be significantly related to the desirability of patient-held medical records. A higher odds ratio indicates a greater preference for the medical records, compared with the reference group (defined as age above 55 and no education). The estimated adjusted odds ratios for perceived desirability of patient-held medical records are shown in Table 4.3.30. After controlling for other factors, there was a decreasing trend in the perceived desirability of patient-held medical records with increasing age (OR decreases from 2.73 to 1.38), but only the odds ratio in 20-39 age group was statistically significant. The higher the level of education, the more likely it was for the patients to be in favour of medical records (ORs=1.71 & 3.54 for primary & tertiary education respectively).

Discussion

Younger and more educated patients were more likely to support patient-held medical records. This may indicate that these people are more aware of and concerned about their health, and have higher expectation of medical services than the majority of patients may have had in the past. In addition they may be better able to appreciate the potential usefulness of this type of record. Also, given these findings, one might expect the acceptability of the patient-held records among GOPD attenders to increase with time as the older patients who initially find it alien either become educated about its usefulness or pass on.

An analysis of the views which patients have about patient-held medical records suggests that if hand-held records can be explained in an appropriate way to emphasize their potential usefulness, more patients might be in their favour.

As a whole, this analysis confirms the findings of the GOPD Phase I study (1989) that patient-held records would be welcomed or at least not refused by most of the GOPD patients. Suitable education programmes would benefit the patients and enhance the acceptability of patient-held records.

Summary

1. About 70% of patient respondents and 77% of proxy respondents were in favour of, or not against, having patient-held medical records.

2. Patients with a higher level of educational attainment and those aged below 40 were more likely to be in favour of such a scheme. Other factors such as type of illness and socioeconomic status were not significantly related to patient preferences.

4.3.5 Desirability of an appointments system

Both the survey conducted in 1989 and the present one indicate that patients spend an incredible length of time queuing at the GOP clinics. In these studies, over 80% of the time spent (about 90 minutes) in the GOP clinics was devoted to waiting for a disc and consultation.

The disc and block appointment system was implemented in an attempt to distribute workloads throughout the clinic and to decrease the length of queues and waiting times. For several reasons, such as lack of patients' awareness (only 14.1% of patients in the first GOPD survey knew about the system) and lack of a computerized management system, this strategy has failed. A more structured appointments system could have a beneficial impact on the operation of clinics, but the acceptability of such system to the patients has never been evaluated. This study attempted to determine as a first step whether the GOPD attenders would be in favour of an appointments system and what patient factors were associated with a positive opinion.

Methods of analysis

Respondents were asked whether they would be in favour of a system to make appointments for future visits to the GOP clinics. Their responses were recoded as "against" if the answer was "no", and "for/no opinion" if the answer was "yes", "doesn't matter" or "don't know".

Stepwise logistic regression analysis was employed to model the relationship between patient desirability of an appointments system and various patient factors including age, educational attainment, employment status, and type of illness. The desirability of an appointments system was regarded as an dependent variable.

Results

The perceived desirability of an appointments system by respondent is shown in Table 4.3.31. The responses of patients (22.4% "against") and proxies (13.9% "against") were significantly different (P=0.0324). Proxies were more in favour of an appointments system.

Cross-tabulations of the perceived desirability of an appointments system by different patient characteristics are shown in Tables 4.3.32 to 4.3.35. Younger (below 40) and more educated patients would prefer to make an appointment for the next visit rather than having to queue for a disc. DM and HT patients and the non-working class (the retired and unemployed) tended not to be in favour of an appointments system.

The analysis shows that age was the only significant factor in the model of the desirability of an appointments system and probably most of the other associations observed can be explained on this basis. Evidence of the strength of the association between age and the desirability of an appointments system was indicated by the odds ratio (Table 4.3.36). The higher the odds ratio, the more desirable was the appointments system to the particular age band when compared to the reference group (patients aged 55 or above).

Although the younger patients in general were more likely than the elderly to be in favour of the appointments system (ORs=2.48, 3.40), only the odds ratio in the 20-39 year-old age group was statistically significant.

Discussion

The analysis showed that only age (among the factors studied) was strongly associated with preferences for an appointments system after adjusting for other potentially confounding variables. This suggests that an appointments system is more likely to be welcomed by younger patients than the elderly. Older patients are clearly used to the present disc system and probably less likely to consider the opportunity costs of waiting. Older patients may even see positive benefits in an event which occupies a substantial part of their day.

Any development of an appointments system should be carefully planned, implemented and evaluated in order to avoid the inefficient use of resources and the risk of system failure. The

appointments system should be flexible to allow for easy booking of appointments as well as for the utilization of time slots made available by non-attenders. Incentives for keeping appointments should be considered and tested.

If the information on the types of patient complaints is known in advance from a "problem list" (depending on how the appointments system is operated), this may be an useful cue for doctors to manage their time. In the present situation, if the doctor has spent too much time on one patient, he tends to shorten the consultation time for the following patients possibly to their detriment. The grouping of patients with similar complaints or needs may allow more rational planning for the use of clinic time. To support this approach, the appointments system should not be used as a stand-alone subsystem, but designed as an integral part of a clinical information system which would underpin all aspects of the GOPD operations.

Simulations of the impact of an appointments system on the operations of the clinic should be developed as an aid to planning and ultimately to evaluation. However, as a general illustration it can be seen that if an appointments system can be implemented and assuming that the patients are required to arrive at the clinic no more than 30 minutes before the consultations, the total time spent within the clinic will be reduced to 45 minutes instead of 111 minutes (30+14.7), leading to a saving of about 60% of waiting time.

Summary

1. About 78% of patient respondents and 87% of proxy respondents were in favour of (or not against) establishing an appointments system in the GOP clinics.

2. An analysis of demographic and social factors indicated that only age was strongly associated with a positive opinion. Younger patients (below 40) were more likely to desire an appointments system than older patients.

3. Appointments systems should be an integral part of a clinical information system providing a wide spectrum of clinical and management decision support in clinics.

4. Simulations based on different patterns of case-mix and clinic throughput would indicate how the use of time and resources would be influenced by an appointments system.

4.4 Patient flow

This section examines referral and recall patterns for patients before (Sections 4.4.1 to 4.4.2) and immediately after (Sections 4.4.3 to 4.4.4) consultation. In addition Section 4.4.2 examines the referral to SOPD of all patients (including newcomers) for their current problem, within the past one year, and also their referral to SOPD immediately after consultation. Finally Section 4.4.4 examines the individual patient's intention to doctor-shop immediately after the GOPD consultation.

Apart from the DM and HT patients, all patients were asked whether they had already consulted elsewhere for their present medical problems before visiting these GOP clinics. For those with prior consultations, they were asked where they sought their medical advice.

Patients who had previously been to the GOP clinics for their current medical problems were asked whether they were advised by the doctors to return and if so, about the length of the recall period. Return patients were asked whether they had been referred to any other medical care, such as A&E, SOPD and GOPD, within the past one year and if so, about the sources of referral.

Immediately after consultation, all patients were asked whether they had been told by the doctors to come back for follow-up. If recalled, patients were asked whether they were given an exact day for their follow-up appointments. All patients were asked whether they intended to visit any other medical services for their present medical problems. Those patients with the intention to visit elsewhere were asked about where they would seek further consultation and about their level of satisfaction with the services they had just received in the GOPD. The relationship between doctor shopping and satisfaction was examined.

4.4.1 Consultation history and recall patterns of patients who did not have diabetes and hypertension (DM/HT)

Results

Figure 4.4.1 shows the analysis of past consultations for the present medical complaint, excluding DM/HT patients. There were 764 non-DM/HT patients (excluding the 16 missing responses); a total of 40% of patients had prior consultations. Among these patients, about half (46%) had visited the present GOP clinics in which 77% had only attended the present GOP clinics. On the other hand, 54% of patients had sought other sources of medical advice. Of these, 62% only visited a private GP and 15% only consulted other GOP clinics.

For non-DM/HT patients with prior consultations, 56% (169/303) had previously consulted GOP doctors. Since 469 patients had no prior consultation, and 107 had visited the present GOPD only and 30 other GOPD's only, so the proportion of non-DM/HT patients who did not previously visit a private GP or health services other than GOP clinics was about 80% (606/762).

The analysis of recall procedures used by the GOP clinic for the present medical complaint, (excluding DM/HT patients,) is shown in Figure 4.4.2. Of the 780 non-DM/HT patients, 139 (18%) patients had been to these GOP clinics for their present complaints. Only 21 (26%) of these were asked to come back for follow-up. 90% of the recalled patients were not given an exact day for follow-up, ten (56%) were asked to come back after completing medication and seven (39%) were given an approximate number of days.

Of the 1027 GOPD attenders (excluding 38 missing subjects), 14% (139/1027) were non-DM/HT patients who had visited the present GOP clinics for the present episodes, as compared with 24% (242/1027) DM/HT follow-up patients. In other words, a total of 381 (37%) patients returned for follow-up.

Discussion

The majority of GOPD attenders (80%) had never sought other medical services apart from GOPD for their present medical problems, suggesting that they regard GOPD as the principal primary medical care provider.

Thirty seven percent of all GOPD attenders were followed-up. If a structured appointments system can be implemented, at least two fifths of GOPD attenders would benefit in that they would avoid queuing for a disc and waiting for long periods to see the doctors.

Moreover if a medical record system can be developed, including the facility for a patient-held record, the continuity of care for those patients would certainly be improved.

Summary

1. For these present problems, 60% of non-DM/HT patients had never been to any other sources of medical care.

2. Fifty six percent of those non-DM/HT patients, with a history of prior consultations, had previously visited GOP clinics.

3. For the present illness episode, about 80% of patients without DM/HT did not seek non-GOP medical care prior to attending GOPD.

4. Eighteen percent of GOPD attenders who did not have diabetes or hypertension in this survey were return patients. Of these, 26% were recalled by the present attending GOPD doctors. 90% of these recalled patients were told to come back upon completion of their medication.

4.4.2 Referral patterns within the past year

Results

Figure 4.4.3 shows the analysis of referral patterns within the past year by the present GOPD doctors. A total of 903 patients had previously visited the present GOP clinics within the past year. Of these patients, 82 (9%) had been referred to SOPD or A&E and only 1% to other sources of medical care within the past one year.

Of the 82 SOPD or A&E referrals, there were 22 (27%) DM/HT and 60 (73%) non-DM/HT patients. Among the DM/HT patients, 17 (77%) were referred to SOPD only, 4 (18%) to A&E only, and 1 (5%) to SOPD and hospital. Among the non-DM/HT patients, 49 (82%) of them were referred to SOPD only, 8 (13%) to A&E only, 2 (3%) to A&E and hospital, and 1 (2%) to SOPD, A&E and hospital. Hence the SOPD referral rates of DM/HT and non-DM/HT patients within the past year were 7.4% (18/242) and 7.6% (50/660) respectively. There was no statistical difference in the rates (X^2=0.01, d.f.=1, p=0.9419). The combined rate was 7.5%. The A&E referral rates of DM/HT and non-DM/HT patients were also the same, 1.7% (4/242 and 11/660).

This survey showed that the SOPD referral rates for DM/HT and non-DM/HT return patients immediately after consultation were 1% (2/242) and 3% (18/660) respectively. The difference again was not statistically significant (X^2=2.14, d.f.=1, p=0.1436).

However the SOPD referral rates were found to be significantly different between the newcomers 10% (12/123) and those patients who had visited the present GOP clinics before 2% (21/903) (Fisher's exact test: p=0.0002).

Discussion

It was noted that there were no differences in SOPD referral rates between return DM/HT and non-DM/HT patients with respect to the referral patterns within the past year and immediately after consultation. However the newcomers were more likely than the non-newcomers to be referred to SOPD immediately after consultation.

Summary

1. Referral rates are low; patients are referred to SOPD and A&E.

2. The overall SOPD and A&E referral rates for patients (not episodes) within the past one year were 7.5% and 1.7% respectively.

3. New patients were more likely to be referred to SOPD than patients who visited the present GOP clinic more than once (10% vs. 2%).

4.4.3 Recall patterns immediately after consultation

Results

The recall patterns of non-DM/HT and DM/HT patients were analyzed individually. The results are displayed in Figures 4.4.4 and 4.4.5. Out of the 780 non-DM/HT patients, only 9% were recalled by the doctors. 88% of the recalled patients were not given an exact date for follow-up. Of these patients, 38% were given approximate dates and 45% were advised to return after completing medication.

Of the 247 DM/HT patients, 27% were recalled for follow-up. 95% of these patients were not given an exact day. Of these patients, 82% were told to come back after an approximate number of days (usually about 1 month), and only 10% after completing medication.

Discussion

As expected, because they require medication refills, DM/HT patients were more likely to be recalled for follow-up than non-DM/HT patients. However the proportion of DM/HT patients specifically instructed to return was quite low (27% of DM/HT patients). This may be because there is an assumption that patients know that they need to return regularly, even though they are not recommended to do so by the doctors.

The "laissez-faire" approach to follow-up and continuity of care observed in this survey is not acceptable. Patients who require monitoring and surveillance from some sources should have this clearly explained to them and be offered a specific follow-up plan.

Summary

1. Nine percent of non-DM/HT and 27% of DM/HT patients were asked to come back for follow-up by the present GOPD doctors immediately after consultation.

2. Among recalled patients, 88% of non-DM/HT and 95% of DM/HT patients were not given an exact day for follow-up.

3. Clinics require clear protocols for patient follow-up and continuing audit to ensure that they are carried out.

4.4.4 Patients' intention to doctor shop immediately after consultation

Results

The intentions of non-DM/HT and DM/HT patients were analyzed separately. Figures 4.4.6 and 4.4.7 show the results. Of the 780 non-DM/HT patients, 30% had the intention to seek other medical services immediately after the present consultation: 8% (61/728) "definitely", and 22% (160/728) "maybe". Among these patients, 69% of them (136/197) intended to visit private GPs

only, and 12% (23/197) to go to other GOP clinics only. Hence about 20% (69% of 30%) of non-DM/HT patients intended to doctor-shop with private GPs.

On the other hand, for the DM/HT patients, only 8% intended to seek medical advice from other sources: 3% (6/234) definitely, and 5% (12/234) maybe. Among these patients, 44% (7/16) had the intention to visit private GPs only, and 31% (5/16) to visit other GOP clinics only. Thus about 3% (44% of 8%) of DM/HT patients intended to doctor-shop with private GPs.

To study the relationship between their present intention to doctor-shop and their prior consultations, the patients were classified into two categories, namely (I): the patients without any prior consultation or with prior consultations in the present GOP clinics only; and (II): patients with prior consultations in other sectors of medical services. The patients belonging to the first category (59.2%) were less likely than the second category (72.7%) to consult elsewhere for their present problems (p=0.0017; Table 4.4.1).

Among the non-DM/HT patients, those who felt that the doctors took enough time to listen their problems were less likely to visit other sources of medical care (p=0.0000; Tables 4.4.2A). Moreover the patients who found the visits worthwhile were less likely to seek consultations with doctors in other sectors than those who did not think the visits were worthwhile, and who did not know whether or not the visits were worthwhile. (p=0.0000 Table 4.4.3A). However among DM/HT patients, no significant relationship between their intention to visit elsewhere and their satisfaction from the visits was found (Tables 4.4.2B and 4.4.3B).

Discussion

Non-DM/HT patients were more likely to visit elsewhere for their present complaints than DM/HT patients. Of those patients who intended to doctor-shop, 69% of non-DM/HT patients and 44% of DM/HT patients had the intention to seek private GPs after consultation, it seems that private GPs were the most favoured alternative sources of medical services for these patients.

There were two kinds of non-DM/HT patients who were more likely to seek other sources of medical advice: those with prior consultations outside of the present GOP clinics, and those with less satisfaction from the visits. The first kind of patient probably reflects "doctor shopping behaviour" and the second one reflects the fact that these patients expected more than they could obtain from the GOP services.

It was found that the intention of DM/HT patients to visit elsewhere was not associated their satisfaction from the visit. This may indicate that these patients usually come to GOPD for low cost medication only.

Summary

1. Thirty percent of non-DM/HT and 8% of DM/HT patients stated their intention to visit elsewhere for their present medical problems immediately after the consultation.

2. About 20% of non-DM/HT and 3% of DM/HT patients intended to doctor-shop with private GPs.

3. Non-DM/HT patients who had prior consultations from sources other than the present GOP clinics, or who were not satisfied with the present visits, were more likely to seek advice elsewhere for their present problems.

4.5 One-Month Telephone Follow-up

One month after the clinic interview 1214 of the GOPD patients interviewed were contacted a second time by telephone in order to assess their subsequent consultation behaviour. In general, 18% of all the contacts made in the clinics did not give telephone numbers for the follow-up study. These patients were likely to be younger, female clinic attenders.

The refusal rate for the follow-up study was 2%, but for patients who were not in or whose telephones remained engaged or unanswered the rate was 13%. 8% of the contact numbers supplied by patients were wrong, and were mostly given by female patients. Difficulties were also encountered in attempts to contact patients aged under 60, who accounted for the highest rates of 'not-ins' and 'no-answers'. A total of 901 telephone interviews were eventually completed.

4.5.1. Comparison of demographic distributions of patients interviewed in GOP clinics and those interviewed by telephone only

Introduction

The one-month telephone follow-up included 318 clinic attenders who were not interviewed in the time and motion component of the GOPD study.

As the demographic characteristics of this group of patients were not documented in previous sections of the report, it is necessary to compare these respondents with the GOPD sample to identify any possible differences between the two groups of respondents in terms of their demographic features.

Results

The age and sex distribution of the respondents in the telephone follow-up was compared to the GOPD sample (Tables 4.5.1 and 4.5.2). The distributions of the two samples were similar except that respondents in the telephone sample were older than the GOPD sample. The proportion of respondents who were aged over 55 in the telephone follow-up was 43%. A lower proportion (36%) of the same age group was found in the GOPD sample. However, this difference was not statistically significant.

More respondents in the telephone follow-up than in the GOPD sample stated that they were married (65% vs. 50%, Table 4.5.3). More respondents in the GOPD sample were either separated, divorced, widowed or married but living separately than in the telephone sample (13% vs. 5%). Again, this difference was not statistically significant.

The two samples had similar levels of educational attainment (Table 4.5.4).

There were more retirees in the telephone sample than the GOPD sample (28% compared to 15%, Table 4.5.5). In addition, a lower proportion of respondents having a full-time job was found in

the telephone sample when compared to the GOPD sample (28% vs. 33%). However, these differences were again not statistically significant.

Only 46% of the respondents in the telephone sample answered the question on monthly family income, compared to 71% in the GOPD sample (X^2=20.95, d.f.=1, p=0.0038, Table 4.5.6).

The two samples were similar in the type of housing they occupied (Table 4.5.7).

Discussion

When comparing the sample of respondents interviewed in the GOP clinics with those interviewed by telephone, we observe that the telephone sample had a higher proportion of older respondents and retirees. Although the two samples were not significantly different from one another, the telephone sample seems to reflect a group which was more readily contacted at home by telephone.

Respondents in the telephone sample were significantly more reluctant to disclose their monthly household income than the sample interviewed in the clinics. With a response rate of less than 50% the question regarding household income was excluded from further analyses.

Other than this the respondents in these two groups were similar in both educational attainment and in the type of housing they occupied.

It is therefore likely that the profiles of the two samples do not reflect major differences in socioeconomic status between the clinic and telephone survey groups.

Summary

1. When compared to the respondents interviewed in the GOP clinics, the sample of patients being interviewed by telephone only had a higher proportion of older respondents and retirees, although this difference was not statistically significant.

2. The response rates for the question on monthly household income were significantly lower in the telephone sample, which might be due to a reluctance in disclosing personal data over the telephone.

3. The profiles of these two groups of respondents do not indicate that there were major differences in their socioeconomic status.

4.5.2. Patient expectations

Introduction

The study looked at the expectations of patient respondents with respect to: (1) prescriptions after a medical consultation; (2) a full understanding of their health condition; (3) a full understanding of the prescribed medication; and (4) the labelling of medication. The protocol also included other attributes of patient expectations such as the doctor's attitude during a consultation, the effects of injections, duration of waiting times in the GOPDs, and the quality of care offered in the GOPDs compared to private clinics.

Results

4.5.2.1. Expectations of prescriptions after a medical consultation

The majority of respondents (85%) expected prescriptions after a medical consultation. A breakdown of the data by age indicated that these were more likely to be patients aged over 40 (p=0.0000, Table 4.5.8), or those with at most a primary education (p=0.0000, Table 4.5.9). The data also suggested that, as might be expected, hypertensive or diabetes patients were more likely to expect medication after a consultation (p=0.0000, Table 4.5.10).

Multivariate analysis using logistic regression clarified the relationship between the expectation for prescriptions after every consultation and other factors (Table 4.5.11). After adjustment for the respondents' gender, self-ratings of health and disease types, middle-aged respondents (aged 40-54) and respondents having lower levels of educational attainment were more likely to expect medication after a consultation.

4.5.2.2. Expectations of a full understanding of health conditions and the prescribed medication after a medical consultation

Nearly all the respondents (95%) stated that they expected to have a full understanding of their health condition after a consultation with the doctor. Again, younger respondents (aged under 54, p=0.0074, Table 4.5.12), or those who achieved a higher level of education (secondary or above, p=0.0305, Table 4.5.13) were more likely to have a stronger opinion on this issue.

86% of the present sample said that they expected more information than they received on the medication they were prescribed. As with expectations on respondents' understanding of health conditions, younger respondents (p=0.0375, Table 4.5.14), or those who had a higher level of education (p=0.0254, Table 4.5.15), were more likely than others to agree strongly that more information about the prescribed medication was necessary.

The results of the analysis showed that when the respondents' gender, self-ratings of health and their disease problems were adjusted for, those in the 20-39 age group were more likely to have a higher expectation for clear information regarding the medications they were prescribed than were respondents aged over 55 (Table 4.5.16).

4.5.2.3. Expectations of labelling of medication

Ninety-two percent of all the respondents believed that labelling of all medication should be mandatory.

Further analyses showed that respondents who agreed strongly on this issue were those with problems other than colds, influenza or diarrhoea, but included those with digestive problems, musculo-skeletal problems, problems of the sensory organs, gynaecological problems, mental diseases, circulatory diseases and COAD ($p=0.0012$, Table 4.5.17). Hypertensive or diabetes patients did not have as strong a view on the labelling of medication as the other respondents.

The analysis indicated that when the respondents' gender, level of education, self-ratings of health and their disease problems were adjusted for, those in the 20-39 age group were again more likely to have a higher expectation for clear labelling of medications compared to respondents aged over 55 (Table 4.5.18).

4.5.2.4. Other attributes influencing patient expectations

Apart from the above attributes of respondents' expectations, other aspects of medical care are summarized in Table 4.5.19.

Regarding the expectations of the doctor's attitude in a consultation, nearly all (97%) of the respondents agreed that doctors should be reassuring, 55% felt that doctors should not only be attending to their patients' physical complaints, and 67% claimed that they would actively ask their doctor questions whenever in doubt, which might suggest that these respondents were keen to have a clear understanding of their health conditions.

37% of the respondents expected that injections would lead to a quicker recovery than other form of medical treatment.

69% of the respondents expected a longer waiting time in the GOPDs when compared to the private clinics. However, 75% of the present sample expected the quality of care offered in GOPDs to be as high as that of private clinics.

Discussion

Multivariate analyses have shown that age was significantly related to patient expectations. Younger patients in the 20-39 age group were more likely to have higher expectations of understanding their health conditions as well as the medications they were prescribed. With increasing opportunities in education and hence better career prospects and earning power, the younger age group may represent a cohort which is able to make more claims on the providers of health care than GOPD attenders who are older. It would be reasonable to anticipate in the coming years that patients will have an increasing demand and greater expectations for a more

sophisticated form of health care, where there is more communication of their health problem and better understanding of medication and treatment modes.

Although older respondents did not state as high an expectation for medical information as younger respondents, they were more likely to expect medication after every consultation. This may be true of some of the elderly hypertensive or diabetes patients, who visit the GOP clinics on a regular basis for a renewal of their medications and who are less well educated than other GOP clinic attenders.

However, prescribed medication is seldom necessary for every consultation. Dissatisfaction may therefore occur in cases where medicine is expected but not prescribed. A breakdown in the doctor-patient relationship may follow, and patient nonadherence by way of not following medical advice may be one consequence. Some patients may break follow-up appointments while others may even seek alternative care. On the other hand, some doctors may prescribe placebo drugs just to keep their patients reassured. This may be an effective therapeutic procedure but equally it may raise ethical issues. To get to the root of this problem, appropriate views should be introduced to the group which is identified as having misconstrued beliefs of western medicine.

Nevertheless, it is encouraging to note that younger attenders of GOP clinics are demanding more information but not necessarily a prescription after their consultation. This provides a basis for innovations in patient education.

Summary

1. Younger respondents aged 20-39 were likely to agree strongly that a full understanding of both their disease problems and the medication prescribed is necessary.

2. These respondents represent a cohort which makes more demands from health care providers now and may increasingly do so in the future.

3. Older respondents and those with a lower level of education were more likely to expect prescriptions after every medical consultation.

4. Appropriate patient education programmes on certain aspects of medical care should be introduced to avoid dissatisfaction which may arise because of unmet expectations.

4.5.3. Patient satisfaction

Introduction

Respondents were asked to rate their satisfaction with (1) the overall services received at the GOPDs; and (2) the convenience of GOPD services. Other attributes of satisfaction studied included the costs of GOPD services as compared to the private clinics, the effects of prescriptions, and the doctor's attitude in the respondents' recent consultation.

Results

4.5.3.1. General satisfaction with the GOP clinics

When asked for an overall rating of the GOPD service, 20% of the respondents stated that they were unhappy with the care they received. These respondents were likely to be patients under 40 years of age (p=0.0009, Table 4.5.20). This attribute was not significantly related to other demographic variables such as gender and educational attainment.

Analysis showed that when the respondents' gender, level of education, self-ratings of health and their disease problems were adjusted for, those in the 20-39 age group were more likely to be dissatisfied than respondents aged over 55 (Table 4.5.21).

4.5.3.2. Convenience of GOP clinics

Respondents were asked if they considered the utilization of GOP clinics to be more convenient in general than services provided in the private sector.

65% of the telephone sample stated that they were dissatisfied with the convenience of the service. A breakdown of the data by age indicated that again respondents from the 20-39 age group were more dissatisfied than the others (p=0.0019, Table 4.5.22).

Respondents' ratings of convenience of GOPD services was also not related to demographic variables such as gender and educational attainment.

After adjustment for the respondents' gender, self-ratings of health conditions and their disease problems, those patients in the 20-39 age group were more likely to find GOPDs more inconvenient than all other age groups (Table 4.5.23).

4.5.3.3. Other attributes of patient satisfaction

Satisfaction ratings for other attributes are summarized in Table 4.5.24. Costs of service and effects of medication were the two attributes having the highest proportions of dissatisfied respondents (91% and 71% respectively).

The relationship of these attributes with patient demographic characteristics was not significant.

Discussion

The only two attributes of patient satisfaction associated with demographic variables were the respondents' overall evaluation of the GOPD service and their ratings of the clinics in terms of convenience.

As with patient expectations, age was an important factor related to patient satisfaction. In general, respondents in the 20-39 age group were more dissatisfied with the GOPDs than other respondents. This is consistent with the findings of the original GOPD study carried out in 1989, where the 20-39 age group represented the most dissatisfied group of GOPD patients (Surveys on Health and Medical Care in Hong Kong: 1.GOPD, 1990, p.71).

Another reason suggested by the present data is that these younger respondents, as a better educated cohort, might be quite different from other GOPD attenders in that they were more out-spoken, held higher expectations, made more demands from their health care providers, and were more likely to be dissatisfied with the present care they were receiving (see section 4.5.2).

With better education, an increase in the numbers of GOPD users having high expectations of health care is likely. This increase in consumer demand for services will lead to growing dissatisfaction unless improvements and changes are brought about in the practice styles of GOPD practitioners.

The average proportion of respondents reporting satisfaction on all the measured aspects of patient satisfaction was generally lower in the present telephone follow-up when compared to the 1989 study, where questions on satisfaction ratings were asked in face-to-face interviews in the clinics (51%, averages from seven attributes vs. 69%, averages from eight attributes, Surveys on Health and Medical Care in Hong Kong: 1.GOPD, 1990, p.67-72).

It may be that it is easier for respondents to express dissatisfaction over the telephone at a later time than at the GOPDs from where they were seeking help right at that instant. Another reason may be that the time lapse between their GOPD visit and the follow-up have put them in a better position to state if they thought their visit had been worthwhile.

However, it is important to note that the attributes averaged were not weighted for their individual significance. In addition, the two study instruments used slightly different parameters in the measurement of patient satisfaction. Any comparisons between the two studies, therefore, must be interpreted with caution.

Summary

1. Respondents aged below 40 were found to be more dissatisfied than other respondents in general; they might represent a cohort which has a different expectation of health care from the older GOPD users.

2. These findings may point to an urgent need for improvements in health care delivery in the GOP clinics. Given the changing levels of education attainment and other social factors, further increases in patient dissatisfaction due to unmet expectations of the quality of care seem likely.

3. Satisfaction rates were lower in the telephone follow-up than in the face-to face interviews of the GOPD (1989) study. The possible reasons for this include: (a) respondents in the telephone sample found it easier to express dissatisfaction over the telephone; (b) the time lapse between their last GOPD consultation and the telephone interview put them in a better position to evaluate the effects of their visit.

4.5.4. Doctor-shopping behaviour of patient respondents

Introduction

Doctor-shopping in this study was defined as the respondents' consulting more than one doctor for an illness in a single episode without a doctor's referral (Lee, 1982). To ensure a uniform understanding of the term 'doctor-shopping' by the interviewees, the questions relating to doctor-shopping gave a literal and complete translation of the above definition.

The present survey examined the relationships between doctor-shopping behaviour and respondents' total time spent in the GOPDs and their consultation times with a clinic doctor.

Results

4.5.4.1. Doctor-shopping behaviour by demographics

Thirty-six percent of the respondents in the telephone follow-up reported doctor-shopping during a previous illness episode before the survey. A cross-tabulation with age showed that 'shoppers' were likely to be the respondents in the 20-39 age group ($p=0.0015$, Table 4.5.25). This is again consistent with the initial 1989 survey of doctor-shopping among GOPD patients (Surveys on Health and Medical Care in Hong Kong: 1.GOPD, 1990, p.37). Multivariate analysis confirmed that respondents aged 20-39 were more likely to be 'shoppers' than were respondents aged over 55 (Table 4.5.26). Gender, educational attainment and income were not found to be significant independent determinants.

4.5.4.2. Doctor-shopping behaviour by patient expectations

A breakdown of the data suggested that doctor-shoppers were more likely to be the respondents who stated that both private and GOP clinics should offer a comparable standard of care ($p=0.0014$, Table 4.5.27). In addition, those respondents who stated that they expected to recover more quickly following an injection were more likely to be doctor-shoppers than the others ($p=0.0002$, Table 4.5.28).

Multivariate analysis using logistic regression (Table 4.5.29) indicated that doctor-shoppers were more likely to be respondents in the 20-39 age group than those over 55, who expected high quality of medical care, demanded a clear understanding of medical information through asking questions, expected a speedy recovery or a brief period of illness, and preferred injections to other forms of treatment, presumably because these are mistakenly thought to have greater efficiency. In addition, shoppers were likely to be female. The educational attainment of the respondents was not found to be a significant independent determinant.

4.5.4.3. Doctor-shopping behaviour by satisfaction with medication and convenience

Respondents with chronic problems such as hypertension or diabetes were excluded from the present analysis due to the reliance of these groups on the GOP clinics for their medication and the subsequent low prevalence of shopping behaviour.

Respondents who were dissatisfied with the effects of the prescribed medication were more likely to be doctor-shoppers (p=0.0067, Table 4.5.30). The other attribute of patient satisfaction which related to doctor-shopping involved perceptions about the convenience of service delivery. Respondents who found GOPD services inconvenient were more likely than others to be doctor-shoppers (p=0.0007, Table 4.5.31).

4.5.4.4. The inter-relationship between doctor-shopping, patients' expectations and satisfaction

Table 4.5.32 shows the results of the analysis performed to delineate the relationship between doctor-shopping and patients' expectations and satisfaction. Respondents who expected a high quality of health care, a good understanding of their conditions, a rapid result from injections, short waiting times and who found GOPDs inconvenient were likely to be doctor-shoppers. The odds ratios of these variables were adjusted for the effects of other attributes of patient expectations and satisfaction studied.

4.5.4.5. Total time spent in GOPDs and consultation time by patients' expectations, satisfaction and doctor-shopping behaviour

The frequency distribution of respondents' total time spent in the clinics and their consultation times were heavily skewed. To normalize this distribution the log of these respective times were calculated and then grouped into "short", "medium" and "long" according to the length of time spent in the clinics. This was done using cut-off points which were at 0.5 standard deviations of the two means (Tables 4.5.33 and 4.5.34). The total time spent in the GOP clinics by the respondents was not found to be significantly related to the respondents' expectations of quality of care offered or waiting time; their general satisfaction of the GOPD service or their doctor-shopping behaviour.

Respondents' consultation time was significantly related to their general satisfaction with the GOPD service. Those who had a short consultation time (under 1.72 minutes) in the time and motion study were more likely than other respondents to be dissatisfied with the medical care they received at the GOPD (p=0.0075, Table 4.5.35). These respondents were also more

dissatisfied with the amount of information on their prescribed medication (p=0.0034, Table 4.5.36). In addition, respondents with a shorter consultation time were more likely than others to perceive their doctor as impatient in the consultation (p=0.0090, Table 4.5.37).

The relationship was examined between doctor-shopping behaviour, respondents' consultation times and their expectations of, and their satisfaction with, the GOPD services. The results suggested that doctor-shoppers were likely to be patients aged between 20-39 than those aged over 55, with a short consultation, who expected a clear understanding of their conditions, fast results from injections, and who found GOPDs to be inconvenient (Table 4.5.38).

Discussion

Analyses of the data suggested that respondents in the 20-39 age group were more likely to be doctor-shoppers than other respondents in the telephone survey. The better educational attainment of the younger generation may afford better job opportunities and greater disposable income, resulting in a raised consumer consciousness about the quality of health care they are receiving. It is very important to note that unless improvements and changes are brought about in the practice styles of GOPD practitioners, this increasing demand for services will lead to growing dissatisfaction (see previous sections 4.5.2 and 4.5.3).

Younger respondents, having better educational opportunities than older GOPD attenders, may hold different expectations of their medical care. For example, they are less likely to believe that prescriptions are a necessary consequence of every consultation with a doctor. They may also be less intimidated by the medical personnel and are more out-spoken about their health needs. This is apparent in the present data that, when compared to older respondents, those aged 20-39 gave stronger opinion on their expectations regarding a clear understanding of their health conditions as well as the medication they were prescribed.

It is highly probable that if the expectation for medical information is unmet, dissatisfaction results. The multivariate model in the present study does suggest that respondents aged 20-39, who had a relatively short consultation time, were more likely to be doctor-shoppers. One may speculate that a brief consultation allows for a limited disclosure or explanation of medical information from the doctors to the patients who, as a result, might then doctor-shop.

On the other hand, however, as younger respondents are more likely to present problems which are comparatively less serious than others attending the GOP clinics, they themselves, in addition to the health care providers, may have expedited the consultation process. They may not have requested for detailed explanations of their illness, in particular if they perceive their problems to be minor. In addition, when compared to older GOPD attenders, the physical movements of the younger respondents may be swifter and their articulation better, which may well speed up the consultation process. Hence the brief exchange of medical information due to young respondents presenting minor ailments could have been the cause, as well as the effect, of such short consultation times.

The view that young respondents may be expediting their consultation process can be supported from the same regression model which suggests that inconvenience was also an independent factor related to doctor-shopping. Dissatisfaction of health care aspects other than convenience, therefore, might not be considered to be critical in this group of GOPD attenders.

The model also suggests that some members of this group of doctor-shoppers expected fast results from their treatment, especially in cases where symptoms were minor. This implies that these respondents wanted swift and convenient 'cures' and appeared to be dissatisfied when these somewhat unrealistic expectations are unmet. It is widely recognised that adherence with medical advice is significantly poorer among patients dissatisfied with their consultation than those who report more satisfaction.

One limitation of this part of the survey was its sample size. Many of the present analyses involved cross-tabulations of attributes obtained in the GOP clinic interviews, so data was incomplete for respondents who were interviewed by telephone only. Variables such as the respondents' disease problems (the consultation time for which was recorded in the GOPDs), and their self-ratings of health were not used in the multivariate analyses because of the small numbers who answered these questions.

The questions reported here covered some superficial aspects of expectations and satisfaction of medical care. It is also meaningful to investigate the relative importance of specific attributes of expectations and satisfaction in leading patients to doctor-shop. Further analyses could also examine the behaviour of doctor-shopping in terms of the pattern of doctor-shopping from one type of doctor to another; the nature and the duration of the problems for which shopping was carried out; and how these will relate to respondents' expectations of and satisfaction with, GOPD services.

However, these additional considerations will be the focus of subsequent reports on the continuing follow-up studies on the present sample.

Summary

1. Multivariate analyses indicated that the cohort of respondents aged 20-39 who found GOPD services less convenient than private practices, who expected a short waiting time and a fast recovery from having injections, who frequently asked questions when they were in doubt of their health conditions, and who had a short consultation time were more likely to be doctor-shoppers than other respondents.

2. These results are consistent with earlier reports on the GOP clinics and reflect what may be a trend to dissatisfaction among this group of GOPD attenders. The better educational attainment of the younger generation may afford better job opportunities and greater disposable income, resulting in a raised consumer consciousness about the quality of health care they are receiving.

3. Unless improvements and changes are brought about in the care provided in GOP clinics, this increasing demand for services will lead to growing dissatisfaction and further wastage of resources from patients' doctor-shopping behaviour.

4. Young respondents in the age group 20-39 might have presented more minor ailments when compared to older respondents, hence expediting the consultation process. In such cases the relatively short consultation time might not have been the cause for, but the effect of, a limited exchange of medical information. To this group of GOPD users, therefore, expectations other than convenience or a quick recovery might not appear to be significant despite their high expectations of the delivery of medical care in general.

5. Respondents' disease problems and their self-ratings of health were not included in the multivariate analyses due to the small numbers of respondents answering these questions.

6. Subsequent reports on the follow-up studies on the present sample will focus on the relative importance of specific attributes of expectations and satisfaction in the cause and the pattern of doctor-shopping behaviour.

5. DISCUSSION

At the time of the study there were 54 GOP clinics in Hong Kong. Apart from the sequence of service items: registration, payment of fees, doctor consultation, collection of medication and the waiting between each item of service, there is little in common between the clinics individually. The layout of the clinic, the geographical and social environment outside the clinic, the types of patients attending and even the daily routine of staff varies from clinic to clinic. The choice of three clinics in this study is based simply on the workload of clinics determined in the previous study. They represented three levels of workload encountered by the GOP clinics. As the flow of patients in out-patient clinics is most affected by the workload, analysis of these clinics is believed to provide a reasonable cross-sectional picture of the patient flow in the GOPD of Hong Kong.

From the study of these three clinics a number of important issues have been identified that bear on the current difficulties patients experience with the GOPD services and point to the need for innovations that can lead to a more efficient and effective service. Issues which merit discussion include the effects of providing subsidised services for government servants (GS) and their dependents (DGS) on other clinic users and the consequential issue of waiting times; dissatisfaction and higher expectations of GOP clinic patients, and the phenomenon of doctor shopping. We also consider contributions to the solution of these problems in the form of night clinics, nurse practitioners and clinical information systems.

A detailed study of GS/DGS was beyond the scope and resources of this project. More studies on this aspect of medical workloads would be useful for future planning. However, the survey demonstrates that medical treatment of GS/DGS forms a major part of clinic work. For example, about one third of the patients attending the GOP clinics were GS or their dependents. Unlike the general public the GS/DGS benefit from an appointments system and medical records in the GOP clinics. They are generally seen by the more senior medical officers of the clinic and wait for a shorter time as a result of the appointment system. When they consult with the doctor, they continue to benefit from the use of medical records which allow more time to be spent on the patient's problem during the consultation and less on gathering repetitive background information. In effect, compared to the general public, GS/DGS's receive a level of service that is substantially more convenient, effective and which is also free. Yet the costs of this are indirectly transferred to other clinic users. For example queuing for the disc system is inconvenient, they do not have equal access to more experienced medical staff, and the lack of medical records means that valuable time during the consultation is wasted gathering repetitious information on the patient at each visit, or that a symptom-focused approach must be adopted, reducing the chances that a satisfactory consultation will result. In other words, the fact that one in three patients are getting what amounts to the best of GOPD resources means that the remaining two thirds are getting a sub-optimal service as a result. Though we do not have figures on the exact amounts involved, it is highly likely that in terms of resources used, GS/DGS patients account for substantially more than 33% of the funding of clinics such as those we have studied. This inequality of service provision needs to be rectified either by introducing a non-preferential arrangement that favours neither GS/DGS or other patients, or by the provision of more government funding to cover the extra costs involved in providing different services for these two groups of patients.

One major way in which non-GS/DGS patients are most disadvantaged is in the amount of time they spend in the clinics waiting to be seen, and the general brevity of the consultation. The average patient (non-GS/DGS) spent approximately two hours in the clinic for every visit made. About 45% of the time was spent on the wooden benches waiting for consultation with the doctor. Clearly, most of this waiting was unnecessary and added significantly to the inconvenience of the clinic for most younger adults. This was less of a problem for older patients who in earlier studies have been identified as valuing the opportunity provided for social contact by this waiting. The current block appointment system is designed for 20 patients per doctor per hour - slightly more than 3 minutes each. In practice, we found that only about 16 patients per doctor per hour were scheduled. However, with the average consultation at the three clinics being only 2.7 minutes and in two of the three clinics, less than 2.5 minutes, then clearly longer consultations are not occuring. Instead, fewer patients are being been for shorter consultations. It seems then that consultation times are independent of the patient load and reflect other aspects of the clinic operation.

Doctors in these clinics see a large number of patients with trivial, self-limiting complaints, patients attending for repeat prescriptions and other services. This work is repetitious some of it is probably unnecessary and, in all likelihood, it provides little in the way of job satisfaction for the doctors involved. There is also little emphasis placed on non-systematic aspects of care, such as screening, counselling and other preventive or educational services. Additionally, the clearing of patient loads by the physicians 30 minutes before closing time appears to be necessary because a period of time is required for the completion of other clinic activities eg. dispensing of drugs, dressing of wounds and clearing up the premises, so that the staff can leave the clinic on time. In most clinics it is not possible to adhere rigidly to the block appointments system as clinic staff are likely to be reluctant to have appointments for patients about 45 minutes before closing time.

All of these problems are aggravated by the absence of medical records. The result is that a bored and dissatisfied doctor is seeing frustrated and dissatisfied patients as briefly as possible. An exercise in health care has become just another job to be finished as soon as is possible. This leads to poor medicine which in turn exacerbates patient dissatisfaction. Among young adults aged 20-39 years the delays in waiting to see a doctor are regarded as very unsatisfactory. These patients do not want to spend half a day for a couple of minutes and some pills which may be a mystery to them. Many of them apparently remain unsatisfied by the brief consultation and prescription. Probably as a result of this, as many as 30% go on to a second practitioner to seek further treatment, the act known as doctor shopping.

Just how much of the available resources are wasted in the way is unclear but a substantial amount of time and money is expended on these patients, who remain dissatisfied with the current services.

Hence, there is a very strong indication that the problems outlined so-far are closely inter-related. GS/DGS are given appointments with the most senior doctors, resources are diverted to support this service with the consequence that fewer doctors are available for the remaining patients. These more junior doctors become demoralized with the repetitious and trivial aspects of the case

mix they see spending less time with the patient who, having waited around two hours does not get the service they had hoped for and in turn go else where for more care.

Clearly these problems are serious and should be addressed. What then are the features of these clinics that can be used in the short and medium term to alleviate the problems described?

For adults who work, the evening clinics are an important resource and provide one of only two government sources of health care outside office hours. The alternative to the night clinics for most patients are the accident and emergency units of the regional hospitals (which have the added attraction of being cheaper than GOP clinics). However, inappropriate use of A&E units presents a major contribution to overcrowding in Hong Kong hospitals due to the inability of A&E doctors to adequately triage the heavy case load [A&E Report - Hong Kong Accident & Emergency Departments: Demand, Workloads & Outcomes (Feb 1991); and, Report of the Working Party on Primary Health Care: Health For all: the way ahead (Dec 1990) p.8.90 pp514]. By extending the GOPD night service there is good evidence to suggest this will reduce inappropriate help-seeking by patients with minor, self limiting illness at A&E units. Instead, these patients would be more likely to consult at a GOP clinic if one is available.

The non-daytime sessions however are run by medical officers from various disciplines and supported by a smaller number of nurses and para-medical personnel. The rate of patient consultation was higher in the non-daytime sessions compared to the daytime sessions (17.5 patients/hour to 15 patients/hour). Compared to the daytime session, the disc waiting time in the non-daytime session was longer (42.5 mins to 52.8 mins) but the consultation time was shorter (2.9 mins to 2.0 mins). It appears that there is a clear inequality in the service provided by the daytime and non daytime sessions. The non-daytime sessions also serve a different population from the daytime sessions. They are mainly people fully employed in the day who had an acute illness but could not make it to the clinics because of work.

The workload in the non-daytime session seemed to be relatively large and there were good indications that these sessions meet the needs of the working population. However the quality of care as indicated by the brevity of consultation, large case load and fewer ancillary staff was found to be markedly below that offered in the daytime sessions.

Thus, development and improvement of the non-daytime sessions would be one approach to the extension of GOPD services that could be implemented in the short term.

Nonetheless, both day and night clinics will continue to provide sub-optimal service unless there are two key changes that we feel need to be introduced in order to make possible the move away from the present system and its problems. These are the provision of more staff to see patients and the removal of the bulk of the minor self-limiting complaints from the doctors' work. A further and important step would be to adjust and reorganise the workloads arising from the follow-up of patients.

We see the development of nurse practitioners as the prime solution here for several reasons. First, the skills of nursing personnel provide a more appropriate resource for many of the tasks

in these clinics than would the employment of an equivalent number of doctors. Second, with adequate training and medical back-up nurses can be deployed to provide a 'fast track' consultation service through the clinic dealing with a range of minor complaints and routine screening (for example foot care in diabetics) referring to an on-site doctor any patients with suspected complications or more serious conditions. The primary medical care needs of older people should be a high priority in any review of the services provided by this service. Their needs are both qualitatively and quantitatively different from many other clients and the development of new strategies to improve the types and sources of care offered to them would be of benefit to both the provider and the consumer. More than 75% of patients have previously indicated their willingness to see such a nurse practitioner at a GOPD (Phase I study). This would have the effect of reducing waiting times substantially both for those patients choosing the 'fast-track' and those waiting to see the doctors directly. This would remove a major source of dissatisfaction for many patients, especially the young adults with (mostly) minor complaints. Third it would also remove a substantial part of the routine medical work thus allowing doctors to spend more time on cases where their expertise is really needed. This is likely to lead to greater job satisfaction among the doctors. It may also have a similar effect on the nurse practitioners who will have a more substantial care role within clinics.

The feasibility of such a move would depend crucially on adequate backup for both the doctors and nurse practitioners in the form of a system of patient records and other clinical information resources. Clinical information systems can Be utilized to provide medical records, either in summary form, or as a means of providing high levels of continuity of care by using a complementary patient-held record. This had been discussed in detail elsewhere and provides one means of tracking patient movement through government services, both out-patient and in-patient, ensuring that important preventive screening and checks on previous problems and their treatment is carried out with appropriate regularity irrespective of where the patient presents for consultation.

Clinical information systems can also be utilized to provide expert-systems backup enabling nurse practitioners to follow standard clinical algorithms for the evaluation of minor symptoms and screening procedures. On-line support of expert systems can also help doctors with clinical decision-making tasks, as with ambiguous or infrequent symptoms and conditions, and can prompt appropriate investigation, thus reducing unnecessary testing and further resource wastage.

Finally, clinical information systems can provide data for both clinical audit and administrative purposes. In the former case audit provides a means for evaluating service and care provision, and in the latter can facilitate booking of appointments, referral to other clinics and testing with an efficiency that can only be imagined in relation to today's environment.

However it should be emphasised that none of these suggestions are dependent on the development of costly and sophisticated computer-based technology and procedures. There are many innovations which could be implemented rapidly based only on carefully thought out management procedures and the use of paper and pencils. The use of appropriate new technology should of course be a high priority but the first steps towards a new management approach should not be dependent on this.

To conclude, the problems identified in this study point to the urgent need to develop new and more effective ways of service delivery at GOP clinics. To this end we have identified a strategy by which this can be achieved based on a more rational distribution of workloads amongst medical and nurse practitioner staff, backed up by clinical information systems. Also, the extension of the night clinic service is seen as a means of better providing for that segment of the population seeking care outside office hours which will minimize inappropriate use of A&E units at hospitals with commensurate benefits in reduced overcrowding of hospitals. While we do not advocate these approaches as panaceas they do offer a means of providing a level of care that will improve into the twenty first century. The alternative, if nothing is done, is that, with increasing demand and raised consumer consciousness for better quality health care, the inefficiencies we have identified will grow to paralyse the system and make an effective strategy for primary health care provided through Government clinics in Hong Kong virtually impossible.

TABLES AND FIGURES

Table 3.1
Background information of interviewers engaged in 1990 GOPD survey

Code	Sex	Full/Part time	Background
1*	Male	Full time	Doctor
2*	Female	Full time	Field nurse
3*	Female	Full time	Research assistant
4	Female	Full time	Operation manager
5	Female	Full time	RN (retired)
6*	Female	Part time	Research assistant
7*	Male	Part time	Doctor
8*	Male	Full time	Research assistant
9*	Male	Part time	Laboratory assistant

* Staff from Department of Community Medicine, HKU.

Table 3.2
Background of telephone interviewers in the one-month telephone follow-up study

Code	Sex	Full/Part time	Background
1	Female	Full time	Tour organizer/operator
4	Female	Full time	Advertising executive
5	Female	Full time	Tour organizer/operator
6	Female	Full time	Bussiness executive
9*	Female	Part time	Research assistant
10*	Female	Part time	Research assistant
11	Female	Full time	Public relations executive
12	Female	Full time	Bussiness executive
13	Female	Full time	Bussiness executive
14	Female	Full time	Teacher (special education)

* Staff from Department of Community Medicine, HKU.

Table 3.3
Overall response rates of the one-month telephone follow-up study

Telephone interviews completed	901	74%
Telephone interviews partially completed	19	1%
Refused	30	2%
Non-respondents: not in	88	7%
Non-respondents: no answer	79	6%
Non-respondents: wrong number	97	8%
Total number of telephone contacts	1214	100%

Table 4.1
Doctors present in the day clinics during the time and motion study

	NTK	LT	VP	Total
Total no. of doctors	3	6	3	12
No. of females	1	1	2	4
No. of SMO	0	2	0	2
Doctor's age (years)	28.3	45.5	43.6	40.8
Years since graduation	4.3	20.5	19.0	16.1
Experience in the present clinic (years)	0.4	2.5	3.8	2.3
Expericence in any GOPD (years)	0.6	5.4*	4.8	3.9
Length of consultation (minutes)	2.6	3.3	2.1	2.8

* 5 out of 6 doctors in LT responded this question.

Table 4.2.1
Average time spent (mins) on the visit to GOPD by disc waiting time category

A. Daytime clinics (n=746)

Age category	Disc waiting time	Waiting for consultation	Consultation time	Waiting for dispensary	Dispensing time	total time spent
-5	1.1	58.7	2.7	10.1	1.3	74.8
6-29	16.1	56.9	2.2	8.7	1.2	84.4
30-59	37.8	54.1	2.6	10.1	1.0	102.7
60+	97.4	49.1	3.1	11.2	1.5	162.0
All age	42.5	54.2	2.7	10.2	1.3	111.4

B. Non-daytime clinics (n=274)

Age category	Disc waiting time	Waiting for consultation	Consultation time	Waiting for dispensary	Dispensing time	total time spent
-5	1.0	26.6	1.6	12.8	0.7	43.8
6-29	18.3	61.0	1.8	13.2	1.1	96.0
30-59	37.2	60.1	2.0	7.1	1.1	108.9
60+	88.5	47.3	2.1	13.9	1.0	154.5
All age	52.8	54.0	2.0	11.0	1.1	122.3

Table 4.2.2
Disc waiting time by type of respondents

Count Row % Column %	Patient	Proxy	Row Total
< 30 mins	282 80.6 46.8	68 19.4 47.2	350 46.9
30+ mins	320 80.8 53.2	76 19.2 52.8	396 53.1
Column Total	602 80.7	144 19.3	746 100.0

X^2=0.00
D.F.=1
p=0.9349

Table 4.2.3
Disc waiting time by clinic

Count Row % Column %	NTK	LT	VP	Row Total
< 30 mins	79 28.0 45.9	69 24.5 34.7	134 47.5 58.0	282 46.8
30+ mins	93 29.1 54.1	130 40.6 65.3	97 30.3 42.0	320 53.2
Column Total	172 28.6	199 33.1	231 38.4	602 100.0

X^2=23.46
D.F.=2
p=0.0000

Table 4.2.4
Disc waiting time by age group

Count Row % Column %	-19	20-39	40-54	55+	Row Total
< 30 mins	23 8.2 59.0	95 33.7 59.4	63 22.3 53.8	101 35.8 35.3	282 46.8
30+ mins	16 5.0 41.0	65 20.3 40.6	54 16.9 46.2	185 57.8 64.7	320 53.2
Column Total	39 6.5	160 26.6	117 19.4	286 47.5	602 100.0

X^2=29.97
D.F.=3
p=0.0000

Table 4.2.5
Disc waiting time by employment status

Count Row % Column %	Working	Student	Housewife	Non-working	Row Total
< 30 mins	127 45.0 57.2	21 7.4 56.8	77 27.3 41.8	57 20.2 36.1	282 46.9
30+ mins	95 29.8 42.8	16 5.0 43.2	107 33.5 58.2	101 31.7 63.9	319 53.1
Column Total	222 36.9	37 6.2	184 30.6	158 26.3	601 100.0

X^2=20.23
D.F.=3
p=0.0002

Table 4.2.6
Disc waiting disc by type of illness

Count Row % Column %	DM/HT	non-DM/HT	Row Total
< 30 mins	53 18.9 28.8	227 81.1 54.6	280 46.7
30+ mins	131 40.9 71.2	189 59.1 45.4	320 53.3
Column Total	184 30.7	416 69.3	600 100.0

X^2=32.99
D.F.=2
p=0.0000

Table 4.2.7
Disc waiting time by perceived severity of illness

Count Row % Column %	Fair	Minor	Serious	Row Total
< 30 mins	38 13.5 46.3	185 65.8 45.9	58 20.6 50.0	281 46.8
30+ mins	44 13.8 53.7	218 68.1 54.1	58 18.1 50.0	320 53.2
Column Total	82 13.6	403 67.1	116 19.3	601 100.0

X^2=0.61
D.F.=2
p=0.7360

Table 4.2.8
Results of logistic regression analysis modelling the relationship between disc waiting time (1=above vs. 0=below), and factors including clinic, age, employment status, disease, and perceived severity

	Odds ratio	95% CI
Clinic (LT vs. NTK)	1.79	(1.14,2.81)
Clinic (VP vs. NTK)	0.73	NS
Age (-19 vs. 55+))	0.40	NS
Age (20-39 vs. 55+)	0.55	(0.33,0.92)
Age (40-54 vs. 55+)	0.49	(0.30,0.76)
illness (DM/HT vs. non-DM/HT)	0.50	(0.32,0.76)

Table 4.2.9
Consultation time by type of respondents

Count Row % Column %		Patient	Proxy	Row Total
< 3 mins		342 77.9 54.5	97 22.1 63.8	439 56.3
3+ mins		286 83.9 45.5	55 16.1 36.2	341 43.7
	Column Total	628 80.5	152 19.5	780 100.0

X^2=3.98
D.F.=1
p=0.0460

Table 4.2.10
Consultation time by clinic

Count Row % Column %		NTK	LT	VP	Row Total
< 3 mins		112 32.7 62.6	73 21.3 34.8	157 45.9 65.7	342 54.5
3+ mins		67 23.4 37.4	137 47.9 65.2	82 28.7 34.3	286 45.5
	Column Total	179 28.5	210 33.4	239 38.1	628 100.0

X^2=49.76
D.F.=2
p=0.0000

Table 4.2.11
Consultation time by age group

Count Row % Column %	-19	20-39	40-54	55+	Row Total
< 3 mins	25 7.3 58.1	99 28.9 59.3	64 18.7 53.8	154 45.0 51.9	342 54.6
3+ mins	18 6.3 41.9	68 23.9 40.7	55 19.4 46.2	143 50.4 48.1	284 45.4
Column Total	43 6.9	167 26.7	119 19.0	297 47.4	626 100.0

X^2=2.63
D.F.=3
p=0.4521

Table 4.2.12
Consultation time by educational attainment

Count Row % Column %	None	Primary	Secondary	Teritary	Row Total
< 3 mins	100 30.3 52.6	94 28.5 52.2	114 34.5 56.2	22 6.7 66.7	330 54.5
3+ mins	90 32.6 47.4	86 31.2 47.8	89 32.2 43.8	11 4.0 33.3	276 45.5
Column Total	190 31.4	180 29.7	203 33.5	33 5.4	606 100.0

X^2=2.84
D.F.=3
p=0.4173

Table 4.2.13
Consultation time by type of illness

Count Row % Column %	DM/HT	non-DM/HT	Row Total
< 3 mins	92 28.0 49.5	237 72.0 56.7	329 54.5
3+ mins	94 34.2 50.5	181 65.8 43.3	275 45.5
Column Total	186 30.8	418 69.2	604 100.0

X^2=2.43
D.F.=1
p=0.1187

Table 4.2.14
Consultation time by perceived severity of illness

Count Row % Column %	Minor	Fair	Serious	Row Total
< 3 mins	48 14.5 57.8	226 68.5 55.7	56 17.0 48.3	330 54.5
3+ mins	35 12.7 42.2	180 65.5 44.3	60 21.8 51.7	275 45.5
Column Total	83 13.7	406 67.1	116 19.2	605 100.0

X^2=2.41
.F.=2
p=0.3003

Table 4.2.15
Results of logistic regression analysis modelling the relationship between length of consultation (1=above vs. 0=below), and factors including clinic, age, educational attainment, illness, and perceived severity

	Odds ratio	95% CI
Clinic (LT vs. NTK)	3.51	(2.27,5.41)
Clinic (VP vs. NTK)	0.96	NS

Table 4.3.1
Total GOPD attendants during the study period
by clinic

	NTK	LT	VP	Total
Total patients seen	1401	3586	2774	7761
Government Servants	165	329	739	1233
Dependents of Govt. Servants	95	316	249	660
Out-patients Department	1141	2941	1786	5868
Sampled for:				
Time and Motion	1024 (73.1%)	1717 (47.9%)	1773 (63.9%)	4514 (58.2%)
Questionnaire	235 (16.8%)	398 (11.1%)	432 (15.6%)	1065 (13.7%)

Table 4.3.2
Patients by age group

	Frequency	Percent
Below 1	17	1.6
1-9	163	15.3
10-19	83	7.8
20-39	252	23.7
40-54	165	15.5
55-64	195	18.3
65+	188	17.7
Missing	2	
	1065	100.0

Table 4.3.3
Patients by gender

	Frequency	Percent
Male	440	41.3
Female	625	58.7
	1065	100.0

Table 4.3.4
Patients by marital status

	Frequency	Percent
Single	166	16.1
Married	518	50.1
Separated/divorced/widowed /married but lived separately	136	13.2
Not applicable (below 15)	214	20.7
Missing	31	
	1065	100.0

Table 4.3.5
Educational attainment by age group

Count Row % Column %	None/ Kindergarten	Primary	Secondary	Teritary	Row total
0-9	135 77.6 36.7	39 22.4 13.3	0 0 0.0	0 0 0.0	174 16.9
10-19	0 0 0.0	9 10.8 3.1	69 83.1 21.7	5 6.0 10.2	83 8.1
20+	233 30.2 63.3	246 31.9 83.7	249 32.3 78.3	44 5.7 89.8	772 75.0
Column Total	368 35.8	294 28.6	318 30.9	49 4.8	1029 100.0

X^2=273.36
D.F.=6
p=0.0000

Table 4.3.6
Patients by employment status

	Frequency	Percent
Full time	342	33.3
Part time	24	2.3
Housewife	218	21.2
Student	177	17.2
Below school age	74	7.2
Retired	158	15.4
Unemployed	35	3.4
Missing	37	
	1065	100.0

Table 4.3.7
Patients with full/part time job
by occupation categories

	Frequency	Percent
Professional	15	4.1
Clerical	97	26.8
Sales workers	8	2.2
Service workers	72	19.9
Production & related workers	158	43.6
Others	12	3.3
Missing	4	
	366	100.0

Table 4.3.8
Patients by monthly household income

	Frequency	Percent	Adjusted Percent
Less than $1000	27	2.6	3.7
$1000-$2999	48	4.7	6.6
$3000-$5999	165	16.1	22.8
$6000-$9999	251	24.5	34.6
$10000-$14999	118	11.5	16.3
$15000+	112	10.9	15.4
Not applicable	4	.4	.6
Refused/don't know	300	29.3	
Missing	40		
	1065	100.0	

Table 4.3.9
Patients by type of housing

	Frequency	Percent
Public & aided	464	45.1
Home Ownership Scheme	28	2.7
Private-self own	332	32.3
Private-rent	149	14.5
Private-provided by employer	9	.9
Temporary	8	.8
Woodern hut	25	2.4
Institutions	8	.8
Others	5	.5
Missing	37	
	1065	100.0

Table 4.3.10
Age group by clinic

Count / Row % / Column %	0	1-9	10-19	20-39	40-54	55-64	65-	Row total
Day clinic	15	119	49	171	119	152	156	781
	1.9	15.2	6.3	21.9	15.2	19.5	20.0	73.5
	88.2	73.0	59.0	67.9	72.1	77.9	83.0	
Non-day clinic	2	44	34	81	46	43	32	282
	.7	15.6	12.1	28.7	16.3	15.2	11.3	26.5
	11.8	27.0	41.0	32.1	27.9	22.1	17.0	
Column Total	17	163	83	252	165	195	188	1063
	1.6	15.3	7.8	23.7	15.5	18.3	17.7	100.0

$X^2=25.75$
D.F.=6
p=0.0002

Table 4.3.11
Gender by clinic

Count Row % Column %	Male	Female	Row total
Day clinic	312 39.8 70.9	471 60.2 75.4	783 73.5
Non-day clinic	128 45.4 29.1	154 54.6 24.6	282 26.5
Column Total	440 41.3	625 58.7	1065 100.0

X^2=2.40
D.F.=1
p=0.1210

Table 4.3.12
Employment status by clinic

Count Row % Column %	Full time	Part time	Housewife	Student	Below school age	Retired	Unemployed	Row total
Day clinic	205 27.2 59.9	18 2.4 75.0	189 25.1 86.7	118 15.7 66.7	58 7.7 78.4	133 17.7 84.2	32 4.2 91.4	753 73.2
Non-day clinic	137 49.8 40.1	6 2.2 25.0	29 10.5 13.3	59 21.5 33.3	16 5.8 21.6	25 9.1 15.8	3 1.1 8.6	275 26.8
Column Total	342 33.3	24 2.3	218 21.2	177 17.2	74 7.2	158 15.4	35 3.4	1028 100.0

X^2=71.51
D.F.=6
p=0.0000

Table 4.3.13
Disease by clinic

Count Row % Column %	Cold	Diarrhoea /vomiting	Digestive /abdominal	Musculo- skeletal	Circulat- ory	COAD	DM/HT	Ear/nose	Skin	Eye	Other	Row total
	266	9	43	59	23	25	193	19	42	20	53	752
Day clinic	35.4	1.2	5.7	7.8	3.1	3.3	25.7	2.5	5.6	2.7	7.0	73.2
	67.5	64.3	76.8	86.8	95.8	78.1	78.1	79.2	77.8	69.0	62.4	
	128	5	13	9	1	7	54	5	12	9	32	275
Non-day clinic	46.5	1.8	4.7	3.3	.4	2.5	19.6	1.8	4.4	3.3	11.6	26.8
	32.5	35.7	23.2	13.2	4.2	21.9	21.9	20.8	22.2	31.0	37.6	
Column	394	14	56	68	24	32	247	24	54	29	85	1027
Total	38.4	1.4	5.5	6.6	2.3	3.1	24.1	2.3	5.3	2.8	8.3	100.0

X^2=29.93
D.F.=10
p=0.0009

Table 4.3.14
Location of residence by clinic

Count Row % Column %	Hong Kong Island	Kowloon	New Territories	Row total
	0	225	4	229
NTK	0	98.3	1.7	30.5
	0.0	88.6	1.5	
	0	2	246	248
LT	0	.8	99.2	33.0
	0.0	.8	90.1	
	224	27	23	274
VP	81.8	9.9	8.4	36.5
	100.0	10.6	8.4	
Column	224	254	273	751
Total	29.8	33.8	36.4	100.0

X^2=1201.28
p=4
p=0.0000

Table 4.3.15
Age group by clinic

Count / Row % / Column %	0	1-9	10-19	20-39	40-54	55-64	65-	Row total
NTK	4	44	13	43	29	42	58	233
	1.7	18.9	5.6	18.5	12.4	18.0	24.9	29.8
	26.7	37.0	26.5	25.1	24.4	27.6	37.2	
LT	6	39	17	42	52	70	35	261
	2.3	14.9	6.5	16.1	19.9	26.8	13.4	33.4
	40.0	32.8	34.7	24.6	43.7	46.1	22.4	
VP	5	36	19	86	38	40	63	287
	1.7	12.5	6.6	30.0	13.2	13.9	22.0	36.7
	33.3	30.3	38.8	50.3	31.9	26.3	40.4	
Column Total	15	119	49	171	119	152	156	781
	1.9	15.2	6.3	21.9	15.2	19.5	20.0	100.0

$X^2=44.50$
D.F.=12
p=0.0000

Table 4.3.16
Gender by clinic

Count / Row % / Column %	Male	Female	Row total
NTK	72	163	235
	30.6	69.4	30.0
	23.1	34.6	
LT	112	149	261
	42.9	57.1	33.3
	35.9	31.6	
VP	128	159	287
	44.6	55.4	36.7
	41.0	33.8	
Column Total	312	471	783
	39.8	60.2	100.0

$X^2=12.04110$
D.F.=2
p=0.0024

Table 4.3.17
Marital status by clinic

Count Row % Column %		Single	Married	Separate /divorce	NA (age<15)	Row total
NTK		22 9.6 19.6	111 48.3 29.2	42 18.3 36.2	55 23.9 36.7	230 30.3
LT		30 12.0 26.8	135 53.8 35.5	39 15.5 33.6	47 18.7 31.3	251 33.1
VP		60 21.7 53.6	134 48.4 35.3	35 12.6 30.2	48 17.3 32.0	277 36.5
	Column Total	112 14.8	380 50.1	116 15.3	150 19.8	758 100.0

X^2=21.05
D.F.=6
p=0.0018

Table 4.3.18
Educational attainment by clinic

Count Row % Column %		None/ kindergarten	Primary	Secondary	Tertiary	Row total
NTK		109 47.4 36.8	71 30.9 32.9	47 20.4 22.6	3 1.3 8.8	230 30.5
LT		106 42.6 35.8	79 31.7 36.6	58 23.3 27.9	6 2.4 17.6	249 33.0
VP		81 29.5 27.4	66 24.0 30.6	103 37.5 49.5	25 9.1 73.5	275 36.5
	Column Total	296 39.3	216 28.6	208 27.6	34 4.5	754 100.0

X^2=50.71
D.F.=6
p=0.0000

Table 4.3.19
Employment status by clinic

Count / Row % / Column %	Full time	Part time	Housewife	Student	Below school age	Retired	Unemployed	Row total
	29	9	68	39	21	52	12	230
NTK	12.6	3.9	29.6	17.0	9.1	22.6	5.2	30.5
	14.1	50.0	36.0	33.1	36.2	39.1	37.5	
	70	6	68	33	22	36	13	248
LT	28.2	2.4	27.4	13.3	8.9	14.5	5.2	32.9
	34.1	33.3	36.0	28.0	37.9	27.1	40.6	
	106	3	53	46	15	45	7	275
VP	38.5	1.1	19.3	16.7	5.5	16.4	2.5	36.5
	51.7	16.7	28.0	39.0	25.9	33.8	21.9	
Column	205	18	189	118	58	133	32	753
Total	27.2	2.4	25.1	15.7	7.7	17.7	4.2	100.0

$X^2=53.31$
D.F.=12
p=0.0000

Table 4.3.20
Type of job by clinic

Count / Row % / Column %	Professional	Clerical	Sales	Service	Production	Other	Row total
	0	7	0	12	16	3	38
NTK	0	18.4	0	31.6	42.1	7.9	17.3
	0.0	11.9	0.0	25.5	16.8	30.0	
	2	6	2	10	53	2	75
LT	2.7	8.0	2.7	13.3	70.7	2.7	34.1
	33.3	10.2	66.7	21.3	55.8	20.0	
	4	46	1	25	26	5	107
VP	3.7	43.0	.9	23.4	24.3	4.7	48.6
	66.7	78.0	33.3	53.2	27.4	50.0	
Column	6	59	3	47	95	10	220
Total	2.7	26.8	1.4	21.4	43.2	4.5	100.0

$X^2=52.18$
D.F.=10
p=0.0000

Table 4.3.21
Type of housing by clinic

Count Row % Column %	Public	Self-own	Rent	Other	Row total
NTK	168 73.0 45.2	36 15.7 14.8	19 8.3 18.6	7 3.0 19.4	230 30.5
LT	147 59.0 39.5	66 26.5 27.2	20 8.0 19.6	16 6.4 44.4	249 33.1
VP	57 20.8 15.3	141 51.5 58.0	63 23.0 61.8	13 4.7 36.1	274 36.4
Column Total	372 49.4	243 32.3	102 13.5	36 4.8	753 100.0

X^2=160.82
D.F.=6
p=0.0000

Table 4.3.22
Diseases by clinic

Count Row % Column %	Cold	Diarrhoea /vomiting	Digestive /abdominal	Musculo-skeletal	Circulat-ory	COAD	DM/HT	Ear/nose	Skin	Eye	Other	Row total
NTK	71 30.9 26.7	3 1.3 33.3	13 5.7 30.2	18 7.8 30.5	14 6.1 60.9	7 3.0 28.0	56 24.3 29.0	6 2.6 31.6	17 7.4 40.5	5 2.2 25.0	20 8.7 37.7	230 30.6
LT	74 29.8 27.8	1 .4 11.1	14 5.6 32.6	20 8.1 33.9	8 3.2 34.8	7 2.8 28.0	83 33.5 43.0	10 4.0 52.6	8 3.2 19.0	7 2.8 35.0	16 6.5 30.2	248 33.0
VP	121 44.2 45.5	5 1.8 55.6	16 5.8 37.2	21 7.7 35.6	1 .4 4.3	11 4.0 44.0	54 19.7 28.0	3 1.1 15.8	17 6.2 40.5	8 2.9 40.0	17 6.2 32.1	274 36.4
Column Total	266 35.4	9 1.2	43 5.7	59 7.8	23 3.1	25 3.3	193 25.7	19 2.5	42 5.6	20 2.7	53 7.0	752 100.0

X^2=45.64
D.F.=20
p=0.0009

Table 4.3.23
Monthly household income by clinic

Count / Row % / Column %	<$1000	$1000-$2999	$3000-$5999	$6000-$9999	$10000-$14999	$15000+	Not applicable	Refused	Row total
NTK	8	17	47	61	21	9	2	64	229
	3.5	7.4	20.5	26.6	9.2	3.9	.9	27.9	30.5
	32.0	42.5	36.2	32.6	28.0	11.4	50.0	30.2	
LT	7	10	51	68	24	20	1	68	249
	2.8	4.0	20.5	27.3	9.6	8.0	.4	27.3	33.1
	28.0	25.0	39.2	36.4	32.0	25.3	25.0	32.1	
VP	10	13	32	58	30	50	1	80	274
	3.6	4.7	11.7	21.2	10.9	18.2	.4	29.2	36.4
	40.0	32.5	24.6	31.0	40.0	63.3	25.0	37.7	
Column Total	25	40	130	187	75	79	4	212	752
	3.3	5.3	17.3	24.9	10.0	10.5	.5	28.2	100.0

$X^2=41.26$
D.F.=14
p=0.0002

Table 4.3.24
Expenditure spent on health care over past 3 months by clinic

Count / Row % / Column %	$0	$1-100	$101-250	$251-500	$501-750	>$750	refused	Row total
NTK	22	86	56	35	14	9	8	230
	9.6	37.4	24.3	15.2	6.1	3.9	3.5	30.5
	27.2	27.8	32.6	36.8	46.7	16.4	72.7	
LT	12	100	71	29	11	24	2	249
	4.8	40.2	28.5	11.6	4.4	9.6	.8	33.1
	14.8	32.4	41.3	30.5	36.7	43.6	18.2	
VP	47	123	45	31	5	22	1	274
	17.2	44.9	16.4	11.3	1.8	8.0	.4	36.4
	58.0	39.8	26.2	32.6	16.7	40.0	9.1	
Column Total	81	309	172	95	30	55	11	753
	10.8	41.0	22.8	12.6	4.0	7.3	1.5	100.0

$X^2=52.08$
D.F.=12
p=0.0000

Table 4.3.25
Desirability of medical records
by type of respondents

Count Row % Column %	Patient	Proxy	Row Total
Against	179 84.4 29.6	33 15.6 22.9	212 28.3
For/no opinion	426 79.3 70.4	111 20.7 77.1	537 71.7
Column Total	605 80.8	144 19.2	749 100.0

X^2=2.23
D.F.=1
p=0.1352

Table 4.3.26
Desirability of medical records
by age

Count Row % Column %	-19	20-39	40-54	55+	Row Total
Against	8 4.5 18.6	28 15.6 17.5	31 17.3 26.7	112 62.6 39.2	179 29.6
For/no opinion	35 8.2 81.4	132 31.0 82.5	85 20.0 73.3	174 40.8 60.8	426 70.4
Column Total	43 7.1	160 26.4	116 19.2	286 47.3	605 100.0

X^2=26.75
D.F.=3
p=0.0000

Table 4.3.27
Desirability of medical records
by educational attainment

Count Row % Column %	None	Primary	Secondary	Tertiary	Row Total
Against	81 45.3 42.6	48 26.8 27.0	46 25.7 22.7	4 2.2 11.8	179 29.6
For/no opinion	109 25.6 57.4	130 30.5 73.0	157 36.9 77.3	30 7.0 88.2	426 70.4
Column Total	190 31.4	178 29.4	203 33.6	34 5.6	605 100.0

X^2=25.97
D.F.=3
p=0.0000

Table 4.3.28
Desirability of medical records
by employment status

Count Row % Column %	Working	Student	Housewife	Non-working	Row Total
Against	52 29.1 23.4	8 4.5 19.5	61 34.1 33.0	58 32.4 37.2	179 29.6
For/no opinion	170 40.0 76.6	33 7.8 80.5	124 29.2 67.0	98 23.1 62.8	425 70.4
Column Total	222 36.8	41 6.8	185 30.6	156 25.8	604 100.0

X^2=11.37
D.F.=3
p=0.0099

Table 4.3.29
Desirability of medical records
by type of illness

Count Row % Column %	DM/HT	non-DM/HT	Row Total
Against	67 37.4 36.2	112 62.6 26.7	179 29.6
For/no opinion	118 27.8 63.8	307 72.2 73.3	425 70.4
Column Total	185 30.6	419 69.4	604 100.0

X^2=5.09 .
D.F.=1
p=0.0240

Table 4.3.30
Results of logistic regression analysis modelling
the relationship between desirability of
medical records (1=for vs. 0=against),
and factors including age, educational attainment,
employment status, and type of illness

	Odds ratios	95% CI
Age (-19 vs. 55+)	2.73	NS
Age (20-39 vs. 55+)	2.19	(1.15,4.18)
Age (40-54 vs. 55+)	1.38	NS
Education (primary vs. none)	1.71	(1.06,2.77)
Education (secondary vs. none)	1.52	NS
Education (tertiary vs. none)	3.54	(1.10,11.40)

Table 4.3.31
Desirability of appointments system
by type of respondents

Count Row % Column %	Patient	Proxy	Row Total
Against	129 86.6 22.4	20 13.4 13.9	149 20.7
For/no opinion	447 78.3 77.6	124 21.7 86.1	571 79.3
Column Total	576 80.0	144 20.0	720 100.0

X^2=4.57
D.F.=1
p=0.0324

Table 4.3.32
Desirability of appointments system
by age

Count Row % Column %	-19	20-39	40-54	55+	Row Total
Against	6 4.7 15.8	12 9.4 7.9	18 14.1 17.3	92 71.9 32.9	128 22.3
For/no opinion	32 7.2 84.2	140 31.4 92.1	86 19.3 82.7	188 42.2 67.1	446 77.7
Column Total	38 6.6	152 26.5	104 18.1	280 48.8	574 100.0

X^2=38.64
D.F.=3
p=0.0000

Table 4.3.33
Desirability of appointments system
by educational attainment

Count Row % Column %	None	Primary	Secondary	Tertiary	Row Total
Against	61 49.6 34.7	30 24.4 18.5	29 23.6 15.7	3 2.4 9.7	123 22.2
For/no opinion	115 26.7 65.3	132 30.6 81.5	156 36.2 84.3	28 6.5 90.3	431 77.8
Column Total	176 31.8	162 29.2	185 33.4	31 5.6	554 100.0

X^2=24.46
D.F.=3
p=0.0000

Table 4.3.34
Desirability of appointments system
by employment status

Count Row % Column %	Working	Student	Housewife	Non-working	Row Total
Against	27 22.1 13.6	6 4.9 16.2	36 29.5 21.3	53 43.4 35.6	122 22.1
For/no opinion	171 39.7 86.4	31 7.2 83.8	133 30.9 78.7	96 22.3 64.4	431 77.9
Column Total	198 35.8	37 6.7	169 30.6	149 26.9	553 100.0

X^2=24.78
D.F.=3
p=0.0000

Table 4.3.35
Desirability of appointments system
by type of illness

Count Row % Column %	DM/HT	Non-DM/HT	Row Total
Against	51 41.8 29.0	71 58.2 18.9	122 22.1
For/no opinion	125 29.1 71.0	305 70.9 81.1	430 77.9
Column Total	176 31.9	376 68.1	552 100.0

X^2=6.52
D.F.=1
p=0.0107

Table 4.3.36
Results of logistic regression analysis modelling the relationship between desirability of appointments system (1=for vs. 0=against), and factors including age, educational attainment, employment status, and chief complaint

	Odds ratios	95% CI
Age (-19 vs. 55+)	2.48	NS
Age (20-39 vs. 55+)	3.40	(1.46,7.88)
Age (40-54 vs. 55+)	1.55	NS

Table 4.4.1
Intention to doctor shop
by
previous medical consultation

Count Row % Column %	No prior /GOPD	non-GOPD	Row total
With intention	155 70.8 27.3	64 29.2 40.8	219 30.2
No intention	412 81.6 72.7	93 18.4 59.2	505 69.8
Column Total	567 78.3	157 21.7	724 100.0

X^2=9.88
D.F.=1
p=0.0017

Table 4.4.2
Intention to doctor shop
by
Adequate time for consultation

A. non-DM/HT patients

Count Row % Column %	Yes	Partly/No	Row total
With intention	146 66.4 26.1	74 33.6 45.4	220 30.4
No intention	414 82.3 73.9	89 17.7 54.6	503 69.6
Column Total	560 77.5	163 22.5	723 100.0

X^2=21.37
D.F.=1
p=0.0000

B. DM/HT patients

Count Row % Column %	Yes	Partly/No	Row total
With intention	13 72.2 6.7	5 27.8 15.6	18 8.0
No intention	181 87.0 93.3	27 13.0 84.4	208 92.0
Column Total	194 85.8	32 14.2	226 100.0

X^2=1.89
D.F.=1
p=0.1691

Table 4.4.3
Intention to doctor shop
by
satisfaction from visit

A. non-DM/HT patients

Count Row % Column %	Yes	No	Don't Know	Row Total
With intention	95 43.2 21.3	24 10.9 46.2	101 45.9 44.5	220 30.3
No intention	351 69.5 78.7	28 5.5 53.8	126 25.0 55.5	505 69.7
Column Total	446 61.5	52 7.2	227 31.3	725 100.0

X^2=44.91
D.F.=2
p=0.0000

B. DM/HT patients

Count Row % Column %	Yes	No	Don't Know	Row Total
With intention	15 83.3 7.2	1 5.6 16.7	2 11.1 10.5	18 7.7
No intention	193 89.8 92.8	5 2.3 83.3	17 7.9 89.5	215 92.3
Column Total	208 89.3	6 2.6	19 8.2	233 100.0

X^2=0.95905
D.F.=2
p=0.6191

Table 4.5.1
Age distribution of patients interviewed in GOPDs and those by telephone

	Telephone sample n=318		GOPD sample n=1065	
	Frequency	Percent	Frequency	Percent
Below 1	9	2.8	17	1.6
1-9	32	10.1	163	15.3
10-19	22	6.9	83	7.8
20-39	66	20.8	252	23.7
40-54	53	16.7	165	15.5
55-64	77	24.3	195	18.3
65+	58	18.4	188	17.7
Missing	1		2	
	318	100.0	1065	100.0

Table 4.5.2
Gender of patients interviewed in GOPDs and those by telephone

	Telephone sample n=318		GOPD sample n=1065	
	Frequency	Percent	Frequency	Percent
Male	127	39.9	440	41.3
Female	191	60.1	625	58.7
	318	100.0	1065	100.0

Table 4.5.3
Marital status of patients interviewed in GOPDs and those by telephone

	Telephone sample n=318		GOPD sample n=1065	
	Frequency	Percent	Frequency	Percent
Single	61	19.6	166	16.1
Married	201	64.6	518	50.1
Separated/divorced/widowed /married, live separately	14	4.5	136	13.2
Not applicable (below 15)	35	11.3	214	20.7
Missing	7		31	
	318	100.0	1065	100.0

Table 4.5.4
Educational attainment of patients interviewed in GOPDs and those by telephone

	Telephone sample n=318		GOPD sample n=1065	
	Frequency	Percent	Frequency	Percent
None/kindergarten	99	31.2	368	35.8
Primary	103	32.5	294	28.6
Secondary/matric	107	33.8	318	30.9
Tertiary	8	2.5	49	4.8
Missing	1		36	
	318	100.0	1065	100.0

Table 4.5.5
Employment status of patients interviewed in GOPDs and those by telephone

	Telephone sample n=318		GOPD sample n=1065	
	Frequency	Percent	Frequency	Percent
Full time	88	27.7	342	33.3
Part time	14	4.4	24	2.3
Housewife	57	17.9	218	21.2
Student	30	9.4	177	17.2
Below school age	28	8.8	74	7.2
Retired	90	28.3	158	15.4
Unemployed	11	3.5	35	3.4
Missing			37	
	318	100.0	1065	100.0

Table 4.5.6
Monthly household income of patients interviewed in GOPDs and those by telephone

	Telephone sample n=318		GOPD sample n=1065	
	Frequency	Percent	Frequency	Percent
Less than $1000	2	.6	27	2.6
$1000-$2999	2	.6	48	4.7
$3000-$5999	34	10.7	165	16.1
$6000-$9999	57	17.9	251	24.5
$10000-$14999	28	8.8	118	11.5
$15000 or above	12	3.8	112	10.9
Not applicable	12	3.8	4	.4
Refused to answer	171	53.8	300	29.3
Missing			40	
	318	100.0	1065	100.0

Table 4.5.7
Type of housing of patients interviewed in GOPDs and those by telephone

	Telephone sample n=318 Frequency	Percent	GOPD sample n=1065 Frequency	Percent
Public and aided	154	48.9	464	45.1
Housing authority	23	7.3	28	2.7
Private-self own	65	20.6	332	32.3
Private-rented	47	14.9	149	14.5
Private-quarters	1	.3	9	.9
Temporary	1	.3	8	.8
Wooden hut	16	5.1	25	2.4
Institutions	2	.6	8	.8
Others	6	1.9	5	.5
Missing	3		37	
	318	100.0	1065	100.0

Table 4.5.8
Expectation of prescription after a consultation by age

Count / Row % / Column %	-19	20-39	40-54	55-64	65-97	Row Total
Yes	57	147	119	160	109	592
	9.6	24.8	20.1	27.0	18.4	84.5
	73.1	75.0	91.5	90.9	90.1	
No	21	49	11	16	12	109
	19.3	45.0	10.1	14.7	11.0	15.5
	26.9	25.0	8.5	9.1	9.9	
Column Total	78	196	130	176	121	701
	11.1	28.0	18.5	25.1	17.3	100.0

X^2=34.50,
D.F.=4,
p=0.0000

Table 4.5.9
Expectation of prescription after a consultation by education

Count Row % Column %	None/ kindergarten	Primary	Secondary/ matric.	Post sec.	Row Total
Yes	146 24.7 91.3	205 34.7 93.2	214 36.2 76.2	26 4.4 66.7	591 84.4
No	14 12.8 8.8	15 13.8 6.8	67 61.5 23.8	13 11.9 33.3	109 15.6
Column Total	160 22.9	220 31.4	281 40.1	39 5.6	700 100.0

X^2=42.47,
D.F.=3,
p=0.0000

Table 4.5.10
Expectation of prescription after a consultation by disease problems

Count Row % Column %	* Short	Others	HT/DM	Row Total
Yes	134 33.7 83.2	141 35.4 73.8	123 30.9 93.9	398 82.4
No	27 31.8 16.8	50 58.8 26.2	8 9.4 6.1	85 17.6
Column Total	161 33.3	191 39.5	131 27.1	483 100.0

X^2=21.70,
D.F.=2,
p=0.0000

* Short = runny nose, cough, sore throat, cold, headache, fever dizziness, diarrhoea/vomiting, abdominal pain
Others = digestive, musculo-skeletal, ear, eye, nose, gynae, mental, circulatory, COAD

Table 4.5.11
Results of logistic regression analysis on the relationship between the expectation of prescribed medication after every consultation (0=low, 1=high), and some determining factors.

	Odds ratio	95% CI
Age (-19 vs. 20-39)	0.99	NS
Age (40-54 vs. 20-39)	2.90	(1.22, 6.88)
Age (55+ vs. 20-39)	1.71	NS
Education (seconcary/matric vs. primary or below)	0.47	(0.12, 0.90)
Education (tertiary vs. primary or below)	0.22	(0.09, 0.56)

The odds ratios of these variables are adjusted for gender, self-rating of condition, and disease problems.

Table 4.5.12
Expecting a full understanding of health conditions after a consultation by age

Count / Row % / Column %	-19	20-39	40-54	55-64	65-97	Row Total
Strongly agree	20	59	37	30	23	169
	11.8	34.9	21.9	17.8	13.6	25.4
	26.7	32.2	30.8	17.4	20.0	
Agree	55	124	83	142	92	496
	11.1	25.0	16.7	28.6	18.5	74.6
	73.3	67.8	69.2	82.6	80.0	
Column Total	75	183	120	172	115	665
	11.3	27.5	18.0	25.9	17.3	100.0

X^2=13.96,
D.F.=4,
p=0.0074

Table 4.5.13
Expecting a full understanding of health conditions after a consultation by education

Count Row % Column %	None/ kindergarten	Primary	Secondary/ matric.	Post sec.	Row Total
Strongly agree	28 16.6 18.7	51 30.2 23.8	76 45.0 28.8	14 8.3 38.9	169 25.5
Agree	122 24.6 81.3	163 32.9 76.2	188 38.0 71.2	22 4.4 61.1	495 74.5
Column Total	150 22.6	214 32.2	264 39.8	36 5.4	664 100.0

X^2=8.91,
D.F.=3,
p=0.0305

Table 4.5.14
Expecting more information on medication by age

Count Row % Column %	-19	20-39	40-54	55-64	65-97	Row Total
Yes	7 7.3 9.0	20 20.8 10.3	15 15.6 12.1	29 30.2 16.8	25 26.0 21.0	96 14.0
No	71 12.0 91.0	174 29.4 89.7	109 18.4 87.9	144 24.3 83.2	94 15.9 79.0	592 86.0
Column Total	78 11.3	194 28.2	124 18.0	173 25.1	119 17.3	688 100.0

X^2=10.18,
D.F.=4,
p=0.0375

Table 4.5.15
Expecting more information on medication
by education

Count Row % Column %	None/ kindergarten	Primary	Secondary/ matric.	Post sec.	Row Total
Yes	32 33.0 20.4	33 34.0 15.3	28 28.9 10.2	4 4.1 10.3	97 14.1
No	125 21.2 79.6	183 31.0 84.7	247 41.9 89.8	35 5.9 89.7	590 85.9
Column Total	157 22.9	216 31.4	275 40.0	39 5.7	687 100.0

X^2=9.31,
D.F.=3,
p=0.0254

Table 4.5.16
Results of logistic regression analysis
on the relationship between
expectation of the information on medication
(0=low, 1=high)
and some determining factors.

	Odds ratio	95% CI
Age (-19 vs. 20-39)	1.06	NS
Age (40-54 vs. 20-39)	0.88	NS
Age (55+ vs. 20-39)	0.39	(0.19, 0.78)

The odds ratios of these variables are adjusted for gender, self-rating of health conditions and disease problem.

Table 4.5.17
Expecting labelling of medication
by disease problems

Count Row % Column %	* Short	Others	HT/DM	Row Total
Strongly agree	54 29.3 38.3	94 51.1 54.3	36 19.6 34.3	184 43.9
Agree	87 37.0 61.7	79 33.6 45.7	69 29.4 65.7	235 56.1
Column Total	141 33.7	173 41.3	105 25.1	419 100.0

X^2=13.39,
D.F.=2,
p=0.0012

* Short = runny nose, cough, sore throat, cold, headache, fever, dizziness, diarrhoea/vomiting, abdominal pain
Others = digestive, musculo-skeletal, ear, eye, nose, gynae, mental, circulatory, COAD

Table 4.5.18
Results of logistic regression analysis
on the relationship between
the expectation for labelling of medication
(0=no, 1=yes)
and some determining factors.

	Odds ratio	95% CI
Age (-19 vs. 20-39)	2.51	NS
Age (40-54 vs. 20-39)	0.57	NS
Age (55+ vs. 20-39)	0.31	(0.12, 0.79)

The odds ratios of these variables are adjusted for gender, self-rating of health conditions and disease problem.

Table 4.5.19
A summary of patient expectations on various aspects of GOPDs

	% Agree	% Disagree
Doctors should be reassuring	97	3
Will ask doctor questions whenever in doubt	67	33
Doctors should not attend to physical complaints only	55	45
Injections lead to quicker recovery	37	63

Expectation of patient comparing private and GOP clinics

	% Private	% Same	% GOPD
Higher expectation of quality of care	17	75	9
Expecting longer waiting times	3	28	69

Table 4.5.20
General satisfaction with medical care by age

Count Row % Column %	-19	20-39	40-54	55-64	65-97	Row Total
Satisfied	57 10.3 74.0	136 24.6 70.5	107 19.4 82.3	151 27.4 86.3	101 18.3 84.9	552 79.5
Dissatisfied	20 14.1 26.0	57 40.1 29.5	23 16.2 17.7	24 16.9 13.7	18 12.7 15.1	142 20.5
Column Total	77 11.1	193 27.8	130 18.7	175 25.2	119 17.1	694 100.0

X^2=18.79,
D.F.=4,
p=0.0009

Table 5.4.21
Results of logistic regression analysis on the relationship between general satisfaction with the medical care received (0=dissatisfied, 1=satisfied) and some determining factors.

	Odds ratio	95% CI
Age (-19 vs. 20-39)	1.11	NS
Age (40-54 vs. 20-39)	1.95	NS
Age (55+ vs. 20-39)	2.05	(1.07, 3.95)

The odds ratios of these variables are adjusted for gender, level of educational attainment, self-rating of health conditions and disease problem.

Table 4.5.22
Convenience of GOPDs by age

Count Row % Column %	-19	20-39	40-54	55-64	65-97	Row Total
Satisfied	26 11.0 33.8	47 19.9 24.1	42 17.8 33.9	73 30.9 42.4	48 20.3 42.1	236 34.6
Dissatisfied	51 11.4 66.2	148 33.2 75.9	82 18.4 66.1	99 22.2 57.6	66 14.8 57.9	446 65.4
Column Total	77 11.3	195 28.6	124 18.2	172 25.2	114 16.7	682 100.0

X^2=17.06,
D.F.=4,
p=0.0019

Table 4.5.23
Results of logistic regression analysis on the relationship between satisfaction with the convenience of services (0=dissatisfied, 1=satisfied) and some determining factors

	Odds ratio	95% CI
Age (-19 vs. 20-39)	2.43	(1.23, 4.79)
Age (40-54 vs. 20-39)	2.02	(1.05, 3.89)
Age (55+ vs. 20-39)	2.29	(1.26, 4.15)

The odds ratios of these variables are adjusted for gender, level of educational attainment, self-rating of health conditions and disease problem.

Table 4.5.24
A summary of satisfaction ratings on various aspects of GOPDs by patients

	% Dissatisfied	% Satisfied
Costs	91	9
Effects of prescribed medicine	71	29
Understanding of disease problem	46	54
Attitude of doctor	33	67
Understanding of prescription	14	86

Table 4.5.25
Doctor-shopping by age

Count Row % Column %	-19	20-39	40-54	55-64	65-97	Row Total
Not shopped	48 10.6 61.5	106 23.4 53.8	83 18.3 63.8	126 27.8 71.2	90 19.9 73.2	453 64.3
Shopped	30 11.9 38.5	91 36.1 46.2	47 18.7 36.2	51 20.2 28.8	33 13.1 26.8	252 35.7
Column Total	78 11.1	197 27.9	130 18.4	177 25.1	123 17.4	705 100.0

X^2=17.58,
D.F.=4,
p=0.0015

Table 4.5.26
Results of logistic regression analysis on the relationship between doctor-shopping behaviour (0=not shopped, 1=shopped) and some demographic factors.

	Odds ratio	95% CI
Age (-19 vs. 20-39)	0.76	NS
Age (40-54 vs. 20-39)	0.66	NS
Age (55+ vs. 20-39)	0.48	(0.31, 0.75)

The odds ratios of these variables are adjusted for gender, and level of educational attainment.

Table 4.5.27
Doctor-shopping by expectation of standards of care

Count Row % Column %	Better in private	Same	Better in GOPD	Row Total
Not shopped	83 18.8 73.5	312 70.7 59.9	46 10.4 78.0	441 63.6
Shopped	30 11.9 26.5	209 82.9 40.1	13 5.2 22.0	252 36.4
Column Total	113 16.3	521 75.2	59 8.5	693 100.0

X^2=13.11,
D.F.=2,
p=0.0014

Table 4.5.28
Doctor-shopping by expectation of quicker recovery by injections than not

Count Row % Column %	Disagree	Injections lead to quicker recovery	Row Total
Not shopped	299 67.8 70.0	142 32.2 55.7	441 64.7
Shopped	128 53.1 30.0	113 46.9 44.3	241 35.3
Column Total	427 62.6	255 37.4	682 100.0

X^2=13.74,
D.F.=1,
p=0.0002

Table 4.5.29
Results of logistic regression analysis on the relationship between doctor-shopping behaviour (0=not shopped, 1=shopped) and some determining factors.

	Odds ratio	95% CI
Age (-19 vs. 20-39)	0.99	NS
Age (40-54 vs. 20-39)	0.58	NS
Age (55+ vs. 20-39)	0.44	(0.26, 0.74)
Sex (male vs. female)	0.66	(0.44, 0.99)
Expectation of standards (high vs. low)	1.71	(1.01, 2.91)
Asking doctor questions (sometimes/always vs. never/rarely)	1.60	(1.05, 2.42)
Injections lead to quicker recovery (yes vs. no)	2.00	(1.34, 2.93)

The odds ratios of these variables are adjusted for educational attainment.

Table 4.5.30
Doctor-shopping by patients' evaluation of the effects of the prescribed medication (excluding HT/DM patients)

Count Row % Column %	Not always recover as quickly as expected	Always recover quickly	Row Total
Not shopped	190 66.4 59.2	96 33.6 72.7	286 63.1
Shopped	131 78.4 40.8	36 21.6 27.3	167 36.9
Column Total	321 70.9	132 29.1	453 100.0

X^2=7.36,
D.F.=1,
p=0.0067

Table 4.5.31
Doctor-shopping by the perception of convenience of GOPD services

Count Row % Column %	Inconvenient	Convenient	Row Total
Not shopped	240 58.3 59.6	172 41.7 72.9	412 64.5
Shopped	163 71.8 40.4	64 28.2 27.1	227 35.5
Column Total	403 63.1	236 36.9	639 100.0

X^2=10.97,
D.F.=1,
p=0.0007

Table 4.5.32
Results of logistic regression analysis on the relationship between doctor-shopping behaviour (0=not shopped, 1=shopped) and patients' expectations and satisfaction.

	Odds ratio	95% CI
Expectation of quality of care (high vs. low)	2.00	(1.12, 3.56)
Injections lead to quicker recovery (yes vs. no)	2.06	(1.36, 3.11)
Asking doctor questions (always/sometimes vs. never/rarely)	2.00	(1.28, 3.13)
Expecting short waiting times (yes vs.no)	1.70	(1.02, 2.85)
Convenience of services (satisfactory vs. dissatisfactory)	0.45	(0.28, 0.75)

The odds ratios of these variables are adjusted for patients' expectations (of obtaining prescriptions for a consultation and doctor's attitudes) and satisfaction (on quality of care, effects of medication, doctor's attitudes, understanding of health conditions, and the costs of services.)

Table 4.5.33
Frequecy of patients by log of total time spent in GOPD

Total time spent in GOPD	Frequency	Percent
Short (under 41.82 min)	253	29.0
Medium (41.82-74.41 min)	331	38.0
Long (over 74.41 min)	288	33.0
Missing	29	
	901	100.0

Table 4.5.34
Frequency of patients by log of Consultation time

Consultation time	Frequency	Percent
Short (under 1.72 min)	249	27.7
Medium (1.72-3.48 min)	495	55.1
Long (over 3.48 min)	155	17.2
Missing	2	
	901	100.0

Table 4.5.35
Consultation time by general satisfaction

Count Row % Column %	Satisfied	Dissatisfied	Row Total
Short	140 72.9 25.4	52 27.1 36.6	192 27.7
Medium/long	412 82.1 74.6	90 17.9 63.4	502 72.3
Column Total	552 79.5	142 20.5	694 100.0

X^2=7.15,
D.F.=1,
p=0.0075

Table 4.5.36
Consultation time by satisfaction of the amount of information on medication

Count Row % Column %	Satisfied	Dissatisfied	Row Total
Short	172 80.0 26.6	43 20.0 43.0	215 28.8
Medium	364 89.2 56.3	44 10.8 44.0	408 54.6
Long	111 89.5 17.2	13 10.5 13.0	124 28.8
Column Total	647 86.6	100 13.4	747 100.0

X^2=11.39,
D.F.=2,
p=0.0034

Table 4.5.37
Consultation time by respondents' perception of the doctors as impatient

Count Row % Column %	Doctor patient	Doctor impatient	Row Total
Short	99 45.8 24.0	117 54.2 33.7	216 28.4
Medium	238 56.8 57.6	181 43.2 52.2	419 55.1
Long	76 60.8 18.4	49 39.2 14.1	125 16.4
Column Total	413 54.3	347 45.7	760 100.0

X^2=9.43,
D.F.=2,
p=0.0090

Table 4.5.38
Results of logistic regression analysis on the relationship between doctor-shopping behaviour (0=not shopped, 1=shopped), consultation time and patients' expectations and satisfaction.

	Odds ratio	95% CI
Age (-19 vs. 20-39)	0.87	NS
Age (40-54 vs. 20-39)	0.73	NS
Age (55+ vs. 20-39)	0.54	(0.33, 0.86)
Consultation time (under 1.72 min vs. 1.72 min or longer)	1.63	(1.07, 1.88)
Injections lead to a quicker recovery (yes vs. no)	1.94	(1.31, 2.89)
Expecting short waiting times (yes vs. no)	2.01	(1.17, 3.45)
Asking doctor questions (sometimes/always vs. never/rarely)	1.67	(1.09, 2.55)
Convenience of services (yes vs. no)	0.50	(0.33, 0.77)

The odds ratios of these variables are adjusted for gender.

Figure 4.2.1 Operation of the 3 clinics (AM session)

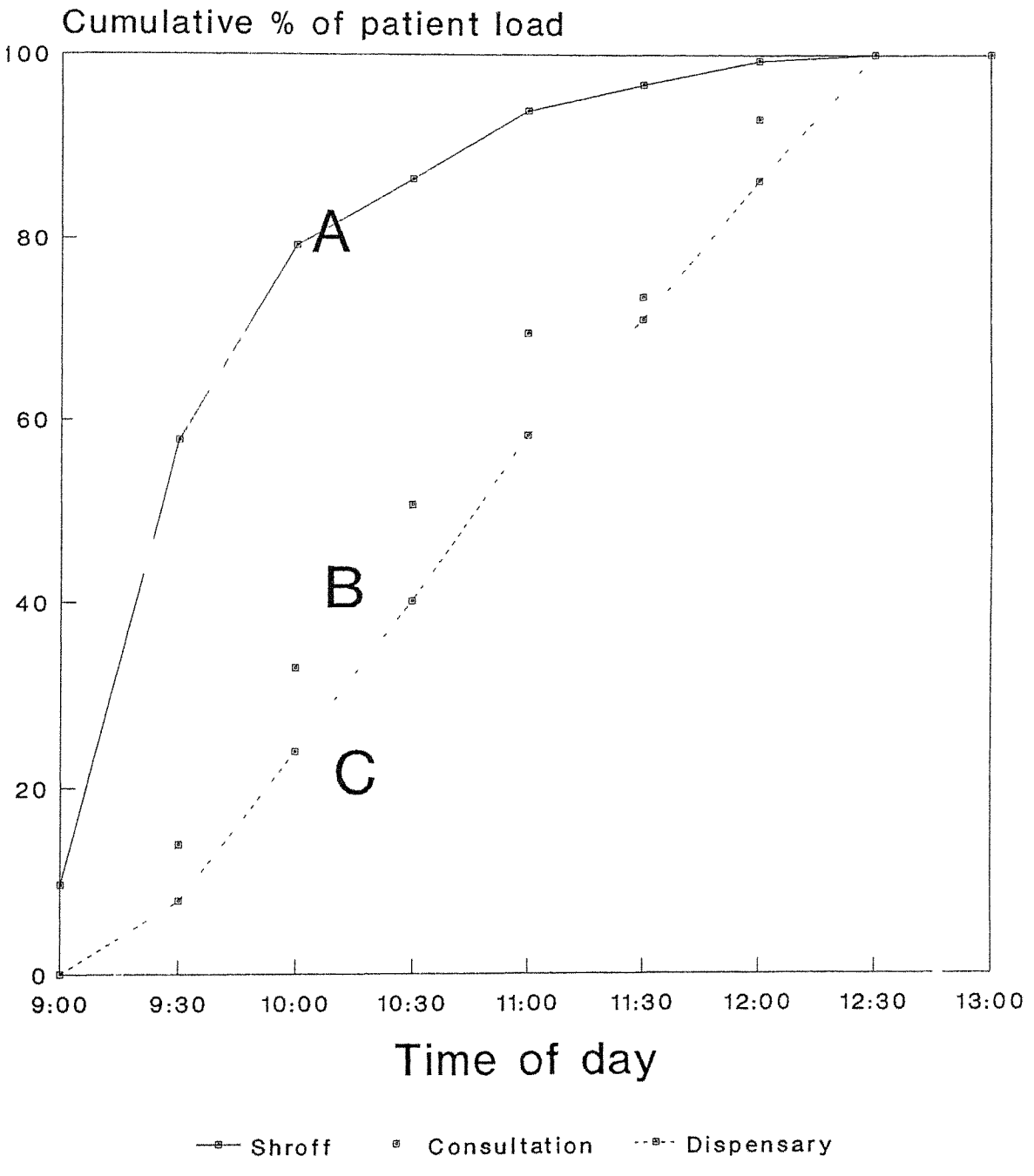


Figure 4.2.2 Operation of NTK clinic (AM session)

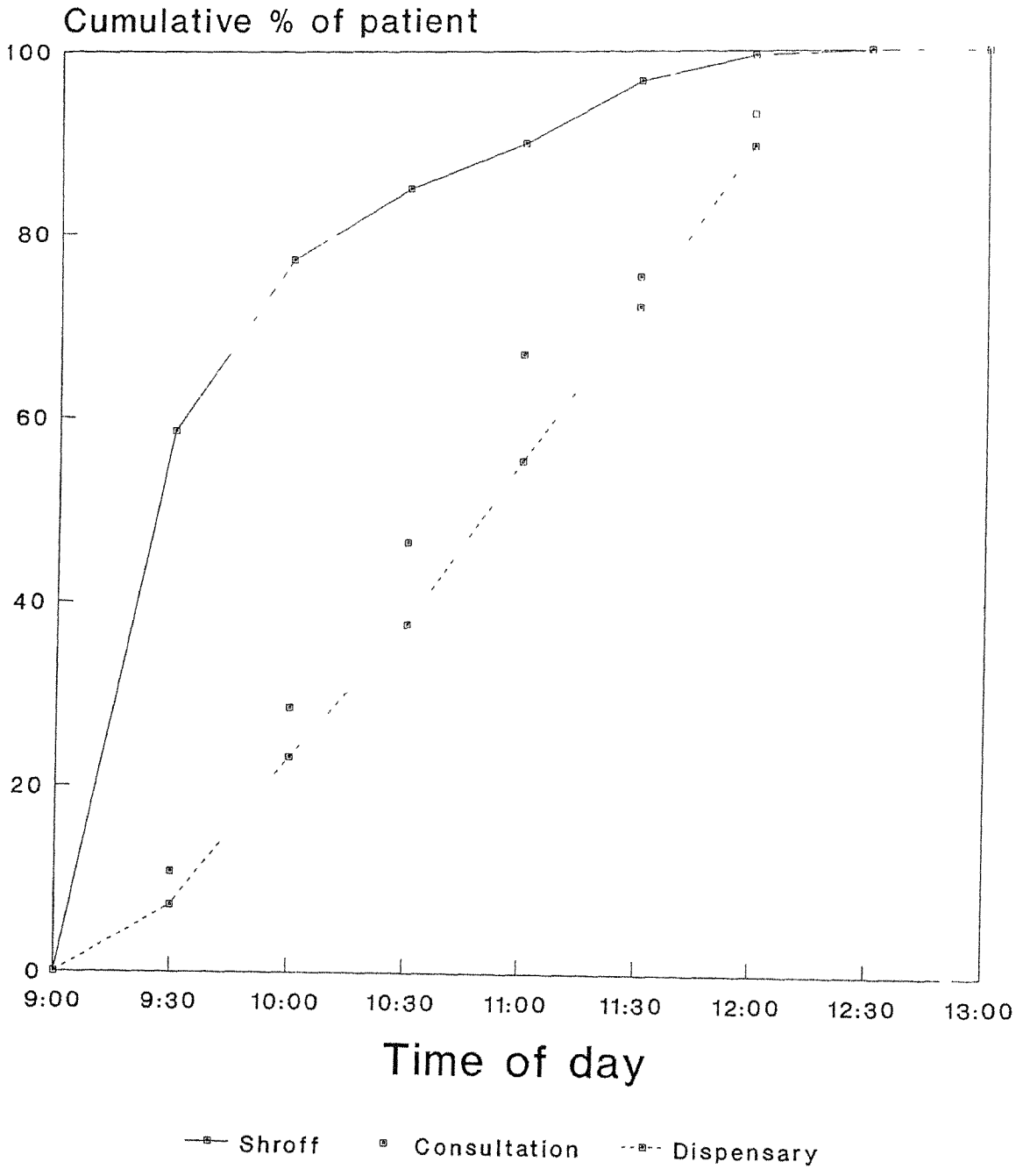


Figure 4.2.3 Operation of LT clinic (AM session)

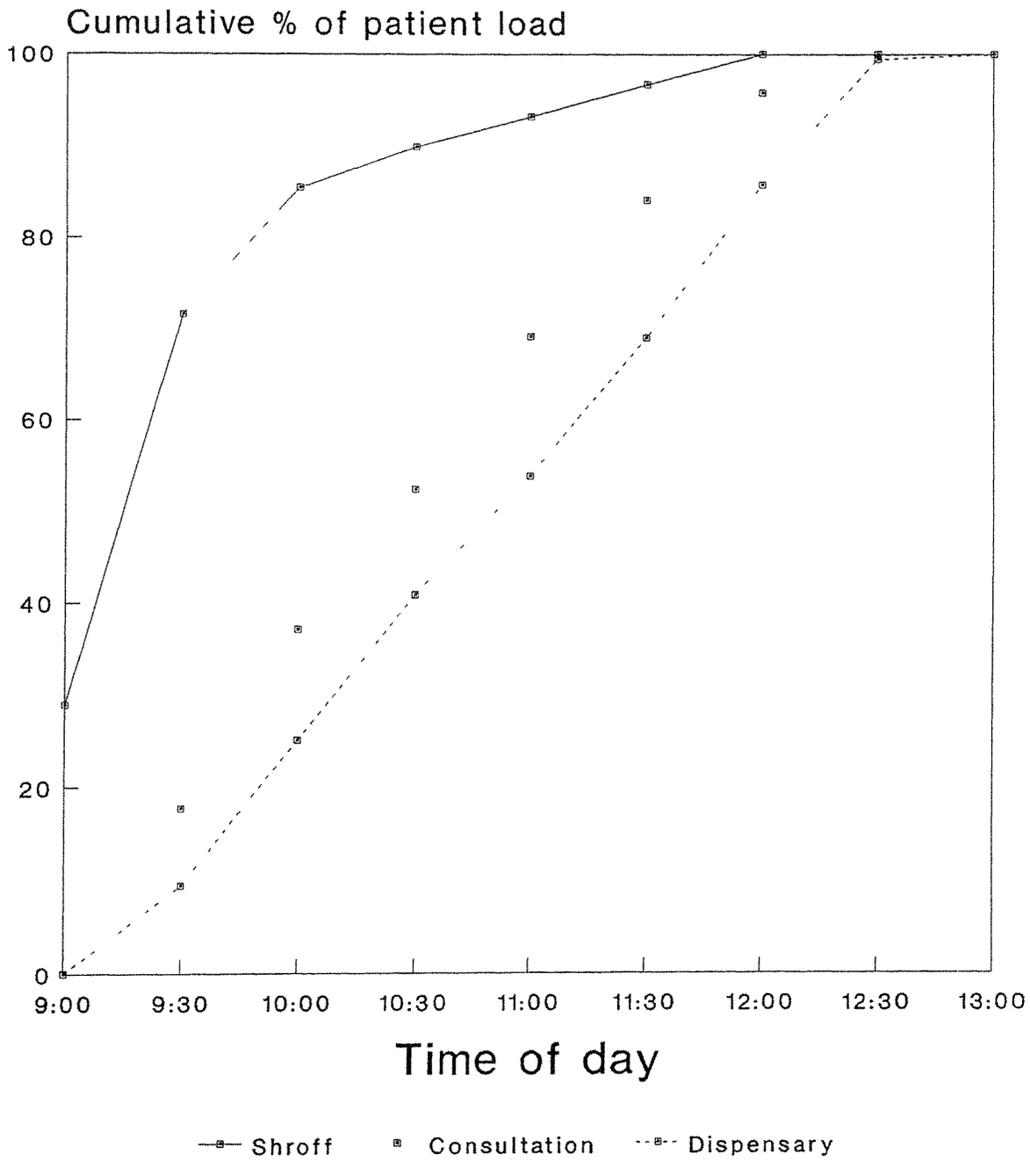


Figure 4.2.4 Operation of VP clinic (AM session)

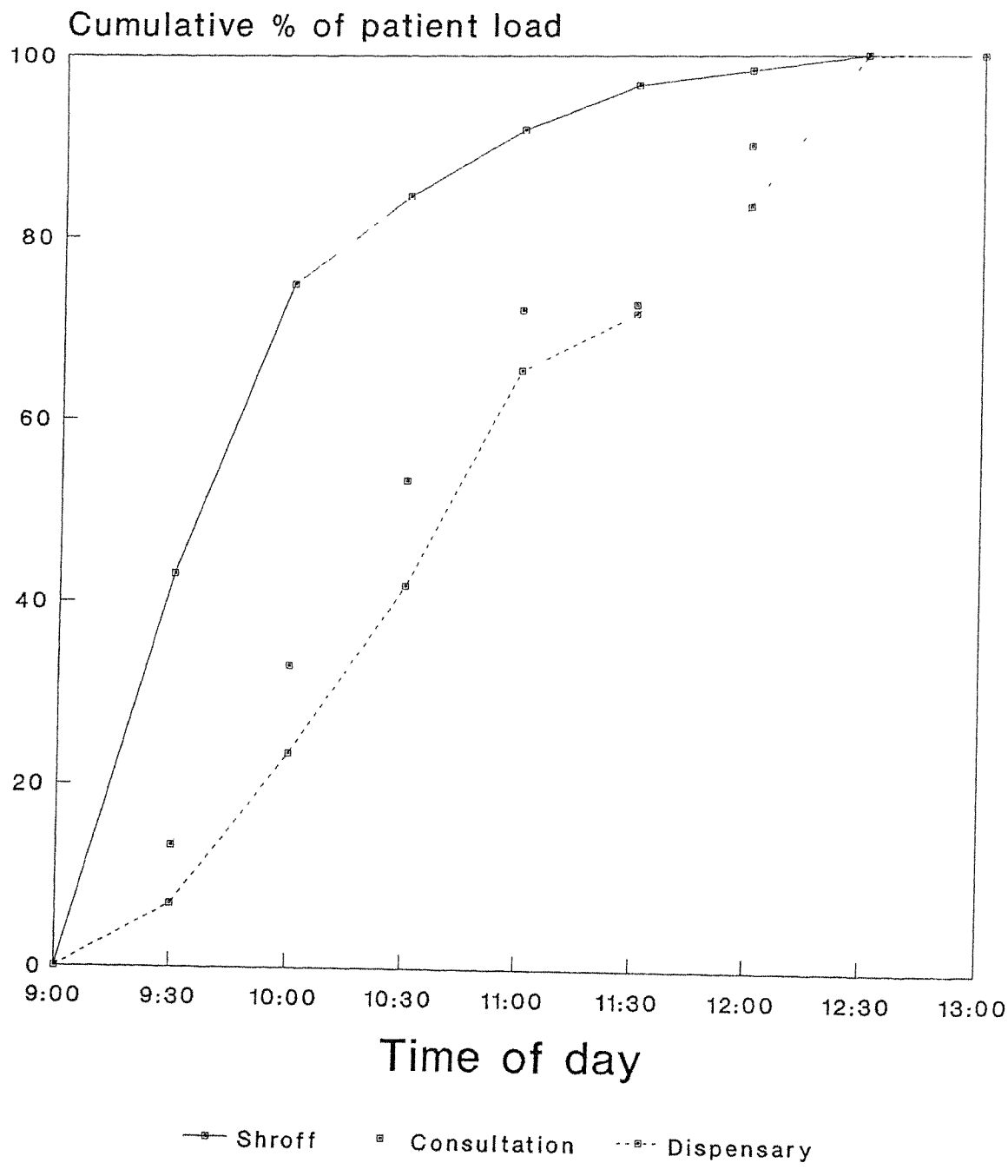


Figure 4.2.5 Operation of the 3 clinics (PM session)

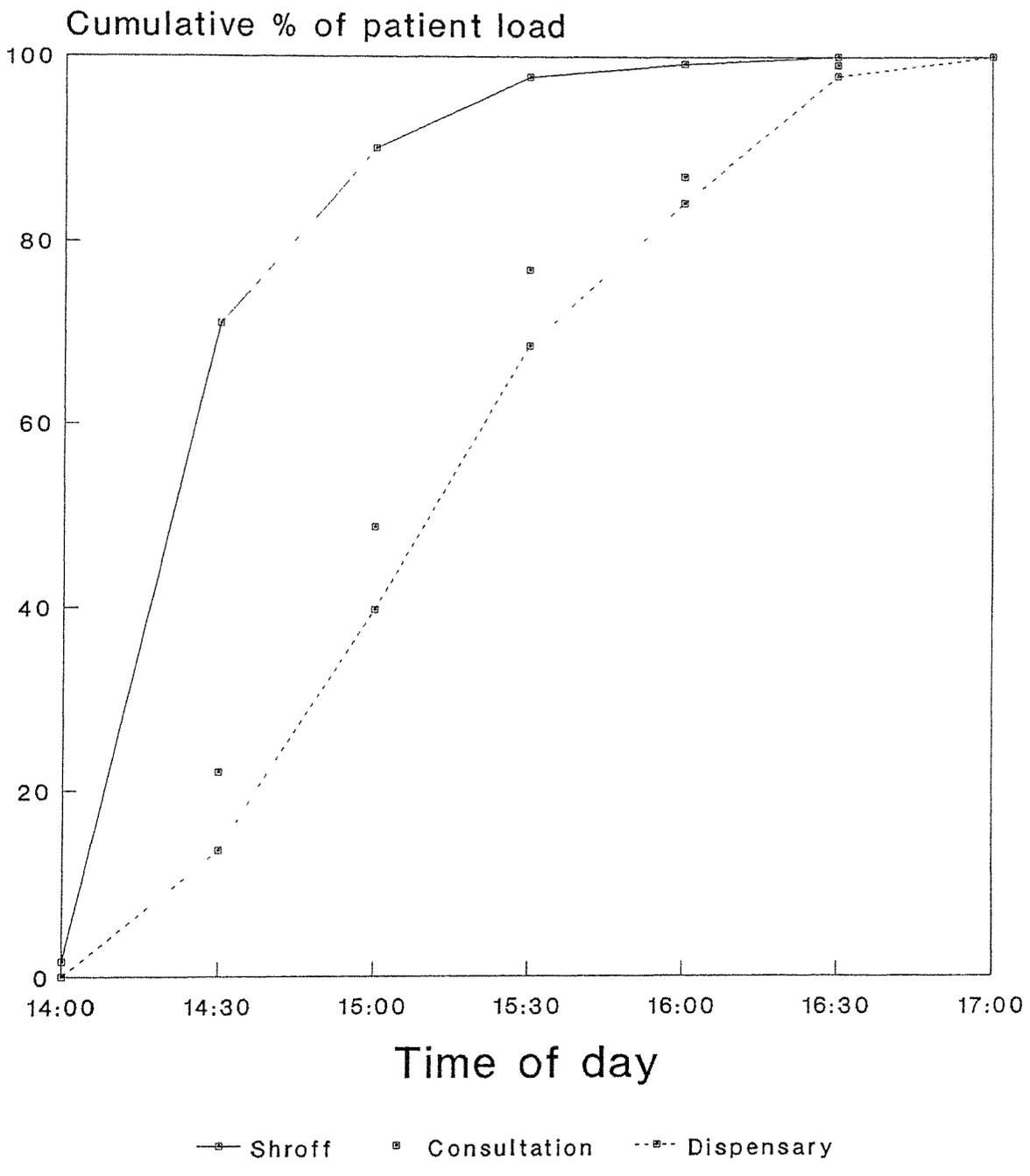


Figure 4.2.6 Operation of NTK clinic (PM session)

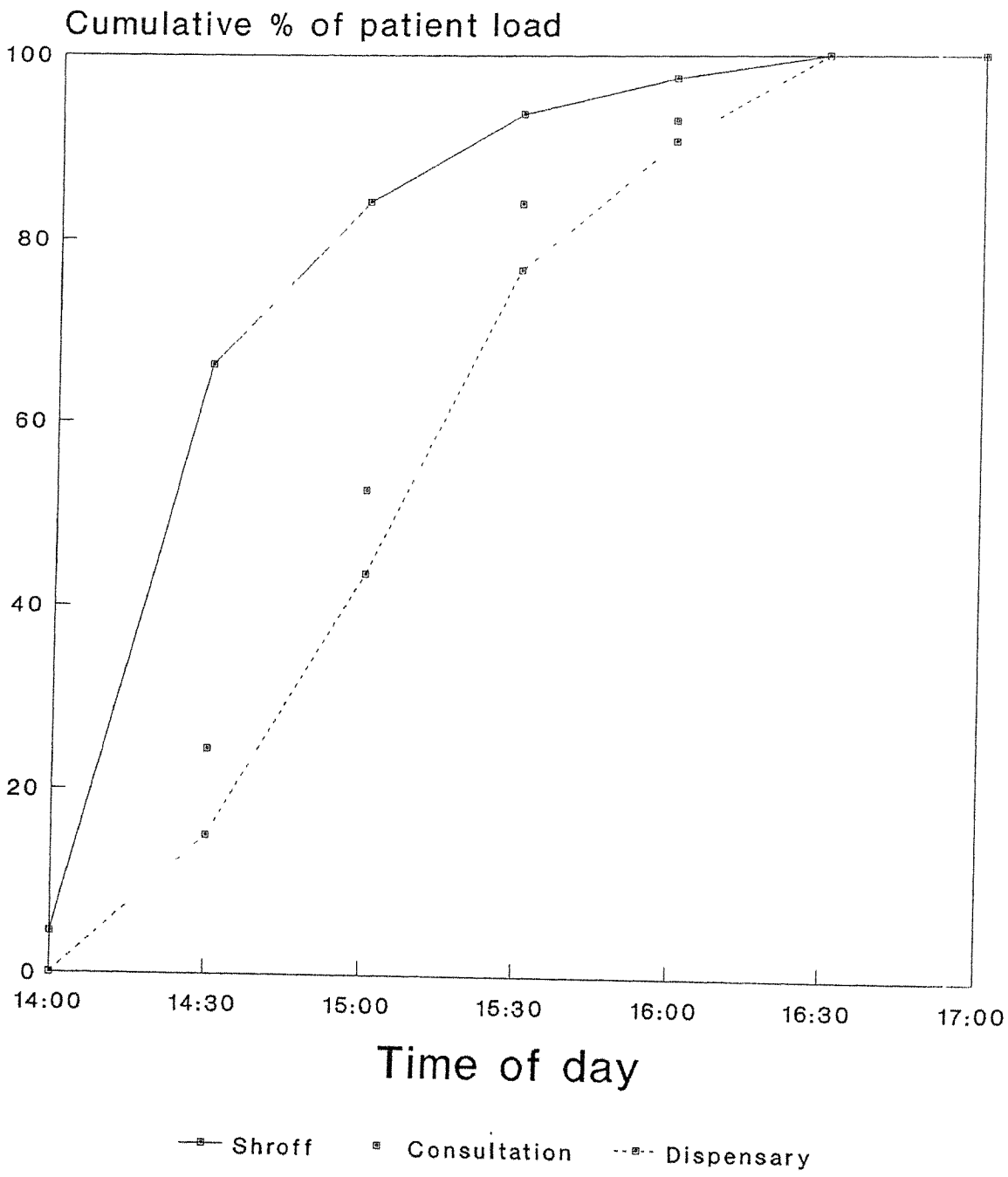


Figure 4.2.7 Operation of LT clinic
(PM session)

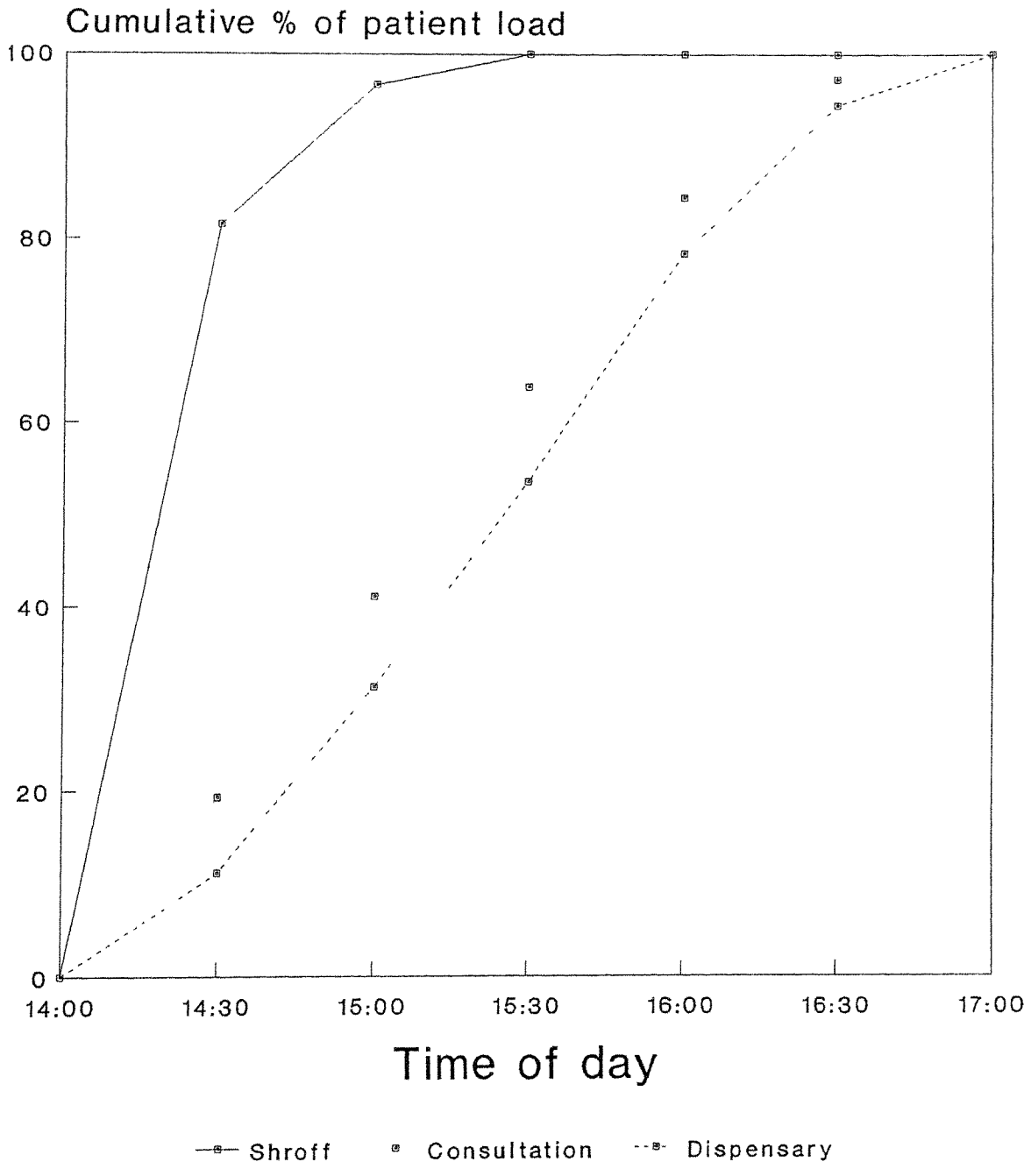


Figure 4.2.8 Operation of VP clinic (PM session)

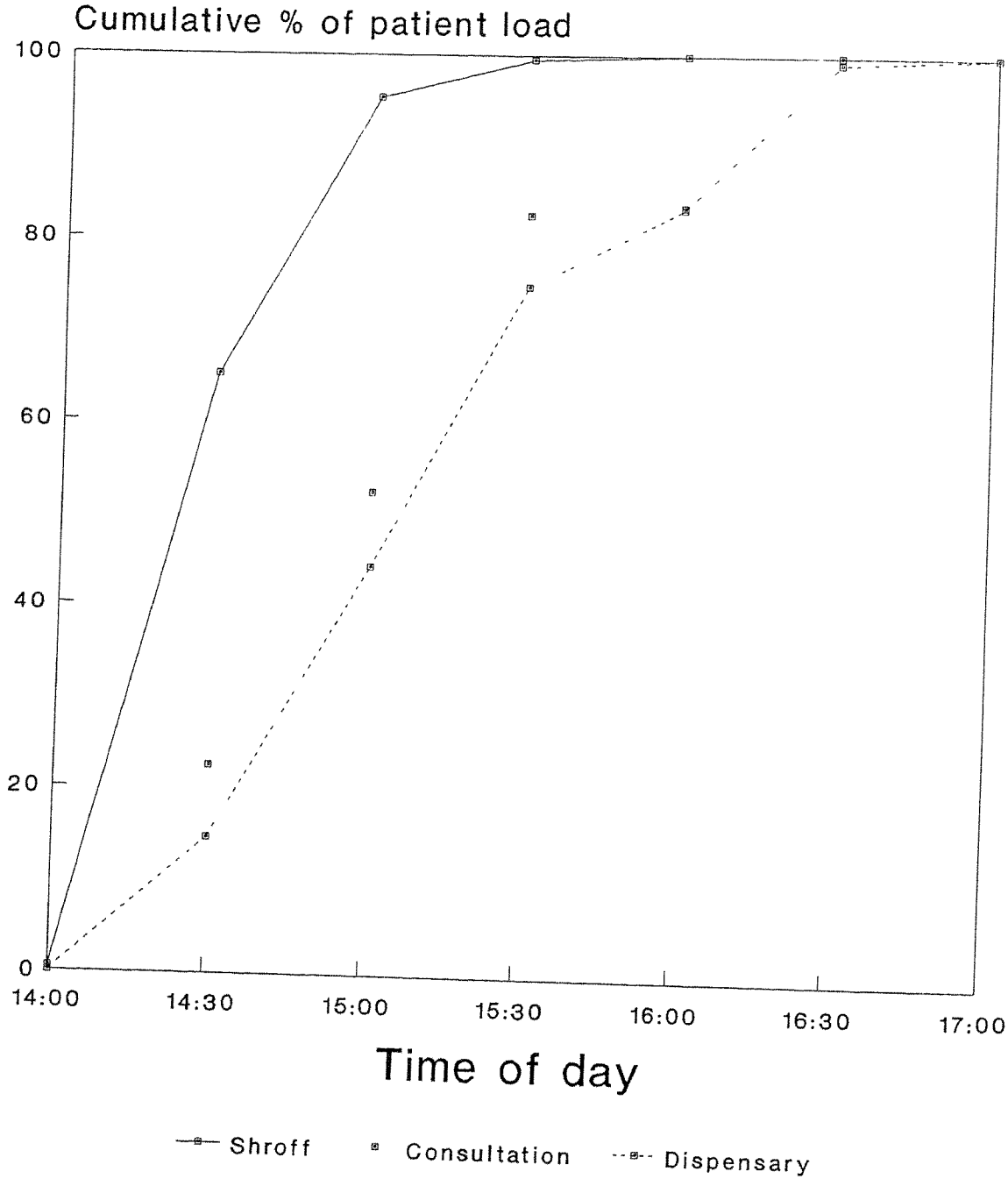


Figure 4.2.9 Consultation time by session by clinic

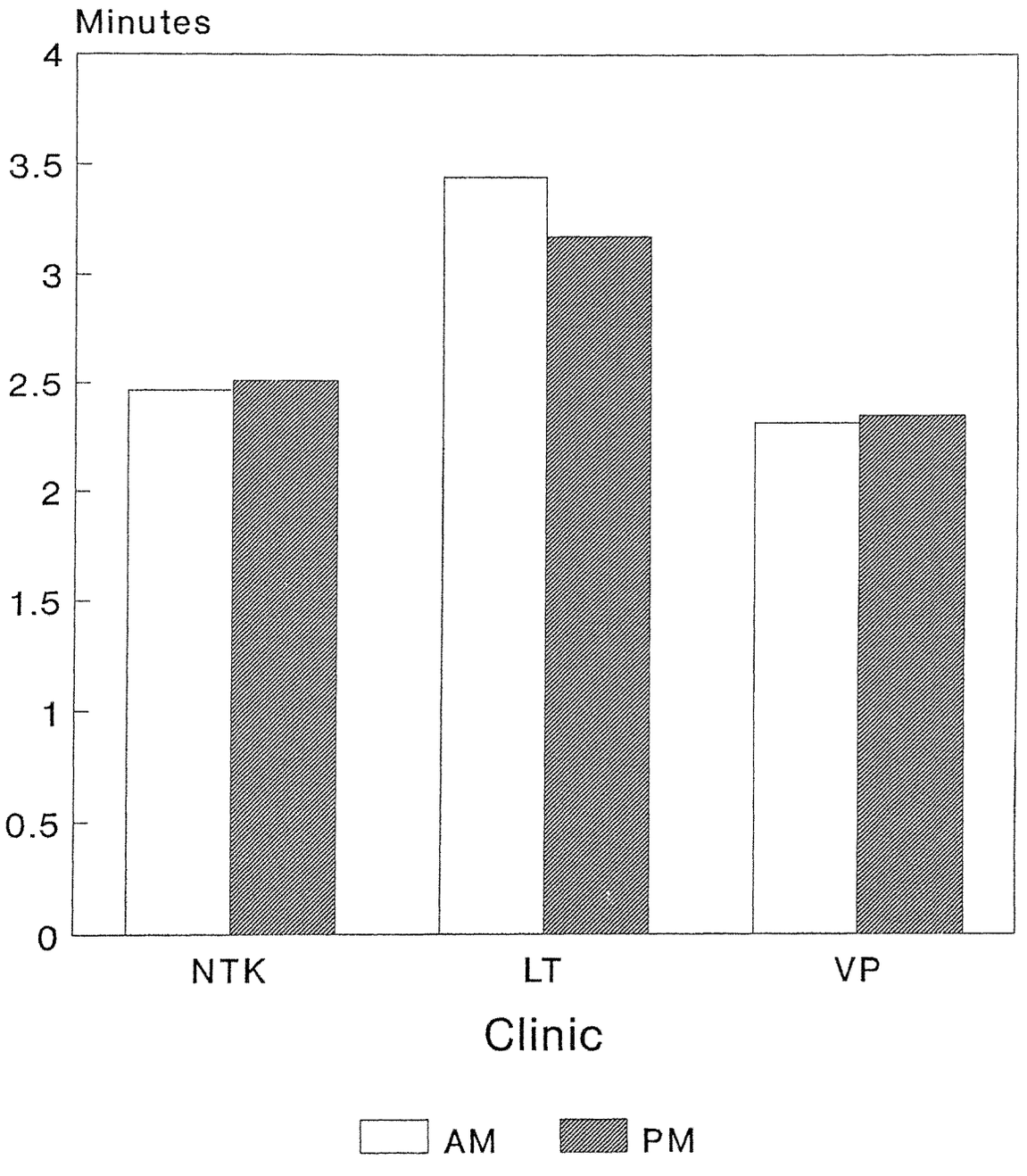


Figure 4.2.10 Consultation time of patients with cold problems by session by clinic

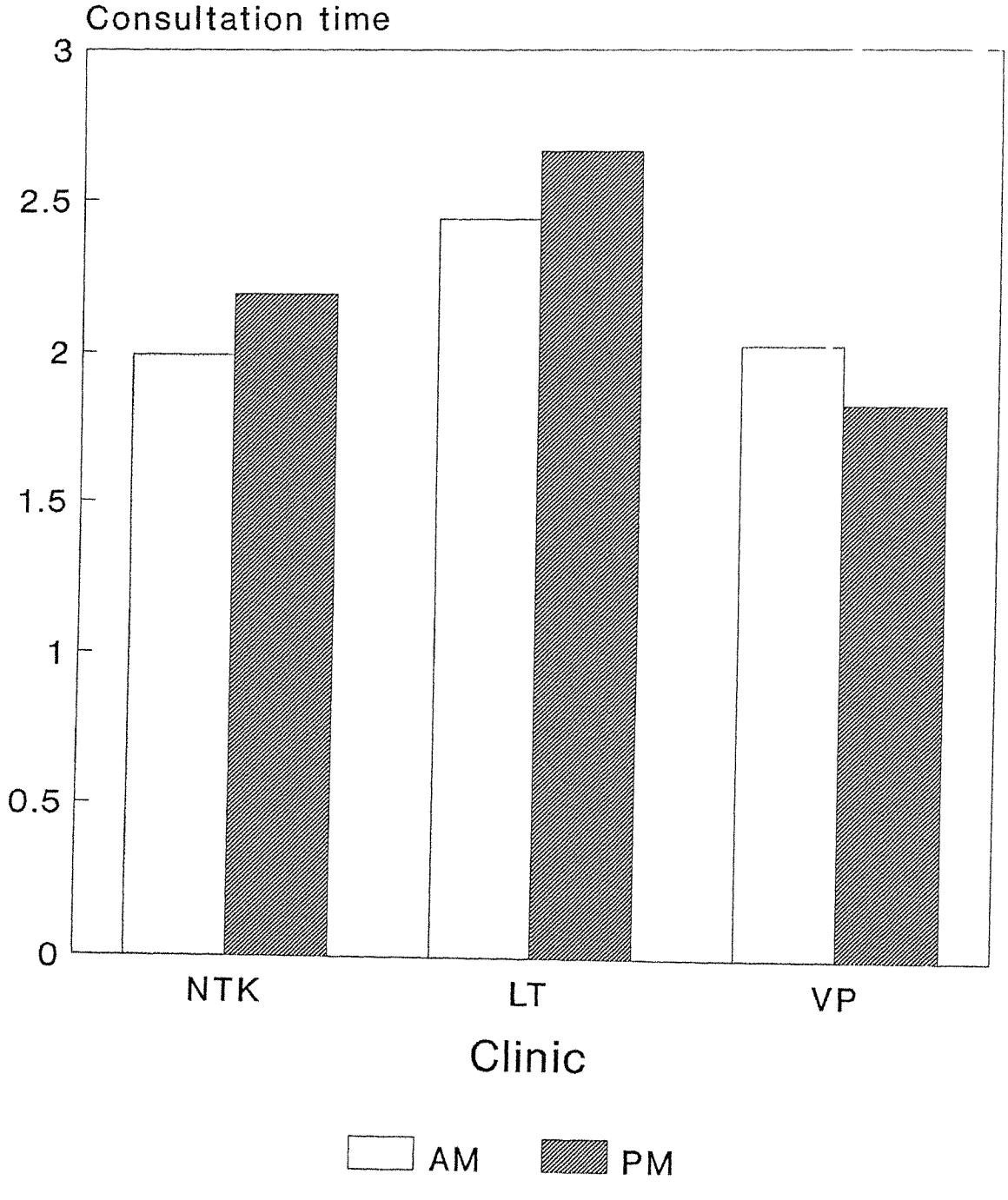


Figure 4.2.11 Consultation time by age group

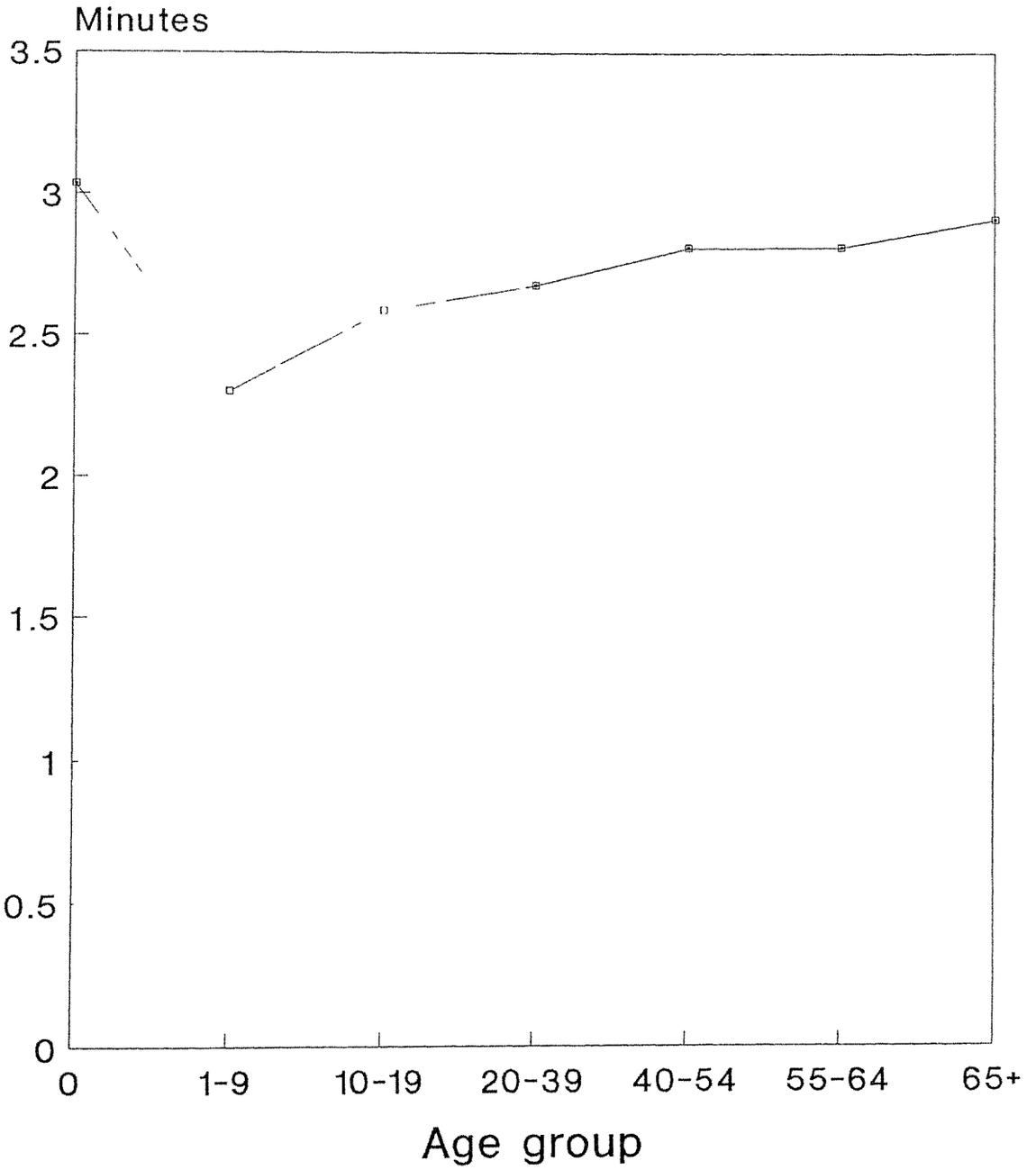


Figure 4.2.12 Consultation time by employment status

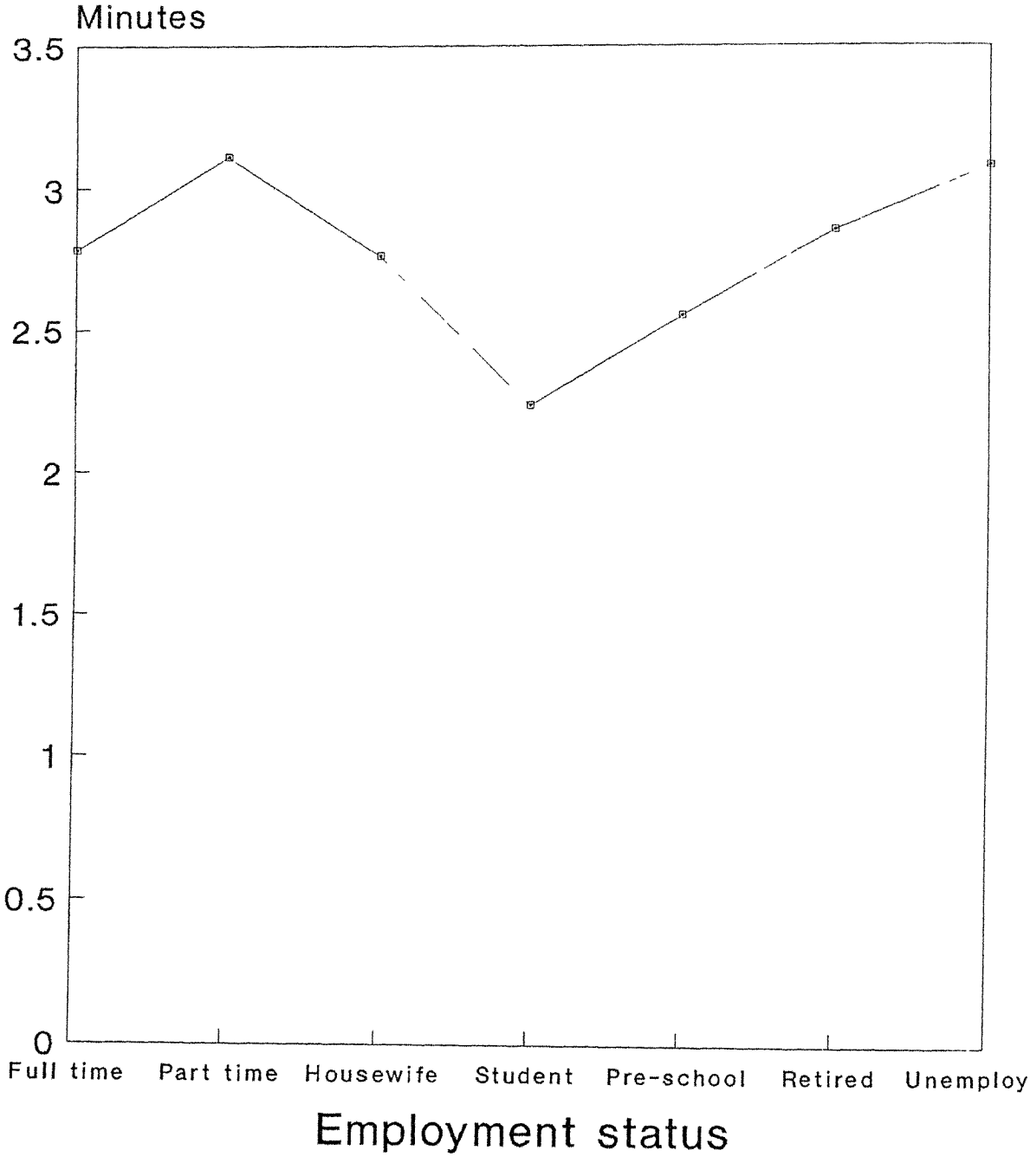


Figure 4.2.13 Consultation time by education attained

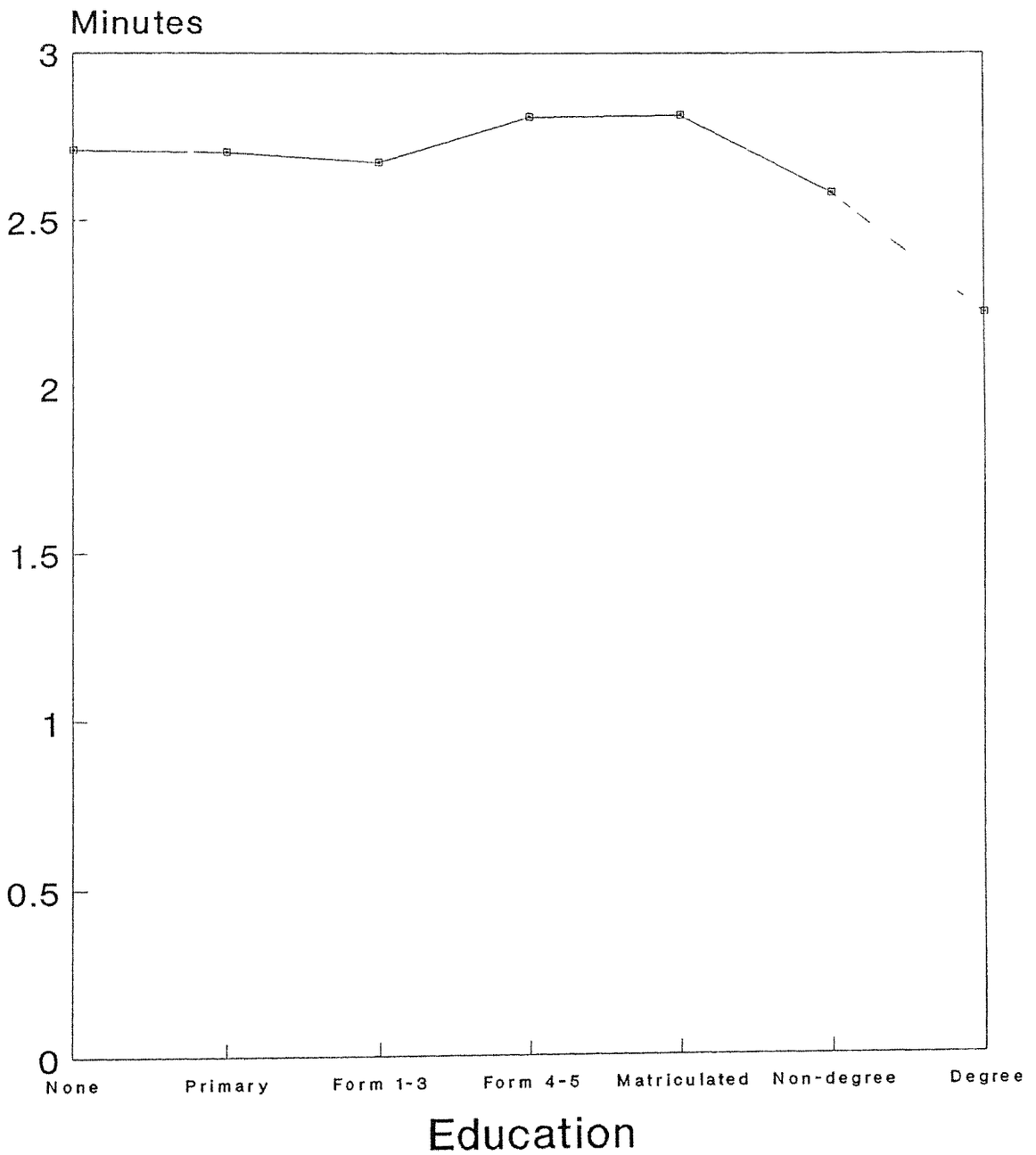


Figure 4.4.2
Analysis of recall pattern
of return non-DM/HT patients

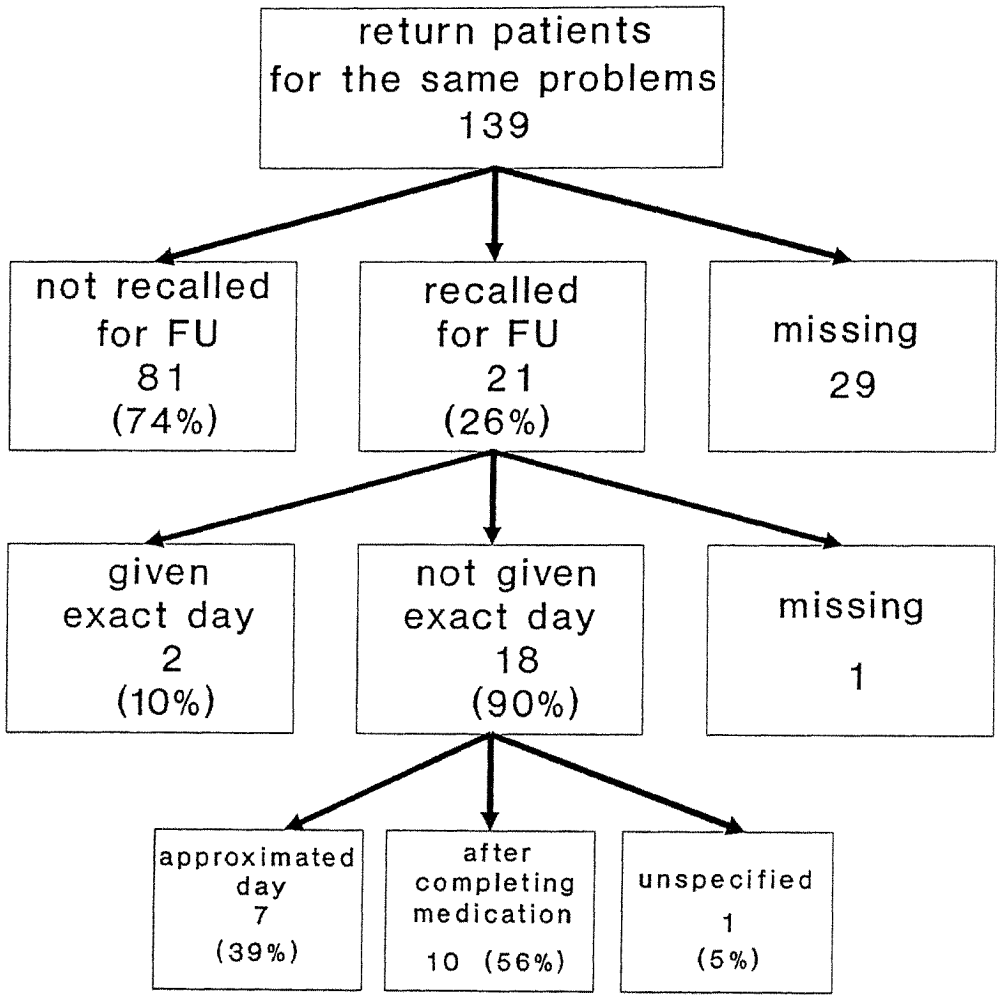


Figure 4.4.3
Analysis of referral pattern
within past year

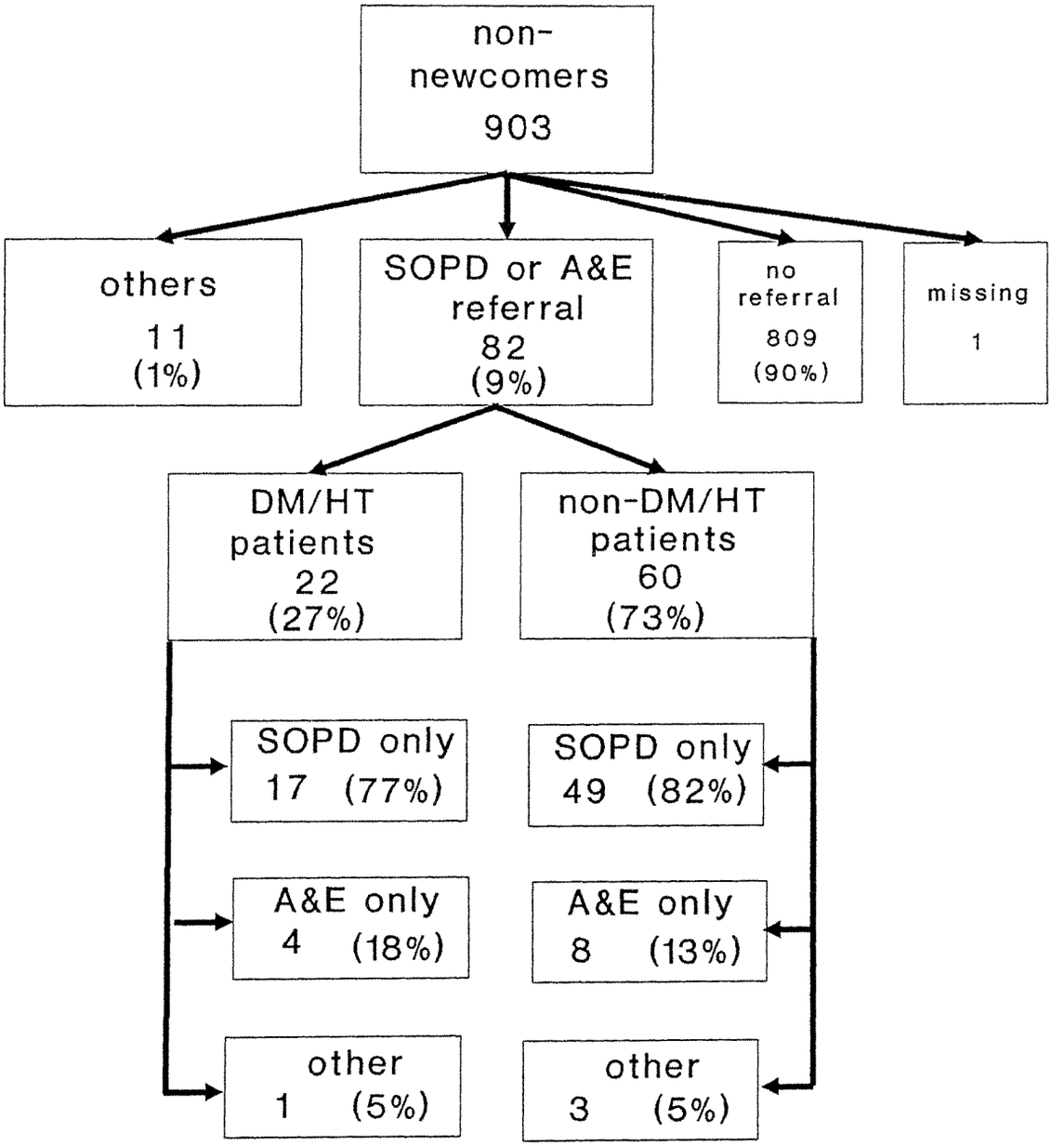


Figure 4.4.4
Analysis of recall pattern
of non-DM/HT patients
immediately after consultation

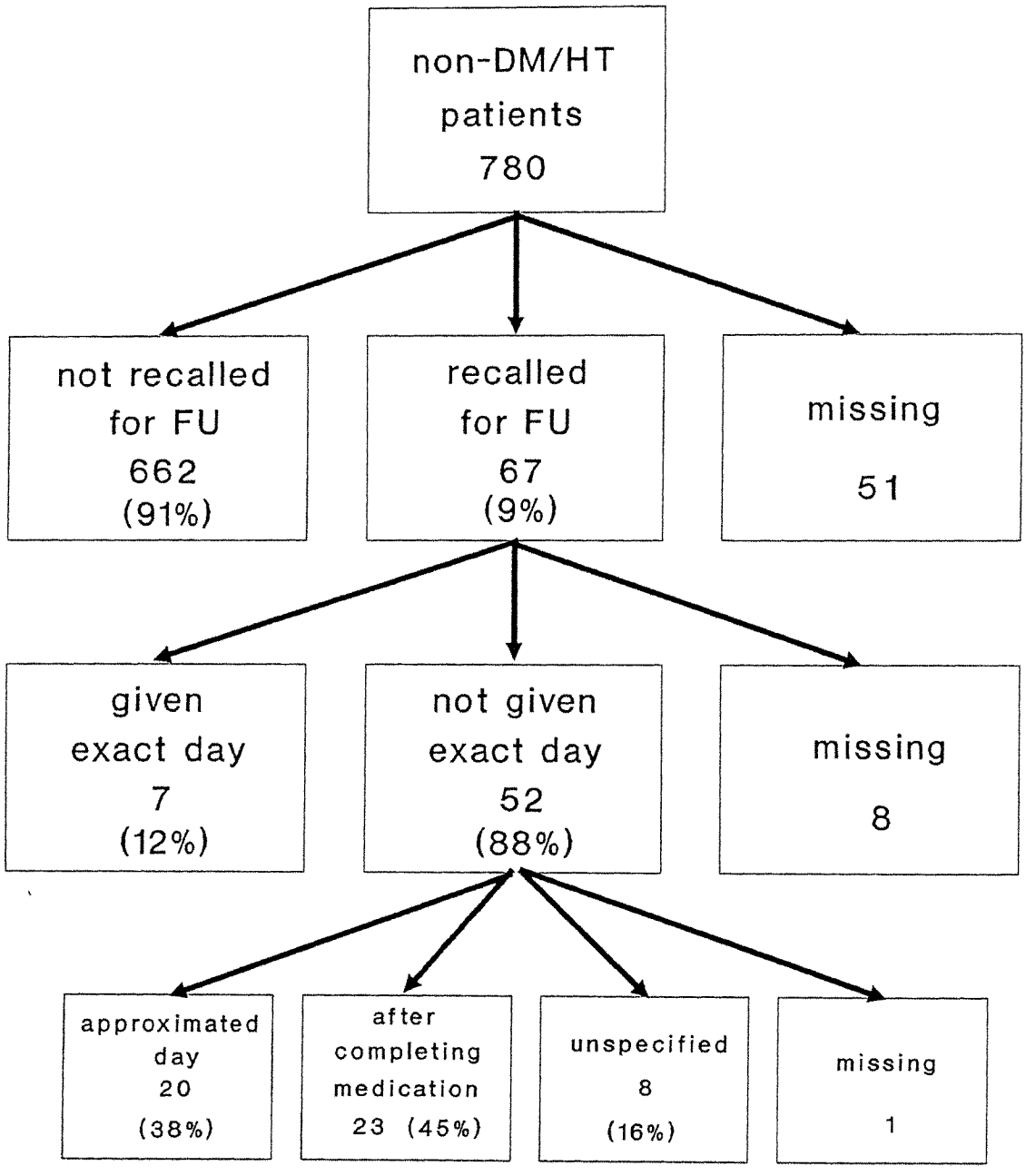


Figure 4.4.5
Analysis of recall pattern
of DM/HT patients
immediately after consultation

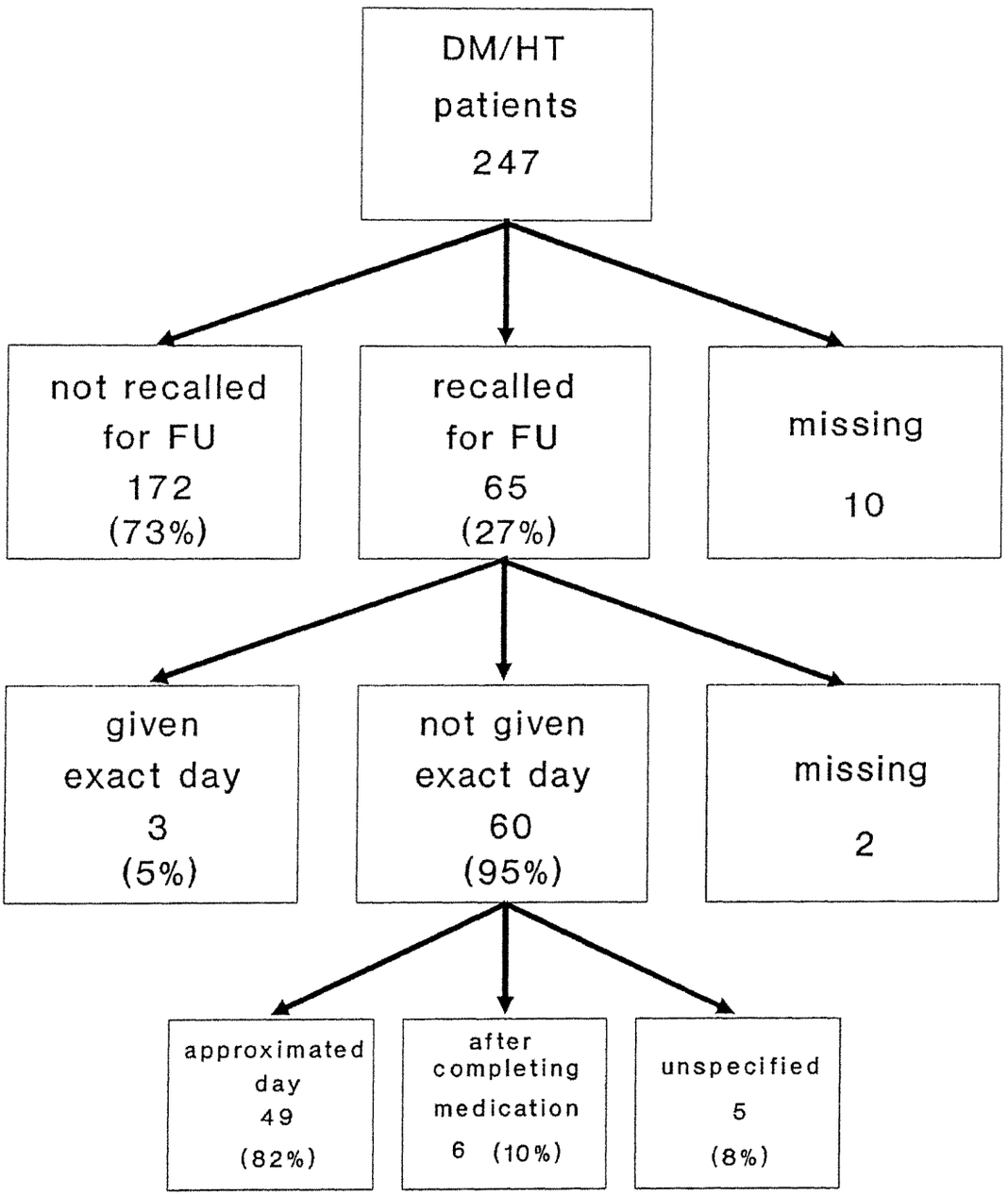


Figure 4.4.6
Analysis of non-DM/HT patients' intention to doctor-shop immediately after consultation

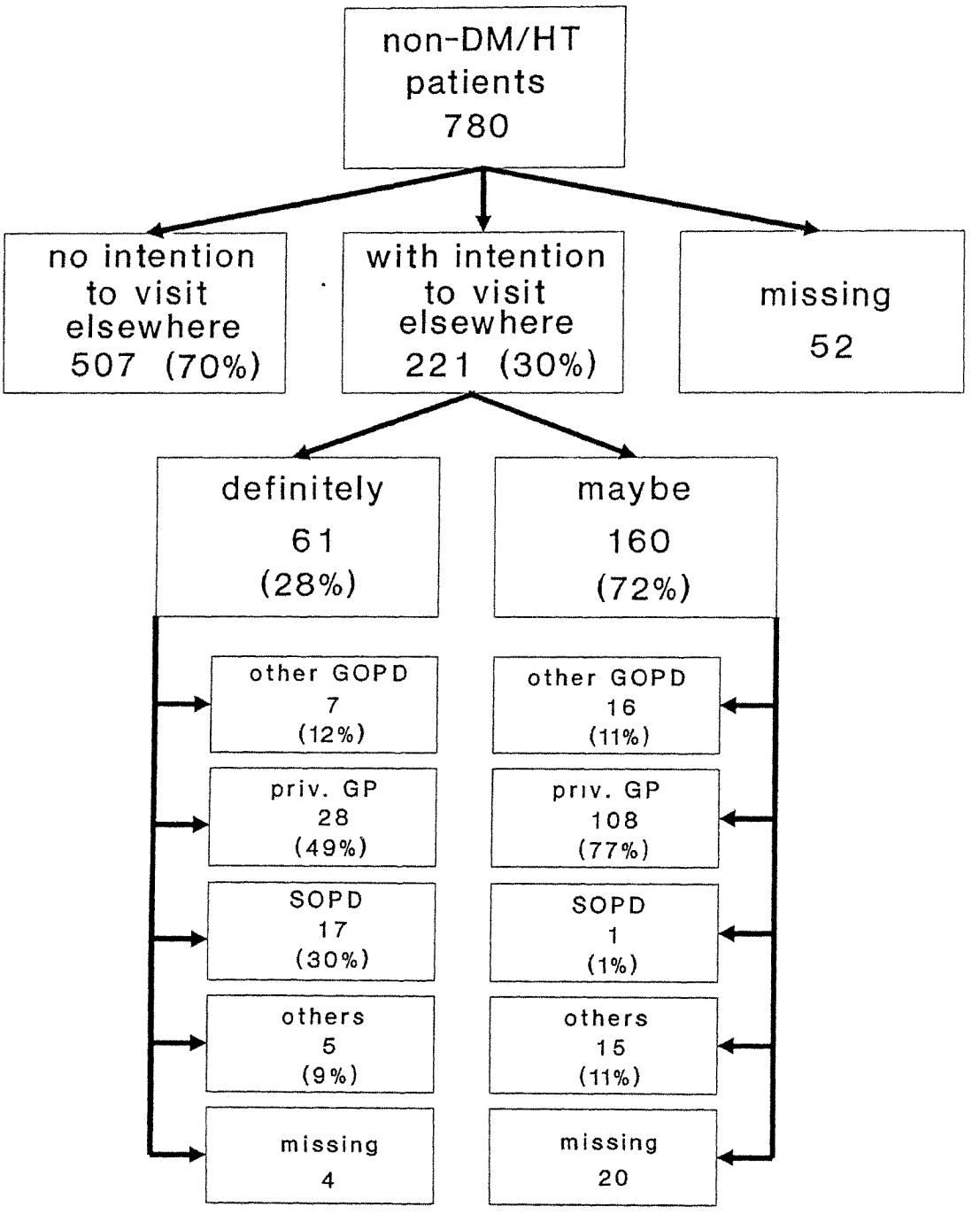
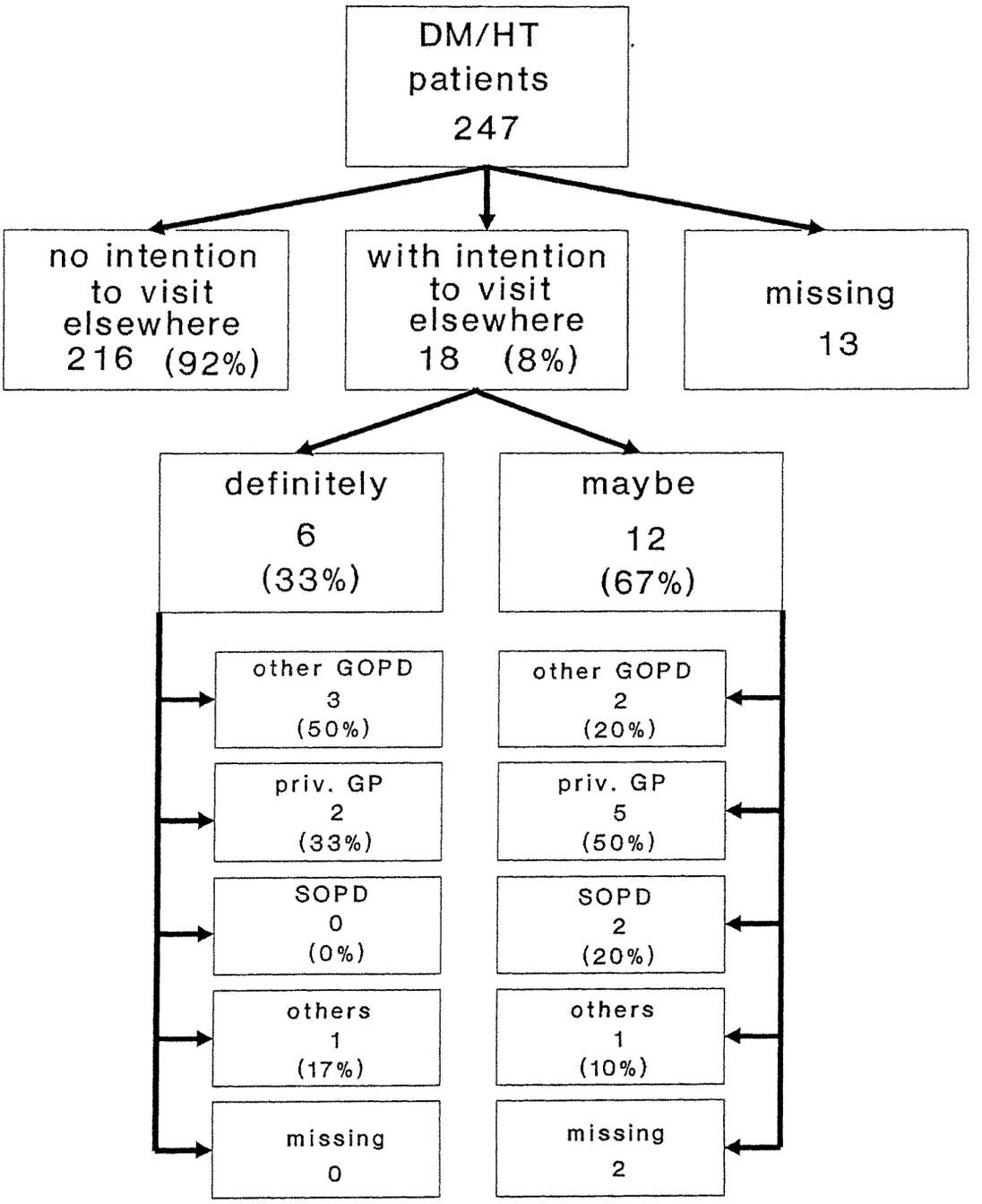


Figure 4.4.7
Analysis of DM/HT patients' intention to doctor-shop immediately after consultation



GOPD SURVEY 1990 PART I&II [ ]

Disc number : _____	[ ][ ]
Patient's name : _____	Clinic: ___ Room: ____ [ ][ ]
Prescription num: __ __ __	Session: AM/PM/EVE/SUN/HOL [ ]
Time start : _____:_____	[ ][ ][ ][ ]
	Date: __/__ / 90 [ ][ ][ ][ ]
	Intv: _____ [ ]

Was patient respondent interviewed ?
1. yes
2. no , then proxy information : [ ]

name : _____

age : _____ [ ] [ ]

sex : 1.male 2.female [ ]

relationship with patient: 1.parent/2.friend/other:_____ [ ]

*** PART I *** (before consultation)

A1. Where do you live (Area) : _____ [ ][ ]

A2. Age : _____ year old [ ][ ]

A3. Sex:
1.male
2.female [ ]

A4. How long have you been living in HK : _____ years [ ][ ]

A5. Marital status :
1. single
2. married
3. separated/divorced
4. widowed
5. married but live separately
6. not applicable (age below 15)
7. refused to answer [ ]

A6. Highest level of education :
1. none/kindergarten
2. primary school 小學/私塾
3. Form 1 to 3
4. Form 4 to 5
5. matriculation
6. tertiary education : non-degree
7. tertiary education : degree [ ]

A7a. Do you have a job ?
你有冇做嘢?
1. full time ..... ask A7b
2. part time ..... ask A7b
3. housewife
4. still a student
5. below school age
6. retired
7. unemployed
8. others : _____ [ ]

A7b. If 1 or 2 to A7a,
state the job :
乜嘢工?
1. professional/administration and managerial
2. clerical and related workers
3. sales workers
4. service workers
5. production and related workers, transport equipment operations, and labourer
8. others : _____ [ ][ ]

A8. What type of housing do you live in ?
你而家住嘅喺邊一類樓宇.
0. public and aided
1. Housing Authority Home Ownership Scheme
2. private - self own
3. private - rent
4. private - provided by employer
5. temporary
6. woodern hut
7. institutions (hospitals, old peoples homes, prisons,religious houses, etc.)
8. other : _____ [ ]

*** PART II ***

B1a. How did you get here ?
你點樣嚟呢間診所?
1. on foot
2. public transport : (Minibus/Bus/MTR/train)
3. ferry
4. private car
5. taxi
6. combination of 1,2&3 (excluding 4&5): _____ [ ]

B1b. How much time did you spend on the way ?
你用咗幾多時間嚟?
(one way only)
1. < 5 mins
2. 5-10 mins
3. 11-15 mins
4. 16-30 mins
5. 31-45 mins
6. 46-60 mins
7. 61-90 mins
8. >90 mins [ ]

B1c. How much money have you spent on the way to clinic
你用咗幾多車錢嚟呢道?
$ _____ [ ][ ]

B2. Today how long have you waited for the disc ?
你由開始排隊直至攞到籌要幾多時間?
1. _____ minutes
2. no need to wait [ ][ ][ ]

B3a. What are your complaints today ?
你今日因為乜嘢唔妥嚟呢度睇
(can choose more than one,
write an arrow for the first choice)
1. running nose
2. cough
3. sore throat
4. headache
5. fever
6. dizziness
7. diarrhoea/vomiting
8. digestive disease
9. abdominal pain
10. musculo-skeletal
11. mental illness
12. circulatory disease (hearts,blood vessels,stroke)
13. COAD (chronic bronchitis,emphysema,asthma)
14. DM ..... ask B3c
15. HT ..... ask B3c [ ][ ]
98. other : _____ [ ][ ]

B3b. If more than one, which is the chief complaint ?
你今日主要嚟喺睇乜嘢病?
_____ [ ][ ]

B3c. For those with DM or HT
were you asked to come back regularly ?
醫生有冇叫你定時番嚟睇?
1. yes, how frequently :
_____ day/week/month/year [ ]
2. no [ ][ ][ ]

B4. What do you think you need from your visit today ?
你今日喺診所睇病主要嘅目的喺乜嘢？
(can choose more than one answer,
write an arrow for the first choice)

1. medicine
2. sick leave note
3. injection
4. dressing
5. urine test
6. blood pressure measurement
7. weighing
8. X-ray
9. evaluation of old problem
10. referral to SOPD
11. want to recover as soon as possible
12. whatever doctor decides/don't know
13. blood test [ ][ ]
98. other : _____ [ ][ ]

B5. How would you rate your present condition ?
你認為你目前嘅病情點樣
(prompt by going through the list)

1. very serious 病情很嚴重
2. serious 病情幾嚴重
3. fair 病情輕微
4. minor 冇病/好 [ ]

B6a. Have you already visited for this present problem before comming here ?
你有冇因為呢次嘅唔妥而去睇過醫生？
(excluding HT & DM)

1. yes ..... ask B6b
2. no [ ]

B6b. If yes to B6a,
i. which : (can chose more than one)
(prompt by going through the list)
邊度

1. this GOPD 呢間診所 ..... ask ii [ ]
2. Other GOPD 其他政府診所 [ ]
3. Private practitioner 私家醫生 [ ]
4. Chinese herbalist 中醫 [ ]
5. SOPD 政府專科 [ ]
6. A&E in hospital 急症室 _____ [ ]
7. Other: _____ [ ]

ii. If 1 to i,
Did a doctor of this clinic tell you to come back ?
喺唔喺上次呢到嘅醫生叫你今次番呢睇呢

1. yes ..... ask iii
2. no [ ]

iii. Were you asked to come on an exact date ?
上次嗰個醫生有冇講實叫你喺邊一日番嚟睇

1. yes, exactly : _____ & AM/PM/NIG/none

2. no, 1. after finishing medicine [ ]
2. approximately : _____ [ ][ ][ ][ ]

iv. When was the most recent consultation ?
最後尾嗰次喺幾時 (同埋邊度 if >1 choice)
specify which : _____ [ ]
_____ day/week/month/year ago [ ][ ][ ]

B7a. When was your first visit here ?
你第一次喺幾時嚟呢度睇病
(including other problems also)
1. today
2. _____ day/week/month/year ago ..... ask B7b- [ ][ ][ ]

B7b. If not first time (ie, 2 to B7a),
i. How many times have you been here before ?
你以前嚟呢到睇過幾多次
1. one
2. two
3. three
4. 4 to 5
5. 6 to 9
6. 10 to 19
7. 20 or more [ ]

ii. Is there one doctor you usually see ?
你有冇睇開呢到邊一個醫生
1. yes
2. no [ ]

iii. In the past one year, have you ever been referred by this GOPD to :
最近呢一年,你有冇曾經被呢到嘅醫生分咗
或者介紹過去其他地方睇病
(prompt by going through list)

Referral		How many times	
1. none			[ ]
2 doctor himself	呢度醫生自己私家診所	_____	[ ]
3. S.O.P.D.	政府專科	_____	[ ]
4. A&E	政府急症室	_____	[ ]
5. hospital	醫院	_____	[ ]
6. private specialist	私家專科	_____	[ ]
7. other doctor	其他醫生	_____	[ ]
8. other : _____		_____	[ ]

B8a. Is this clinic where you get most of your medical care ?
你通常有唔妥喺唔喺嚟呢到睇
1. yes
2. no ..... ask B8b- [ ]

B8b. If no to B8a,
Where do you receive most of your medical care ?
你通常有唔妥喺去邊度睇
1. Other GOPD
2. Private practitioner
3. Chinese herbalist
4. SOPD
5. A&E in hospital: _____
6. self-medication
8. Other: _____ [ ]

B9. Do you have a regular private practitioner ?
你有冇睇開一個固定嘅私家醫生
1. yes
2. no [ ]

B10. Do you have medical insurance ?
你有冇醫療保險
1. yes
2. no [ ]

B11a. Do you want to have a summary of your own medical record ?
你鍾唔鍾意自己有一份病歷紀錄
1. yes
2. no ..... ask B11b-
3. does't matter [ ]

B11b. Why :
1. no need/useless
2. unable to understand the record
3. no idea of how to use the record
4. get loss
5. troublesome
8. other :_____ [ ]

B12. How much money have you spent on health care over the past 3 months ?
過去三個月內,你用咗幾多錢嚟睇病,仕醫院,買藥.
呢D費用唔包括食物,假牙,配眼鏡.

1. 0
2. $1-$100
3. $101-$250
4. $251-$500
5. $501-$750
6. over $750
8. refused to answer/don't know [ ]

B13a. How much income do you have per month ?
你嘅主要職業每月平均收入喺幾多

1. less than $1000
2. $1000 - $2999
3. $3000 - $5999
4. $6000 - $9999
5. $10000 - $14999
6. $15000 or above
7. not applicable
8. refused to answer/don't know [ ]

B13b. How much income does your family have per month ?
你一家人嘅每月平均收入喺幾多

1. less than $1000
2. $1000 - $2999
3. $3000 - $5999
4. $6000 - $9999
5. $10000 - $14999
6. $15000 or above
7. not applicable
8. refused to answer/don't know [ ]

If proxy responds, YOU is replaced by PROXY the following questions marked with "*"

* B14. Who advised you to come here today?
今日邊個叫你嚟呢到睇

1. decided by myself
2. family member
3. friend
4. A&E doctor
5. GOPD doctor
6. other doctor (GP/SOPD)
8. other : _____ [ ]

* B15. Why did you choose this clinic ?
你點解揀嚟呢間診所睇病,而唔揀其他醫生
(can choose more than one option)
(write an arrow for the first choice)

0. good medicine here
1. close to my home
2. close to my work/children's school
3. no need to queue for disc
4. service cheaper
5. usually come here
6. GOPD recommended
7. good doctor here [ ]
8. other : _____ [ ]

* B16. Are you aware of the block appointment system ?
你知唔知道有個分批應診制度(Explain if necessary)

1. yes
2. no [ ]

B17. Write down

1. "I1" if the whole questionnaire is finished, or
2. the question number which is just finished

at the back of the prescription sheet.

I1. Was the respondent cooperative ?

1. yes
2. no [ ]

I2. Time finish: _____ : _____ [ ][ ][ ][ ]

GOPD SURVEY 1990 PART III

*** PART III *** (queuing for pharmacy)

Disc number : _____		[ ][ ]
Patient's name : _____	Clinic: ___ Room: ____	[ ][ ]
Prescription num: __ __ __	Session: AM/PM/EVE/SUN/HOL	[ ]
Time start: _____:_____		[ ][ ][ ][ ]
	Date: __/__ / 90	[ ][ ][ ][ ]
	Intv: _____	[ ]

Was patient respondent interviewed ?
(interviewer should seek the SAME proxy)
1. yes
2. no, with same proxy
3. no, but unable to seek the same proxy
note this proxy information:
age:___, sex:___, relationship with patient :_____ [ ]

C1a. Just now were you asked by the doctor to come for follow up ?
頭先呢個醫生有冇叫你番嚟覆診
1. yes ..... ask C1b
2. no [ ]

C1b. If yes to C1a,
Were you given any exact date ?
醫生有冇講實叫你喺邊一日番嚟覆診
1. yes, exactly : _____ & AM/PM/NIGHT/none
2. no, 1. after finishing medicine [ ]
2. approximately : _____ [ ][ ][ ][ ]

C2. Were any lab tests or X-ray ordered ?
醫生有冇寫紙叫你去做化驗或照X-光
1. yes, specify which : lab tests/X-ray/both
2. no [ ][ ]

C3a. Did the doctor give you a sick leave in this consultation ?
頭先呢個醫生有冇寫病假紙俾你
1. yes ..... ask C3b
2. no ..... ask C3b
3. not applicable [ ]

C3b. if 1 or 2 to C3a
Do you think you really need one from this doctor ?
你覺得你喺唔喺真正要病假紙
1. yes
2. no
3. doesn't matter [ ]

C4a. Do you intend to visit any other medical service for this present problem ?
你會唔會去第二d地方睇呢次嘅唔妥
1. yes ..... ask C4b
2. maybe ..... ask C4b
3. no [ ]

C4b. If 1 or 2 to C4a,
Which : (can chose more than one)
邊度
1. Other GOPD, [ ]
2. Private practitioner, [ ]
3. Chinese herbalist [ ]
4. SOPD [ ]
5. A&E in hospital: _____ [ ]
6. Other: _____ [ ]

C5a. When you have different medical problem, would you visit other medical services ?
如果你有其他嘅唔妥,你會唔會去第二D地方睇

1. yes ..... ask C5b
2. maybe ..... ask C5b
3. no [ ]

C5b. If 1 or 2 to C5a,
Which ? (can choose more than one)
邊度

Place	What medical problems	
1. Other GOPD	_____	[ ][ ]
2. Private practitioner	_____	[ ][ ]
3. Chinese herbalist	_____	[ ][ ]
4. A&E	_____	[ ][ ]
5. SOPD	_____	[ ][ ]
6. Other: _____	_____	[ ][ ]

C6a. If you come back for this problem next time, do you want to make an appointment for the next visit ?
如果你下次番嚟,你想唔想有預約而唔駛攞籌

1. yes ..... ask C6b
2. no ..... ask C6b
3. doesn't matter
4. don't know [ ]

C6b. if yes to C6a,
Do you want to see the same doctor ?
1. yes
2. no
3. doesn't matter
4. don't know

if no to C6a,
Why don't you want the appointment system ?
0. can't remember the appointment
1. patient is free
2. no need
3. patient is near to the clinic
4. not usually feel sick
5. occurence of disease is unpredictable
6. inconvenient
7. troublesome
8. other: _____ [ ]

C7a. If you come back for any problem next time, do you want to see this doctor again?
如果你有唔妥番嚟睇,包括呢個唔妥或其他唔妥,你想唔想睇番呢個醫生

1. yes ..... ask C7b
2. no ..... ask C7b
3. doesn't matter
4. don't know
5. not applicable [ ]

C7b. Why 點解:
if yes to C7a
1. doctor is competent
2. doctor is friendly
3. doctor can know more about the patient
4. detail examination
5. usually consult this doctor
6. predestined medical affinity
8. other: _____

if no to C7a
1. doctor is not competent
2. doctor is not friendly
3. competence of the doctor is not known
4. doctor is not meticulous
8. other: _____ . [ ]

If proxy responds, YOU is replaced by PROXY
the following questions marked with "*"

* C8a. Are you satisfied with the attitude of the staff ?
你今日對D阿叔阿嫲滿唔滿意
1. yes
2. fair
3. no
4. not applicable [ ]

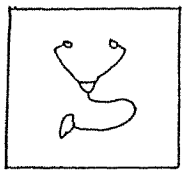
* C8b. Are you satisfied with the attitude of the nurses ?
你今日對呢間診所嘅護士滿唔滿意
1. yes
2. fair
3. no
4. not applicable [ ]

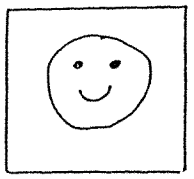
* C8c. Are you satisfied with the attitude of the doctor ?
你鐘唔鐘意醫生睇病時對你嘅態度
1. yes
2. fair
3. no [ ]

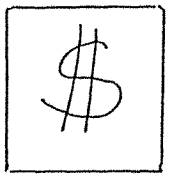
* C9. Did the doctor take time to listen to your problems as much as you would like him to?
你認為睇你嗰個醫生有冇足夠時間聽你所講嘅唔妥
1. yes
2. partly
3. no [ ]

*C10.

近，方便，快
唔駛等


醫生醫術


醫生態度，溝通



醫生收費

你搵醫生睇病嘅時候，以乜嘢最重要？
(may choose more than one)
1.convenience [ ]
2.technical competence [ ]
3.personal aspects [ ]
4.costs [ ]
5.depends on illness, specify: _____ [ ]
6.impossible to understand the question [ ]

*C11. What do you think of the waiting time ?
你覺得由開始排隊攞籌直到睇完醫生為止所等嘅時間長唔長
1. OK
2. too long [ ]

* C12a. Do you know what the medications are for ?
你知唔知道嗰D喺乜嘢藥
1. yes ..... ask C12b
2. partly ..... ask C12b
3. no
4. not applicable [ ]

* C12b. If 1 or 2 to C12a,
How do you know ?
你點解會知道
1. told by the doctor today
2. told by the nurse today
3. own guess
8. other : _____ [ ]

* C13. Do you think your visit here today was worthwhile ?
你而家覺得呢次睇醫生有冇用
1. yes
2. partly
3. no
4. don't know [ ]

I3. Was the respondent cooperative ?
1. yes
2. no [ ]

I4. Time finish: _____ : _____ [ ][ ][ ][ ]

GOPD 4 MONTH TELEPHONE FOLLOW-UP

Date of baseline GOPD interview [ ][ ][ ][ ]
d d m m

Respondent's name and telephone number _____ session [ ]

If the respondent is younger than 13, ask to speak to the proxy about the respondent. room [ ]

disc number[ ]

Is a proxy interviewed?
1.no
2.yes, then proxy information : [ ]

name : _____
age : _____ [ ][ ]
sex : 1.male 2.female [ ]
relationship with respondent :
1.parent 2.friend
3.other (specify) _____ 5.nurse [ ]
Interviewer 佢 [ ][ ]

*** Self-introduction ***

Is (respondent's name) _____ here please?

(If sampled respondent is not here, make another appointment to contact *him/her again.)

(If sampled respondent is here, continue with the following:)

喂,_____(respondent's name)
我係香港大學嘅_____(interviewer's name).
首先我哋想多謝你上次喺電話訪問仲我哋嘅意見.
你記得我哋嘅研究喺想改善香港嘅醫療服務?
我哋仲有些少問題想問吓你對而家香港嘅醫療制度嘅睇法.
又好似上次咁,你嘅意見會絶對保密嘅.
我哋而家可以開始未?

(Else make another appointment to talk to the respondent again.)

*delete where appropriate

(Change the wording of questions accordingly if a proxy is answering on behalf of the respondent.)

1. 過去四個月內,你有冇乜嘢唔舒服?
1. no >>> end of call
2. yes >>> go to 2 [ ]

2. 係乜嘢嘅病?
(If more than one problem, state the one that lasted longer)
1. cold, sore throat, runny nose
2. headache, fever, dizziness
3. diarrhoea/vomiting, digestive disease, abdominal pain
4. musculo-skeletal
5. circulatory disease (heart, blood vessels, stroke)
6. COAD (chronic bronchitis, emphysema, asthma)
7. DM/HT
8. ear, nose, eye, skin
50. gynae
98. other (specify) _____ [ ][ ]

3. 你病咗幾耐？
_____ days/weeks/months/not recovered yet [ ][ ] [ ]

4. 你覺得你個陣嘅健康係點樣？
(Prompt by going through the list.)
1. very poor
2. poor
3. not good/not bad
4. good
5. very good [ ]

5. 你個次病有冇睇醫生？
1. no >>> go to 23
2. yes >>> go to 6 [ ]

(If professional help was sought)
6. 你個次病等咗幾耐先至去睇醫生？ [ ][ ]

7. 你個次病一共睇咗幾多個醫生？ [ ]
If there was only one doctor, >>> go to 8.
If there were more than one doctor, >>> go to 12.

8. 你睇乜嘢醫生？
1. GOPD
2. government A/E
3. government SOPD
4. private clinics
5. private hospitals
6. acupuncturist
7. bonesetter
8. chinese herbalist
9. others (specify) _____ [ ]

9. 你以前有冇睇過呢個醫生？
1. no >>> go to 16
2. yes >>> go to 10 [ ]

(If yes to 9)
10. 你以前睇呢個醫生都係睇呢個病？
(Refer to the disease problem in question no.2)
1. no
2. yes [ ]

11. 你點解要睇番呢個醫生？
1. convenience
2. clinical competence
3. personal/communication
4. costs
5. others (specify) _____ [ ]

>>> go to 16

(If there was more than one doctor)
12. 你一共睇咗幾多個醫生？ [ ]

13. 你睇乜嘢醫生？
1. GOPD
2. government A/E
3. government SOPD
4. private clinics
5. private hospitals
6. acupuncturist
7. bonesetter
8. chinese herbalist
9. others (specify) _____

1st doc	2nd doc	3rd doc	4th doc	5th doc
[ ]	[ ]	[ ]	[ ]	[ ]

如果唔記得的話，睇得最多嘅 [ ]

14. 你點解要轉醫生?(Prompt "any other reasons?")
(may choose more than one)
1. inconvenience, slow service, had to wait
2. not yet recovered
3. doctor's attitude was poor
4. too expensive
5. others (specify) _____ [ ][ ]

15. 你嗰陣轉醫生約莫每次隔幾耐?
_____ days/weeks/months [ ][ ] [ ]

16. 轉醫生之前,你有冇自己食藥(包括草藥)?
1. no >>> go to 20
2. yes >>> go to 17 [ ]

(If yes to 16)
17. 係乜嘢藥?
1. OTC western medication
2. OTC chinese medication
3. OTC chinese herbs
4. western left-over drugs
5. chinese left-over drugs
6. chinese left-over herbs [ ][ ]

18. 睇完醫生之後,你有冇繼續食自己買嘅藥?
1. no >>> go to 20
2. yes >>> go to 19 [ ]

(If yes to 18)
19. 係乜嘢藥?
1. OTC western medication
2. OTC chinese medication
3. OTC chinese herbs
4. western left-over drugs
5. chinese left-over drugs
6. chinese left-over herbs [ ][ ]

20. 係睇醫生之前,你有冇同你嘅朋友或者親戚談論以下嘅問題:

a.你嘅病徵
1. no
2. yes [ ]

b.需唔需要搵醫生睇
1. no
2. yes [ ]

c.食乜嘢嘅成藥(包括草藥)(if applicable)
1. no
2. yes [ ]

d.改變飲食習慣
1. no
2. yes [ ]

e.搵邊個醫生睇
1. no
2. yes [ ]

f.轉醫生嘅需要 (if applicable)
1. no
2. yes [ ]

21.你認為醫生重視你對你自己個病嘅睇法重唔重要?
1. 非常重要
2. 重要
3. 唔重要
4. 一D都唔重要 [ ]

22.係醫病嗰陣時,同醫生一齊做決定係好重要.
1. 非常重要
2. 重要
3. 唔重要
4. 一D都唔重要 [ ]

End of call.

(If professional help was not sought)
23.你有冇自己搵藥食(包括草藥)?
1. no >>> go to 25
2. yes >>> go to 24 [ ]

(If yes to 23)
24.係乜嘢藥?
1. OTC western medication
2. OTC chinese medication
3. OTC chinese herbs
4. western left-over drugs
5. chinese left-over drugs
6. chinese left-over herbs [ ][ ]

25.係睇醫生之前,你有冇同你嘅朋友或者親戚談論以下嘅問題:
a.你嘅病徵
1. no
2. yes [ ]

b.需唔需要搵醫生睇
1. no
2. yes [ ]

c.食乜嘢嘅成藥(包括草藥)(if applicable)
1. no
2. yes [ ]

d.改變飲食習慣
1. no
2. yes [ ]

e.搵邊個醫生睇
1. no
2. yes [ ]

f.轉醫生嘅需要 (if applicable)
1. no
2. yes [ ]

26.你認為醫生重視你對你自己個病嘅睇法重唔重要?
1. 非常重要
2. 重要
3. 唔重要
4. 一D都唔重要 [ ]

27.係醫病嗰陣時,同醫生一齊做決定係好重要.
1. 非常重要
2. 重要
3. 唔重要
4. 一D都唔重要 [ ]

End of call.