ORIGINAL ARTICLE

Fever as a predictor of doctor shopping in the paediatric population

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Objectives To estimate prevalence and assess factors associated with doctor shopping among caregivers of children acutely admitted to a hospital in Hong Kong, and examine the reasons for such behaviour and caregivers' awareness of its possible dangers.

Design Cross-sectional study with face-to-face surveys.

Setting A paediatric unit in a teaching hospital in Hong Kong.

Participants Caregivers of children admitted to acute paediatric wards between April and July 2011.

Main outcome measures Socio-demographic characteristics of the interviewee, personal history and clinical data of the patient, presence of doctor shopping (consulting more than one doctor for medical advice without referral) for each episode, the reasons behind such behaviour, and awareness of potential dangers. Data retrieved were analysed to estimate the prevalence and logistic regression was used to assess factors associated with doctor shopping.

Results In all, 649 such patients were admitted into hospital during the study period, of which 336 were recruited, with about a half being absent or given home leave. Thirty-four patients were excluded due to absent caregivers or refusal, and 302 were included in the study. More than half (79.5%) were female and the caregivers' monthly household incomes were between HK$10 001 and HK$15 000 (21.2%), similar to the median household income in Hong Kong. The prevalence of doctor shopping was 53%. The only significant clinical parameter associated with doctor shopping was presence of fever (odds ratio=2.4; 95% confidence interval, 1.4-3.9). Persistence of symptoms was the commonest reason given by interviewees for doctor shopping, and the majority (75.5%) were unaware of the possible dangers of this behaviour.

Conclusion Doctor shopping is highly prevalent among caregivers of children with acute paediatric conditions. Most caregivers do not know the potential complications of this behaviour. Further measures should be taken to educate subjects on the associated dangers of this behaviour and the natural course of acute illnesses with fever.

Key words
Awareness; Child; Continuity of patient care; Education; Fever

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New knowledge added by this study

- In Hong Kong the prevalence of doctor shopping among paediatric in-patients admitted through the Accident and Emergency Department is 53%.
- Fever as a presenting symptom is associated with doctor-shopping behaviour.
- Most interviewees were not aware of the potential dangers related to this behaviour.

Implications for clinical practice or policy

- Further measures should be taken to educate parents on the dangers of doctor shopping and the natural course of acute illnesses with fever.

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Introduction

Doctor shopping is the behaviour referred to as consulting more than one doctor for medical advice in one illness episode without referral. Some patients might view this as an inherent right of consumers to seek the best possible care, but such behaviour has negative consequences for both patients and doctors.[1]

For patients, doctor shopping poses challenge to the continuity of their care and risks potential adverse drug interactions as a result of different medications prescribed by different doctors.[2] This is particularly important in the paediatric population, which is more susceptible to iatrogenic harm and fatalities from polypharmacy.[3] Understanding children's use of health care is important, because similar patterns of health care utilisation may be repeated throughout their lifetime. Doctor shopping is also associated with wastage of valuable resources. Tests may have to be repeated, and the same medications prescribed by one private general practitioner (GP) may be given again by another or in a hospital setting, causing unnecessary harm and additional costs.

Doctor shopping in Hong Kong has been well known for years, but published data have concentrated only on adults. Lo et al[1] suggested the point prevalence of doctor shopping for patients attending government-run general out-patient clinics (GOPC) to be 40%, with persistence of symptoms as the main reason. This was consistent with a population survey on GOPC patients performed by the same authors in 1990, which found the prevalence to be 46%.[4] A subsequent study by Johnston et al[5] in specialist out-patient clinics (SOPC) on patients aged 16 years and above published in 2006, suggested the prevalence of doctor shopping to be 26%.

However, doctor shopping is not a phenomenon limited to Hong Kong. Studies have noted its prevalence to be 6.3% in Taiwan,[6] and 23% in Japan.[7] It is important to note that different definitions of doctor shopping exist when making comparisons. For instance, Sato et al[7] in Japan defined it as seeking care from two or more facilities before attending the hospital, which is inconsistent with our definition. The only study on the prevalence of doctor shopping in the paediatric population was conducted in Quebec, Canada, by Macpherson et al.[2] The prevalence of doctor shopping for children was found to be 18%, though the definition of doctor shopping once again differed from ours, being visits to three or more doctors. In addition, the authors did not attempt to examine the reasons behind doctor shopping in their population.

The objectives of this study were to: (1) estimate the prevalence of doctor shopping among caregivers of children admitted to a teaching hospital in Hong Kong, (2) determine the factors associated with doctor shopping, (3) explore the reasons behind such behaviour, and (4) assess caregivers' awareness of its possible dangers.

發燒為兒科病人「逛換醫生」的誘因

目的 經急症室入院的兒童中，估計「逛換醫生」的普及性與其相關因素，探討家長展示該行為的原因及他們對潛在危險的認知。

設計 面對面問卷調查。

安排 香港一所大學教學醫院的兒科部。

參與者 2011年4月至7月期間經急症室入院的兒童病人的看護人。

主要結果測量 受訪者個人資料、病人的背景和病歷、該次入院的過程和有否「逛換醫生」（即在無轉介的情況下，因單一病情而向多於一位醫生求診）；如有，作出該行為的原因及潛在危險的認知。分析數據來估計「逛換醫生」的普及性，並用邏輯回歸分析探討與「逛換醫生」的相關因素。

結果 調查期間有649名兒童經急症室入院，其中接近一半因情況穩定而離院。另外所接觸過的336位看護人當中，有34名未能接觸其看護人或拒絕被訪，剩下的302名接受訪問。受訪者超過一半是女性（79.5%），21.2%的家庭每月入息中位數為港幣$10 001至$15 000，與香港整體的每月家庭入息中位數相若。「逛換醫生」的普及性為53%。而唯一與該行為有關的是發燒病徵（比數比＝2.4；95%置信區間：1.4-3.9），主要原因為病徵持續。75.5%的受訪者對潛在風險並無認識。

結論 「逛換醫生」在兒科病人的看護人相當普遍，大部份家長對其潛在風險亦無認識。醫生應通過有效的溝通方法說明該行為的危險性及解釋發燒病情的自然發展。

Methods

This study was conducted at the paediatric unit of the Prince of Wales Hospital (PWH), a teaching hospital affiliated to the Chinese University of Hong Kong. The patient population was drawn primarily from the local community surrounding the hospital, with an estimated paediatric population of 161 000.[8]

We targeted cases admitted through the Accident and Emergency Department (AED), aged 28 days to 18 years. We excluded neonates and those who were electively admitted for investigations. Between 19 April and 18 July 2011, face-to-face interviews (Appendix) with suitable caregivers of children were conducted at the bedside between 3 pm and 7 pm. This time slot was chosen because caregivers were more likely to be at the bedside during that period, as determined during a pilot study. Repeated admissions of the same patient but for a separate episode of illness were regarded as two different admissions.

The interviewees' particulars were separated into three categories: (1) their eligibility, such as relationship to patient, and whether he/she was the main caretaker or decision-maker for medical consultation; (2) their socio-demographic background, such as gender, age, marital status, district where they resided, occupation, education, and monthly income; and (3) perception of their own health.

Regarding each patient's particulars, interviewees were asked: (1) the patient's background, including age, gender, whether firstborn, frequency of being ill, availability of medical insurance, and medical history; (2) their current admission, such as chief complaint and diagnosis; (3) the presence of doctor shopping associated with this episode, defined as visiting more than one doctor (western medical and/or traditional Chinese medicine practitioner) without referral, numbers of drugs given by each doctor, and a suggested list of reasons leading to doctor shopping; and (4) interviewees' awareness of the dangers and disadvantages of doctor shopping. A pilot study was carried out involving 15 caregivers, and the questionnaire was revised taking into account comments received. Internal standardisation was also carried out among interviewers to ensure uniformity in surveying and interpretation of answers.

Differences in the characteristics of doctor shoppers and non-doctor shoppers were compared. The association between the various independent variables and doctor shopping was assessed using Chi squared tests. Subsequently, stepwise binary logistic regression models were built to assess the effects of certain significant variables, selected from those with a $P<0.2$ from Chi squared tests using the Statistical Package for the Social Sciences (Windows version 13.0; SPSS Inc, Chicago [IL], US).

Approval for the study was obtained from the Survey and Behavioural Research Ethics Committee of the Chinese University of Hong Kong.

Results

A total of 649 patients were admitted into the acute paediatric wards of the PWH during the study period; 336 patients were actually encountered for interview (in the paediatric wards), but 34 (5%) were excluded from the study. The reason for the low encounter rate was that many patients were absent or given home leave soon after admission, as their stable health condition did not warrant in-patient treatment. Patients who were excluded were those whose caregivers were not present for interview, parents or caregivers who refused being interviewed, or spoke a foreign language. There were four patients with repeated admissions for separate conditions.

Most (79.5%) of our interviewees were female, many (51.3%) were in the 31- to 40-year-old age-group, most were employed (46.4%) or housewives (46.7%) and had completed secondary education (89.4%). The largest proportion of interviewees lived in the district of Shatin (72.8%) and had a monthly household income of $10 001-$15 000 (21.2%), similar to the median household income in Hong Kong ($17 250).[8] The demographic characteristics of the recruited patients are shown in Table 1.

TABLE 1. Socio-demographic characteristics of interviewees

Characteristic	No. (%) of interviewees
Gender	
Male	62 (20.5)
Female	240 (79.5)
Age-group (years)	
21-30	66 (21.9)
31-40	155 (51.3)
41-50	51 (16.9)
51-60	14 (4.6)
≥61	16 (5.3)
Marital status	
Single	6 (2.0)
Married	289 (95.7)
Divorced	5 (1.7)
Widowed	2 (0.7)
Occupational status	
Unemployed	3 (1.0)
Employed	140 (46.4)
Housewife	141 (46.7)
Retired	17 (5.6)
Student	1 (0.3)
Educational level	
Primary school or below	32 (10.6)
Secondary school	196 (64.9)
University or above	74 (24.5)
Residential district	
Kowloon City	4 (1.3)
Outlying Islands	2 (0.7)
Kwun Tong	5 (1.7)
Mainland	24 (7.9)
Northern district	20 (6.6)
Sai Kung	3 (1.0)
Sham Shui Po	1 (0.3)
Shatin	220 (72.8)
Tai Po	11 (3.6)
Tuen Mun	2 (0.7)
Wong Tai Sin	4 (1.3)
Yau Tsim Mong	2 (0.7)
Yuen Long	4 (1.3)
Monthly income (HK$)	
Comprehensive Social Security Assistance	3 (1.0)
<$5000	9 (3.0)
$5001 - $10 000	38 (12.6)
$10 001 - $15 000	64 (21.2)
$15 001 - $20 000	41 (13.6)
$20 001 - $25 000	31 (10.3)
$25 001 - $30 000	21 (7.0)
$30 001 - $35 000	22 (7.3)
$35 001 - $40 000	19 (6.3)
≥$40 001	30 (9.9)
Missing data	24 (7.9)

Of the 302 patients, 161 (53%) were doctor shoppers. On average, patients consulted a doctor 4 days prior to hospital admission. For doctor shoppers, the average number of doctors visited before admission was 1.6 (ranging from one to five) and the mean number of drugs prescribed before admission was 3.1. The characteristics of the interviewees and patients divided according to whether they were or were not doctor shoppers are summarised in Table 2.

Seven variables associated with doctor shopping with a P value of <0.2 are shown in Table 2. Following binary logistic regression analyses of these variables, only one factor was significantly associated with doctor shopping: children who presented with fever were 2.4 times more likely to doctor shop (95% confidence interval, 1.4-3.9; P=0.001).

Interviewees were asked to choose from a suggested list of reasons or state particular reasons that led them to doctor shop. Among the doctor shoppers, 73.3% stated that persistence of symptoms was the main reason. Other reasons included distrust of the medications prescribed by previous doctors (21.1%), seeking of a second opinion (20.5%), unavailability of service in the previous medical facility (14.3%), and advice from family or friends (11.2%). A complete list of reasons with relative percentages is shown in Table 3. Notably, 92 patients for whom doctor shopping was reported experienced no change or even an improvement in the condition, compared with 69 who reported a deterioration after the first consultation.

It transpired that 228 (75.5%) of the interviewees were not aware of the dangers of doctor shopping; only 74 (24.5%) reckoned that doctor shopping was associated with potential risks/disadvantages. They included "confusing instructions from different doctors", "having to repeatedly provide the medical history", "extra costs", "side-effects from the many medications prescribed by different doctors", and "doctors being unaware of management plans of other doctors".

Discussion

In this study, the point prevalence of doctor shopping in paediatric in-patients was 53%. This contrasts with 40% and 26% in GOPC and SOPC in Hong Kong found by Lo et al[1] and Johnston et al,[5] respectively, as well as 18% reported in Canadian paediatric patients by Macpherson et al.[2] Although our results cannot be directly compared to the Canadian results due to differences in the definition of doctor shopping, the prevalence may nevertheless be higher in Hong Kong. There are several reasons for this postulation. First, Hong Kong is a city with an endemic culture of consumerism supported by the wide array of available health care services. Second, unlike in other countries, patients are not required to register with one primary care provider. In England for example, all residents must register with one GP, who serves as the first point of contact for medical services and acts

TABLE 2. Characteristics of doctor shoppers and non–doctor shoppers

Characteristic	No. (%) of interviewees/patients		P value
	Non–doctor shopper (n=141)	Doctor shopper (n=161)	
Interviewee particulars			
Male	31 (22.0)	31 (19.3)	0.572
Female	110 (78.0)	130 (80.7)	
Single	4 (2.8)	9 (5.6)	0.240
Retired	11 (7.8)	6 (3.7)	0.357
Employed	67 (47.5)	70 (43.5)	-
Housewife	61 (43.3)	80 (49.7)	-
Education — university or above	37 (26.2)	37 (23.0)	0.511
Monthly income >HK$20 000	55 (39.0)	67 (41.6)	0.682
Self-perceived as "unhealthy"	10 (7.1)	1 (0.6)	0.003*
With chronic illness	21 (14.9)	25 (15.5)	0.878
Self-perceived as "frequently ill"	61 (43.3)	66 (41.0)	0.690
Patient particulars			
Male	81 (57.4)	99 (61.5)	0.475
Female	60 (42.6)	62 (38.5)	
≤3 years old	94 (66.7)	93 (57.8)	0.112*
First born	84 (59.6)	94 (58.4)	0.834
"Frequently ill"	61 (43.3)	66 (41.0)	0.690
With medical insurance	43 (30.5)	49 (30.4)	0.916
History of acute medical illness	104 (73.8)	124 (77.0)	0.511
Chief complaint			
Fever	89 (63.1)	129 (80.1)	0.001*
Rash	2 (1.4)	8 (5.0)	0.111*†
Poor appetite	2 (1.4)	2 (1.2)	1.000†
Behavioural change	1 (0.7)	1 (0.6)	1.000†
Cough	37 (26.2)	51 (31.7)	0.300
Wheezing	4 (2.8)	4 (2.5)	1.000†
Runny nose	3 (2.1)	4 (2.5)	1.000†
Shortness of breath	12 (8.5)	5 (3.1)	0.042*
Sore throat	4 (2.8)	5 (3.1)	1.000†
Snoring	1 (0.7)	0	0.467†
Stridor	4 (2.8)	1 (0.6)	0.189*†
Vomiting	17 (12.1)	15 (9.3)	0.440
Diarrhoea	13 (9.2)	11 (6.8)	0.444
Abdominal pain	1 (0.7)	1 (0.6)	1.000†
Dysuria	1 (0.7)	0	1.000†
Seizure	5 (3.5)	3 (1.9)	0.480†
Other symptoms	9 (6.4)	5 (3.1)	0.177*

* Significant variables with P<0.2
† Fisher's exact test

TABLE 3. Reasons for doctor shopping

Reason	No. (%)
Persistence of symptoms	118 (73.3)
Distrust of medications	34 (21.1)
Seeking of a second opinion	33 (20.5)
Service unavailability	23 (14.3)
Advice from family/friends	18 (11.2)
Inadequate explanation	15 (9.3)
Inappropriate time or location	15 (9.3)
Distrust of doctor	13 (8.1)
Consultation duration too short	10 (6.2)
Inappropriate cost	9 (5.6)
Dissatisfaction with doctor's attitude	6 (3.7)
Dissatisfaction with staff's attitude	0
Other reasons	10 (6.2)

as a gatekeeper in regulating health care. Since such registration is not required in Hong Kong, patients are free to choose which doctor to consult, and hence doctor shop. Finally, the primary care services provided by private GPs are relatively affordable as are the low fees charged by the AEDs.

Our results indicate a higher rate of local doctor shopping in Hong Kong than in the studies mentioned above. However, as mentioned a direct comparison between them cannot be made as our study focused on in-patients while the other two focused on out-patients. Besides, we targeted the paediatric population, whereas the previous studies focused mainly on adults, and it is therefore possible that a high degree of parental anxiety contributed. Not surprisingly, more doctors may be consulted in hopes of faster recovery, thereby increasing the prevalence of doctor shopping. Furthermore, the studies differed in their definitions of doctor shopping. We decided to classify doctor shoppers as those who visited more than one doctor for the same illness episode without referral. This is because regardless of whether two or three doctors are consulted, the problems and complications remain. Had we used the definition by Sato et al,[7] in which doctor shopping was counted as two or more prior visits, the prevalence of doctor shopping in our series would have been 26%.

Nonetheless, it may be postulated that compared to earlier times the actual percentage of doctor shoppers in Hong Kong has increased, possibly due to a larger supply of doctors, leading to a wider range of consumer choices. Though the percentage of doctors in the private sector in the city has remained static at about 60% in the past 20 years, the total number of doctors increased from 5541 in 1990 to 12 424 in 2009.[9,10] Furthermore, visits to private practitioners became more affordable, as GDP per capita expanded by 140% but over the same period the median costs of a consultation increased by only 96%.[11,12] Finally, the emergence of consumerism and easily accessible medical information on the internet have shifted patient-doctor dynamics—from a traditional paternalistic view to the modern mutualistic relationship. This has greatly empowered patients, thereby increasing their expectations, and contributing to more doctor shopping behaviour in search of a satisfactory consultation.

Our study showed that patients who presented with fever were more than twice as likely to doctor shop. Although the majority of patients with fever are related to self-limiting viral illnesses that do not warrant in-patient treatment, parents may be concerned and anxious about possible febrile convulsions, cerebral damage, and even death.[13] In 1980, Barton Schmitt coined the term "fever phobia" for these misconceptions and unrealistic concerns.[14] Despite improvements in medical knowledge, little has changed in the knowledge, attitudes and practices of parents with regard to fever management and caregivers continue to manifest signs of "fever phobia" today.[15] Parents often misinterpret fever as a disease entity rather than a manifestation of underlying illnesses,[16] and that the subsidence of fever means the resolution of illness as a whole.[17] Janicke et al[18] commented that "mother's perception of need, more than actual symptoms, is the key factor in whether the mother decides to seek physician assistance". The relationship between fever and doctor shopping may be attributed to the emphasis placed on fever by doctors themselves. Questions about fever are always asked with the temperature taken. At the end of the consultation, parents are advised to monitor the fever and return if there is persistence of fever. By putting much emphasis on fever, parental anxiety is heightened and promotes doctor shopping. Through clinical experience at the PWH, it has been observed that most cases admitted through AED do not actually warrant in-patient treatment. Admission into paediatric wards at PWH is relatively liberal, and the decision to admit cases might be in the interest of addressing parental anxiety.

Our findings suggested that the main reason for doctor shopping was persistence of symptoms that was reported for 73.3% of patients, and similar to 68 to 75% reported by Lo et al.[1] The importance of this has been echoed by many other researchers. Lee et al[19] found that due to persistence of symptoms, 13.2% of patients with non-urgent illnesses go to the AED instead of revisiting their private GP. A later study by the same authors reported that if the treatment from the first GP appeared ineffective, only 58% of respondents would revisit the same doctor whilst 37% would switch to another one.[20] This is in line with the second most common reason for doctor shopping found in our study, namely distrust of medications (mentioned by 21.1% of parents). As observed by

Lam,[21] there is a widespread belief that there is a cure for every illness. With an average of three drugs prescribed per primary care doctor, patients expect a panacea that provides immediate relief.

In light of the two main reasons for doctor shopping, the importance of caretaker education cannot be ignored. Health education programmes should be implemented to inform caretakers on the nature and course of illnesses, particularly fever. The programmes should clarify myths and misconceptions, address misunderstandings that western treatments are an instant cure with immediate effects, and raise awareness of doctor-shopping behaviour. Doctor shopping remains highly prevalent, yet 75.5% of health care users in our study were unaware of its dangers, which suggests inadequate communication of such knowledge. With an average of 3.1 drugs prescribed prior to admission, a number similar to the findings by Feudtner et al,[22] the potential adverse effects of polypharmacy given by different doctors due to doctor shopping may be even more significant. Maintaining continuity of care with adequate follow-up is in the best interests of the child's health. As the first point of contact, primary care doctors should incorporate safety netting into the consultation by alerting the patient to red flag signs for deterioration and only refer to the AED where necessary. If the condition has really deteriorated as assessed by the physician, then a referral becomes necessary. Primary care physicians have a responsibility to convey these messages clearly to minimise doctor shopping.

Several limitations of the study bear mention. It could certainly be appropriate for the patient to visit the AED after visiting the primary care doctor, should the carer feel that the patient's condition has deteriorated. However, in the interest of the patient, continuity of care is essential. Any changes in the condition should still be managed by the same doctor. Should the primary care doctor perceive the illness to be severe enough to warrant admission, such a patient may well be referred to the AED. In all, 30 patients with referral to the AED were included in our study, but not counted as doctor shoppers. Nonetheless, this may lead to a slight overestimation of the number of doctor shoppers. A second limitation was posed by our face-to-face interviews, whereby the validity of the answers to the questionnaires could not be confirmed via medical documents. Third, though our study population from a single hospital had a similar median household income to Hong Kong as a whole, the patients may not have been socio-economically representative of the entire territory. Data collected from other hospitals, both private and public, could take better account for this phenomenon.

Further studies should be conducted to assess the differences of health-seeking behaviour of parents as patients versus their health-seeking behaviour towards their own child. Doctor shopping is a worldwide phenomenon that concerns both health care providers and its users. It is therefore in the best interests of all parties to have a deeper understanding of this phenomenon and formulate solutions to address the problem.

Appendix

Additional material related to this article can be found on the HKMJ website. Please go to <http://www.hkmj.org>, search for the appropriate article, and click on **Full Article in PDF** following the title.

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APPENDIX Sample questionnaire

Hello sir/madam, my name is _____. What is your name? We are currently doing a research project on health-seeking behaviour of parent and children and your valuable opinion would be highly appreciated. All personal information will be kept confidential. Would you mind proceeding with the interview?

Interviewee information

1. Relationship with patient: _____
2. Are you the main caregiver of the patient?
   ☐ Yes ☐ No, main caregiver is: _____
3. Were you the one who decided to bring the patient to the hospital?
   ☐ Yes ☐ No, decision made by: _____
4. Your age:
   ☐ < 20 ☐ 21-30 ☐ 31-40
   ☐ 41-50 ☐ 51-60 ☐ > 61
5. Your marital status:
   ☐ single ☐ married ☐ divorced ☐ widowed ☐ cohabiting
6. Occupation:
   ☐ student ☐ unemployed ☐ employed ☐ housewife ☐ retired
7. Highest education attained:
   ☐ primary school or below ☐ secondary school ☐ university or above
8. District of residence :
   ☐ Shatin ☐ Wan Chai ☐ Eastern ☐ Southern
   ☐ Northern ☐ Yau Tsim Mong ☐ Sham Shui Po ☐ Wong Tai Sin
   ☐ Kwun Tong ☐ Kowloon City ☐ Tai Po ☐ Central West
   ☐ Sai Kung ☐ Yuen Long ☐ Tuen Mun ☐ Tsuen Wan
   ☐ Kwai Tsing ☐ Outlying islands ☐ Mainland ☐ Others: _____
9. Average monthly income of family :
   ☐ CSSA ☐ < $5,000 ☐ $5,001-$10,000
   ☐ $10,001-$15,000 ☐ $15,001-$20,000 ☐ $20,001-$25,000
   ☐ $25,001-$30,000 ☐ $30,001-$35,000 ☐ $35,001-$40,000
   ☐ > $40,000
10. Your perceived health state:
    ☐ healthy ☐ average ☐ unhealthy
11. Do you have any long-standing medical problems? If yes, _____
12. Do you think you get sick more often than other people?
    ☐ No ☐ Yes

Patient information

1. Gender : ☐ M ☐ F
2. Age : _____
3. Any siblings?
   ☐ No ☐ Yes : _____ elder brother, _____ younger brother, _____ elder sister, _____ younger sister
4. Do you think the patient often gets sick?
   ☐ No ☐ Yes
5. Average visits to the doctor per year: _____ times/year
6. Any medical insurance?
   ☐ No ☐ Yes
7. Past medical illness of patient:
   ☐ Respiratory: _____
   ☐ Cardiovascular: _____
   ☐ Gastrointestinal: _____
   ☐ Neurology: _____
   ☐ Renal/urology: _____
   ☐ Haematology: _____
   ☐ Oncology: _____
   ☐ Dermatology: _____
   ☐ Endocrinology: _____
   ☐ Others: _____

Appendix (Cont'd)

8. Presenting symptoms of this admission:

☐ fever	☐ rash	☐ loss of appetite	☐ irritability
☐ cough	☐ wheezing	☐ runny nose	☐ shortness of breath
☐ sore throat	☐ sneezing	☐ stridor	
☐ vomiting	☐ diarrhoea	☐ abdominal pain	
☐ dysuria	☐ frequency	☐ enuresis	
☐ headache	☐ seizure	☐ behavioural change	
☐ instability	☐ trauma	☐ others: _____	

9. Diagnosis for this admission:

☐ anaemia	☐ trauma	☐ URTI	☐ asthma
☐ pneumonia	☐ bronchiolitis	☐ PUO	☐ gastroenteritis
☐ meningitis/encephalitis	☐ epilepsy	☐ observation	
☐ undiagnosed	☐ others: _____		

10. Number of doctors consulted before admission: _____
    (If answer is 0, proceed to question 14 & 15 and then end the interview.)
    A&E doctors: _____
    Paediatrician: _____
    GP: _____
    Traditional Chinese Medicine provider: _____
    Others: _____ : _____
11. Before admission, total number of drugs prescribed by doctor(s): _____
12. For the current illness, when did the patient first visit the doctor? _____ days ago
13. Since the first visit to the doctor, the patient's condition has:
    ☐ improved ☐ no change ☐ deteriorated

Previous health seeking behaviour

14. Number of doctor visits in past illnesses: _____
15. Do you think there are disadvantages in visiting more than one doctor?
    ☐ No ☐ Yes: _____
16. (To be filled in by caregiver of patient)
    Reasons of consulting more than one doctor for this episode:
    Please put a " √ " in the suitable item(s)

1) Inappropriate consultation fee	
2) Inconvenience in terms of time or location	
3) Required services not provided e.g. blood-taking, ultrasound	
4) Distrust in doctor	
5) Inadequate explanation by doctor	
6) Consultation time too short	
7) Dissatisfied by the attitude of doctor	
8) Dissatisfied by the attitude of other members of staff	
9) Distrust in medication e.g. types, quantity or duration of medication prescribed	
10) Recommendation by family or friends	
11) Seeking of second opinion	
12) Others:	