Brief communication (Original)

Factors influencing decisions of Laotian patients to use health care services in Thailand

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Background: Thailand has been facing a gradual increase in use of cross-border health care. Nevertheless, no evidence regarding factors influencing cross-border use of health care by Laotian patients in public Thai hospitals among this group has been established.

Objectives: To assess the use of cross-border health care by Laotian patients, and factors that may influence health services in public Thai hospitals along the border.

Methods: This study consisted of two parts. (1) Site-visits to 53 Thai public hospitals along the Thai–Laos border during May to July 2011 and collection of data regarding the use of health care services by Laotian patients. (2) A structured questionnaire survey was conducted via face interviews by trained researchers. Findings were analyzed using descriptive statistics and multiple logistic regression.

Results: The most common conditions for which treatment was sought were common diseases and basic operative procedures. All hospitals had been facing substantial financial burden, particularly for inpatient care. The analysis of use indicated that a perception of differences in the quality of health services, ability to pay for treatment anywhere, and distance to health services were three major factors affecting the decision of Laotian patients to cross the border to obtain health care in Thailand. Interviews with hospital directors and staff revealed that more financial support and a clear policy for care of Laotian patients was needed.

Conclusions: The perception of better quality of health care in Thailand by Laotian patients was the major factor affecting cross-border use of health care services. Assistance to improve healthcare in Laos and financial support for subsidizing care for the indigent Laotian patients is needed.

Keywords: Cross-border, health care services, hospital, Laos, Thailand

Cross-border health care for migrants and travelers has been problematic worldwide. Publications dealing increased travel and migration within the European Union (EU) because of health care have appeared from Europe. Increasing migration from Africa, the Middle East and parts of Asia because of health care has also been reported [1-13]. Cross-border health issues have long been of concern elsewhere in the world including within the Americas, Africa, and Southeast Asia regions [14-22]. Cross-border health care is a great challenge to public health systems of host countries because it leads to critical accessibility issues and, importantly, equity and

financial security of the affected health care systems. On a governmental level, cross-border health care is directly related to treaty structures with neighboring countries, and the organization and capability of their domestic social security and health care systems that comes with cross-border health care [23-25]. In light of the establishment of the ASEAN Economic Community (AEC) scheduled for 2015, Thailand has been facing a gradual increase in the use of cross-border health care. While financial problems for the providers of care have been increasing, there have been few advances in better social welfare schemes in many areas. The impact of cross-border health care on less fortunate patients and on public hospitals along the border is significant and worsening.

A small survey study of Laotians living near the Thai–Lao border in 2004–2009, showed that many Laotian patients did cross the border to use Thai health

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care services. This was because of their perception of the severity of their illnesses and their view of the greater quality of Thai health services [26, 27]. There were also some unofficial reports of Laotian patients receiving health services from Thai health centers and hospitals in provinces located more distantly to the border. In this study, we aimed to explore the cross-border use of health services by Laotian patients and the factors that might influence the situation. The findings were expected to provide policy implications for better long-term management of issues related to cross-border health care.

Method

Study design and settings

This study used a stratified cluster sampling method and consisted of 2 parts: (1) hospital site-visits to 53 sites along the Thai–Laos border and (2) multi-site hospital-based patient surveys. Settings included all Thai public hospitals under the Ministry of Public Health along the 1,810-kilometer Thai–Laos border. There were 42 community hospitals in districts adjacent to the border and 11 general or tertiary-care hospitals in the border provinces.

Sampling and measurement

Part I: Thai hospital site-visits

The sample totaled 53 Thai public hospitals in 11 provinces along the Thai–Laos border. They were visited during May to July of 2011. The data collected included geographic setting, hospital size (number of beds), boundary posts, and travel mode of Laotian patients. Hospital statistics were collected and reviewed to determine the number of services, most common diseases found in cross-border patients, and financial reports of hospitals over the past three fiscal years from 2008 to 2010.

Interviews involved hospital directors and heads of wards. Finance and social work departments were contacted to gather more information regarding the workload, financial management of Laotian patients, and any suggestions for the Ministry of Public Health.

Part II: Patient surveys

Surveys were conducted of Laotian patients who used health services in the 53 Thai government hospitals along the border during May to July, 2011. At each hospital, basic demographic characteristics of 15–30 patients (varying upon hospital size) were collected. The inclusion criteria for participants were:

(1) 18 years of age and over, (2) using health services at target hospitals during the period of data collection, and (3) ability to provide written informed consent for participation in the study.

The structured questionnaire was developed using relevant literature reviews and tests of content validity. Pre-interviews were conducted to adjust interviewing content. After completion of data collection, the questionnaire was translated into Lao by a Laotian–Thai translator with fluent understanding of both cultures and languages. The questionnaire asked for basic demographic information and qualitative information including perception of severity of disease for which cross-border treatment was being sought, perception of treatment difficulty, benefit from services, behavior of providers, and perceived difference in health service quality between Thai and Lao facilities.

All assistant researchers were trained in observation and data collection methods by the principal investigator. Questionnaires were administered to patients at the end of service or treatment.

Ethical consideration

This study was approved by the Institutional Review Board of the Faculty of Medicine, Chulalongkorn University and the Ethical Review Committee for Research in Human Subjects, Ministry of Public Health, Thailand. The Health Insurance System Research Office (HISRO) and Health System Research Office (HSRI), Thailand, who supported the study, approved publication of our original findings.

Data analysis

All questionnaires were evaluated for accuracy before analysis. The analysis consisted of 2 parts: the first part consisted of descriptive statistics including data to determine the magnitude of problems. In the second part, data from the patient participants were categorized into two groups: those with an intention to return to Thai hospitals for follow up or new care, and those with no intention to return. The first group were new patients. Data recorded included whether it was the participant's first visit, and whether they had previous experience of using public health services in Laos during the past six months. The data from the second group were collected the same way, but from Laotian patients who had received health services in Lao hospitals along the border, and with previous experience of treatment in Thailand's public health

services not more than 6 months before seeking treatment in Laos, and then not returning to Thailand for further treatment. Sample size was determined to be 371 persons per group [28]. Multiple logistic regression was used to analyze intention to return for future services. $P < 0.05$ was considered significant.

Results

Part 1: Hospital site-visits

A total of 53 hospitals were classified according to the number of beds. Small hospitals had 60 beds or less, medium hospitals had 61–200 beds, and large hospitals had over 200 beds. Only 41 hospitals (77%) provided the required information and were used as representative of all 53 hospitals. Included in these 41 were 21 small, 8 medium, and 12 large hospitals. The remaining 12 hospitals distributing in the same geographic area did not have characteristics different from the 41 hospitals selected.

The hospitals along the border had a geographic relationship with 5 types of boundary posts: permanent crossing point, temporary crossing point (open every day), temporary crossing point (open some days), local

crossing point (used by local people), and gateway or route to the border. Hospitals along a permanent boundary post had higher status and population and larger size than hospitals along temporary and tradition boundary posts, respectively. Hospitals on gateway or route to the border were the largest hospitals and had the highest status. In addition, the type of boundary post was directly related to the socioeconomic status of the community it served. Permanent boundary posts and gateways on a route to the border had higher socioeconomic status than temporary and traditional boundary posts.

Hospital data reported an increasing number of Laotian patient admissions and outpatient visits in all types of hospitals over the past three years [29] (Table 1). Reports from the hospitals showed that Laotian patients were commonly not able to pay for health services. These health care expenses were usually absorbed by the hospitals as humanitarian assistance as they could not be reimbursed from the Thailand Ministry of Public Health or Thailand National Health Security Office. This led to a financial burden on the hospitals.

Table 1. Cross-border health service utilization in hospitals over the past 3 fiscal years

Topic	Size of Hospital	Outpatient Services			Inpatient Services		
		2008	2009	2010	2008	2009	2010
Total Number of patients (×1,000 person)	Small	15.5	16.7	17.9	2.9	3.2	3.8
	Medium	19.7	20.2	27.3	4.5	4.6	6.1
	Large	12.1	15.0	16.6	6.4	6.8	7.9
	Total	47.3	51.9	61.8	13.8	14.6	17.8
Total Number of visits (×1,000 times)	Small	22.8	24.7	27.2	3.6	4.3	4.9
	Medium	29.3	31.2	40.7	4.8	4.9	6.5
	Large	20.9	25.3	28.9	6.9	7.2	8.5
	Total	73	81.2	96.8	15.3	16.4	19.9
Fees for Service[†] (×10 ⁶ baht)	Small	6.7	8.0	25.8	5.6	7.9	9.1
	Medium	11.6	11.7	13.1	8.1	10.4	13.5
	Large	9.9	12.4	13.7	75.4	85.1	105.1
	Total	28.2	32.1	52.6	89.1	103.4	127.7
% of service payment of Laotian patients[‡]	Small	40.3	38.9	14.1	28.4	29.9	30.1
	Medium	58.9	58.2	52.8	65.7	74.5	63.5
	Large	80.4	74.5	85.3	49.9	41.1	53.9

[†]Fees for services: information is limited because of the inability of hospitals to categorize service charge and total hospital fee collected by ethnicity in their database. The Laotian patients are charged the same as local Thai patients

[‡]% of service payment by Laotian patients: calculated from the patients' payment and charge for services

According to International Statistical Classification of Diseases and Related Health Problems, tenth revision (ICD-10) of the World Health Organization 2007 and Classification of Procedures (ICD-9-CM) 2005, we found that over the past three years, most common diseases in cross-border patients were not classified as severe (Table 2). Most operative procedures provided in small hospitals were simple, while more complex operations requiring more expertise were provided at larger hospitals [29] (Table 2).

Interviews with hospital directors and heads of wards revealed that communication barriers, cultural diversity, and the nature of diseases and their management caused an increase in workload when dealing with a Lao patient compared with a Thai patient. The hospitals varied in how they handled the financial burden caused by cross-border patients without ability to pay. Hospitals with good financial administrative skills and a screening system controlled the workload by collaborating with social workers, nongovernmental organizations, and the local immigration bureaus. Collectively, hospital staff suggested that there was an urgent need for proper

financial management of cross-border patients in a centralized manner such as a clear policy from the Ministry of Public Health or government.

Part II: Patient survey

A total of 1,220 patients were included in this study. Their mean age was 37.1 ± 15.0 years (range 18 to 87 years) and 62.1% were female. Most (58.8%) lived close to the border (distance to service ≤ 50 kilometers). There were 57.2% of patients who perceived a difference in health care services between Thailand and Laos. Analysis of factors associated with intention to return to use health service in Thailand, indicated the following factors: occupation (OR 2.78, 95% CI 2.034–3.789), education (OR 1.59, 95% CI 1.134–2.236), ability to pay (OR 2.52, 95% CI 1.804–3.531), distance to service (OR 1.86, 95% CI 1.283–2.701), travel time (OR 1.56, 95% CI 1.100–2.225), and perceived difference in quality of health services between Thai and Lao health care providers (OR 3.30, 95% CI 2.364–4.607). All favored intention to return to Thailand for health care services (Table 3).

Table 2. ICD10[†] Top 5 diseases of Lao patients treated in the hospitals over 3 years

Disease	Fiscal year		
	2009	2010	2011
Outpatient department (OPD)	Dyspepsia (K30)	Dyspepsia (K30)	Dyspepsia (K30)
	non-insulin-dependent DM (E11)	non-insulin-dependent DM (E11)	non-insulin-dependent DM (E11)
	Supervision of normal pregnancy (Z34)	General medical examination (Z000)	Supervision of normal pregnancy (Z34)
	Essential (primary) hypertension (I10)	Supervision of normal pregnancy (Z34)	Essential (primary) hypertension (I10)
	acute upper URI, unspecified (J069)	Essential (primary) hypertension (I10)	General medical examination (Z000)
Inpatient department (IPD)	Diarrhea and gastroenteritis of presumed infectious origin (A09)	Diarrhea and gastroenteritis of presumed infectious origin (A09)	Diarrhea and gastroenteritis of presumed infectious origin (A09)
	Spontaneous vertex delivery (O800)	Spontaneous vertex delivery (O800)	Spontaneous vertex delivery (O800)
	Pneumonia, unspecified (J189)	Pneumonia, unspecified (J189)	Septicemia, unspecified, septic shock (A419)
	Singleton, born in hospital (Z380)	Singleton, born in hospital (Z380)	Pneumonia, unspecified (J189)
	Septicemia, unspecified, septic shock (A419)	Septicemia, unspecified, septic shock (A419)	Singleton, born in hospital (Z380)

[†]ICD10: International Statistical Classification of Diseases and Related Health Problems, Tenth Revision (ICD-10) of the World Health Organization, 2007

Table 3. Laotian patient demographics and basic information between no intention to return (No ITR) and intention to return (ITR) groups

Characteristic	Total (N=1,220)	No ITR (n = 305) No.(%)	ITR (n = 915) No.(%)	P	Crude Odds Ratio [†] (95% CI)	Adjusted Odds Ratio ^{‡‡} (95% CI)
Age (years), mean ± SD	1,220	37.3 ± 14.3	37.1 ± 15.2	0.072	0.99 (0.978–0.998)	0.99 (0.980–1.000)
Sex, only female	758	195 (63.9)	563 (61.5)	0.453	0.98 (0.978–0.999)	N/A
Marital status				0.012*		
Single/widowed/ divorced/separated	355	106 (34.8)	249 (27.2)		reference	N/A
Married	865	199 (65.2)	666 (72.8)		1.24 (0.887–1.727)	
Ability to pay						
Unable to pay	345	111 (36.9)	234 (25.6)	<0.001*	reference	reference
Able to pay	869	190 (63.1)	679 (74.4)		2.58 (1.828–3.641)	2.52 (1.804–3.531)
Occupation						
Others ^{†††}	599	207 (67.9)	392 (42.8)	<0.001*	reference	reference
Agriculture	621	98 (32.1)	523 (57.2)		2.64 (1.197–3.638)	2.78 (2.034–3.789)
Education						
Educated	797	223 (73.1)	574 (62.7)	0.001*	reference	reference
Not educated	423	82 (26.9)	341 (37.3)		1.59 (1.133–2.236)	1.59 (1.134–2.236)
Travel time (hours)						
>1	664	176 (60.9)	488 (56.1)	0.152	reference	reference
≤1	495	113 (39.1)	382 (43.9)		1.54 (1.082–2.197)	1.56 (1.100–2.225)
Distance to service (Kilometers)				0.317		
≤50	717	182 (65.5)	535 (62.1)		reference	reference
>50	422	96 (34.5)	326 (37.9)		1.87 (1.283–2.712)	1.86 (1.283–2.701)
Perception of severity of disease						
Not severe	645	154 (50.5)	491 (53.7)	0.337	reference	N/A
Severe	575	151 (49.5)	424 (46.3)		1.02 (0.740–1.415)	
Perception of treatment difficulty						
Not complicated	346	90 (29.5)	256 (28.0)	0.608	reference	N/A
Complicated	874	215 (70.5)	659 (72.0)		1.07 (0.758–1.521)	
Perceived difference Score in health services quality between Thailand–Laos						
≤10	698	229 (75.1)	469 (51.3)	0.001*	reference	reference
>10	522	76 (24.9)	446 (48.7)		3.31 (2.366, 4.626)	3.30 (2.364, 4.607)

†††others: Trade, employee, public service, student, housewife/husband, religious, * $P < 0.05$ by bivariate analysis with χ^2 ,
‡: logistic regression, ‡‡: multiple logistic regression (stepwise method)

Discussion

Thailand is a major target for cross-border health services. There has been a gradual increase in demand for cross-border health services by Laotian patients along the Thai–Lao border. These include primary health care and more complex medical services. The present study indicated increasing numbers of Laotian patients are traveling to the outpatient and inpatient services at all boundary facilities. The most common care requested was for primary care services. Nevertheless, primary health care services have affected negatively the already strained financial status

of hospitals along the border. Laotian patients along the border have no insurance coverage for health care and have to pay for all medical expenses [29–30]. Moreover, the socioeconomic status along the border relates to type of boundary post. Most temporary boundary posts are in a low socioeconomic areas and 67.9% of hospitals along the border are near temporary or traditional open boundary posts. This leads an inability to pay for services and has significantly affected the financial status of Thai government hospitals along the border.

In this survey, conditions which have led to the use of cross-border health services in Thailand were mostly common problems such as gastrointestinal diseases, upper respiratory diseases, pregnancy and delivery. This indicates the inadequacy of primary health care in more remote areas in Laos. This is in addition to a perceived difference in the quality of health care services between Laos and Thailand. Inability of Laotian patients to pay is a key problem for the Thai government hospitals along the border that are not adequately supported for such services by the Thai government. A similar cross-border health care service crisis exists in some European Union countries facing an increasing burden of indigent migrants. Although there are many similarities, a significant difference is that the Thailand–Laos area has more limited resources [2].

Our recommendation for Thai policy makers as the host country includes considerable assistance to improve health services in the neighboring country (Laos) to help close the quality gap, particularly to strengthen primary health care in remote areas to build the confidence of patients in such local facilities. In addition, a short-term solution includes the need to provide financial support for the hospitals along the border to allow for poor Laotian patients that need urgent medical services. Future studies should seriously consider creating an ASEAN international health fund, or universal coverage with transportability. This would require discussions and proactive planning by officials from both sides of the border.

A strength of this study was that the multiple site questionnaires were administered at each and every site visit. This led to a comprehensive discovery of actual situations and contexts that occurred at each site. The larger number of study participants acquired at the larger better equipped hospitals might have influenced Laotian patients' perception of health care service across the border. Moreover, causal factors might also be uncovered via this type of cross-sectional survey. A limitation of this study was that it was designed for descriptive rather than analytical evaluation.

In conclusion, the higher quality of medical services on the Thai side of the border was the main factor causing high use of cross-border health care services by Laotian patients. In view of the upcoming ASEAN Economic Community (AEC) in 2015, which may intensify the situation, the development of international cooperation in public health between the

2 countries is urgently needed. More funding for hospitals at the border and proper administrative and financial management policy from the health care authorities of both countries should be considered.

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