FACTORS AFFECTING UTILIZATION OF ACCIDENT AND EMERGENCY SERVICES OUTSIDE THE REGISTERED PROVINCE AND UTILIZATION BEHAVIOR OF ACCIDENT AND EMERGENCY PATIENTS UNDER THE UNIVERSAL COVERAGE SCHEME

KRITTIYA NURACH

A THESIS SUBMITTED IN PARTIAL FULFILLMENT
OF THE REQUIREMENTS FOR
THE DEGREE OF MASTER OF SCIENCE IN PHARMACY
(PHARMACY ADMINISTRATION)
FACULTY OF GRADUATE STUDIES
MAHIDOL UNIVERSITY
2006

ISBN 974–04–7807-7

Thesis
Entitled

FACTORS AFFECTING UTILIZATION OF ACCIDENT AND EMERGENCY SERVICES OUTSIDE THE REGISTERED PROVINCE AND UTILIZATION BEHAVIOR OF ACCIDENT AND EMERGENCY PATIENTS UNDER THE UNIVERSAL COVERAGE SCHEME

.....
Miss Krittiya Nurach
Candidate

.....
Asst. Prof. Montarat Thavorncharoensap,
Ph.D. (Social and Administrative Pharmacy)
Major-Advisor

.....
Assoc. Prof. Arthorn Riewpaiboon,
Ph.D. (Pharmacy)
Co-Advisor

.....
Asst. Prof Wichit Paonil, Ph.D.
(Medical and Health Social Sciences)
Co-Advisor

.....
Prof. M.R. Jisnuson Svasti,
Ph.D.
Dean
Faculty of Graduate Studies

.....
Prof. Ampol Mitrevej, Ph.D.
(Pharmaceutics)
Chair
Master of Science in Pharmacy
Programme in Pharmacy Administration
Faculty of Pharmacy

Thesis
Entitled

FACTORS AFFECTING UTILIZATION OF ACCIDENT AND EMERGENCY SERVICES OUTSIDE THE REGISTERED PROVINCE AND UTILIZATION BEHAVIOR OF ACCIDENT AND EMERGENCY PATIENTS UNDER THE UNIVERSAL COVERAGE SCHEME

was submitted to the Faculty of Graduate Studies, Mahidol University
for the degree of Master of Science in Pharmacy
(Pharmacy Administration)
on
October 25, 2006

Krittiya Nurach
.....
Miss Krittiya Nurach
Candidate

Montarat Thavorncharoensap
.....
Asst. Prof. Montarat Thavorncharoensap,
Ph.D. (Social and Administrative Pharmacy)
Chair

.....
Assoc. Prof. Arthorn Riewpaiboon,
Ph.D. (Pharmacy)
Member

Puree Anantachoti
.....
Asst. Prof. Puree Anantachoti, Ph.D.
(Social and Administrative Pharmacy)
Member

.....
Asst. Prof Wichit Paonil, Ph.D.
(Medical and Health Social Sciences)
Member

.....
Prof. M.R. Jisnuson Svasti, Ph.D.
Dean
Faculty of Graduate Studies
Mahidol University

.....
Prof. Ampol Mitrevej, Ph.D. (Pharmaceutics)
Dean
Faculty of Pharmacy
Mahidol University

ACKNOWLEDGEMENT

The achievement of my research would never have happened without the support and valuable advice from many people who contributed to my valuable experience.

First of all, I would like to express my sincere gratitude and deep appreciation to my advisor, Asst. Prof. Montarat Thavorncharoensap for her attention, invaluable advice, kindness, and encouragement throughout my study.

My sincere appreciation is also extended to Assoc. Prof. Arthorn Riewpaiboon and Asst. Prof Wichit Paonil, my co-advisors for their helpful critism, consultation, support and encouragement during the entire study.

I wish to thank Asst. Prof. Puree Anantachoti for her constructive comment, suggestion and also being member for my examining committee.

I am very grateful and wish to express my deepest thanks to all staffs and participants of this study from twelve hospitals for their assistance and facilitation in data collection.

A special acknowledgment is extended to all the graduate students at Pharmacy Administration program, Mahidol University, and everybody in pharmacy department at Petchaboon Hospital for their helpfulness and encouragement.

I would like to thank the National Health Security Office (NHSO) for providing financial support for my study and research.

Finally, I would like to express my deepest gratitude to my dearest parents, my family for their encouragement, understanding, care, love and continuous support throughout my life.

Krittiya Nurach

FACTORS AFFECTING UTILIZATION OF ACCIDENT AND EMERGENCY SERVICES OUTSIDE THE REGISTERED PROVINCE AND UTILIZATION BEHAVIOR OF ACCIDENT AND EMERGENCY PATIENTS UNDER THE UNIVERSAL COVERAGE SCHEME

KRITTIYA NURACH 4636377 PYPA/M

M.Sc. In Pharm. (PHARMACY ADMINISTRATION)

THESIS ADVISORS: MONTARAT THAVORNCHAROENSAP, Ph.D.,

ARTHORN RIEWPAIBOON, Ph.D., WICHIT PAONIL, Ph.D.

ABSTRACT

The service system serving accident and emergency (AE) patients under the Universal Coverage Scheme (UCS) is unique. In this case, the patients are not required to utilize such services at their registered hospitals. However, inappropriate use of services outside the registered province can cause financial burden to the National Health Security Office (NHSO). The main aim of cross-sectional study mainly aimed to examine the factors affecting utilization of accident and emergency services outside the registered province and to describe knowledge, attitude, and utilization behavior of the accident and emergency patients under the UCS. Nine hundred and twenty patients who had utilized accident and emergency services in twelve selected hospitals were interviewed during this study. The results showed that about 56.2% of AE patients were in-patients. Approximately 23.0% of these patients utilized the service outside their registered provinces. For type of services, approximately 79.0% of patients were emergency cases, while 21.4% were accident cases. Patient's knowledge about the regulation of AE service under the UCS was quite low. On the other hand, the participants were more likely to have a positive attitude towards the regulation and had higher expectations about the AE service. When considering the differences between the AE service utilization within and outside the registered province, this study found that there were significant differences in several factors. Binary logistic regression of 12 factors: gender of decision maker; occupation of patient; attitude; experience at the registered hospital; reliance on service quality of the registered hospital; perceived service rate provided at the registered hospital; distance and time transporting from the place of accident/ emergency to the registered hospital; mode of transportation; place of accident/ emergency; location of the registered hospital and current residence; and types of utilized hospital. Only 5 factors were found to significantly influence the utilization of accident and emergency services outside the registered province. These 5 factors were: occupation of patients; location of the registered hospital and current residence; type of utilized hospital; time transporting from the place of accident/emergency to the registered hospital; and reliance on service quality of the registered hospital. According to the results, the NHSO as a policy maker should set effective interventions to improve knowledge of the UC patients, encourage the hospitals to improve service quality, and change the registration process to be more flexible in order to practically respond to the need of AE patients.

KEY WORDS: ACCIDENT AND EMERGENCY SERVICE / UNIVERSAL COVERAGE SCHEME / UTILIZATION OUTSIDE THE REGISTERED PROVINCE

198 P. ISBN 974-04-7807-7

ปัจจัยที่มีผลต่อการใช้บริการอุบัติเหตุและเจ็บป่วยฉุกเฉินต่างกองทุนสาขา และพฤติกรรมการใช้บริการของผู้ป่วยอุบัติเหตุและเจ็บป่วยฉุกเฉินในระบบประกันสุขภาพถ้วนหน้า (FACTORS AFFECTING UTILIZATION OF ACCIDENT AND EMERGENCY SERVICES OUTSIDE THE REGISTERED PROVINCE AND UTILIZATION BEHAVIOR OF ACCIDENT AND EMERGENCY PATIENTS UNDER THE UNIVERSAL COVERAGE SCHEME)

กฤติยา นุราช 4636377 PYPA/M

ภ.ม. (บริหารเภสัชกิจ)

คณะกรรมการควบคุมวิทยานิพนธ์: มนทรัตม์ ถาวรเจริญทรัพย์, Ph.D., อาทร ริ้วไพบูลย์, Ph.D., วิชิต เปานิล, Ph.D.

บทคัดย่อ

ระบบการให้บริการกรณีอุบัติเหตุและเจ็บป่วยฉุกเฉินสำหรับผู้มีสิทธิในระบบประกันสุขภาพถ้วนหน้าเป็นระบบที่มีลักษณะเฉพาะตัว โดยในกรณีนี้ผู้ป่วยไม่จำเป็นต้องเข้ารับการรักษาที่สถานพยาบาลที่ตนลงทะเบียนไว้ อย่างไรก็ตามพฤติกรรมการใช้บริการต่างกองทุนสาขาในกรณีของอุบัติเหตุและเจ็บป่วยฉุกเฉินที่ไม่เหมาะสมจะเพิ่มภาระทางด้านการเงินให้กับสำนักงานหลักประกันสุขภาพแห่งชาติ (สปสช.) การศึกษาแบบตัดขวางในครั้งนี้มีวัตถุประสงค์เพื่อศึกษาถึงปัจจัยที่มีผลต่อการใช้บริการกรณีอุบัติเหตุและเจ็บป่วยฉุกเฉินต่างกองทุนสาขาของผู้ป่วยในระบบประกันสุขภาพถ้วนหน้า ตลอดจนพฤติกรรมการใช้บริการของผู้ป่วย ระดับความรู้ ความเข้าใจ และทัศนคติของผู้ป่วยเกี่ยวกับสิทธิ ความคาดหวังต่อการใช้บริการและความพึงพอใจของผู้ป่วยต่อบริการที่ได้รับจริง จากการสัมภาษณ์ผู้ป่วยที่มีคุณสมบัติตามเกณฑ์คัดเข้าทั้งหมด 920 รายจากโรงพยาบาลซึ่งทำการสุ่มเลือกแบบเจาะจงทั้งหมด 12 แห่ง พบว่า ร้อยละ 56.2 เป็นผู้ป่วยในประมาณร้อยละ 23.0 มีการใช้บริการต่างกองทุนสาขา ประมาณร้อยละ 79.0 เป็นผู้ป่วยกรณีเจ็บป่วยฉุกเฉิน ร้อยละ 21.4 เป็นผู้ป่วยกรณีอุบัติเหตุ ความรู้ของผู้ป่วยมีค่อนข้างต่ำ ในขณะที่มีทัศนคติค่อนข้างเป็นบวก และมีความคาดหวังจากการใช้บริการค่อนข้างสูง เมื่อทำการวิเคราะห์ความถดถอยแบบไบนารีโลจิสติค จากจำนวน 12 ตัวแปร ได้แก่ เพศของผู้ตัดสินใจ อาชีพของผู้ป่วย ทัศนคติ ประสบการณ์การใช้บริการในสถานบริการที่ลงทะเบียน ความเชื่อถือในคุณภาพบริการของสถานพยาบาลที่ลงทะเบียน การรับรู้ความรวดเร็วของการให้บริการของสถานบริการที่ลงทะเบียน ระยะทางและระยะเวลาในการเดินทางจากจุดเกิดเหตุมายังสถานบริการที่ลงทะเบียน วิธีการนำส่งผู้ป่วย สถานที่เกิดเหตุ ที่ตั้งของสถานพยาบาลลำดับที่ 2 และที่อยู่ปัจจุบันและลักษณะของสถานพยาบาลที่มาใช้บริการ มีเพียง 5 ตัวแปร ที่สามารถทำนายการใช้บริการต่างกองทุนสาขาได้ ได้แก่ อาชีพของผู้ป่วย ที่ตั้งของสถานพยาบาลลำดับที่ 2 และที่อยู่ปัจจุบัน ลักษณะสถานบริการที่มาใช้บริการ ระยะเวลาจากจุดเกิดเหตุไปยังสถานพยาบาลที่ลงทะเบียน และ การรับรู้ความเชื่อมั่นในคุณภาพการบริการของสถานพยาบาลที่ลงทะเบียน จากผลการศึกษา สปสช. ในฐานะผู้กำหนดนโยบายควรรณรงค์ให้ความรู้ที่เกี่ยวข้องกับประชาชนให้มากขึ้น ส่งเสริมให้สถานพยาบาลต่างๆ เร่งสร้างความมั่นใจแก่ผู้รับบริการในเรื่องคุณภาพการบริการ ตลอดจนพิจารณาให้ประชาชนสามารถขึ้นทะเบียนและใช้บริการได้คล่องตัวมากขึ้น เพื่อตอบสนองความต้องการอย่างแท้จริงของประชาชนต่อไป

198 หน้า ISBN 974-04-7807-7

CONTENTS

		Page
ACKNOWLEDGEMENT		**iii**
ABSTRACT (ENGLISH)		**iv**
ABSTRACT (THAI)		**v**
LIST OF TABLES		**ix**
LIST OF FIGURES		**xvii**
LIST OF ABBREVIATIONS		**xviii**
CHAPTER		
I	**INTRODUCTION**	**1**
	Research questions	3
	Objectives	4
	Expected outcome and benefits	4
	Definition of terms	4
II	**LITERATURE REVIEW**	**7**
	Accident and emergency service system under the National Health Security Act, 2002	7
	Reimbursement guideline for accident and emergency service provided under the UCS in the fiscal year 2004	9
	Factors affecting the health service utilization	11
	Expectation and satisfaction of the patients	15
	The relevant research works	16
	Conceptual framework	21
	Hypotheses of the study	23
III	**METHODOLOGY**	**24**
	Study design	24
	Study populations	24
	Samples	24

CONTENTS (Continued)

		Page
	Sample calculation and sampling method	25
	Study instrument	29
	Study procedure	30
	Data analysis	32
IV	**RESULTS**	**34**
	Descriptive data of the sample	35
	Comparison between utilization within the registered province and outside the registered province	58
	All accident and emergency patients	58
	Accident patients	79
	Emergency patients	97
	Factors affecting utilization of accident and emergency service outside the registered province	117
	Binary logistic regression analysis in all accident and emergency patients	118
	Binary logistic regression analysis in the emergency patients	121
V	**DISCUSSION**	**124**
	Comparison between utilization within the registered province and outside the registered province	125
	Predisposing factors	125
	Enabling factors	129
	Need factors	132
	Factors affecting utilization of accident and emergency services outside the registered province by using binary logistic regression	133
	Limitation of the study	134

CONTENTS (Continued)

		Page
VI	**CONCLUSIONS AND RECOMMENDATIONS**	**135**
	Conclusions	135
	Recommendations	139
REFERENCES		**141**
APPENDIX		**145**
BIOGRAPHY		**198**

LISTS OF TABLES

Table		Page
1	Type of questionnaires	35
2	The number of participants classified by selected provinces and hospitals	35
3	Socio-demographic characteristics of patients	36
4	Location of patients' registered hospital	38
5	Relationship between location of the registered hospital and residence according to the house registration, present residence and workplace of patient	39
6	Types of area for registration	39
7	Types of patient's registered hospital	40
8	Utilization characteristics of the patients	40
9	Decision maker	42
10	General characteristics of the decision maker	42
11	Transportation to the utilized hospital	43
12	Using benefit from the UCS and having additional health insurance	44
13	Reasons for not using benefit from the UCS in this visit	44
14	Causes of service utilization	45
15	Causes of other accidents (external cause)	45
16	Causes of emergency conditions	45
17	Place of accident /emergency	46
18	Experience and perception of this illness episode	46
19	Distance and travel time from accident/emergency place to the registered hospital	47
20	Convenience transporting to the registered hospital	48
21	Satisfaction with the prior service received from the registered hospital	48
22	Perceived quality of the registered hospitals	48
23	Distance and travel time from accident/emergency place to the utilized hospital	49

LISTS OF TABLES (Continued)

Table		Page
24	Convenience transporting to the utilized hospital	49
25	Satisfaction with the prior service received from the utilized hospital	49
26	Perceived service quality of the utilized hospital	50
27	Knowledge of decision maker related to the regulation of accident and emergency service under the UCS	51
28	Attitude of decision maker related to the regulation of accident and emergency service system under the UCS	53
29	Expectation of the decision makers on accident and emergency service	54
30	Satisfaction of the accident and emergency service received in the expected patients	55
31	Satisfaction of the accident and emergency service received in the unexpected patients	56
32	Knowledge, attitude, expectation and satisfaction score	57
33	Changing the registered hospital	57
34	General characteristics of all AE patients classified by types of health service utilization	59
35	General characteristics of all AE decision makers classified by types of health service utilization	60
36	Age and family income of all AE patients and decision makers classified by types of health service utilization	61
37	Relationship between location of the registered hospital and present residence, and workplace of all AE cases classified by types of health service utilization	62
38	Knowledge and attitude score of all AE cases classified by type of health service utilization	63
39	Knowledge of decision maker related to accident and emergency service system regulation under the UCS of all AE cases classified by type of health service utilization	63

LISTS OF TABLES (Continued)

Table		Page
40	Attitude of the decision maker related to the regulation of accident and emergency service system under the UCS of all AE cases classified by type of health service utilization	65
41	Expectation and satisfaction score of all AE cases classified by type of health service utilization	67
42	Expectation of decision maker on accident and emergency service of all AE cases classified by types of health service utilization	67
43	Satisfaction towards the accident and emergency service received of all AE cases classified by type of health service utilization	69
44	Distance and travel time from accident/emergency place to registered hospital of all AE cases classified by type of health service utilization	70
45	Convenience transporting to the registered hospital of all AE cases classified by type of health service utilization	71
46	Satisfaction with the prior service received from the registered hospital of all AE cases classified by type of health service utilization	71
47	Perceived service quality of the registered hospital of all AE cases classified by type of health service utilization	72
48	Distance and travel time from accident/emergency place to the utilized hospital of all AE cases classified by type of health service utilization	72
49	Convenience transporting to the utilized hospital of all AE cases classified by type of health service utilization	73
50	Satisfaction with the prior service received from the utilized hospital of all AE cases classified by type of health service utilization	73
51	Perceived quality of service of the utilized hospital in all AE cases classified by type of health service utilization	74
52	Type of area for registration in all AE cases classified by type of health service utilization	75

LISTS OF TABLES (Continued)

Table		Page
53	Types of the hospital in all AE cases classified by type of health service utilization	75
54	Decision maker and transportation to the utilized hospital of all AE cases classified by type of health service utilization	76
55	Place of accident/ emergency illness of all AE cases classified by type of health service utilization	77
56	Experience and perception of this illness episode (only emergency conditions) classified by type of health service utilization	77
57	Type of service of all AE cases classified by type of health service utilization	78
58	General characteristics of accident patients classified by type of health service utilization	79
59	General characteristics of the decision makers in accident cases classified by type of health service utilization	88
60	Age and family income of patients and the decision makers in accident cases classified by type of health service utilization	81
61	Relationship between location of the registered hospital and present residence, and workplace of accident patients classified by type of health service utilization	82
62	Knowledge and attitude score in accident cases classified by type of health service utilization	83
63	Knowledge of decision maker related to the regulation of accident and emergency service system under the UCS in accident cases classified by type of health service utilization	83
64	Attitude of decision maker related to the regulation of accident and emergency service under the UCS in accident cases classified by type of health service utilization	85

LISTS OF TABLES (Continued)

Table		Page
65	Expectation and satisfaction score in accident cases classified by type of health service utilization	87
66	Expectation of decision maker on accident and emergency service quality in accident cases classified by type of health service utilization	88
67	Satisfaction toward AE service received in accident cases classified by type of health service utilization	89
68	Distance and travel time from accident/emergency place to the registered hospital in accident cases classified by type of health service utilization	90
69	Convenience transporting to the registered hospital in accident cases classified by type of health service utilization	90
70	Satisfaction with the prior service received from the registered hospital in accident cases classified by type of health service utilization	91
71	Perceived service quality of the registered hospital in accident cases classified by type of health service utilization	92
72	Distance and travel time from accident/emergency place to the utilized hospital of the accident cases classified by type of health service utilization	92
73	Convenience transporting to the utilized hospital of the accident cases classified by type of health service utilization	93
74	Satisfaction with the prior service received from the utilized hospital of the accident cases classified by type of health service utilization	93
75	Perceived service quality of the utilized hospital of the accident cases classified by type of health service utilization	94
76	Type of area for registration in accident cases classified by type of health service utilization	95
77	Type of hospital in accident cases classified by type of health service utilization	95

LISTS OF TABLES (Continued)

Table		Page
78	Decision maker, patient-deliver, and mode of transportation in accident cases classified by type of health service utilization	96
79	Place of accident classified by type of health service utilization	96
80	General characteristics of emergency patients classified by type of health service utilization	98
81	General characteristics of the decision makers in emergency cases classified by type of health service utilization	99
82	Age and family income of emergency patients and their decision makers in classified by type of health service utilization	99
83	Relationship between location of the registered hospital and present residence, and workplace of emergency patients classified by type of health service utilization	100
84	Knowledge and attitude score in emergency cases classified by type of health service utilization	101
85	Knowledge of decision maker related to the regulation of accident and emergency service system under the UCS in emergency cases classified by type of health service utilization	102
86	Attitude of decision maker related to the regulation of accident and emergency service under the UCS in emergency cases classified by type of health service utilization	103
87	Expectation and satisfaction score in emergency cases classified by type of health service utilization	105
88	Expectation of decision maker on accident and emergency service quality in emergency cases classified by type of health service utilization	105
89	Satisfaction toward AE service received in emergency cases classified by type of health service utilization	106

LISTS OF TABLES (Continued)

Table		Page
90	Distance and travel time from emergency place to the registered hospital in emergency cases classified by type of health service utilization	108
91	Convenience transporting to the registered hospital in emergency cases classified by type of health service utilization	108
92	Satisfaction with the prior service received from the registered hospital in emergency cases classified by type of health service utilization	109
93	Perceived service quality of the registered hospital in accident cases classified by type of health service utilization	109
94	Distance and travel time from emergency place to the utilized hospital in this visit of the emergency cases classified by type of health service utilization	110
95	Convenience transporting to the utilized hospital of the emergency cases classified by type of health service utilization	110
96	Satisfaction in the prior service received from the utilized hospital in this episode of the emergency cases classified by type of health service utilization	111
97	Perceived service quality of the utilized hospital in this episode of the emergency cases classified by type of health service utilization	111
98	Type of area for registration in accident cases classified by type of health service utilization	113
99	Type of hospital in emergency cases classified by type of health service utilization	113
100	Decision maker, patient-deliver, and mode of transportation in the case of emergency classified by type of health service utilization	114
101	Place of emergency classified by type of health service utilization	115

LISTS OF TABLES (Continued)

Table		Page
102	Experience and perception about this illness episode (only emergency conditions) classified by	115
103	Coefficients and adjusted odds ratio (OR) of selected variables in binary logistic regression for AE services utilization outside the registered province of all accident and emergency cases	120
104	Coefficients and adjusted odds ratio (OR) of selected variables in binary logistic regression for emergency services utilization outside the registered province type of health service utilization	123

LIST OF FIGURES

Figure		Page
1	Conceptual framework of the study	22
2	Sampling method for selected hospitals	27
3	The sample size required in each sampled hospital	28

LIST OF ABBREVIATIONS

%	Percent
NHSO	The National Health Security Office
UCS	The Universal Coverage Scheme
AE	Accident and Emergency
ED	Emergency department
AED	Accident and Emergency department
BKK	Bangkok
EMS	Emergency Medical Service
TAI	The Traffic Accident Insurance

CHAPTER I
INTRODUCTION

Rational and Background

The service system serving for accident and emergency cases for the patients, who are entitled to medical benefit under the UCS, is considered unique. The National Health Security Office (NHSO) has indicated that the patients may access to any health facilities covered by the National Health Security Scheme, or the health facilities under the National Health Security Office (Section 7), wherever nearby, even though they are not where the patients has registered for. This system was designed mainly to response to the need for prompted medical service of accident and emergency patients in the real situation. It can also maximize benefit and satisfaction of the patients. For emergency cases, utilizing the accident and emergency service outside the registered province is not allowed for more than two times per year. However, there is no such limit for accident case (1, 2).

Beside the uniqueness of the service system mentioned above, utilization behavior of the patients in accident and emergency service and their expectation of the service are also different from those of the patients utilizing regular health services. Utilization behavior involves several processes such as the illness assessment process (assessing whether or not the illness is considered emergency), the patients' decision making process (selection of the health facilities), and, finally, the actual behavior. Utilization behavior depends on several factors (i.e. the patients' perception and knowledge, severity of the illness, convenience, accessibility, perception regarding the quality of health facilities, significant person, referral systems, and patient's illness assessment).

Making decision whether or not the illness is considered emergency is also difficult since the current of definition of emergency is broad and unclear. There is also the difference between patients and medical practitioners in their assessment of

emergency. The patients may perceive that their illness required emergency care while the medical practitioners do not perceive so, or vice versa.

The inappropriate utilization behavior for accident and emergency cases, firstly, causes the inefficient use of the resource. For the patients who are not required for emergency service, technically, they should receive usual medical service at their registered health facilities. In this case, the registered health facilities will not submit the claims to the NHSO for reimbursement. Only for those who required emergency care, they could access at any health facilities covered by the National Health Security Scheme, or under the National Health Security Office (NHSO) (Section 7), wherever nearby. If the health facility that provides accident and emergency service to the patient is not the registered health facility of the patient and is not located in the same province as the registered health facility, that health facility will get reimbursed for the service directly from the NHSO. Therefore, unnecessary use of the accident and emergency service outside the registered province without the actual emergency need (i.e. no emergency care required) would lead to the unnecessary increases in the expenditure of the NHSO.

The difference in reimbursement method between service provided within registered health facility and outside registered province may also lead to the moral hazard. It may be found that the registered health facilities often push away their responsibilities to the other facilities. For instance, the emergency patients complained that they were denied for treatment, and were told to use other health facilities instead. It may be the case that the registered health facility tried to avoid the responsibility for any cost of treatment by transferring the cost of treatment back to the NHSO (3) or to the other health facilities. On the other hand, the unregistered health facilities somehow have admitted the patients for treatment beyond necessities in order to get reimbursed from the NHSO (4).

The study of Pongpisut Jongudomsuk and Sarai Ruengdej (5) found that, from October 2001 to September 2003, there were 274,976 claims of accident and emergency submitted for reimbursement to the NHSO. Of those 274,976 claims, 62,899 were out-patients (from 1,038 hospitals) with the total reimbursement of 24.8 million Baht, while 212,077 claims were in-patients (from 987 hospitals) with

approximately 2,268 million Baht. The average reimbursement was 413.82 Baht per visit for out-patients and 7929.16 Baht per admission for in-patients. Almost half of the cases were submitted from health facilities in Bangkok and in the central region. The researchers discussed that these could be arisen from several factors; 1) the high proportions of health facilities and the number of beds in these areas, 2) a large number of migrations of people to these areas, without changing their registered health facility, and 3) the difference of service system utilized in Bangkok, which separated into 14 different areas (However, it was changed to one entire area in 2004) (6).

Based on the literature reviews, it was found that socio-demographic factors (7-15), convenience and accessibility (7-17), reliance in health facilities (17, 18), influences of significant person (14, 19), and experience as well as perception of the illness (7-9, 11, 14, 20-22) were among several factors related to utilization of general health services. Surprisingly, so far, the research examining the factors affecting utilization of accident and emergency outside the registered province has not been conducted before. In addition, the research examining knowledge, attitude, expectation, and utilization behavior of the patient utilizing accident and emergency services under the UCS has not been identified.

Research Questions

1. What are the factors affecting utilization of accident and emergency services outside the registered province under the UCS?
2. How well do the patients understand the rights and the service systems provided for accident and emergency?
3. What are the patients' utilization behaviors? How do they perform self-assessment and utilize the service?
4. What is the patients' expectation of the service? How is it different from the actual service received?

Objectives

1. To examine the factors affecting the patients' utilization of accident and emergency services outside the registered province under the Universal Coverage Scheme.
2. To examine knowledge and attitude of the patients utilizing accident and emergency under the UCS.
3. To examine the utilization behaviors of the patients utilizing accident and emergency under the UCS (i.e. patients' self-assessment and health facility selecting)
4. To examine the expectation of the patients utilizing accident and emergency under the UCS, and to compare the expectation with the actual services received.

Expected outcome and Benefits

The results of the study can provide useful information to the NHSO policy makers. This information includes patient's perception of emergency assessment, utilization behavior, expectation, knowledge, and attitude towards the accident and emergency service of the patients under the UCS. This information can also be of beneficial in development of patient education guideline to improve knowledge and understanding of the patients, which will lead to the appropriate utilization of the service. In addition, by knowing the factors influencing the utilization outside the registered province, consequently, the policy maker can re-design the service system to better serve the patients, improve accessibility and conveniences, reducing the unnecessary use of the services, while develop the proper reimbursement method to improve efficient use of resource of the NHSO, and decrease moral hazard.

Definition of terms

1. **Accident or emergency patient** refers to UC patient who is ill from the following causes:
    i) All accidents from road traffics, working, being harmed or hurt, poisoned, or unknown causes

ii) Emergency including physical and mental conditions, for example illness conditions that required surgery, orthopedic surgery, obstetric-gynecology surgery, psychiatric sickness, suicide, or others

2. **Accident and emergency services system** refer to services provided to the accident and emergency patients under the UCS. Accident and emergency services system are categorized as follows:

   i) **Accident and emergency services within the registered provinces** refer to services provided to the accident and emergency patients under the UCS by any hospitals which are located within the same province where the patients register.

   ii) **Accident and emergency services outside the registered provinces** refer to services provided to the accident and emergency patients under the UCS by any hospitals which are located in the different province from where the patients register.

3. **Universal Coverage Scheme** refers to the health program for Thai people who have registered the co-payment at the primary care unit. In this scheme, the patient can get medical care by pay 30 baht per visit to the hospital, which is listed on their gold card.

4. **Referral system** refers to the process for transferring patients from one hospital to other hospitals for further necessary treatment, either with or without referral documents that provide treatment information.

5. **Perceived seriousness of illness** refer to the emergency patients' or the decision makers' perceptions about the seriousness of patients' illness, which can be classified as follow;

   i) Mild illness or symptom

   ii) Moderate illness or symptom

   iii) Severe illness or symptom

6. **Perceived need for health care services** refer to the emergency patients' or the decision makers' perception about the need of the patient to get care at emergency department in the sampled hospital which can be classified as follow;
    i) Acute, severe conditions and might lead to death if not received immediate service
    ii) Not acute but severe and might lead to death if not received immediate service
    iii) Not acute nor severe but it disturbed daily activity
    iv) Not severe but worrying that it might get worse
    v) Not severe but this time was convenient to visit the doctor
7. **Prior use of registered hospital in the past year** refer to whether or not that the UC patients have ever sought care from their registered hospitals in the last year.
8. **Types of area for registration** (23) refer to types of the area that the UC patients live in and register for their health facilities set up by the NHSO, which can be classified as follow;
    i) District which not bordered the other districts that were the location of general/ regional hospital.
    ii) District which bordered the other districts that were the location of general/ regional hospital.
    iii) District that was the location of general/ regional hospital
    iv) Villages which bordered the other provinces
    v) Bangkok district

CHAPTER II
LITERATURE REVIEW

The literature review is divided into 5 parts as follows;

a. Accident and emergency service system under the National Health Security Act, 2002

b. Reimbursement guideline for accident and emergency service provided under the UCS in the fiscal year 2004

c. Factors affecting the health service utilization

d. Expectation and satisfaction of the patients

e. Relevant research works

a. Accident and emergency service system under the National Health Security Act, 2002 (1, 2)

In reality, people are often moving temporarily from their residence. During that period of time, people may have an accident or emergency illness and they may be unable to get the health service at their registered health facilities. The section 5 of the National Health Security Act, 2002, therefore provides that, in the case of accident or emergency, the right holder can have the health service at any health facilities, which are in the National Health Security System or any others which have registered at the National Health Security Office,* located anywhere nearby. In case of emergency illness, the service utilization may be accessed at the maximum of twice a year. However, in case of accident, the utilization of services outside the registered province may be unlimitedly requested.

* (All of those are to notify its willingness to NHSO, and they have to be fully qualified under the announcement of the NHSO Re: The standard health facilities in providing the services under the law of the National Health Security on accident or emergency cases, released on July 21, 2003.)

Veteran and disables who are entitled to medical service under the UCS may utilize the services at any government hospitals as necessary as needed. (According to the Section 6, paragraph 3 of the National Health Security Act). The utilization of accident and emergency service of the conscripts who are subordinated to the Royal Thai Navy or to the Royal Thai Air force at the health facility, which is not belong to the Navy Medical Department, or the Air force Medical Department was considered as the utilization outside the registered province, even though that health facility is located in the same province as the registered health facility. This health facility can submit the claim directly to the NHSO. For the conscripts subordinated to army (who have the right in accordance with the National Health Security System), the same criteria as general patients under the UCS, are applied.

The definitions of accident and emergency illness according to the guideline for reimbursement under the UCS in the fiscal year 2004 (2) are explained below;

1. Accident, in general, means any injuries caused by external causes and normally happening suddenly.

2. Emergency illness means

    1) Severe disease(s) or symptom(s), which requires urgent treatment, otherwise they may be fatal and/or harmful to the other

    2) Any diseases that need emergency operation and can be fatal without appropriate treatment

    3) Disease(s) or symptom(s), which is defined by the National Health Security Committee.

The additional parameters required to be considered along with the first and second criteria are blood pressure, pulse rate, symptom, diagnosis, treatment process and urgency of treatment (see Appendix A).

b. Reimbursement guideline for accident and emergency service provided under the UCS in the fiscal year 2004 (2)

For accident and emergency service utilization at the non-registered health facility that is located in the same province as registered health facility, no claim was submitted to the central NHSO for reimbursement. In this case non-registered health facility can get reimbursed from the provincial fund at the rate and procedure specified by the provincial subcommittee of the NHSO. On the other hand, for the accident and emergency service utilization outside the registered province, the health facilities that provided the service for the patients may submit the claim for reimbursement the central funds of NHSO (Before 2005, only the expenditure incurred during the first 72 hours that the patient was admitted to the non-registered hospital can be reimbursed from the NHSO. The others were covered by the patients' registered health facility itself.)

For claim submitted to the NHSO, the maximum payment for out-patients is 700 Baht per visit, with the exception of the super tertiary hospital, for which the reimbursement have no limitation. In case of in-patient, the reimbursement would be paid by the DRG with global budget system. If the provided emergency and accident service meet the criteria of high cost illness, the health facility can get reimbursed for high cost illness, as stated in the guideline for high cost illness reimbursement.

In case of road traffic injury (24), of which the patients were protected by the protection for Motor Vehicle Accident Victims Act 1992, the patients may, firstly, file

an insurance claim under the Traffic Accident Insurance (TAI) regulation for the reimbursement. This reimbursement process is the traditional indemnity insurance system. The patient has to pay out-of-pocket for the health care expenses, and then submit the claim to an insurance company. The claim has to be initiated within 180 days after the accident occurs.

Reimbursement for the preliminary coverage is intended to be fast track. It is based on the no-fault system in which the claim process does not require a final agreement on which party causes the accident and consequently is liable for the damages. Payment has to be made by the insurance company or the Central Fund to the injured patient within seven days after receiving the claim. The hospital that provides health care to the patient may be authorized as the patient agent in making a direct bill to the insurance company or the Central Fund. Documents needed for the reimbursement are minimal. This includes a hospital bill and patient identification. An additional police record is needed for claim to the Central Fund. For death cases, a police record and death certificate is required.

Under the current TAI regulation, the preliminary coverage for health care expense is limited to 15,000 baht per injured patient, in part, and the rest can be reimbursed by the National Health Security Funds (if the patients are under the UCS). Compensation for a death case is paid in the full amount of 15,000 baht. For an injury followed by death, the insurance benefit is set at the maximum of 30,000 baht.

Pain related to pregnancy and laboring has been considered emergency situations. However, the reimbursement for the medical services outside the registered province will be approved only if the illness happens outside the province, where the registered health facilities is located (5).

c. Factors affecting the health service utilization

Andersen, Kravits and Anderson (1975) (7) had proposed that the decision to seek medical service and volume of utilization depended on the following three major factors:

1. Predisposing factor, which is the factor influencing individual to utilize the health service in the particular way. This factors can be categorized into 3 groups, as follows;
    1) Characteristics factor: age, gender, marital status, family size, etc.
    2) Social factors: education, occupation, religion, race, etc.
    3) Health belief: the belief that modern style treatment is better than traditional medicine.
2. Enabling factor, which is the factor that indicated or supported the ability of each person in using the health service both in term of economic ability and accessibility, etc.
3. Need factors: the personal must aware that sickness can be occurred to all people and required proper treatment. This factor was measurable by personal health perception, past and current illness and opinion of the health care providers.

The expanded behavioral model of health services utilization by Andersen and Anderson (1979) (8) indicated that the factors affecting health service utilization did not only depend on those previously mentioned factors but also on the relationship between health delivery system and patient satisfaction.

The Andersen's related models have been continuously revised and studied by many researchers. Andersen and Anderson (1979) (8) had categorized the factors affecting health service utilization into 7 groups, as the follows;

1. Demographic factors : age, sex, marital status, family size
2. Social structural factors: social class, ethnicity, education, occupation
3. Social psychological factors: perceived health status, perceived severity of symptoms/diseases, expectation about benefit of seeking medical service
4. Resources specific to individuals and their family factors: family income, insurance coverage
5. Resources of the community factors: provider/population ratios, place of residence and convenience of regular source of care
6. Organization factors: type of regular source of care (single, aggregate, partner structural properties), characteristics of delivery system (prepaid system of care), characteristics of health care facilities (government, private), and characteristics of provider (physicians, nurses, nurses assistance, receptionist)
7. Health care delivery system: health policy and economic system

Andersen and Anderson (1979) (8) had proposed that this group of variables were used to model the pattern of health care utilization in many studies for the following objectives;

1. To indicate the interrelation between the discriminator of health service utilization.
2. To predict the necessary of health service in the future.
3. To indicate the distribution whether the health service utilization is equally supplied.
4. To guide the health policy development in response to the change in health care demand
5. To assess the affect of new project concerned to the health service.

Penchansky and Thomas (1981) (referred to Yotin Sawangdee et al. (17)) reviewed and summarized a very comprehensive concept of access to care from various studies. According to Penchansky and Thomas, factors explaining the health service utilization are 1) availability, 2) accessibility, 3) accommodation, 4) affordability, and 5) acceptability.

In 1972, Gross (referred to Kusol Soonthornthada et al. (9)) proposed the mathematical model explaining the complexity of medical service utilization. According to the model, the utilization depends on enabling factor (E), predisposing factor (P), accessibility (A), perceive health level (H), exogenous variable (X), and error term, as shown in equation 1 below.

$$U = f(E, P, A, H, X) + \varepsilon \qquad \text{equation 1}$$

Sunthonthada and Thongthai (1996) (9) summarized that the factors influencing the demand for medical care were;

1. Economic factors (i.e. treatment cost, income of the consumer, health insurance, time cost)
2. Social factors (i.e. marital status, education, occupation, household size)
3. Demographic factors (i.e. age, gender, population density, geographical location and environment)
4. Individual health status (i.e. health experience, sickness seriousness, nature of disease)
5. Other factors (i.e. number of facility in the area, distribution of facility, number of bed, number of physician and government policy)

Day and Leaprapai (1997) (referred to Adirek Rengmanawongsa et al (16)) studied the patterns of health utilization in upcountry Thailand. The study examined the reason why people do use or do not use medical service at government health

facilities. According to the study, the factors predicting whether or not the patients would use or not use government hospital includes;

1. Personal factors (i.e. perception of illness, knowledge, time available, past experience and familiarity with which providers, mobility)
2. Provider's characteristics (i.e. quality of service/reputation, equipment/type of treatment that can be offered, rapport with the people and community, cost of service and waiting time)
3. Intervening factors (i.e. distance, transportation, opinions of friends and relatives and alternative providers of medical /health care)

Sommatr Prompakdee et al. (1989) (referred to Adirek Rengmanawongsa et al. (16)) indicated that the obstructive factor of the patient to get the services at the primary or fundamental health station is the transportation. Similarly, Sripichit Tadpetch (2000) revealed that the main reason of the registered patients who utilize the health services at community hospital instead of at the primary health station for the common illness is the convenience in transportation, the perception in severity of the illness and the quality of medicines.

Yotin Sawangdee et al. (2000) (17) found that the reasons why patients with the non-serious illness usually have health service utilization at the central or high level health service units. These reasons were identified, as follows;

1. The convenience and accessibility
2. The modern personality
3. The confidence in quality of medicine
4. The uncertainty of the services arranged by small health service units
5. The cheaper service expenses
6. The uncertainty of the illness severity

d. Expectation and satisfaction of the patients

Parasuraman and et al. (1990) (18) indicated that quality of service can be assessed by comparing the expectation and actual service received in 5 aspects.

1. Tangibles, which means physical characteristics of service facilities such as appliances, personnel.
2. Reliability, which means the accuracy and consistency of the services.
3. Responsiveness, which includes the readiness and willingness to provide service, and the promoted response to the patient need.
4. Assurance, which means the ability of the providers in providing the assurance to the patient.
5. Empathy, which means the ability of the providers to provide empathy and to show willingness to help solving the problems of the patient.

Service quality depends on the gap between expectation and perception in quality of actual health service received. If the given service is better than or as same as expected, the service is considered a service of good quality. In contrast, if the given service is less than expected, the service is considered low quality.

Aday and Andersen (1975) (25) studied satisfaction of people toward health care delivery in the United States and found that convenient and price of services were the two most important factors that the patients were satisfied with the most.

Millett (1954) (26) stated that satisfactory service must have the following 5 characters;

1. Equitable service: service provision is rendered equally and fair to all without favoritism utilizing the same standards for all.

2. Timely service: service is provided on time and meets clients' needs.

3. Ample service: service provision that includes adequate and appropriate location, staff and facilities.

4. Continuous service: service and care provided continuously until healing has been achieved.

5. Progressive service: service provision should continuously seek to improve quality and develop more efficient ways to render services based on the factors above.

e. The Relevant Research Works

1. Relevant research work related to factors affecting medical utilization services

Kusol Soonthornthada and Varachai Thongthai (1996) (9) studied the characteristics of users and determinants of medical services utilization in private sector such as clinics, polyclinics and private hospital. It was found that factors affecting the out-patient private medical services utilization were types and duration of illness, type of providers and expectation of recovery. For in-patient, service expenditure, occupation of users and patient's status were found to be the factors affecting the utilization. In addition, factors affecting the clinic utilization were the severity of disease, price, and occupation of users and perceive quality of doctor. The factor affecting polyclinic utilization was expectation for recovery. While the private hospital utilization were determined by the hospital reputation, service, expenditure convenience to access and patients' privilege.

2. Relevant research works related to factors affecting by pass problems experience by patients obtaining medical services

Adirek Rengmanawongsa et al. (2003) (16) studied factors affecting by pass utilization at Phukhieo hospital, Phukhieo district, Chaiyaphum province. The study found that the factors leading to the bypass utilization were transportation, convenience, perception about quality of medical service, severity of illness, the character of the providers, knowledge, and referral system. The study suggested that the patients should be allowed to choose their registered health facility without geographic boundary limitation.

Puangtong Kruemongkorn et al. (1992) (19) studied factors affecting patient from the countryside to receive health services at Ramathibodi hospital with a total of 300 patients by means of questionnaire during August-October,1991. This research aims at exploring some viewpoints of patients, living in rural countries, who ignore their medical service and their motivations to gain from Ramathibodi Hospital. The output of the research is that patients visit the hospital for the cure of cancer. However, patients make up their minds to change the medical serving place, since they find no recovery. Their relatives and friends, thus, recommend Ramathibodi Hospital because they trust it to take good care of them. Notwithstanding, provided traveling fee, they have to find another problem; medical fee. They, then, solve their problems by asking for their relatives and friends' help. Other requirements most patients need from their medical place are modern equipments and medicine of higher efficiencies, adequate and qualified medical personals with good human relationship.

Yothin Sawangdee et al. (2000) (17) studied problems and suffering experienced by patients obtaining service at health care facilities with a total of 1,473 respondents revealed that the causes why patients did not seek medical services at health facilities that close to patients' residence. For example, patients who seek care at health center usually complain about not recovery of symptoms/diseases, patients were referred to other bigger health facilities for treatment. For another example,

lacking of specialists and modern technology, most of patients are uncertain in their illness as what and how serious it is.

3. Relevant research works related to satisfaction of regular medical services utilization

Natcha Milintanuch (2003) (27) studied the quality of anesthetic service at Rajavithi Hospital: a comparison of expectation and perceived performance with the total of 300 patients who had undergone surgical procedures by questionnaires. The patient had a preanesthetic visit one day before anesthesia was given by an anesthetists or an anesthetic nurses at Rajvithi Hospital. Results showed that the quality of anesthetic service at Rajvithi Hospital, as perceived by the service receivers, was lower than their expectation. It was found that the service receivers expected the highest quality of anesthetic service in the aspects of reliability and confidence building for service receivers. While perception in both aspects were the lowest, perception in the aspect of service tangibles was highest.

Dusadee Yairaungsri (1998) (28) studied expected service quality to correlation with satisfaction of sick Buddhist monks of medical services in the in-patient department, the Priest Hospital, Ministry of Public Health. Three-hundred and eighty sick Buddhist monks were interviewed during February 23rd to March 23rd 1998. The results of this research indicated that 60.08% of the respondents expected high service quality and 63.16% of the respondents had a high level of satisfaction with the medical services. Significant correlations were found between expected quality of services reliability, assurance, tangibles, empathy, responsiveness, ability, accuracy of role perception and satisfaction with medical services received (p-value < 0.001).

Soungtip Wongphan (1998) (29) studied service quality as expected and perceived by the customer attending the out-patient departments of government hospital in Suphanburi Province. Information was collected from 400 customers by interview during 2nd February to 31st March, 1998. The major finding was that the

expectation and perception of overall service quality were at high and moderate level respectively. Expectation and perception were found to differ significantly at the 0.01 level for overall service quality and for all aspects of service quality (tangibles, reliability, responsiveness, assurance, and empathy).

4. Relevant research works related to satisfaction of regular medical services utilization

Vasin Theekavanit et al. (2003) (30) studied expectation on service quality for Universal Health Coverage program in Phichit Province with a totaling 421 cases of the 44 primary health care units (PCU) by the questionnaire, based on the concept of Parasuraman in 5 aspects of the service quality including tangibility, reliability, responsiveness, assurance, and empathy. It was evidence that total service expectation of the clients of PCU was at a high level. Considering each component, the expectation of the customer clients at the highest level based on the facilities of the service unit areas for the service tangibility. On the service reliability, the greatest expectation was quick interaction. For the service responsiveness, sincerity of the officers was rated the highest. Furthermore, in dealing with the service confidence, the greatest expectation was on safety. On the empathy, the clients had the greatest expectation on the friendliness of the officers.

5. Relevant research works related to characteristics of accident and emergency service utilization

Pongpisut Jongudomsuk and Sarai Ruengdej (2004) (5) studied accident and emergency cases in the Universal Coverage Scheme that claims submitted to the NHSO from October 2001 to September 2003,for totally 274,976 patients. It was found that male patients were slightly predominant (male: female = 1.18: 1). About two-third of accident and emergency cases were in-patients (68.40%), almost of them

in range of age were 21-30 years old (23.30%), in the next order were not exceed 10 years old (18.35%). For out-patients were found that injuries and poisoning from external causes were the most common diagnosis (47.24%), in the next order was disease of the respiratory system, and infectious and parasitic diseases for 10.03%, 7.50% respectively. Whereas in-patients were found that vaginal delivery without complication causes were the most common diagnosis (5.69%), in the next order was esophagitis, gastroenteritis & miscellaneous digestive disorder and psychoses for 3.90%, 3.84% respectively. Almost half of cases were submitted by health facilities in Bangkok and in the central region. The researchers discussed the results obtained and recommended that, these could be arisen from several factors; 1) the high proportions of health facilities and the number of beds in those areas 2) a large number of migrations of people to these areas, without changing their registration, and 3) Bangkok was divided into 14 districts. Beside the aforementioned above, found that in cases of psychoses which want to treat by psychiatrist who were not work at general health facilities. It was difficult summarized that disease patterns of these patients related to the unclear definition of “emergency cases” (In cases of accident for out-patients were more distinct definition.) or the system was not comply with the patients’ need and necessity in reality.

Kasinee Saranritthichai et al. (2003) (31) studied community perception on Emergency Medical Service (EMS) of Khon Kaen Regional Hospital (KKRH) with a total of 354 houses in 8 communities by questionnaires. The result of the study showed that the communities mainly knew EMS of KKRH (64.83%). The factor influencing community perception on EMS of KKRH were the factors influencing knowing EMS and the factors influencing using EMS. The factors influencing knowing EMS were public relation, occupation, illness seeing EMS’s car, seeing EMS service, leader, policeman, health officer. The influencing using EMS service were seeing EMS service in the community, illness, cannot be able to go to KKRH, information from EMS, talking in community and EMS’s appreciation.

Conceptual Framework

Conceptual framework of this study was guided by the concepts of health service utilization of Andersen, Kravits, and Anderson (1975) (7), concept related to the expectation and the satisfaction of the medical services by Parasuraman et al. (1990) (18), and the related study. According to Andersen, Kravits, and Anderson (1975) (7), factors affecting the utilization includes 1) predisposing factors, 2) enabling factors, and 3) need factors. Parasuraman et al. (1990) (18) indicated that patient satisfaction can be assessed in 5 aspects, which are tangibles, assurance, responsiveness, reliability, and empathy. It is also indicated that if the quality of actual service received is higher than the expectation, the patients will be satisfied.

The conceptual framework of the study is presented in figure 1. According to the conceptual framework, predisposing factors, enabling factors, and need factors were identified as the factors affecting utilization of accident and emergency service outside the registered province. Patient satisfaction was measured in five aspects, as the differences between actual service received and patients' expectation.

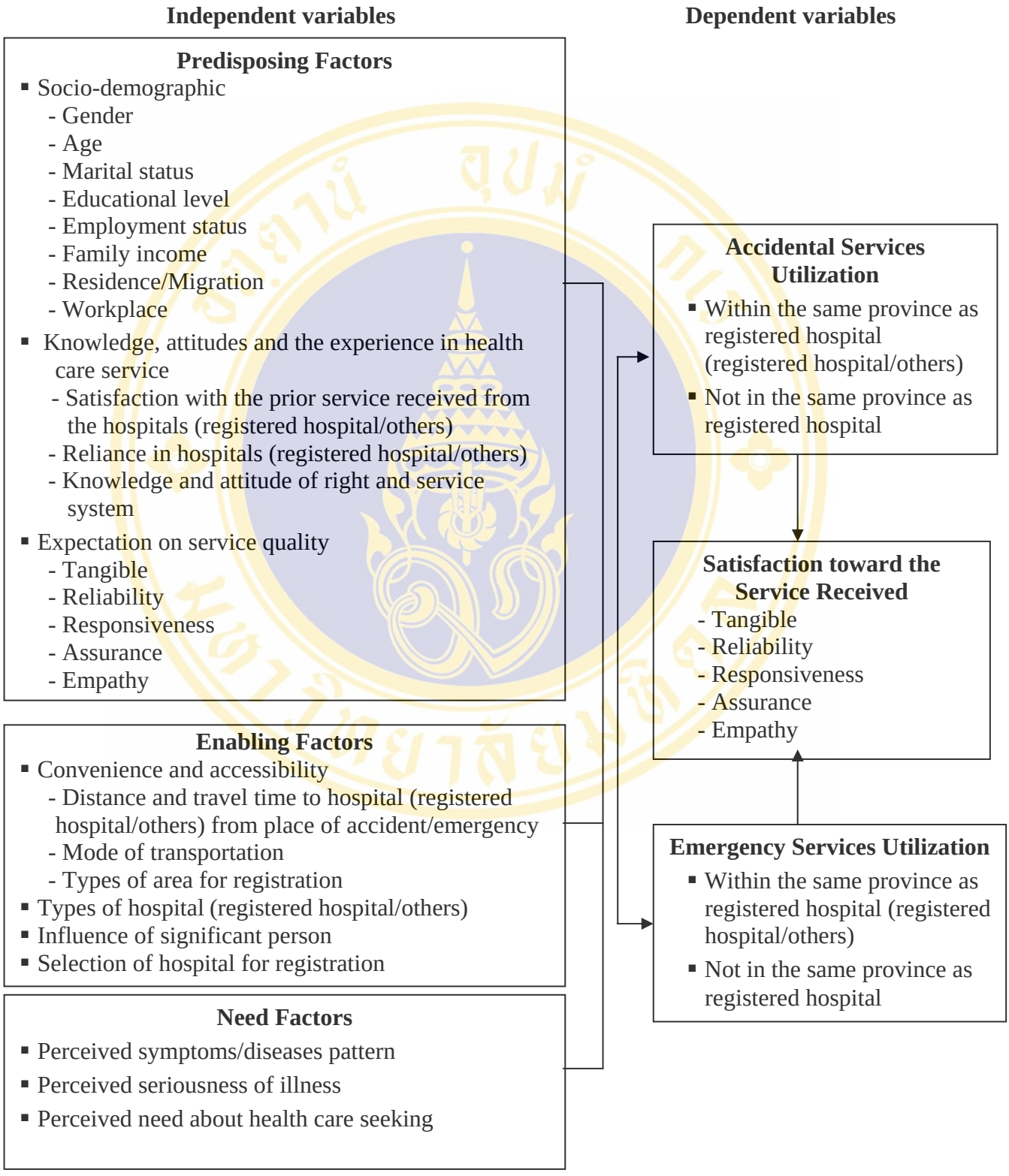

Figure 1 Conceptual framework of the research

Hypotheses of the Study

This study has the following hypotheses:

1. Predisposing factors: socio-demographic characteristics, knowledge, attitude and the experience in health care service, and expectation on service quality are associated with utilization of accident and emergency service outside the registered province.

2. Enabling factors: convenience and accessibility, types of hospital, influence of significant person and selection of hospital for registration are associated with utilization of accident and emergency service outside the registered province.

3. Need factors: perceived symptoms/diseases pattern, perceived seriousness of illness, and perceived need about health care seeking are associated with utilization of accident and emergency service outside the registered province.

CHAPTER III
METHODOLOGY

1. Study design:

Cross-sectional study

2. Study populations

The target populations were all accident and emergency patients under the UCS.

3. Samples

The samples of this study were patients under the UCS, who utilizing accident and emergency service at the accident and emergency department of the 12 selected hospitals, during the period of data collection. The samples were selected based on the following inclusion and exclusion criteria as follows;

Inclusion criteria

1. Patients who utilize health service at the accident and emergency department of the sample hospitals**.**
2. Patients who are entitled to medical benefit under the UCS. (Whether or not they utilize their medical benefits under the UCS for this service.**)**
3. Patients who perceive that their symptoms require emergency care

Exclusion criteria

1. Patients who present with no signs or symptoms that required treatment (i.e. getting medical certification, purchasing drugs/medical materials, having appointment for dressing or vaccination, etc.**)**

2. Patients accepted that they did not require emergency service.
3. Patients who died before admitting to the accidental and emergency department or during the treatment process without insufficient information.
4. Patients who are eligible for the UCS but have not been registered yet.
5. Patients who are the conscripts.
6. Patients with disability.
7. Patients who are the veterans.
8. Patients who are referred by referral system from health facilities.
9. Patients and/or guardians (if the patients are children or elderly) who refuse to participate in the study.

4. Sample Calculation and sampling method

Sample size required in the study were calculated using the formula by Lemeshow (32, 33). According to the formula, the sample size should not be smaller than 30 folds of the total number of independent variables. Since the number of independent variables in this study is approximately 30 then the sample size required is 900. The total subjects were, then, equally recruited from 3 groups of hospitals (300 for each group). Three groups of hospitals were classified based on the amount of the accident and emergency service claims (in-patient service), submitted to the NHSO for reimbursement during January 1st, to September, 23rd 2004 as follows;

- Group I: Groups of the hospitals that submitted the large amount of claims to the NHSO.
- Group II: Groups of the hospitals that submitted the medium amount of claims to the NHSO.

- Group III: Groups of the hospitals that submitted the small amount of claims to the NHSO.

For each group, the hospitals were, then, categorized into two subgroups; 1) regional hospitals/general hospitals/Bangkok-hospitals, and 2) community hospitals; as follows;

- Group I:
  - Subgroup I: Group of the regional hospitals/general hospitals/Bangkok-hospitals that submitted more than 2,000 cases
  - Subgroup II: Group of the Community hospitals that submitted more than 500 cases.
- Group II:
  - Subgroup I: Group of the regional hospitals/general hospitals/Bangkok-hospitals that submitted between 1,000-2,000 cases.
  - Subgroup II: Group of the Community hospitals that submitted between 200-500 cases.
- Group III:
  - Subgroup I: Group of the regional hospitals/general hospitals/Bangkok-hospitals that submitted less than 1,000 cases.
  - Subgroup II: Group of the Community hospitals that submitted less than 200 cases.

Then, four hospitals from each group were selected (two for each subgroup) using purposive sampling technique based on the geographic location. The sample size required for each hospital were calculated based on the proportion of the total number of accidental and emergency case provided in each hospital. The sample size required for each selected hospitals was presented in Figure 3.

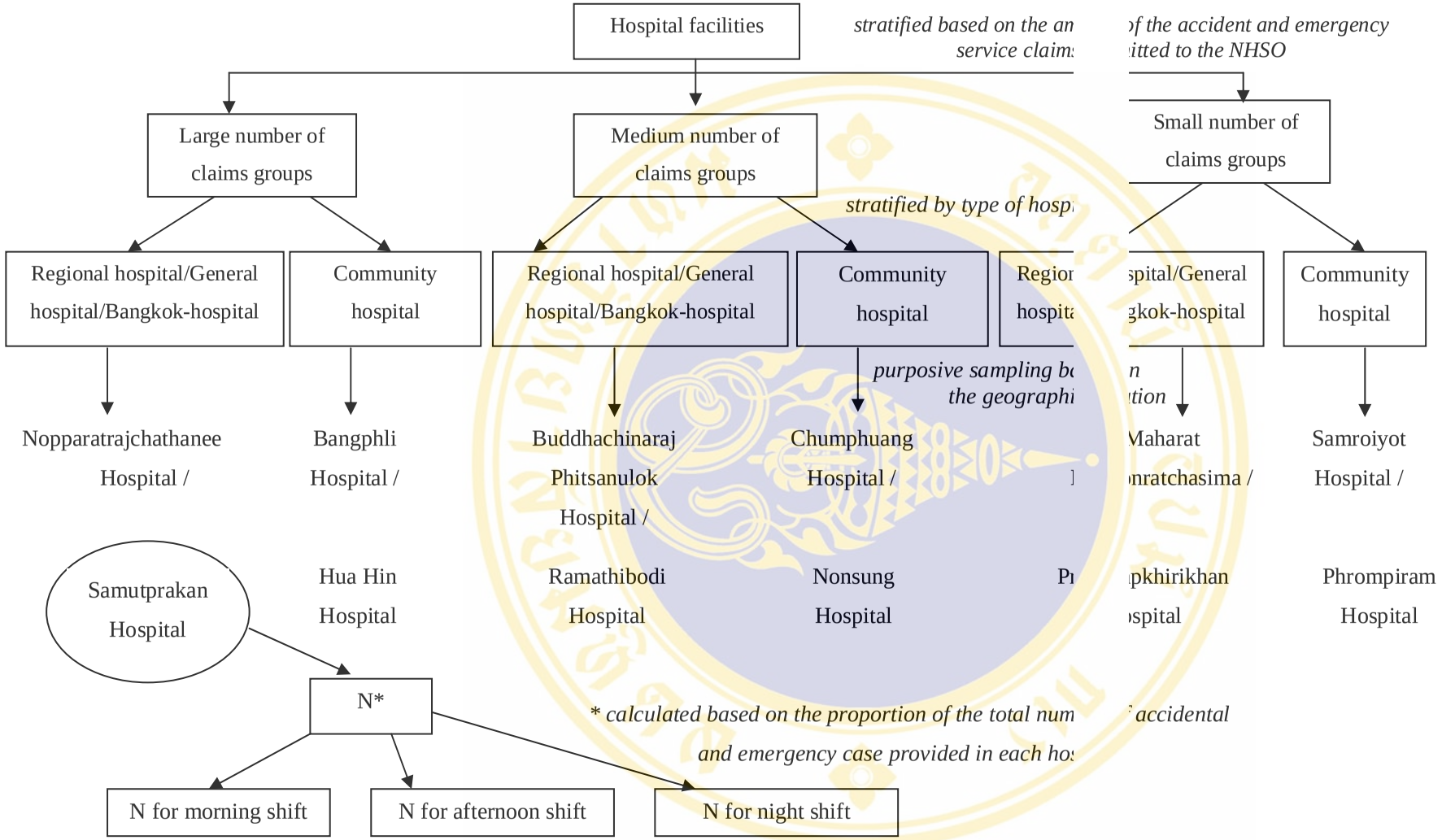

Figure 2 Sampling method for selected hospitals

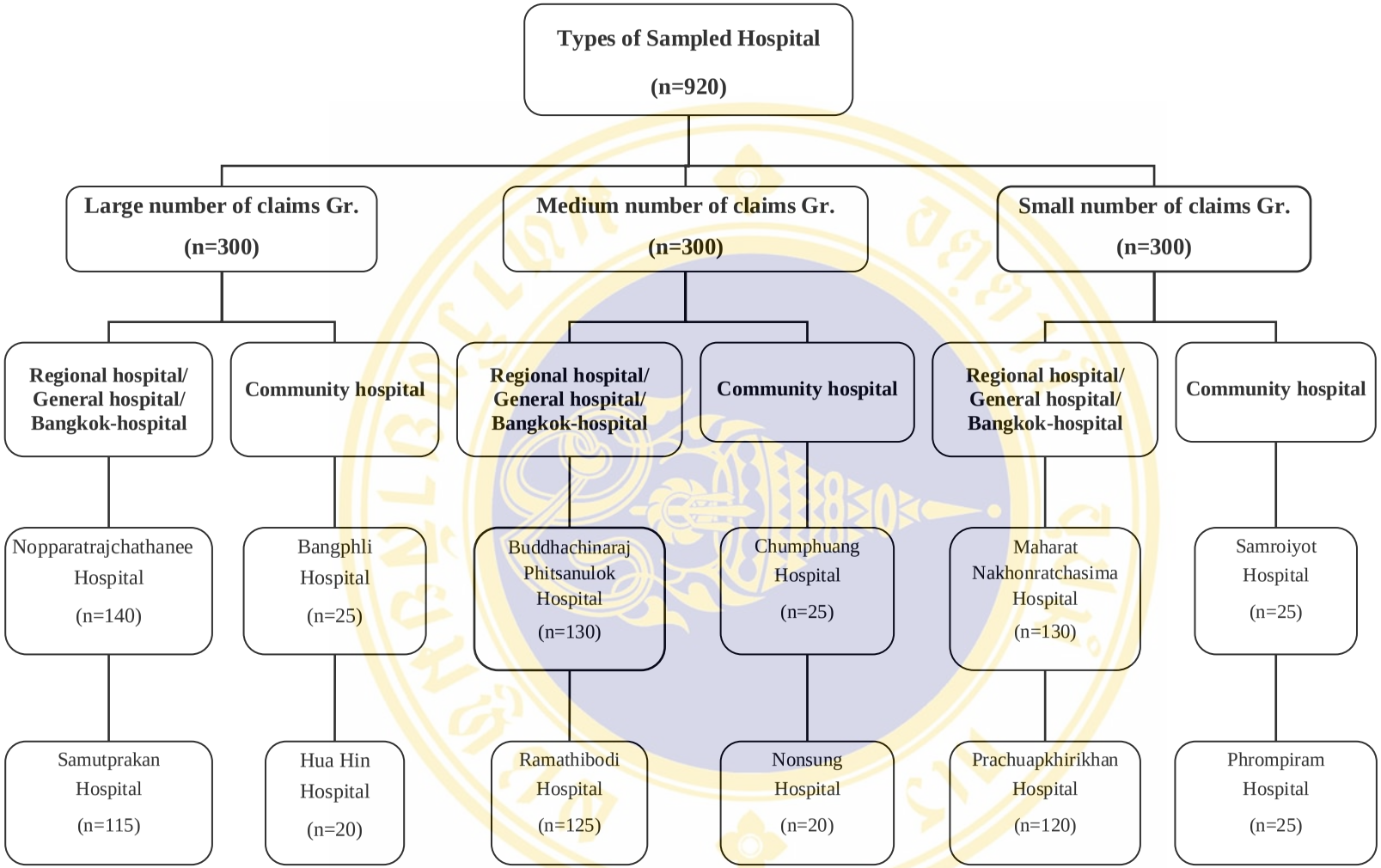

Figure 3: The sample size required in each sampled hospitals.

5. Study Instrument

In this study, the structured questionnaire was used as the study instrument. Three types of questionnaires were designed to facilitate the data collection process.

Questionnaire: Type I

Type I questionnaire was used when the eligible patients were those who decided to seek medical care at the accident and emergency department (AED) of the sampled hospitals by themselves, and were able to communicate well with the interviewer. In this case, the respondents were the patients themselves. If the patients were those who decided to seek medical care at the AED by themselves but they had problem understanding or communicating, questionnaire type I was also used but the respondents were his/her relatives. This type of questionnaire consisted of 5 parts as follows;

Part I: Part I of the questionnaire contained general information of the patients (i.e. gender, age, marital status, educational level, occupation, family income, registered health facilities, residence/migration, and workplace)

Part II: Part II of the questionnaire examined accidental and emergency services utilization behavior and perception regarding the illness. (i.e. utilization behavior, perceived seriousness of illness, perceived need for health service)

Part III: Part III of the questionnaire examined factors related to accident and emergency services utilization. (i.e. convenience and accessibility, type of health facilities (registered hospital/others), reliance of health facilities (registered hospital/others), and selection of hospital for registration)

Part IV: Part IV of the questionnaire examined knowledge and attitude towards the accident and emergency services provided under the UCS.

Part V: Part V of the questionnaire examined expectation of the service and actual service received in five aspects (tangible, assurance, responsiveness, reliability, and empathy).

Questionnaire: Type II

Type II questionnaire was used when 1) the eligible patients did not make decision to utilize such service at the sample hospitals by themselves, 2) the decision makers were those who were related to them (i.e. family, friends, relative), and 3) the patients could not communicate well (i.e. having serious condition, children, or elderly). In this situation, the respondents were those who made decisions. A Type II questionnaire differs from Type I in that it had one additional part (Part VI), which contained the questions about general information of the respondents.

Questionnaire: Type III

Type III questionnaire was used when 1) the eligible patients did not make decision by themselves, and 2) the situation did not fit into the criteria of using questionnaire type I and II. In this situation, the respondents were both decision makers (i.e. policemen, the foundation/EMS officers, the witnesses, etc.) and the patients. Type III questionnaires consisted of 8 parts. The first 4 parts of this questionnaire resembled the first four parts of the Type I questionnaire. These first four parts were answered by the patients. If the patients were unable to understand or communication, the interviewer will interview his/her relatives instead. The fifth part (Part V) to the seventh part (Part VII), was resembled part III to part V of the type I questionnaire. These 3 parts contained questions examining factors related to accident and emergency services utilization, knowledge, attitude, beliefs and perception of the services. The final part of questionnaire (Part VIII) contained general information of the decision makers. From part V to part VIII, the respondents were the decision makers.

6. Study Procedure

1. Questionnaire development

First, the researcher performed literature reviews of relevant research and related theory or concept concerning health service utilization behavior and the predictors of health service utilization. Key variables were identified. Then, the scope

and the content of the questionnaire were developed, as outline in the theoretical framework. The manual for using questionnaire was also developed.

2. Testing the Questionnaire

The content validity and face validity of the questionnaire were be assessed by the group of experts. Pretest of the questionnaires was conducted before actual data collection. The pretest was conducted in 33 respondents selected from Banbueng Community Hospital. The reliability were assessed by an internal consistency measure, Cronbach's alpha. After the pretest, the questionnaires were modified to ensure clarity and understanding.

3. Data Collection

Before the data collection began, the researcher contacted and informed the Director of sampled hospitals about the purpose of the study. The data collection will be performed by well trained external interviewers under the supervision of the researcher. After the total number of sample size was determined in each setting, the number of patients recruited in morning shift, afternoon shift and night shift was calculated. For each setting, all eligible patients were then selected until the target number was reached. At least 20% of patients recruited in each setting must be the patients who utilized the service outside the registered province facilities. For outpatient, the respondents were interviewed after they completed the treatment. For inpatient, the respondents were interviewed on the third day after admission or on the date of discharge whenever occur first. At the beginning of the interview, all respondents were informed of the objectives of the study and be assured that all the responses were remain confidential. The informed consent was, then, given by all the respondents before the interview began.

4. Data Analysis and Interpretation

Data collected from the respondents were analyzed and the interpreted, as described in "Data Analysis" part.

5. Final Report Preparation

7. Data Analysis

Data were analyzed using the Statistical Package for Social Sciences (SPSS), as follows,

Part I: Descriptive analysis

In this part, general characteristics of the sample, including socio-demographic characteristics, utilization behavior, knowledge, attitude, perception of illness, expectation of the services, and actual service received, were described. The results were presented by percentage, mean, and standard deviation. Also, the comparisons of these characteristics were compared between utilization within the registered province and outside the registered province, for both emergency cases and accident cases. The Chi-square and T-test statistic were performed. If the data was not normally distributed, nonparametric statistics were used.

Part II: Binomial Logistic Regression analysis

In this part, binomial logistic regression analyses were used to examine factors affecting utilization of accident and emergency services outside the registered province.

1) Factors affecting utilization of accident and emergency services outside the registered province were examined. Dependent factor (Y) is the utilization behavior in the accident and emergency services, which was classified into 2 groups where level 1 was the utilization of the services at the health facility, that was located in the same province as the registered hospital, and level 2 was the utilization of the services at the health facility, that was not located in the same province as the registered hospital.

2) Factors affecting utilization of accident services outside the registered province were examined. Dependent factor (Y) is the utilization behavior in the accident services, which was classified into 2 groups

where level 1 was the utilization of the services at the health facility, that was located in the same province as the registered hospital, and level 2 was the utilization of the services at the health facility, that was not located in the same province as the registered hospital.

3) Factors affecting utilization of emergency services outside the registered province were examined. Dependent factor (Y) is the utilization behavior in the emergency services, which was classified into 2 groups where level 1 was the utilization of the services at the health facility, that was located in the same province as the registered hospital, and level 2 was the utilization of the services at the health facility, that was not located in the same province as the registered hospital.

CHAPTER IV
RESULTS

The results of this study were divided into three parts; as follow:

Part 1: Descriptive data of the samples

Part 2: Comparison between utilization within the registered province and outside the registered province

Part 2.1: All of accident and emergency patients

Part 2.2: Accident patients

Part 2.3: Emergency patients

Part 3: Factors affecting utilization of accident and emergency services outside the registered province

Part 3.1: Binary logistic regression analysis in all accident and emergency patients

Part 3.2: Binary logistic regression analysis in the emergency patients

Part 1: Descriptive data of the sample

1. General characteristics of data collection

The total number of 920 questionnaires was collected in this study. It was found that about 58%, 37%, and 5% of these questionnaires were type II questionnaire, type I questionnaire and type III questionnaire, respectively. The total number of collected questionnaires by its types was shown in Table 1.

Table 1: Type of questionnaires

Type of questionnaire	Number	(%)
Type I	341	(37.1)
Type II	534	(58.0)
Type III	45	(4.9)

Table 2 presents the number of participants classified by five selected provinces and twelve selected hospitals. About 28.9%, 19.9%, 18.3%, 17.4%, and 15.5% of them were in Bangkok, Nakhonratchasima, Prachuapkhirikhan, Phitsanulok, and Samutprakan province, respectively.

Table 2: The number of participants classified by provinces and hospitals

Characteristic	Number	(%)
Bangkok	266	(28.9)
Nopparatrajchathanee hospital	140	(15.2)
Ramathibodi hospital	126	(13.7)
Nakhonratchasima	183	(19.9)
Maharatnakhonratchasima hospital	137	(14.9)
Chumphuang hospital	25	(2.7)
Nonsung hospital	21	(2.3)
Prachuapkhirikhan	168	(18.3)
Prachuapkhirikhan hospital	119	(12.9)
Samroiyot hospital	29	(3.2)
Hua Hin hospital	20	(2.2)

Table 2: The number of participants classified by provinces and hospitals (continue)

Characteristic	Number	(%)
Phitsanulok	160	(17.4)
Buddhachinaraj Phitsanulok hospital	135	(14.7)
Phrompiram hospital	25	(2.7)
Samutprakan	143	(15.5)
Samutprakan hospital	117	(12.7)
Bangphli hospital	26	(2.8)

2. General characteristics of patients

Table 3 presents socio-demographic characteristics of the total patients who participated in this study. The total number of male patients in the study was almost the same amount as that of female patients (49.9% and 51.1%, respectively). Average age of the patients was about 37 years old. About 40.6% of the patients were 25-59 years old. The majority of participated patients were married (54%), educated in primary school or lower level (51%) and unemployed (41.9%). The average family income of the patients was nearly 9,100 baht per month, mainly was lower than 5,000 baht per month. Residence as indicated in house registration, present residence and present workplace of the majority of patients were located in central region (35.1%, 36.2% and 32.3%, respectively).

Table 3: Socio-demographic characteristics of patients

Socio-demographic characteristics of patients	Number	(%)
Gender (n=919)		
Male	450	(49.9)
Female	469	(51.1)
Age (Year) (n=911)		
0-5	144	(15.8)
6-12	55	(6.0)
13-24	133	(14.6)
25-59	370	(40.6)
≥ 60	209	(22.9)
Mean	37.06	
S.D.	25.06	

Table 3: Socio-demographic characteristics of patients (continue)

Socio demographic characteristics of patients		Number	(%)
Marital status (n=919)			
	Single	175	(19.0)
	Married	496	(54.0)
	Divorced/ separated/ widowed	31	(3.4)
	Buddhist monk	2	(0.2)
	Child lower than 15 yrs	215	(23.4)
	Unknown	0	(0)
Education level (n=919)			
	Never attended school	221	(24.0)
	Primary school or lower	469	(51.0)
	M. 1-M. 3	99	(10.8)
	Up to M. 3 or equivalent	64	(7.0)
	Diploma or equivalent	23	(2.5)
	Bachelor degree or equivalent	26	(2.8)
	Higher than bachelor degree	2	(0.2)
	Unknown	15	(1.6)
Occupation (n=918)			
	Agriculturist/ fisherman/ waged-worker	261	(28.4)
	Merchant/ business owner	91	(9.9)
	Employee	22	(2.4)
	Student	123	(13.4)
	Unemployed	385	(41.9)
	Housewife	11	(2.7)
	Others	25	(1.2)
Family income (Baht/ month) (n=920)			
	< 5,000	587	(63.8)
	5,001-10,000	250	(27.2)
	10,001-15,000	28	(3.0)
	15,001-30,000	40	(4.3)
	30,001-100,000	14	(1.5)
	> 100,000	1	(0.1)
	Mean	9,060.82	
	S.D.	11,729.32	
Residence as indicated in the house registration (n=903)			
	Northern region	18	(2.0)
	North -Eastern region	261	(28.9)
	Central region (not included BKK)	317	(35.1)
	Eastern region	12	(1.3)
	Western region	169	(18.7)
	Southern region	11	(1.2)
	Bangkok	115	(12.7)

Table 3: Socio-demographic characteristics of patients (continue)

Socio-demographic characteristics of patients	Number	(%)
Present residence (n=895)		
Northern region	5	(0.6)
North -Eastern region	201	(22.5)
Central region (not included BKK)	324	(36.2)
Eastern region	7	(0.8)
Western region	162	(18.1)
Southern region	4	(0.4)
Bangkok	192	(21.5)
Present workplace (n=431)		
Northern region	2	(0.5)
North -Eastern region	95	(22.0)
Central region (not included BKK)	139	(32.3)
Eastern region	5	(1.2)
Western region	75	(17.4)
Southern region	12	(2.8)
Bangkok	103	(23.9)

3. Location of patients' registered hospital, type of area for registration and type of patients' registered hospital

The registered hospitals of the patients were mainly located in the central region (35.1%). Most of the patient's registered hospitals were located within the same province as their residence according to the house registration, present residence and workplace (96.5%, 84.8%, and 66.5%, respectively) (see Table 4 and 5).

Table 4: Location of patients' registered hospital

Geographic region (n=916)	Number	%
Northern	18	(2.0)
North - Eastern	258	(28.9)
Central (not included BKK)	312	(35.1)
Eastern	13	(1.3)
Western	171	(18.7)
Southern	14	(1.5)
Bangkok	130	(14.2)

Table 5: Relationship between location of the registered hospital and residence according to the house registration, present residence and workplace of patient

Characteristics	**Number**	**%**
Location of the registered hospital and residence according to the house registration (n=905)		
Within the same province	873	(96.5)
Not in the same province	32	(3.5)
Location of the registered hospital and present residence (n=895)		
Within the same province	759	(84.8)
Not in the same province	136	(15.2)
Location of the registered hospital and present workplace (n=486)		
Within the same province	323	(66.5)
Not in the same province	163	(33.5)

For types of area for registration, about 50% of the patients lived in district that was the location of general or regional hospital. Area for registration of 18.4%, 17.3%, and 14.4% of patients were district which bordered the other district that were the location of general/ regional hospital, district which not bordered the other district that were the location of general/ regional hospitals, and in Bangkok district, respectively (Table 6). Likewise, one-half of the registered hospitals of the patients (50.6%) were regional or general hospitals. About 35.1% and 14.3% of patients' registered hospital were community hospitals and Bangkok-hospitals, respectively (see Table 7).

Table 6: Types of area for registration

Types of area for registration (n=915)	**Number**	**%**
District which not bordered the other district that were the location of general/ regional hospital.	158	(17.3)
District which bordered the other district that were the location of general/ regional hospital.	168	(18.4)
District that was the location of general/ regional hospital	457	(49.9)
Villages which bordered the other provinces	0	(0)
Bangkok district	132	(14.4)

Table 7: Types of patient's registered hospital

Types of patient's registered hospital	Number	%
Community hospital	323	(35.1)
Regional hospital/General hospital	465	(50.6)
Bangkok-hospital	131	(14.3)

4. Accident and emergency services utilization behavior

Table 8 displays utilization characteristic of the accident and emergency (AE) service of the patients. When comparing the accident patients to those who utilize emergency service, this study found that time of visits, which is the time that patient arrived at the emergency department (ED), was afternoon shift in majority of accident patients (49.7%), while the most of emergency patients (45.4%) was morning shift. More than one-half of the accident cases (55.3%) were out-patients, while the majority of emergency cases (59.2%) were in-patients. When looking at type of health care service, it was found that the proportion of accident patients who utilize services outside the registered province were higher than those who utilize the emergency services. For type of utilized hospital, it was found that the majority of accident and emergency patients were regional or general hospitals in 67.5% and 54.6%, respectively.

Table 8: Utilization characteristics of the patients

Characteristics	Number of participants (%)		
	Accident cases	Emergency cases	Total AE cases
Time of visit/admission (n=918)			
Morning shift	81(41.1)	327(45.4)	408(44.4)
Afternoon shift	98(49.7)	318(44.1)	416(45.3)
Night shift	18(9.1)	76(10.5)	94(10.2)
Type of patient (n=897)			
Out-patient	104(55.3)	289(40.8)	393(43.8)
In-patient	84(44.7)	420(59.2)	504(56.2)

Table 8: Utilization characteristics of the patients (continue)

Characteristics	Number of participants (%)		
	Accident cases	Emergency cases	Total AE cases
Type of health service utilization (n=920)			
Utilizing the registered hospital	120(60.9)	485(67.1)	605(65.8)
Utilizing non-registered hospital that was located in the same province as the registered hospital	24(12.2)	80(11.1)	104(11.3)
Utilizing non-registered hospital that was located in the different province as the registered hospital	53(26.9)	158(21.9)	211(22.9)
Type of utilized hospital in this episode (n=920)			
Community hospital	17(8.6)	109(15.1)	126(13.7)
Regional hospital/General hospital	133(67.5)	395(54.6)	528(57.4)
Bangkok-hospital	47(23.9)	219(30.3)	266(28.9)
The utilized hospitals in this visit/admission were the patients' registered hospital (n=892)			
Yes	117(63.9)	478(67.4)	595(66.7)
No	64(35.0)	224(31.6)	288(32.3)
Unknown	2(1.1)	7(1.00)	9(1.0)

As shown in Table 9 and 10, most decision makers, the persons who made decision to utilize AE services at the selected hospitals, were patients' relatives or friends or neighbor (61.4%), followed by patients themselves (37.0%). The majorities of decision makers were females (69.4%), educated in primary school groups (53.9%) and worked in the group of agriculturists/ fishermen/ waged workers (41.7%).

Table 9: Decision maker

The person who made decision to utilize such service at the sampled hospital (n=920)	**Number**	**%**
Patients themselves	340	(37.0)
Relatives/ friends/ neighbor	565	(61.4)
Witness	4	(0.4)
Police/ EMS/ other foundation	6	(0.7)
Others	5	(0.5)

Table 10: General characteristics of the decision maker

General characteristic of decision maker	**Number**	**%**
Gender (n=890)		
Male	272	(30.6)
Female	618	(69.4)
Educational level (n=889)		
Never attended school	48	(5.4)
Primary school	479	(53.9)
M. 1-M. 3	134	(15.1)
Up to M. 3 or equivalent	125	(14.1)
Diploma or equivalent	49	(5.5)
Bachelor degree or equivalent	49	(5.5)
Higher than bachelor degree	2	(0.2)
Unknown	3	(0.3)
Occupation (n=890)		
Agriculturist/fisherman/ waged-worker	371	(41.7)
Merchant/business owner	166	(18.7)
Employee	65	(7.3)
Student	37	(4.2)
Unemployed	171	(19.2)
Housewife	28	(3.1)
Others	52	(5.8)

As shown in Table 11, the persons who delivered patients to the utilized hospitals in this episode were patients themselves or relatives (95.9%). For mode of transportation, it was found that the patients' or relatives' or friends' cars were the most frequent type of transportation cited by the patients (38.5%) followed by taxi/ tuk-tuk/ waged-car, and motorcycle for 30.2% and 23.3%, respectively.

Table 11: Transportation to the utilized hospital

Characteristics	**Number**	**%**
The person who delivered patient to the utilized hospital in this episode		
Patients themselves/ relatives	882	(95.9)
Policeman	1	(0.1)
Witness	9	(1.0)
EMS/ other foundation	10	(1.0)
Others	18	(2.0)
Mode of transportation		
By motorcycle	209	(23.3)
By the own car/ relatives'/ friends'/ neighbors' car	345	(38.5)
By bus	35	(3.9)
By taxi/ tuk-tuk/ waged-car	271	(30.2)
others	37	(4.1)

From the data obtained, it was found that most of AE patients (91.2%) used benefit from the UCS. In addition, most of them (96.5%) did not have other additional health insurances, as shown in Table 12. For those who didn't use benefit from the UCS in this visit, the most frequent reason cited by the participant was having additional health insurance including out of pocket (59.7%), followed by not eligible (48.1%), as shown in Table 13.

Table 12: Using benefit from the UCS and having additional health insurance

Characteristics	**Number**	**%**
Using benefit from the UCS		
Yes	835	(91.2)
No	81	(8.8)
Having additional health insurance		
Yes	32	(3.5)
No	886	(96.5)

Table 13: Reasons for not using benefit from the UCS in this visit

Reasons for not using benefit from the UCS* (n=77)	**Number**	**%**
Having other additional health insurance including out of pocket	46	(59.7)
Worrying that they would unable to receive rapid service	3	(3.9)
Worrying that the quality of drug or service received would not good.	1	(1.3)
Do not know about the right and benefit from the UCS	20	(26.0)
Having documentation problems	8	(10.4)
Not eligible (Visiting non-registered hospital in case of non- AE)	37	(48.1)
Decision maker decided not to use	5	(6.5)
Others	7	(9.1)

*can choose more than one answer

For AE service utilization, the most frequent cause of visit cited by the participants were emergency conditions (78.6%), followed by other accidents (18.3%) and road traffic accidents (3.2%), respectively (Table 14). Table 15 and Table 16 show causes of accident and emergency, respectively. This study found that falls were the most frequent cause of accident (39.9%) cited by the patients. Most of accident and emergency occurred at patients' residences (80.9%), as shown in Table 17.

Table 14: Causes of service utilization

Causes of service utilization (n=920)	**Number**	**%**
Road traffic accident	29	(3.2)
Other accidents	168	(18.3)
Emergency conditions	723	(78.6)

Table 15: Causes of other accidents (external cause)

Causes of other accident (n=168)	**Number**	**%**
Poisoning by solid or liquid substance, gases and vapors	6	(3.6)
Adverse product reaction	6	(3.6)
Sexual intercourse	0	(0)
Assault	19	(11.3)
Suicide	0	(0)
Falls	67	(39.9)
Dog-bitted	17	(10.1)
Others	53	(31.5)

Table 16: Causes of emergency conditions

Causes of emergency conditions* (n=723)	**Number**	**%**
Fainting/ severe dizziness	31	(4.3)
Asthma/ shortness of breath	91	(12.6)
Acute chest pain/ irregular heart beat	21	(2.9)
Fever or chill	165	(22.8)
Acute diarrhea	42	(5.8)
Nausea or vomiting	103	(14.2)
Severe abdominal pain	133	(18.4)

Table 16: Causes of emergency conditions (continue)

Causes of emergency conditions* (n=723)	**Number**	**%**
Nausea/ Rectal bleeding	20	(2.8)
Nerve damage	9	(1.2)
Severe headache/ trouble seeing/ hearing	76	(10.5)
Severe back pain	7	(1.0)
Severe hypersensitivity	5	(0.7)
Severe conditions related to delivery	37	(5.1)
Acute retention of urine	6	(0.8)
Psychological problem	3	(0.4)
Hemoptysis	6	(0.8)
Others	412	(57.0)

*can choose more than one

Table 17: Place of accident /emergency

Place of accident /emergency (n=918)	**Number**	**%**
At residence	743	(80.9)
At workplace	78	(8.5)
Others	97	(10.6)

Table 18 depicts experience and perception of this illness episode (only for emergency patients). It was found that about 48.3% of the emergency patients did not have prior experiences about their symptoms before. For perceived need of health care services, it was found that the majority of them (31.2%) perceived that their symptoms were acute, severe and might lead to death if did not receive immediate service. Similarly, for the perceived severity of illness, most of the patients reported that their symptoms were severe (49.1%).

Table 18: Experience and perception of this illness episode*

Characteristics	**Number**	**%**
Having prior experience about this illness (n=719)		
Yes	347	(48.3)
No	366	(50.9)
Unknown	6	(0.8)

Table 18: Experience and perception of this illness episode* (continue)

Characteristics	Number	%
Perceived need of health care service in this illness episode (n=714)		
Acute, severe conditions and might lead to death if not received immediate service	223	(31.2)
Not acute but severe and might lead to death if not received immediate service	173	(24.2)
Not acute nor severe but it disturbed daily activity	164	(23.0)
Not severe but worrying that it might get worse	150	(21.0)
Not severe but this time was convenient to visit the doctor	4	(0.6)
Perceived severity of this illness episode (n=711)		
Mild	42	(5.9)
Moderate	320	(45.0)
Severe	349	(49.1)

* Only emergency cases

5. Convenience, accessibility and reliance in hospital

5.1 Convenience, accessibility and reliance in the registered hospital

As presented in Table 19, the average of distance and time spent from accident/ emergency place to the registered hospital was approximately 21 kilometers and 65 minutes, respectively. Most of the AE cases (70.7%) indicated that it was convenient to go to their registered hospitals, as shown in Table 20.

Table 19: Distance and travel time from accident/emergency place to the registered hospital

Characteristics	Number	Minimum	Maximum	Mean	S.D.
Distance to registered hospital (kilometer)	575	0	700	20.76	63.02
Travel time to registered hospital (minute)	710	2	900	65.36	134.78

Table 20: Convenience transporting to the registered hospital

Convenience transporting to the registered hospital (n=871)	**Number**	**%**
Yes	616	(70.7)
No	203	(23.3)
Unknown	52	(6.0)

Table 21 shows that more than one-half of the AE cases (59.8%) had prior visit to the registered hospital within one year ago. Most of them felt satisfied with the service quality (90.5%). Moreover, the majority of them perceived that the service received was rapid (70.3%) and that the quality of service was reliable (76.9%), as presented in Table 22.

Table 21: Satisfaction with the prior service received from the registered hospital

Characteristics	**Number**	**%**
Prior visit to the registered hospital during the past one year. (n=878)		
Yes	525	(59.8)
No	306	(34.9)
Unknown	47	(5.3)
Satisfaction with the service quality of the registered hospital (n=506)		
Satisfied	458	(90.5)
Unsatisfied	36	(7.1)
Unknown	12	(2.4)

Table 22: Perceived quality of the registered hospitals

Characteristics	**Number**	**%**
Perceived service rate of the registered hospital (n=871)		
Rapid	612	(70.3)
Slow	129	(14.8)
Unknown	130	(14.9)
Reliance on service quality of the registered hospital (n=871)		
Relied	670	(76.9)
Not relied	71	(8.2)
Unknown	130	(14.9)

5.2 Convenience, accessibility and reliance in the utilized hospital

This study found that the average of distance and time spent from accident/ emergency place to the utilized hospital in this episode was approximately 13 kilometers and 32 minutes, respectively. Most of the AE cases (89.2%) indicated that it was convenience to transport to the utilized hospital (Table 23 and 24).

Table 23: Distance and travel time from accident/emergency place to the utilized hospital

Characteristics	Number	Minimum	Maximum	Mean	S.D.
Distance to utilized hospital (kilometer)	585	0.01	400	13.35	32.07
Travel time to utilized hospital (minute)	816	2	480	32.24	38.67

Table 24: Convenience transporting to the utilized hospital

Convenience transporting to the utilized hospital (n=891)	Number	%
Yes	795	(89.2)
No	89	(10.0)
Unknown	7	(0.8)

Table 25 shows that more than one-half of AE cases (61.4%) had prior visit to the utilized hospital within one year ago and most of them felt satisfied with the service quality (95.7%). Moreover, the majority of them perceived that the service rate was rapid (82.3%) and relied on service quality (94.1%), as presented in Table 26.

Table 25: Satisfaction with the prior service received from the utilized hospital

Characteristics	Number	%
Prior visit to the utilized hospital during the past one year. (n=898)		
Yes	551	(61.4)
No	341	(38.0)
Unknown	6	(0.7)

Table 25: Satisfaction with the prior service received from the utilized hospital (continue)

Characteristics	Number	%
Satisfaction with the service quality of the utilized hospital (n=529)		
Satisfied	506	(95.7)
Unsatisfied	18	(3.4)
Unknown	5	(0.9)

Table 26: Perceived service quality of the utilized hospital

Characteristics	Number	%
Perceived service rate of the utilized hospital (n=892)		
Rapid	734	(82.3)
Slow	125	(14.0)
Unknown	33	(3.7)
Reliance on service quality of the utilized hospital (n=894)		
Relied	841	(94.1)
Not relied	22	(2.5)
Unknown	31	(3.5)

6. Knowledge related to the regulation of accident and emergency service system under the UCS

Knowledge of the decision makers about the regulation of AE service under the UCS was shown in Table 27. In this study, it was found that most of them (86.3%) knew that UC patients are required to utilize regular service only at their registered health facilities. More than one-half of them (58.4% and 56.6%) knew that in case of accident and emergency, UC patients can utilize health service at any health facilities, which are in the National Health Security System or any others which have registered at the NHSO, located anywhere, respectively. However, more than one-half of them did not know that in case of emergency, utilization of service outside the registered hospital may be accessed at the maximum of twice a year and that in case of road traffic injury(68.2%), UC patients may, firstly, file an insurance claim under the

Traffic Accident Insurance (TAI) regulation for the reimbursement and the rest can be reimbursed by the National Health Security Funds(53.8%).

Table 27: Knowledge of decision maker related to the regulation of accident and emergency service under the UCS

Regulation of accident and emergency service under the UCS	Known (%)	Unknown (%)
In general, UC patients are required to utilize regular service only at their registered health facilities. (n=899)	776(86.3)	123(13.7)
In the case of accident, UC patient can utilize health service at any health facilities, which are in the National Health Security System or any others which have registered at the NHSO, located anywhere nearby. (n=898)	524(58.4)	374(41.6)
In the case of emergency, UC patient can utilize the health service at any health facilities, which are in the National Health Security System or any others which have registered at the NHSO, located anywhere nearby. (n=898)	508(56.6)	390(43.4)
In case of emergency illness, utilization of service outside the registered hospital must not exceed twice a year (n=899)	286(31.8)	613(68.2)
In case of road traffic injury, UC patients may, firstly, file an insurance claim under the Traffic Accident Insurance (TAI) regulation for the reimbursement and the rest can be reimbursed by the National Health Security Funds. (n=899)	415(46.2)	484(53.8)

7. Attitude towards the regulation of accident and emergency service system under the UCS

Table 28 displays attitude of decision makers towards the regulation of accident and emergency service system under the UCS. This study found that more than one-half of them showed the positive attitude towards AE service regulations. Most of the patients (70.6%) indicated that the following regulations were not troublesome nor problems for them; "In the case of accident, UC patients can utilize health service at any health facilities, which are in the National Health Security System or any others which have registered at the NHSO, located anywhere nearby" (70.6%), "in the case of emergency, UC patients can utilize health service at any health facilities, which are in the National Health Security System or any others which have registered at the NHSO, located anywhere nearby" (70.3%), "in general, UC patients are required to utilize regular service only at their registered health facilities" (59.5%), and "In case of road traffic injury, UC patients may, firstly, file an insurance claim under the Traffic Accident Insurance (TAI) regulation for the reimbursement and the rest can be reimbursed by the National Health Security Funds" (56.1%), respectively. In contrast, nearly fifteen percent (13.3%) of them had negative attitude related to AE regulation as indicated that the following regulation was a problem for them, "In case of emergency illness, utilization of service outside the registered hospital must not exceed twice a year".

Table 28: Attitude of decision maker related to the regulation of accident and emergency service system under the UCS

Right and service system regulation under the UCS	Level of troublesome regulation in AE service utilization				
	Severe	Moderate	Not sure	Mild	No trouble
In general, UC patients are required to utilize regular service only at their registered health facilities. (n=897)	99(11.0)	112(12.5)	68(7.6)	84(9.4)	534(59.5)
In the case of accident, UC patient can utilize health service at any health facilities, which are in the National Health Security System or any others which have registered at the NHSO, located anywhere nearby. (n=894)	46(5.1)	85(9.5)	64(7.2)	68(7.6)	631(70.6)
In the case of emergency , UC patients can utilize the health service at any health facilities, which are in the National Health Security System or any others which have registered at the NHSO, located anywhere nearby. (n=892)	44(4.9)	91(10.2)	65(7.3)	65(7.3)	627(70.3)
In case of emergency illness, the service utilization may be accessed at the maximum of twice a year. (n=894)	119(13.3)	158(17.7)	119(13.3)	64(7.2)	434(48.5)
In case of road traffic injury, UC patients may, firstly, file an insurance claim under the Traffic Accident Insurance (TAI) regulation for the reimbursement and the rest can be reimbursed by the National Health Security Funds. (n=895)	72(8.0)	144(16.1)	113(12.6)	64(7.2)	502(56.1)

8. Expectation of the decision makers on accident and emergency service

Table 29 depicts expectation of the decision makers on accident and emergency service. It was found that high percentages (more than 85%) of them had high expectation for AE service in all aspects (tangibles, reliability, responsiveness, assurance, and empathy). Considering each aspect, the highest percentages of decision makers (95%) expected that the ER department must have doctors, nurses and other officers working throughout 24-hour. On the other hand, the expectation about the reputation of the utilized hospital was in the lowest percentages (88.3%).

Table 29: Expectation of the decision makers on accident and emergency service

Expectation	Expected (%)	Unexpected (%)
Having doctors, nurses and other officers working at ER throughout 24-hour. (n=886)	842(95.0)	44(5.0)
Having good quality of medical equipment. (n=893)	845(94.6)	48(5.4)
Doctors, nurses, and other officers have good skill. (n=891)	843(94.6)	48(5.4)
The service quality of this hospital is reliable. (n=891)	833(93.5)	58(6.5)
Doctors, nurses and other officers provide prompt service. (n=892)	826(92.6)	66(7.4)
Doctors, nurses and other officers provide clear information and good suggestion. (n=892)	835(93.6)	57(6.4)
Reputation of this hospital. (n=892)	788(88.3)	104(11.7)
Doctors, nurses and other officers who provide care with empathy. (n=892)	832(93.3)	60(6.7)

9. Satisfaction of the accident and emergency service received

Table 30 shows satisfaction of the actual AE service received in the patients who expected on the AE services in each item. It was found that high percentages (more than 85%) of the expected patients were satisfied by the AE service received. Considering each item, most of them (98.4%) satisfied by having doctors, nurses and any officers working at ER throughout 24-hour. However, about 8.0% of them were not satisfied with the rapid of services provided by doctors, nurses, and any officers. The results of this research indicated that the patients who expected on AE service had a high level of satisfaction with the AE services.

Table 30: Satisfaction of the accident and emergency service received in the expected patients

Characteristics in expected patients	Satisfaction level		
	Good (%)	Not sure (%)	Poor (%)
Having doctors, nurses and other officers working at ER throughout 24-hour. (n=836)	823(98.4)	7(0.8)	6(0.7)
Having good quality of medical equipment. (n=839)	818(97.5)	18(2.1)	3(0.4)
Doctors, nurses, and other officers have good skill. (n=838)	805(96.1)	25(3.0)	8(1.0)
The service quality of this hospital is reliable. (n=827)	789(95.4)	28(3.4)	10(1.2)
Doctors, nurses and other officers provide prompt service. (n=821)	727(88.6)	28(3.4)	66(8.0)
Doctors, nurses and other officers provide clear information and good suggestion. (n=829)	776(93.6)	22(2.7)	31(3.7)
Reputation of this hospital. (n=783)	730(93.2)	42(5.4)	11(1.4)
Doctors, nurses and other officers who provide care with empathy. (n=827)	753(91.1)	27(3.3)	47(5.7)

Table 31 shows satisfaction of the actual AE service received in the patients who did not expected on the AE services in each item. Considering each item, most of them (68.2%) satisfied by having doctors, nurses and any officers working at ER throughout 24-hour. However, most of them (48.3%) were not satisfied with empathy of doctors, nurses and other officers who provide care.

Table 31: Satisfaction of the accident and emergency service received in the unexpected patients

Characteristics in unexpected patients	Satisfaction level		
	Good (%)	Not sure (%)	Poor (%)
Having doctors, nurses and other officers working at ER throughout 24-hour. (n=44)	30(68.2)	5(11.4)	9(20.5)
Having good quality of medical equipment. (n=48)	27(56.3)	9(18.8)	12(25.0)
Doctors, nurses, and other officers have good skill. (n=48)	27(56.3)	10(20.8)	11(22.9)
The service quality of this hospital is reliable. (n=58)	31(53.4)	13(22.4)	14(24.1)
Doctors, nurses and other officers provide prompt service. (n=66)	25(37.9)	12(18.2)	29(43.9)
Doctors, nurses and other officers provide clear information and good suggestion. (n=57)	27(47.4)	8(14.0)	22(38.6)
Reputation of this hospital. (n=104)	47(45.2)	32(30.8)	25(24.0)
Doctors, nurses and other officers who provide care with empathy. (n=60)	26(43.3)	5(8.3)	29(48.3)

10. Knowledge, attitude, expectation and satisfaction score

Table 32 shows that the average score of knowledge, attitude, expectation and satisfaction score were approximately 2.8, 10.2, 7.5, and 22.9, respectively.

Table 32: Knowledge, attitude, expectation and satisfaction score

Characteristics	Number	Minimum	Maximum	Mean	S.D.
Knowledge score	897	0	5	2.79	1.69
Attitude score	804	5	25	10.15	5.83
Expectation score	885	0	8	7.46	1.55
Satisfaction score	908	8	24	22.91	2.41

11. Changing the registered hospital

Table 33 illustrates whether the participant would change their registered hospital if allowed. It was found that most of them (77.8%) would not change their registered hospital if allowed. In the contrast, about 19.3% of them would probably change their registered hospital.

Table 33: Changing the registered hospital

Changing the registered hospital	Number	%
Changed	60	(19.3)
Unchanged	242	(77.8)
Not self-decision	9	(2.9)

Part 2: Comparison between utilization within the registered province and outside the registered province

Part 2.1: All accident and emergency patients

1. General characteristics of all AE patients and decision makers classified by type of service utilization

Table 34 shows the differences between utilization within the registered province and outside the registered province in several socio-demographic factors. When comparing AE patients who utilized services within the registered province to those who utilized the services outside the registered province, it was found that there were statistically significant differences ($p<0.05$) in gender, marital status, and occupation of the AE patients. It was found that the AE patients who were single, male, and worked in groups of agriculturists/ fishermen/ labors, were more likely to seek care outside the registered province.

Table 35 shows socio-demographic of the decision makers classified by types of health service utilization. There were significant differences ($p<0.05$) between utilization within the registered province and outside the registered province in gender, and occupation of the decision makers. The decision makers of the patients who utilized AE service within the registered province were significantly more likely to be female, and worked in groups of agriculturists/ fishermen/ labors, as compared to those of the patients who utilized AE service outside the registered province. Moreover, an average age of the decision maker of the patients who utilized AE service within the registered province was significantly higher ($p<0.001$) than those of the patients who utilizing the service outside the registered province, as presented in Table 36.

Table 34: General characteristics of all AE patients classified by types of health service utilization

Characteristics of patients	Number of participants (%)		P-Value [a]
	Within the registered province	Outside the registered province	
Gender (n=919)			0.003*
Male	328(46.3)	122(57.8)	
Female	380(53.7)	89(42.2)	
Marital status (n=919)			<0.001*
Single	111(15.7)	64(30.3)	
Married	389(54.9)	107(50.7)	
Divorced/ separated/ widowed	24(3.4)	7(3.3)	
Buddhist monk	2(0.3)	0(0)	
Child lower than 15 yrs	182(25.7)	33(15.6)	
Unknown	0(0)	0 (0)	
Education level (n=919)			0.182
Never attended school	184(26)	34(17.5)	
Primary school or lower	355(50.1)	114(54)	
M. 1-M. 3	74(10.5)	25(11.8)	
Up to M. 3 or equivalent	48(6.8)	16(7.6)	
Diploma or equivalent	16(2.3)	7(3.3)	
Bachelor degree or equivalent	17(2.4)	9(4.3)	
Higher than bachelor degree	1(0.1)	1(0.5)	
Unknown	13(1.8)	2(0.9)	
Occupation (n=919)			<0.001*
Agriculturist/ fisherman/ waged-labour	183(25.9)	78(37)	
Merchant/ business owner	66(9.3)	25(11.8)	
Employee	13(1.8)	9(4.3)	
Student	102(14.4)	21(10)	
Unemployed	324(45.8)	61(28.9)	
Housewife	6(0.8)	5(2.4)	
Others	13(1.8)	12(5.7)	

a: Chi-square using Fisher's exact test, * Significant difference

Table 35: General characteristics of all AE decision makers classified by types of health service utilization

Characteristics of decision makers	Number of participants (%)		P-Value [a]
	Within the registered province	Outside the registered province	
Gender (n=919)			0.003*
Male	194(28.1)	78(39)	
Female	496(71.9)	122(61)	
Education level (n=919)			0.344
Never attended school	42(6.1)	6(3)	
Primary school or lower	374(54.2)	105(52.8)	
M. 1-M. 3	105(15.2)	29(14.6)	
Up to M. 3 or equivalent	98(14.2)	27(13.6)	
Diploma or equivalent	34(4.9)	15(7.5)	
Bachelor degree or equivalent	34(4.9)	15(7.5)	
Higher than bachelor degree	1(0.1)	1(0.5)	
Unknown	2(0.3)	1(0.5)	
Occupation (n=919)			0.001*
Agriculturist/ fisherman/ waged-labour	290(42)	81(40.5)	
Merchant/ business owner	129(18.7)	37(18.5)	
Private company/ employee	43(6.2)	22(11)	
Student	27(3.9)	10(5.0)	
Unemployed	149(21.6)	22(11)	
Housewife	19(2.8)	9(4.5)	
Others	33(4.8)	19(9.5)	

a: Chi-square using Fisher's exact test, * Significant difference

Table 36: Age and family income of all AE patients and decision makers classified by types of health service utilization

Characteristics	Type of utilization	Mean (S.D.)	P-Value [b]
Average age of patient (year)	Within the registered province (n=705)	37.64(26.02)	0.235
	Outside the registered province (n=209)	35.08(21.42)	
Family income of patient (Baht per month)	Within the registered province (n=395)	9347.74(13059.67)	0.852
	Outside the registered province (n=171)	8398.03(7830.80)	
Average age of the decision maker (year)	Within the registered province (n=693)	40.35(14.59)	<0.001*
	Outside the registered province (n=203)	36.11(12.49)	

b: Mann-Whitney U test, * Significant difference

2. Relationship between location of the registered hospital and present residence, and workplace of all AE cases classified by type of service utilization

Table 37 displays relationship between location of the registered hospital and present residence, and workplace of patients classified by types of health service utilization. There were statistically significant differences ($p<0.001$) between utilization within the registered province and outside the registered province. It was found that the AE patients whose the registered hospital, present residence, and workplace were not located within the same province, were more likely to utilize service outside the registered province.

Table 37: Relationship between location of the registered hospital and present residence, and workplace of all AE cases classified by types of health service utilization

Characteristics	Number of participants (%)		P-Value [a]
	Within the registered province	Outside the registered province	
Location of the registered hospital and present residence (n=895)			<0.001*
Within the same province	688(99.1)	71(35.3)	
Not in the same province	6(0.9)	130(64.7)	

Table 37: Relationship between location of the registered hospital and present residence, and workplace of all AE cases classified by types of health service utilization (continue)

Characteristics	Number of participants (%)		P-Value [a]
	Within the registered province	Outside the registered province	
Location of the registered hospital and present workplace (n=486)			<0.001*
Within the same province	284(88.2)	39(23.8)	
Not in the same province	38(11.8)	125(76.2)	

a: Chi-square, * Significant difference

3. Knowledge and attitude related to the regulation of accident and emergency service system under the UCS of all AE cases classified by types of health service utilization

In this study, it was found that there was no statistically significant difference in knowledge score between utilization within and outside the registered province. However there was significant difference (p=0.001) in attitude score between two types of utilization. The AE patients who attended the ED outside the registered province had more negative attitude towards the regulation of AE service system than those who utilized AE service within the registered province, as illustrated in Table 38.

Table 38: Knowledge and attitude score of all AE cases classified by type of health service utilization

Characteristics	Type of utilization	Mean (S.D.)	P-Value [b]
Knowledge score	Within the registered province (n=695)	2.84(1.67)	0.128
	Outside the registered province (n=202)	2.63(1.76)	
Attitude score	Within the registered province (n=624)	9.93(5.97)	0.001*
	Outside the registered province (n=180)	10.92(5.30)	

b: Mann-Whitney U test, * Significant difference

As shown in Table 39, knowledge of decision maker related to the regulation of AE service system under the UCS, only knowledge regarding the following regulations were found to be significantly different with types of service utilization; "In general, UC patients are required to utilize regular service only at their registered health facilities" and "In case of road traffic injury, UC patients may, firstly, file an insurance claim under the Traffic Accident Insurance (TAI) regulation for the reimbursement and the rest can be reimbursed by the National Health Security Funds". About 88% of decision makers who utilized AE services within the registered province knew that UC patients are generally required to utilize regular service only at their registered health facilities while only 81% of those who attended the ED outside the registered province knew about this regulation. In addition, less number of decision makers who sought AE service outside the registered province knew that in case of road traffic injury, UC patients may, firstly, file an insurance claim under the Traffic Accident Insurance (TAI) regulation for the reimbursement and the rest can be reimbursed by the National Health Security Funds, as compared to those who sought AE service inside the registered province.

Table 39: Knowledge of decision makers related to accident and emergency service system regulation under the UCS of all AE cases classified by type of health service utilization

Knowledge about the regulation of AE service utilization	**Number of participants (%)**		**P-Value** [a]
	Within the registered province	**Outside the registered province**	
In general, UC patients are required to utilize regular service only at their registered health facilities. (n=899)			0.016*
Known	612(87.8)	164(81.2)	
Unknown	85(12.2)	38(18.18)	

Table 39: Knowledge of decision makers related to accident and emergency service system regulation under the UCS of all AE cases classified by type of health service utilization (continue)

Knowledge about the regulation of AE service utilization	Number of participants (%)		P-Value [a]
	Within the registered province	Outside the registered province	
In the case of accident, UC patient can utilize health service at any health facilities, which are in the National Health Security System or any others which have registered at the NHSO, located anywhere nearby. (n=898)			0.762
Known	408(58.6)	116(57.4)	
Unknown	288(41.4)	86(42.6)	
In the case of emergency, UC patient can utilize the health service at any health facilities, which are in the National Health Security System or any others which have registered at the NHSO, located anywhere nearby. (n=898)			0.965
Known	394 (56.6)	114(56.4)	
Unknown	302(43.4)	88(43.6)	
In case of emergency illness, utilization of service outside the registered hospital must not exceed twice a year (n=899)			0.184
Known	214(30.7)	72(35.6)	
Unknown	483(69.3)	130(64.4)	
In case of road traffic injury, UC patient may, firstly, file an insurance claim under the Traffic Accident Insurance (TAI) regulation for the reimbursement and the rest can be reimbursed by the National Health Security Funds. (n=899)			<0.001 *
Known	349(50.1)	66(32.7)	
Unknown	348(49.9)	136(67.3)	

a: Chi-square, * Significant difference

Table 40 reveals the significant differences between two types of utilization in their attitude towards AE service regulation. It was found that the decision makers who sought AE service outside the registered province had more negative attitude towards the regulation. As compared with the decision maker who sought AE service inside the registered province, it was found that those who sought the service outside the registered province were more likely to view that the following regulation was troublesome for the patient; "In general, UC patients are required to utilize regular service only at their registered health facilities", and "In case of road traffic injury, UC patients may, firstly, file an insurance claim under the Traffic Accident Insurance (TAI) regulation for the reimbursement and the rest can be reimbursed by the National Health Security Funds".

Table 40: Attitude of the decision makers related to the regulation of accident and emergency service system under the UCS of all AE cases classified by type of health service utilization

Regulation of AE service utilization and level of troublesome	Number of participants (%)		P-Value [a]
	Within the registered province	Outside the registered province	
In general, UC patients are required to utilize regular service only at their registered health facilities. (n=897)			<0.001 *
Severe	62(8.9)	37(18.4)	
Moderate	78(11.2)	34(16.9)	
Not sure	40(5.7)	28(13.9)	
Mild	58(8.3)	26(12.9)	
No trouble	458(65.8)	76(37.8)	
In the case of accident , UC patient can utilize the health service at any health facilities, which are in the National Health Security System or any others which have registered at the NHSO, located anywhere nearby. (n=894)			0.181
Severe	41(5.9)	5(2.5)	
Moderate	61(8.8)	24(11.9)	
Not sure	50(7.2)	14(7)	
Mild	56(8.1)	12(6)	
No trouble	485(70)	146(72.6)	

Table 40: Attitude of the decision makers related to the regulation of accident and emergency service system under the UCS in all AE cases classified by type of health service utilization (continued)

Regulation of AE service utilization and level of troublesome	Number of participants (%)		P-Value [a]
	Within the registered province	Outside the registered province	
In the case of emergency , UC patient can utilize the health service at any health facilities, which are in the National Health Security System or any others which have registered at the NHSO, located anywhere nearby. (n=892)			0.407
Severe	39(5.6)	5(2.5)	
Moderate	70(70.1)	21(10.6)	
Not sure	50(7.2)	15(7.5)	
Mild	53(7.6)	12(6.0)	
No trouble	481(69.4)	146(73.4)	
In case of emergency illness, utilization of service outside the registered hospital must not exceed twice a year (n=894)			0.724
Severe	89(12.8)	30(14.9)	
Moderate	118(17)	40(19.9)	
Not sure	94(13.6)	25(12.4)	
Mild	52(7.5)	12(6)	
No trouble	340(49.1)	94(46.8)	
In case of road traffic injury, UC patient may, firstly, file an insurance claim under the Traffic Accident Insurance (TAI) regulation for the reimbursement and the rest can be reimbursed by the National Health Security Funds. (n=895)			0.003*
Severe	61(8.8)	11(5.5)	
Moderate	100(14.4)	44(22)	
Not sure	78(11.2)	35(17.5)	
Mild	54(7.8)	10(5)	
No trouble	402(57.8)	100(50)	

a: Chi-square, * Significant difference

4. Expectation and satisfaction of the decision makers towards accident and emergency service in all AE cases

From the data obtained, it was found that there was no significant difference between those who utilized AE service within and outside the registered province in their expectation score and satisfaction score, as presented in Table 41. Moreover, Table 42 and 43 reveal no significant differences in the decision maker's expectation on AE service and satisfaction towards actual service received between these two types of utilization.

Table 41: Expectation and satisfaction score of the decision makers in all AE cases classified by type of health service utilization

Characteristics	Type of utilization	Mean (S.D.)	P-Value [b]
Expectation score	Within the registered province (n=688)	7.49(1.43)	0.950
	Outside the registered province (n=197)	7.34(1.88)	
Satisfaction score	Within the registered province (n=702)	22.87(2.43)	0.543
	Outside the registered province (n=206)	23.04(2.18)	

b: Mann-Whitney U test

Table 42: Expectation of the decision makers on accident and emergency service classified by types of health service utilization

Characteristics	Number of participants (%)		P-Value [a]
	Within the registered province	Outside the registered province	
Having doctors, nurses and other officers working at ER throughout 24-hour. (n=886)			0.232
Expected	658(95.5)	184(93.4)	
Unexpected	31(4.5)	13(6.6)	
Having good quality of medical equipment. (n=893)			0.247
Expected	659(95.1)	186(93)	
Unexpected	34(4.9)	14(7.0)	

Table 42: Expectation of the decision makers on AE service quality in all AE cases classified by types of health service utilization (continue)

Characteristics	Number of participants (%)		P-Value [a]
	Within the registered province	Outside the registered province	
Doctors, nurses, and other officers have good skill. (n=891)			0.234
Expected	659(95.1)	184(92.9)	
Unexpected	34(4.9)	14(7.1)	
The service quality of this hospital is reliable. (n=891)			0.859
Expected	648(93.6)	185(93)	
Unexpected	44(6.4)	14(7)	
Doctors, nurses and other officers provide prompt service. (n=892)			0.585
Expected	644(92.9)	182(91.5)	
Unexpected	49(7.1)	17(8.5)	
Doctors, nurses and other officers provide clear information and good suggestion. (n=892)			0.082
Expected	654(94.4)	181(91)	
Unexpected	39(5.6)	18(9)	
Reputation of this hospital. (n=892)			0.841
Expected	613(88.5)	175(87.9)	
Unexpected	80(11.5)	24(12.1)	
Doctors, nurses and other officers who provide care with empathy. (n=892)			0.246
Expected	650(93.8)	182(91.5)	
Unexpected	43(6.2)	17(8.5)	

a: Chi-square

Table 43: Satisfaction towards the accident and emergency service received of all AE decision makers classified by type of health service utilization

Characteristics	Number of participants (%)		P-Value [a]
	Within the registered province	Outside the registered province	
Having doctors, nurses and other officers working at ER throughout 24-hour. (n=913)			0.282
Good	680(96.5)	204(98.1)	
Not sure	10(2.1)	1(0.5)	
Poor	15(1.4)	3(1.4)	
Having good quality of medical equipment. (n=914)			0.165
Good	672(95.5)	198(94.3)	
Not sure	14(2.0)	2(1)	
Poor	18(2.6)	10(4.8)	
Doctors, nurses, and other officers have good skill. (n=915)			0.905
Good	662(93.9)	197(93.8)	
Not sure	27(3.8)	9(4.3)	
Poor	16(2.3)	4(1.9)	
The service quality of this hospital is reliable. (n=912)			0.292
Good	654(93)	190(90.9)	
Not sure	29(4.1)	14(6.7)	
Poor	20(2.8)	5(2.4)	
Doctors, nurses and other officers provide prompt service. (n=915)			0.114
Good	591(83.8)	184(87.6)	
Not sure	37(5.2)	4(1.9)	
Poor	77(10.9)	22(10.5)	
Doctors, nurses and other officers provide clear information and good suggestion. (n=914)			0.593
Good	640(90.8)	187(89.5)	
Not sure	24(3.4)	6(2.9)	
Poor	41(5.8)	16(7.7)	
Reputation of this hospital. (n=914)			0.541
Good	614(87.1)	188(90)	
Not sure	60(8.5)	14(6.7)	
Poor	31(4.4)	7(3.3)	
Doctors, nurses and other officers who provide care with empathy. (n=915)			0.227
Good	610(86.5)	191(91)	
Not sure	27(3.8)	6(2.9)	
Poor	68(9.6)	13(6.2)	

a: Chi-square

5. Convenience, accessibility and reliance in hospital of all AE cases classified by types of health service utilization

5.1 Convenience, accessibility and reliance in the registered hospital of all AE cases classified by types of health service utilization

From a statistical point of view, there were significant differences between two types of utilization (within and outside the registered province) in their distance and travel time to the registered hospital The AE patients who sought care outside the registered province had longer distance and spent longer travel time to their registered hospital, as depicted in Table 44. Moreover, they had significantly less convenient transporting to their registered hospitals (see Table 45).

Table 44: Distance and travel time from accident/emergency place to registered hospital of all AE cases classified by type of health service utilization

Characteristic	Type of utilization	Mean (S.D.)	P-Value [b]
Distance to the registered hospital (kilometer)	Within the registered province (n=499)	11.55(20.38)	<0.001*
	Outside the registered province (n=76)	81.24(152.86)	
Travel time to the registered hospital (minute)	Within the registered province (n=608)	25.84(23.56)	<0.001*
	Outside the registered province (n=102)	300.93(242.36)	

b: Mann-Whitney U test, * Significant difference

Table 45: Convenience transporting to the registered hospital of all AE cases classified by type of health service utilization

Characteristics	Number of participants (%)		P-Value [a]
	Within the registered province	Outside the registered province	
Convenience transporting to the registered hospital (n=871)			<0.001*
Yes	594(87.1)	22(11.6)	
No	72(10.6)	131(69.3)	
Unknown	16(2.3)	36(19.0)	

a: Chi-square, * Significant difference

As displayed in Table 46, there were statistically significant differences between two types of health service utilization in prior visiting and satisfaction in quality of service of the registered hospital. It was found that the proportion of AE patients who utilized the ED outside the registered province that had never utilized service at their registered hospital within one year ago was higher than those of the patients who utilized AE service within the registered province. In addition, those who utilized service outside the registered province were less satisfied with service quality received from their registered hospitals.

According to Table 47, the AE patients utilizing outside the registered province felt that the service received from their registered hospitals was slower and less reliable, as compared to the AE patients utilizing service within the registered province.

Table 46: Satisfaction with the prior service received from the registered hospital of all AE cases classified by type of health service utilization

Characteristics	Number of participants (%)		P-Value [a]
	Within the registered province	Outside the registered province	
Prior visit to the registered hospital during the past one year. (n=878)			<0.001*
Yes	459(66.9)	66(34.4)	
No	212(30.9)	94(49)	
Unknown	15(2.2)	32(16.7)	
Satisfaction with the service quality of the registered hospital (n=506)			<0.001*
Satisfied	410(93.0)	48(73.8)	
Unsatisfied	24(5.4)	12(18.5)	
Unknown	7(1.6)	5(7.7)	

a: Chi-square using Fisher's exact test, * Significant difference

Table 47: Perceived service quality of the registered hospital in all AE cases classified by type of health service utilization

Characteristics	Number of participants (%)		P-Value [a]
	Within the registered province	Outside the registered province	
Perceived service rate of the registered hospital (n=871)			<0.001*
Rapid	531(78)	81(42.6)	
Slow	96(14.1)	33(17.4)	
Unknown	54(7.9)	76(40)	
Reliance on service quality of the registered hospital (n=871)			<0.001*
Relied	591(86.7)	79(41.8)	
Not relied	32(4.7)	39(20.6)	
Unknown	59(8.7)	71(37.6)	

a: Chi-square, * Significant difference

5.2 Convenience, accessibility and reliance in the utilized hospital of all AE cases classified by types of health service utilization

This study found that there were differences between two types of utilization (within and outside the registered province) in distance and travel time to the utilized hospital. Distance and travel time to the utilized hospital of the AE patients who sought care outside the registered province was higher than those of the patients who sought care inside the registered province, as depicted in Table 48. Moreover, they had significantly less convenience traveling to the utilized hospital, as compared to those who utilized such service within the registered province (Table 49).

Table 48: Distance and travel time from accident/emergency place to the utilized hospital of all AE cases classified by type of health service utilization

Characteristic	Type of utilization	Mean (S.D.)	P-Value [b]
Distance to the utilized hospital (kilometer)	Within the registered province (n=506)	10.65(16.38)	<0.001*
	Outside the registered province (n=79)	30.64(74.92)	
Travel time to the utilized hospital (minute)	Within the registered province (n=634)	25.81(21.91)	<0.001*
	Outside the registered province (n=182)	54.63(66.39)	

b: Mann-Whitney U test, * Significant difference

Table 49: Convenience transporting to the utilized hospital of all AE cases classified by type of health service utilization

Characteristics	Number of participants (%)		P-Value [a]
	Within the registered province	Outside the registered province	
Convenience transporting to the utilized hospital (n=891)			<0.001*
Yes	637(92.3)	158 (78.6)	
No	47(6.8)	42(20.9)	
Unknown	6(0.9)	1(0.5)	

a: Chi-square, * Significant difference

As displayed in Table 50, there was statistically significant difference between two types of health service utilization in prior visit to the utilized hospital. It was found that the AE patients who utilized the ED outside the registered province were less likely to have ever visited these utilized hospitals within one year ago, as compared to those who utilized AE service within the registered province. On the other hand, there was no significant difference between two types of health service utilization in their satisfaction with the service quality of the utilized hospital.

Table 50: Satisfaction with the prior service received from the utilized hospital of all AE cases classified by type of health service utilization

Characteristics	Number of participants (%)		P-Value [a]
	Within the registered province	Outside the registered province	
Prior visit to the utilized hospital during the past one year. (n=878)			<0.001*
Yes	481(69.1)	70(34.7)	
No	210(30.2)	131(64.8)	
Unknown	5(0.7)	1(0.5)	
Satisfaction with the service quality of the utilized hospital (n=529)			0.812
Satisfied	441(95.5)	65(97.0)	
Unsatisfied	16(3.5)	2(3.0)	
Unknown	5(1.0)	0(0.0)	

a: Chi-square using Fisher's exact test, * Significant difference

In Table 51, there was no significant difference between utilization within and outside the registered province in their perception about service rate and reliance on quality of service of the utilized hospital.

Table 51: Perceived quality of service of the utilized hospital of all AE cases classified by type of health service utilization

Characteristics	Number of participants (%)		P-Value [a]
	Within the registered province	Outside the registered province	
Perceived service rate of the utilized hospital (n=892)			0.058
Rapid	572(82.8)	162(80.6)	
Slow	99(14.3)	26(12.9)	
Unknown	20(2.9)	13(6.5)	
Reliance on service quality of the utilized hospital (n=894)			0.341
Relied	655(94.7)	186(92.1)	
Not relied	16(2.3)	6(3)	
Unknown	21(3.0)	10(5)	

a: Chi-square

6. Type of hospital and type of area for hospital registration of all AE cases classified by types of health service utilization

In this study, it was found that the AE patients who utilized service outside the registered provinces were more likely to live in district which was not bordered the other district that were the location of general/ regional, as compared to those who visited the ED within the registered province. Moreover, type of AE patients' registered hospital went along with the area for registration. Types of the registered hospitals of the patients who utilized service outside the registered hospital were more likely to be community hospitals. However, types of the utilized hospitals which the

patients who utilized service outside the registered province visited in this episode was more likely to be hospitals in Bangkok, as shown in Table 52 and 53.

Table 52: Type of area for registration of all AE cases classified by type of health service utilization

Types of area for registration (n=915)	**Number of participants (%)**		**P-Value** [a]
	Within the registered province	**Outside the registered province**	
District which not bordered the other district that were the location of general/ regional hospital.	63(8.9)	95(46.0)	<0.001*
District which bordered the other district that were the location of general/ regional hospital.	110(15.5)	58(28.2)	
District that was the location of general/ regional hospital	407(57.4)	50(24.3)	
Villages which bordered the other provinces	0	0	
Bangkok district	129(18.2)	3(1.5)	

a: Chi-square, * Significant difference

Table 53: Types of the hospital of all AE cases classified by type of health service utilization

Characteristics	**Number of participants (%)**		**P-Value** [a]
	Within the registered province	**Outside the registered province**	
Type of patient's registered hospital (n=919)			<0.001*
Community hospital	169(23.8)	154(73.3)	
Regional hospital/General hospital	412(58.1)	53(25.3)	
Bangkok-hospital	128(18.1)	3(1.4)	
Type of utilized hospital in this episode (n=920)			<0.001*
Community hospital	117(16.5)	9(4.3)	
Regional hospitals/General hospitals	463(65.3)	65(30.8)	
Bangkok-hospital	129(18.2)	137(64.9)	

a: Chi-square, * Significant difference

7. Patient-referral system, influence of significant person, and place of accident/ emergency of all AE cases classified by type of health service utilization

As shown in Table 54, there was no significant difference between two types of health service utilization in the decision maker and patient-deliver. On the other hand, there was statistically significant difference ($p<0.001$) in mode of transportation. It was found that the AE patients who visited the ED outside registered province were more likely to go to the utilized hospitals by taxi or tuk tuk or waged car, as compared to those who seeking care within the registered province.

Table 54: Decision maker and transportation to the utilized hospital of all AE cases classified by type of health service utilization

Characteristics	Number of participants (%)		P-Value [a]
	Within the registered province	Outside the registered province	
The person who decided to utilize such service at the sampled hospital (n=920)			0.622
Patients themselves	264(37.3)	76(36)	
Relatives/ friends/ neighbor	435(61.4)	130(61.7)	
Witness	4(0.6)	0(0)	
Police/ EMS/ other foundation	4(0.6)	2(0.9)	
Others	2(0.3)	3(1.4)	
The person who delivered patient to the utilized hospital (n=920)			0.073
Patient themselves	684(96.5)	198(93.9)	
Policeman	0(0)	1(0.5)	
Witness	7(1)	2(0.9)	
EMS/ other foundation	8(1.0)	2(0.9)	
Others	10(1.4)	8(3.8)	
Mode of transportation (n=897)			<0.001*
Motorcycle	192(27.)	17(8.5)	
Own car/ relatives'/ friends'/ neighbors' car	274(39.4)	71(35.2)	
Bus	18(2.6)	17(8.5)	
Taxi/ tuk-tuk/ waged-car	184(26.4)	87(43.3)	
Others	28(4)	9(4.5)	

a: Chi-square using Fisher's exact test, * Significant difference

According to Table 55, it was found that the AE patients who utilized service outside the registered province had accident or emergency illness at their workplaces more than those who utilized within the registered province.

Table 55: Place of accident/ emergency illness of all AE cases classified by type of health service utilization

Characteristics	Number of participants (%)		P-Value [a]
	Within the registered province	Outside the registered province	
Place of accident /emergency (n=918)			<0.001*
At residence	619(87.5)	124(58.8)	
At workplace	28(4)	50(23.7)	
Others	60(8.5)	37(17.5)	

a: Chi-square, * Significant difference

8. Experience and perception of this illness episode (only emergency conditions) classified by type of health service utilization

In Table 56, experience and perception of this illness episode, only the level of severity of perceived illness was found to be statistically significant ($p<0.05$). The AE patients attending the ED outside the registered province felt that the accident or emergency conditions were severe more than those who visited the ED within the registered province.

Table 56: Experience and perception of this illness episode (only emergency conditions) classified by type of health service utilization

Characteristics	Number of participants (%)		P-Value [a]
	Within the registered province	Outside the registered province	
Having prior experience about this illness (n=719)			0.141
Yes	277(49.4)	70(4.3)	
No	281(50.1)	85(53.8)	
Unknown	3(0.5)	3(1.9)	

Table 56: Experience and perception of this illness episode classified by type of health service utilization (continue)

Characteristics	Number of participants (%)		P-Value [a]
	Within the registered province	Outside the registered province	
Perceived need of health care service in this illness episode (n=714)			0.081
Acute, severe conditions and might lead to death if not received immediate service	174(31.2)	49(31.4)	
Not acute but severe and might lead to death if not received immediate service	124(22.2)	49(31.4)	
Not acute nor severe but it disturbed daily activity	137(24.6)	27(17.3)	
Not severe but worrying that it might get worse	119(21.3)	31(19.9)	
Not severe but this time was convenient to visit the doctor	4(0.7)	0(0)	
Perceived severity of this illness episode (n=711)			0.022*
Mild	40(7.2)	2(1.3)	
Moderate	248(44.6)	72(46.5)	
Severe	268(48.2)	81(52.2)	

a: Chi-square using Fisher's exact test, * Significant difference

9. Type of service of all AE cases classified by type of health service utilization

As shown in Table 57, there was no significant difference between utilization within and outside the registered province in type of service (accident and emergency service).

Table 57: Type of service classified by type of health service utilization

Type of service (n=920)	Number of participants (%)		P-Value [a]
	Within the registered province	Outside the registered province	
Accident service (n=197)	144(20.3)	53(25.1)	0.135
Emergency service (n=723)	565(79.7)	158(74.9)	

a: Chi-square, * Significant difference

Pat 2.2: Accident Patients

1. General characteristics of patients and decision makers in accident cases classified by type of service utilization

Table 58 shows the differences between accident utilization within the registered province and outside the registered province in several socio-demographic factors. When comparing accident patients who utilized service within the registered province to those who utilized AE services outside the registered province, it was found that there were statistically significant differences ($p<0.05$) in marital status, and occupation. The accident patients who were married, and worked as agriculturists/ fishermen/ labors, were more likely to seek accidental care outside the registered province.

As shown in Table 59 and 60, no significant differences between accident utilization within and outside the registered province in socio-demographic factors of decision makers and accident patients was found

Table 58: General characteristics of accident patients classified by type of health service utilization

Characteristics of accident patients	Number of participants (%)		P-Value [a]
	Within the registered province	Outside the registered province	
Gender (n=196)			0.189
Male	301(45.4)	79(60.8)	
Female	362(54.6)	51(39.2)	
Marital status (n=197)			<0.001*
Single	41(28.5)	26(49.1)	
Married	63(43.8)	21(39.6)	
Divorced/ separated/ widowed	4(2.8)	5(9.4)	
Buddhist monk	0(0)	0(0)	
Child lower than 15 yrs	36(25.0)	1(1.9)	
Unknown	0(0)	0(0)	

Table 58: General characteristics of accident patients classified by type of health service utilization (continue)

Characteristics of accident patients	Number of participants (%)		P-Value [a]
	Within the registered province	Outside the registered province	
Education level (n=197)			0.218
Never attended school	26(18.1)	4(7.5)	
Primary school or lower	78(54.2)	32(60.4)	
M. 1-M. 3	21(14.6)	10(18.9)	
Up to M. 3 or equivalent	7(4.9)	3(5.7)	
Diploma or equivalent	7(4.9)	1(1.9)	
Bachelor degree or equivalent	2(1.4)	2(3.8)	
Higher than bachelor degree	0(0)	1(1.9)	
Unknown	3(2.1)	0(0)	
Occupation (n=197)			0.001*
Agriculturist/ fisherman/ waged-worker	45(31.3)	27(50.9)	
Merchant/ business owner	13(9.0)	8(15.1)	
Employee	3(2.1)	3(5.7)	
Student	29(20.1)	6(11.3)	
Unemployed	50(34.7)	5(9.4)	
Housewife	1(0.7)	3(5.7)	
Others	3(2.1)	1(1.9)	

a: Chi-square using Fisher's exact test, * Significant difference

Table 59: General characteristics of the decision makers in accident cases classified by type of health service utilization

Characteristics of decision makers in accident cases	Number of participants (%)		P-Value [a]
	Within the registered province	Outside the registered province	
Gender (n=180)			0.187
Male	49(36.3)	22(48.9)	
Female	86(63.7)	23(51.1)	

Table 59: General characteristics of the decision makers in accident cases classified by type of health service utilization (continue)

Characteristics of decision makers in accident cases	Number of participants (%)		P-Value [a]
	Within the registered province	Outside the registered province	
Educational level (n=181)			0.819
Never attended school	7(5.1)	2(4.4)	
Primary school or lower	72(52.9)	26(57.8)	
M. 1-M. 3	23(16.9)	6(13.3)	
Up to M. 3 or equivalent	17(12.5)	5(11.1)	
Diploma or equivalent	10(7.4)	3(6.7)	
Bachelor degree or equivalent	6(4.4)	2(4.4)	
Higher than bachelor degree	0(0)	1(2.2)	
Unknown	1(0.7)	0(0)	
Occupation (n=181)			0.278
Agriculturist/ fisherman/ waged-worker	56(41.2)	23(51.1)	
Merchant/ business owner	27(19.9)	10(22.2)	
Private company/ employee	5(3.7)	4(8.9)	
Student	5(3.7)	2(4.4)	
Unemployed	30(22.1)	4(8.9)	
Housewife	4(6.6)	2(4.4)	
Others	9(2.9)	0(0.0)	

a: Chi-square using Fisher's exact test

Table 60: Age and family income of patients and the decision makers in accident cases classified by type of health service utilization

Characteristics	Type of utilization	Mean (S.D.)	P-Value [b]
Average age of accident patients (year)	Within the registered province (n=142)	33.49(24.02)	0.850
	Outside the registered province (n=52)	32.96(14.11)	
Family income of accident patient (baht per month)	Within the registered province (n=83)	8,719.28(11,597.61)	0.523
	Outside the registered province (n=45)	8,902.64(8,607.59)	
Average age of the decision maker in accident cases (year)	Within the registered province (n=137)	39.66(14.63)	0.147
	Outside the registered province (n=47)	36.15(13.20)	

b: Mann-Whitney U test

2. Relationship between location of the registered hospital and present residence and workplace of accident patients classified by type of health service utilization

Table 61 presents relationship between location of registered hospital and present residence and workplace of accident patients classified by type of health service utilization. There were statistically significant differences ($p<0.001$) between those who utilize accidental service within the registered province and outside the registered province. It was found that the accident patients whose their places of registered hospital, present residence, and workplace were not located within the same province, were more likely to seek accidental care outside the registered province.

Table 61: Relationship between location of the registered hospital and present residence, and workplace of accident patients classified by type of health service utilization

Characteristics	Number of participants (%)		P-Value [a]
	Within the registered province	Outside the registered province	
Location of the registered hospital and present residence (n=193)			<0.001*
Within the same province	141(99.3)	14(27.5)	
Not in the same province	1(0.7)	37(72.5)	
Location of the registered hospital and present workplace (n=486)			<0.001*
Within the same province	62(89.9)	9(19.6)	
Not in the same province	7(10.1)	37(80.4)	

a: Chi-square, * Significant difference

3. Knowledge and attitude related to the regulation of accident and emergency service system under the UCS in accident cases classified by type of health service utilization

Table 62 depicts no significant differences between accident patients who utilized service within and outside the registered province in their knowledge and attitude score. As shown in Table 63, there was no significant difference between utilization of accident service within and outside the registered province in knowledge of decision maker related to accident and emergency service system regulation under the UCS.

Table 62: Knowledge and attitude score in accident cases classified by type of health service utilization

Characteristics	Type of utilization	Mean (S.D.)	P-Value [b]
Knowledge score	Within the registered province (n=137)	2.85(1.62)	0.676
	Outside the registered province (n=47)	2.74(1.67)	
Attitude score	Within the registered province (n=122)	10.39(6.44)	0.90
	Outside the registered province (n=43)	11.81(5.80)	

b: Mann-Whitney U test

Table 63: Knowledge of decision maker related to the regulation of accident and emergency service system under the UCS in accident cases classified by type of health service utilization

Knowledge about the regulation of AE service utilization	Number of participants (%)		P-Value [a]
	Within the registered province	Outside the registered province	
In general, UC patients are required to utilize regular service only at their registered health facilities. (n=184)			0.180
Known	123(89.8)	38(80.9)	
Unknown	14(10.2)	9(19.1)	

Table 63: Knowledge of decision maker related to the regulation of accident and emergency service system under the UCS in accident cases classified by type of health service utilization (continue)

Knowledge about the regulation of AE service utilization	Number of participants (%)		P-Value [a]
	Within the registered province	Outside the registered province	
In the case of accident, UC patient can utilize the health service at any health facilities, which are in the National Health Security System or any others which have registered at the NHSO, located anywhere nearby. (n=184)			1.000
Known	57(41.6)	19(40.4)	
Unknown	80(58.4)	28(59.6)	
In the case of emergency, UC patient can utilize the health service at any health facilities, which are in the National Health Security System or any others which have registered at the NHSO, located anywhere nearby. (n=184)			0.626
Known	60(43.8)	18(38.3)	
Unknown	77(56.2)	29(61.7)	
In case of emergency illness, utilization of service outside the registered hospital must not exceed twice a year (n=184)			0.405
Known	101(73.7)	31(66.0)	
Unknown	36(26.3)	16(34.0)	
In case of road traffic injury, UC patient may, firstly, file an insurance claim under the Traffic Accident Insurance (TAI) regulation for the reimbursement and the rest can be reimbursed by the National Health Security Funds. (n=184)			0.076
Known	62(45.3)	29(61.7)	
Unknown	75(54.7)	18(38.3)	

a: Chi-square

Table 64 illustrates the significant difference between two types of utilization in their attitude towards AE service regulation. As compared to those who sought accident service within the registered province, it was found that the decision makers who sought such service outside the registered province were more likely to view that the following regulation caused trouble to them; "In general, UC patients are required to utilize regular service only at their registered health facilities".

Table 64: Attitude of decision maker related to the regulation of accident and emergency service under the UCS in accident cases classified by type of health service utilization

Regulation of AE service utilization and level of troublesome	Number of participants (%)		P-Value [a]
	Within the registered province	Outside the registered province	
In general, UC patients are required to utilize regular service only at their registered health facilities. (n=184)			0.003*
Severe	18(13.1)	10(21.3)	
Moderate	17(12.4)	6(12.8)	
Not sure	9(6.6)	4(8.5)	
Mild	7(5.1)	10(21.3)	
No trouble	86(62.8)	17(36.2)	
In the case of accident , UC patient can utilize the health service at any health facilities, which are in the National Health Security System or any others which have registered at the NHSO, located anywhere nearby. (n=183)			0.387
Severe	10(7.4)	2(4.3)	
Moderate	11(8.1)	8(11.0)	
Not sure	10(7.4)	5(10.6)	
Mild	9(6.6)	2(0.3)	
No trouble	96(70.6)	30(63.8)	

Table 64 regulation under the UCS in accident cases classified by type of health service utilization (continue)

Regulation of AE service utilization and level of troublesome	Number of participants (%)		P-Value [a]
	Within the registered province	Outside the registered province	
In the case of emergency , UC patient can utilize the health service at any health facilities, which are in the National Health Security System or any others which have registered at the NHSO, located anywhere nearby. (n=182)			0.514
Severe	9(6.6)	2(4.3)	
Moderate	13(9.6)	8(11.4)	
Not sure	9(6.6)	5(10.9)	
Mild	6(4.4)	2(4.3)	
No trouble	99(72.8)	29(63.0)	
In case of emergency illness, utilization of service outside the registered hospital must not exceed twice a year (n=183)			0.769
Severe	22(16.2)	7(14.9)	
Moderate	23(16.9)	11(23.4)	
Not sure	16(11.8)	7(14.9)	
Mild	10(7.4)	2(4.3)	
No trouble	65(47.8)	20(42.6)	
In case of road traffic injury, UC patient may, firstly, file an insurance claim under the Traffic Accident Insurance (TAI) regulation for the reimbursement and the rest can be reimbursed by the National Health Security Funds. (n=183)			0.116
Severe	19(14.0)	4(8.5)	
Moderate	19(14.0)	9(19.1)	
Not sure	12(8.8)	10(21.3)	
Mild	8(5.9)	1(2.1)	
No trouble	78(57.4)	23(48.9)	

a: Chi-square, * Significant difference

4. Expectation and satisfaction toward accident and emergency service in accident cases classified by types of health service utilization

As presented in Table 65, it was found that there was no significant difference between utilization within and outside the registered province in their expectation score and satisfaction score. Only expectation of the decision maker on quality of medical equipment was found to be significantly different with type of health service utilization, as shown in Table 66. The decision makers who sought accident service outside the registered province had significantly less expectation about the quality of medical equipment, as compared to those who sought accident care within the registered province. When looking at the satisfaction towards AE service received in accident cases, only that the following item was found to be significantly different with type of health service utilization; "Having doctors, nurses and any officers to provide empathy", as shown in Table 67. It was found that the decision maker who decided to utilize accident service outside the registered province felt more satisfied with this item than those who decided to utilize such service within the registered province.

Table 65: Expectation and satisfaction score in accident cases classified by type of health service utilization

Characteristics	Type of utilization	Mean (S.D.)	P-Value [b]
Expectation score	Within the registered province (n=133)	7.51(1.34)	0.154
	Outside the registered province (n=45)	7.42(2.02)	
Satisfaction score	Within the registered province (n=142)	22.67(2.23)	0.080
	Outside the registered province (n=52)	23.25(1.58)	

b: Mann-Whitney U test

Table 66: Expectation of decision maker on accident and emergency service quality in accident cases classified by type of health service utilization

Characteristics	Number of participants (%)		P-Value [a]
	Within the registered province	Outside the registered province	
Having doctors, nurses and other officers working at ER throughout 24-hour. (n=197)			0.378
Expected	134(93.1)	47(88.7)	
Unexpected	10(6.9)	6(11.3)	
Having good quality of medical equipment. (n=197)			0.043*
Expected	139(96.5)	47(88.7)	
Unexpected	5(3.5)	6(11.3)	
Doctors, nurses, and other officers have good skill. (n=197)			0.170
Expected	138(95.8)	48(90.6)	
Unexpected	6(4.2)	5(9.4)	
The service quality of this hospital is reliable. (n=195)			0.520
Expected	134(94.4)	48(90.6)	
Unexpected	8(5.6)	5(9.4)	
Doctors, nurses and other officers provide prompt service. (n=197)			0.363
Expected	135(93.8)	47(88.7)	
Unexpected	9(6.3)	6(11.3)	
Doctors, nurses and other officers provide clear information and good suggestion. (n=197)			0.115
Expected	137(95.1)	47(88.7)	
Unexpected	7(4.9)	6(11.3)	
Reputation of this hospital. (n=197)			0.481
Expected	122(84.7)	47(88.7)	
Unexpected	22(15.3)	6(11.3)	
Doctors, nurses and other officers who provide care with empathy. (n=197)			0.532
Expected	135(93.8)	48(90.6)	
Unexpected	9(6.3)	5(9.4)	

a: Chi-square, * Significant difference

Table 67: Satisfaction toward AE service received in accident cases classified by type of health service utilization

Characteristics	Number of participants (%)		P-Value [a]
	Within the registered province	Outside the registered province	
Having doctors, nurses and other officers working at ER throughout 24-hour. (n=197)			0.832
Good	139(96.5)	52(98.1)	
Not sure	2(1.4)	0(0.0)	
Poor	3(2.1)	1(1.9)	
Having good quality of medical equipment. (n=197)			0.608
Good	137(95.1)	49(92.5)	
Not sure	6(4.2)	4(7.5)	
Poor	1(0.7)	0(0.0)	
Doctors, nurses, and other officers have good skill. (n=197)			0.083
Good	133(92.4)	53(100.0)	
Not sure	10(6.9)	0(0.0)	
Poor	1(0.7)	0(0.0)	
The service quality of this hospital is reliable. (n=194)			0.648
Good	131(92.3)	50(96.2)	
Not sure	10(7.0)	2(3.8)	
Poor	1(0.7)	0(0.0)	
Doctors, nurses and other officers provide prompt service. (n=197)			0.076
Good	110(76.4)	44(83.0)	
Not sure	13(9.0)	0(0.0)	
Poor	21(14.6)	9(17.0)	
Doctors, nurses and other officers provide clear information and good suggestion. (n=197)			0.410
Good	123(85.4)	47(88.7)	
Not sure	10(6.9)	1(1.9)	
Poor	11(7.6)	5(9.4)	
Reputation of this hospital. (n=197)			0.088
Good	122(84.7)	51(96.2)	
Not sure	21(14.6)	2(3.8)	
Poor	1(0.7)	0(0.0)	
Doctors, nurses and other officers who provide care with empathy. (n=197)			0.011*
Good	117(81.3)	52(98.1)	
Not sure	12(8.3)	0(0.0)	
Poor	15(10.4)	1(1.9)	

a: Chi-square, * Significant difference

5. Convenience, accessibility and reliance in hospital of the accident cases classified by type of health service utilization

5.1 Convenience, accessibility and reliance in the registered hospital of the accident cases classified by type of health service utilization

From a statistical point of view, there were differences between two types of utilization (within and outside the registered province) in distance and travel time to the registered hospital. The accident patients who sought care outside the registered province had longer distance and spent longer travel time to their registered hospitals, as depicted in Table 68. Moreover, they had significantly lower convenience transporting to their registered hospitals (see Table 69).

Table 68: Distance and travel time from accident/emergency place to the registered hospital in accident cases classified by type of health service utilization

Characteristic	Type of utilization	Mean (S.D.)	P-Value [b]
Distance to registered hospital (kilometer)	Within the registered province (n=99)	10.40(13.07)	0.007*
	Outside the registered province (n=20)	62.09(113.87)	
Travel time to registered hospital (minute)	Within the registered province (n=120)	23.80(23.34)	<0.001*
	Outside the registered province (n=23)	341.52(229.07)	

b: Mann-Whitney U test, * Significant difference

Table 69: Convenience transporting to the registered hospital in accident cases classified by type of health service utilization

Characteristics	Number of participants (%)		P-Value [a]
	Within the registered province	Outside the registered province	
Convenience transporting to the registered hospital (n=180)			<0.001*
Yes	117(86.1)	2(4.5)	
No	15(11.0)	37(84.1)	
Unknown	4(2.9)	5(11.4)	

a: Chi-square, * Significant difference

As depicted in Table 70, there were statistically significant differences between two types of health service utilization in prior visiting and satisfaction in service quality of the registered hospitals. It was found that the accident patients who visited the ED outside the registered province were less likely to have ever visited their registered hospitals during the past one year, as compared to those who utilized accident care within the registered province. In addition, they also felt less satisfied with service quality of their registered hospitals.

Table 70: Satisfaction with the prior service received from the registered hospital in accident cases classified by type of health service utilization

Characteristics	Number of participants (%)		P-Value [a]
	Within the registered province	Outside the registered province	
Prior visit to the registered hospital during the past one year. (n=180)			<0.001*
Yes	86(63.2)	12(27.3)	
No	47(34.6)	24(54.5)	
Unknown	3(2.2)	8(18.2)	
Satisfaction with the service quality of the registered hospital (n=180)			<0.001*
Satisfied	88(64.2)	12(25.5)	
Unsatisfied	47(34.3)	35(74.5)	
Unknown	2(1.5)	0(0.0)	

a: Chi-square using Fisher's exact test, * Significant difference

In Table 71, the accident patients who utilized service outside the registered province were more likely to feel that the service received from their registered hospitals were slow, as compared to those who utilized such service within the registered province. Moreover, they were less relied on service quality of their registered hospitals.

Table 71: Perceived service quality of the registered hospital in accident cases classified by type of health service utilization

Characteristics	Number of participants (%)		P-Value [a]
	Within the registered province	Outside the registered province	
Perceived service rate of the registered hospital (n=178)			<0.001*
Rapid	105(78.3)	17(38.6)	
Slow	21(15.7)	6(13.6)	
Unknown	8(6.0)	21(47.8)	
Reliance on service quality of the registered hospital (n=178)			<0.001*
Relied	119(88.2)	18(41.9)	
Not relied	5(3.7)	5(11.6)	
Unknown	11(8.1)	20(46.5)	

a: Chi-square, * Significant difference

5.2 Convenience, accessibility and reliance in the utilized hospital of the accident cases classified by type of health service utilization

As presented in Table 72, it was found that there was significant difference between utilization within and outside the registered province in travel time from accident place to the utilized hospital. However, there was no significant difference in distance to utilized hospital. Moreover, Table 73 reveals no significant difference between utilization within and outside the registered province in convenience transporting to the utilized hospital.

Table 72: Distance and travel time from accident/emergency place to the utilized hospital of the accident cases classified by type of health service utilization

Characteristic	Type of utilization	Mean (S.D.)	P-Value [b]
Distance to the utilized hospital (kilometer)	Within the registered province (n=99)	9.70(9.76)	0.614
	Outside the registered province (n=24)	10.40(11.47)	
Travel time to the utilized hospital (minute)	Within the registered province (n=121)	23.24(19.53)	0.023*
	Outside the registered province (n=45)	37.73(39.65)	

b: Mann-Whitney U test, * Significant difference

Table 73: Convenience transporting to the utilized hospital of the accident cases classified by type of health service utilization

Characteristics	Number of participants (%)		P-Value [a]
	Within the registered province	Outside the registered province	
Convenience transporting to the utilized hospital (n=184)			0.278
Yes	122(89.1)	39(83.0)	
No	10(7.3)	7(14.9)	
Unknown	5(3.6)	1(2.1)	

a: Chi-square

Table 74 shows there was significant difference between utilization within and outside the registered province in their prior visit to the utilized hospital during the past one year, whereas there was no significant difference in satisfaction in service quality of the utilized hospital. Furthermore, Table 75 displays no significant difference between utilization within and outside the registered province in their perception about service quality of the utilized hospital.

Table 74: Satisfaction with the prior service received from the utilized hospital of the accident cases classified by type of health service utilization

Characteristics	Number of participants (%)		P-Value [a]
	Within the registered province	Outside the registered province	
Prior visit to the registered hospital during the past one year. (n=184)			<0.001*
Yes	88(64.2)	12(25.5)	
No	47(34.3)	35(74.5)	
Unknown	2(1.5)	0(0.0)	
Satisfaction with the service quality of the utilized hospital (n=98)			1.000
Satisfied	84(96.6)	11(100.0)	
Unsatisfied	2(2.3)	0(0.0)	
Unknown	1(1.1)	0(0.0)	

a: Chi-square using Fisher's exact test, * Significant difference

Table 75: Perceived service quality of the utilized hospital of the accident cases classified by type of health service utilization

Characteristics	Number of participants (%)		P-Value [a]
	Within the registered province	Outside the registered province	
Perceived service rate of the utilized hospital (n=182)			0.766
Rapid	109(80.7)	39(83.0)	
Slow	22(16.3)	6(12.8)	
Unknown	4(3.0)	2(4.2)	
Reliance on service quality of the utilized hospital (n=183)			0.389
Relied	128(94.1)	42(89.4)	
Not relied	3(2.2)	1(2.1)	
Unknown	5(3.7)	4(8.5)	

a: Chi-square

6. Type of hospital and type of area for registration in accident cases classified by type of health service utilization

From this study, it was found that the accident patients who utilized service outside the registered provinces were more likely to live in district which were not bordered the other district that were the location of general/ regional hospital, as compared to those who visited the ED within the registered province (Table 76). Moreover, type of accident patients' registered hospital went along with the area for registration. Type of the registered hospitals of those who attended the ED outside the registered province was more likely to be community hospitals. However, type of the the utilized hospitals of those who utilized such service outside the registered hospital were more likely to be Bangkok-hospitals, as shown in Table 77.

Table 76: Type of area for registration in accident cases classified by type of health service utilization

Type of area for registration (n=195)	**Number of participants (%)**		**P-Value** [a]
	Within the registered province	**Outside the registered province**	
District which not bordered the other district that were the location of general/ regional hospital.	16(11.1)	25(49.0)	<0.001*
District which bordered the other district that were the location of general/ regional hospital.	13(9.0)	25(29.4)	
District that was the location of general/ regional hospital	99(68.8)	10(19.6)	
Villages which bordered the other provinces	0(0.0)	0(0.0)	
Bangkok district	16(11.1)	1(2.0)	

a: Chi-square, * Significant difference

Table 77: Type of hospital in accident cases classified by type of health service utilization

Characteristics	**Number of participants (%)**		**P-Value** [a]
	Within the registered province	**Outside the registered province**	
Type of patient's registered hospital (n=197)			<0.001*
Community hospital	28(19.4)	41(77.4)	
Regional hospital/General hospital	100(69.4)	11(20.8)	
Bangkok-hospital	16(11.1)	1(1.9)	
Type of the utilized hospital in this episode (n=197)			<0.001*
Community hospital	15(10.4)	2(3.8)	
Regional hospital/General hospital	113(78.5)	20(37.7)	
Bangkok-hospital	16(11.1)	31(58.5)	

a: Chi-square, * Significant difference

7. Patient-referral system, influence of significant person, and place of accident/ emergency in accident cases classified by type of health service utilization

According to Table 78, it was found that there was no significant difference between utilizing accident service within and outside the registered province in decision maker, patient-deliver, and mode of transportation. On the other, there was significant difference in the place of accident as illustrated in Table 79.

Table 78: Decision maker, patient-deliver, and mode of transportation in accident cases classified by type of health service utilization

Characteristics	Number of participants (%)		P-Value [a]
	Within the registered province	Outside the registered province	
The person who decided to utilize accident service at the sampled hospital (n=197)			0.622
Patient themselves	50(34.7)	21(39.6)	
Relatives/ friends/ neighbor	85(59.0)	28(52.8)	
Witness	3(2.1)	0(0.0)	
Police/ EMS/ other foundation	4(2.8)	2(3.8)	
Others	2(1.4)	2(3.8)	
The person who delivered accident patient to the utilized hospital in this episode (n=197)			0.289
Patient themselves/ relatives	128(88.9)	44(83.0)	
Policeman	0(0.0)	1(1.9)	
Witness	5(3.5)	1(1.9)	
EMS/ other foundation	5(3.5)	2(3.8)	
Others	6(4.2)	5(9.4)	
Mode of transportation (n=197)			0.147
Motorcycle	50(36.8)	10(21.7)	
Own car/ relatives'/ friends'/ neighbors'car	46(33.8)	17(37.0)	
Bus	3(2.2)	4(8.7)	
Taxi/ tuk-tuk/ waged-car	28(20.6)	12(26.1)	
Others	9(6.6)	3(6.5)	

a: Chi-square using Fisher's exact test

Table 79: Place of accident classified by type of health service utilization

Characteristics	Number of participants (%)		P-Value [a]
	Within the registered province	Outside the registered province	
Place of accident (n=196)			<0.001*
At residence	92(64.3)	14(26.4)	
At workplace	16(11.2)	24(45.3)	
Others	35(24.5)	15(28.3)	

a: Chi-square, * Significant difference

Part 2.3: Emergency Patients

1. General characteristics of emergency patients and their decision makers classified by type of health service utilization

Table 80 shows the differences between utilization within the registered province and outside the registered province in several socio-demographic factors. When comparing emergency patients who utilized service within the registered province to those who utilized emergency services outside the registered province, it was found that there were statistically significant differences ($p<0.05$) in gender, marital status, and occupation of the emergency patients. The emergency patients who were male, married, and worked as agriculturists/ fishermen/ labors, were more likely to utilize emergency care outside the registered province more than utilized the ED within the registered province.

Table 81 shows socio-demographic factors of the decision makers in emergency cases classified by type of health service utilization. There were significant differences ($p<0.05$) between utilization within the registered province and outside the registered province in gender, and occupation of the decision makers. The decision makers of those who utilized emergency service within the registered province were significantly more likely to be female, and worked as agriculturists/ fishermen/ labors. Moreover, average age of the decision maker of those who utlized emergency service within the registered province was significantly higher ($p<0.001$) than those of the patients who sought emergency care outside the registered province, as presented in Table 82.

Table 80: General characteristics of emergency patients classified by type of health service utilization

Characteristics of emergency patients	Number of participants (%)		P-Value [a]
	Within the registered province	Outside the registered province	
Gender (n=723)			0.028*
Male	239(42.3)	83(52.5)	
Female	326(57.7)	75(47.5)	
Marital status (n=723)			0.004*
Single	70(12.4)	38(24.1)	
Married	326(57.8)	86(54.4)	
Divorced/ separated/ widowed	20(3.5)	2(1.3)	
Buddhist monk	2(0.4)	0(0.0)	
Child lower than 15 yrs	146(25.9)	32(20.3)	
Unknown	0(0.0)	0(0.0)	
Educational level (n=722)			0.402
Never attended school	158(28.0)	33(20.9)	
Primary school or lower	277(49.1)	82(51.9)	
M. 1-M. 3	53(9.4)	15(9.5)	
Up to M. 3 or equivalent	41(7.3)	13(8.2)	
Diploma or equivalent	9(1.6)	6(3.8)	
Bachelor degree or equivalent	15(2.7)	7(4.4)	
Higher than bachelor degree	1(0.2)	0(0)	
Unknown	10(1.8)	2(1.3)	
Occupation (n=721)			0.002*
Agriculturist/ fisherman/ waged-worker	138(24.5)	51(32.3)	
Merchant/ business owner	53(9.4)	17(10.8)	
Employee	10(1.8)	6(3.8)	
Student	73(13.0)	15(9.5)	
Unemployed	274(48.7)	56(35.4)	
Housewife	3(2.1)	4(2.5)	
Others	12(0.5)	9(5.7)	

a: Chi-square using Fisher's exact test, * Significant difference

Table 81: General characteristics of the decision makers in emergency cases classified by type of health service utilization

Characteristics of decision makers in the case of emergency	Number of participants (%)		P-Value [a]
	Within the registered province	Outside the registered province	
Gender (n=710)			0.019*
Male	145(26.1)	56(36.1)	
Female	410(73.9)	99(63.9)	
Educational level (n=708)			0.206
Never attended school	35(6.3)	4(2.6)	
Primary school or lower	302(54.5)	79(51.3)	
M. 1-M. 3	82(14.8)	23(14.9)	
Up to M. 3 or equivalent	81(14.6)	22(14.3)	
Diploma or equivalent	24(4.3)	12(7.8)	
Bachelor degree or equivalent	28(5.1)	13(8.4)	
Higher than bachelor degree	1(0.2)	0(0.0)	
Unknown	1(0.2)	1(0.6)	
Occupation (n=709)			0.001*
Agriculturist/ fisherman/ waged-worker	234(42.2)	58(37.4)	
Merchant/ business owner	102(18.4)	27(17.4)	
Employee	38(6.9)	18(11.6)	
Student	22(4.0)	8(5.2)	
Unemployed	119(21.5)	18(11.6)	
Housewife	24(4.3)	17(11.0)	
Others	15(2.7)	9(5.8)	

a: Chi-square using Fisher's exact test, * Significant difference

Table 82: Age and family income of emergency patients and their decision makers in classified by type of health service utilization

Characteristics	Type of utilization	Mean (S.D.)	P-Value [b]
Average age of accident patient (year)	Within the registered province (n=563)	38.69(26.42)	0.207
	Outside the registered province (n=157)	35.78(23.33)	
Family income of accident patient (baht per month)	Within the registered province (n=312)	9,514.93(13,434.10)	0.589
	Outside the registered province (n=126)	8,217.81(7,562.60)	
Average age of the decision maker in the case of accident (year)	Within the registered province (n=556)	40.52(14.59)	0.001*
	Outside the registered province (n=156)	36.10(12.31)	

b: Mann-Whitney U test, * Significant difference

2. Relationship between location of the registered hospital and present residence, and workplace of emergency patients classified by type of health service utilization

Table 83 displays relationship between location of the registered hospital and present residence and workplace of emergency patients classified by type of health service utilization. There were statistically significant differences ($p<0.001$) between emergency utilization within the registered province and outside the registered province. It was found that the emergency patients whose their registered hospital, present residence, and workplace were not located within the same province, tended to seek emergency care outside the registered province.

Table 83: Relationship between location of the registered hospital and present residence, and workplace of emergency patients classified by type of health service utilization

Characteristics	Number of participants (%)		P-Value [a]
	Within the registered province	Outside the registered province	
Location of the registered hospital and present residence (n=702)			<0.001*
Within the same province	547(99.1)	57(38.0)	
Not in the same province	5(0.9)	93(62.0)	
Location of the registered hospital and present workplace (n=371)			<0.001*
Within the same province	222(87.7)	30(25.4)	
Not in the same province	31(12.3)	88(74.6)	

a: Chi-square, * Significant difference

3. Knowledge and attitude related to the regulation of accident and emergency service system under the UCS in emergency cases classified by type of health service utilization

Table 84 depicts no significant difference between utilization within and outside the registered province in knowledge and attitude score. When looking at knowledge on each regulation, it was found that there were significant differences between those who utilized service within and outside the registered provinces in the following item; "In case of road traffic injury, UC patients may, firstly, file an insurance claim under the Traffic Accident Insurance (TAI) regulation for the reimbursement and the rest can be reimbursed by the National Health Security Funds" (Table 85). The decision makers who sought emergency service outside the registered province were less likely to know about of this regulation than those who sought emergency care within the registered province.

When looking closely at each regulation, Table 85 reveals the significant difference in the attitude towards the regulation of AE service between two types of utilization. It was found that the decision makers who sought emergency service outside the registered province had more negative attitude or felt more troublesome about the following regulation, "In general, UC patients are required to utilize regular service only at their registered health facilities".

Table 84: Knowledge and attitude score in emergency cases classified by type of health service utilization

Characteristics	Type of utilization	Mean (S.D.)	P-Value [b]
Knowledge score	Within the registered province (n=558)	2.84(1.68)	0.134
	Outside the registered province (n=155)	2.60(1.79)	
Attitude score	Within the registered province (n=502)	9.81(5.84)	0.007*
	Outside the registered province (n=137)	10.64(5.12)	

b: Mann-Whitney U test, * Significant difference

Table 85: Knowledge of decision maker related to the regulation of accident and emergency service system under the UCS in emergency cases classified by type of health service utilization

Knowledge about the regulation of AE service utilization	Number of participants (%)		P-Value [a]
	Within the registered province	Outside the registered province	
In general, UC patients are required to utilize regular service only at their registered health facilities. (n=715)			0.074
Known	489(87.3)	126(81.3)	
Unknown	71(12.7)	29(18.7)	
In the case of accident, UC patient can utilize the health service at any health facilities, which are in the National Health Security System or any others which have registered at the NHSO, located anywhere nearby. (n=714)			0.739
Known	328(58.7)	88(56.8)	
Unknown	231(41.3)	67(43.2)	
In the case of emergency, UC patient can utilize the health service at any health facilities, which are in the National Health Security System or any others which have registered at the NHSO, located anywhere nearby. (n=714)			0.746
Known	317(56.7)	85(54.8)	
Unknown	242(43.3)	70(45.2)	
In case of emergency illness, utilization of service outside the registered hospital must not exceed twice a year. (n=715)			0.356
Known	178(31.8)	56(36.1)	
Unknown	382(68.2)	99(63.9)	
In case of road traffic injury, UC patients may, firstly, file an insurance claim under the Traffic Accident Insurance (TAI) regulation for the reimbursement and the rest can be reimbursed by the National Health Security Funds. (n=715)			<0.001*
Known	274(48.9)	48(31.0)	
Unknown	286(51.1)	107(69.0)	

a: Chi-square, * Significant difference

Table 86: Attitude of decision maker related to the regulation of accident and emergency service under the UCS in emergency cases classified by type of health service utilization

Regulation of AE service utilization and level of troublesome	Number of participants (%)		P-Value [a]
	Within the registered province	Outside the registered province	
In the case of regular, UC patients are required to utilize regular service only at their registered health facilities. (n=713)			<0.001*
Severe	44(7.9)	27(17.5)	
Moderate	61(10.9)	28(18.2)	
Not sure	31(5.5)	24(15.6)	
Mild	51(9.1)	16(10.4)	
No trouble	372(66.5)	59(38.3)	
In the case of accident , UC patient can utilize the health service at any health facilities, which are in the National Health Security System or any others which have registered at the NHSO, located anywhere nearby. (n=713)			0.292
Severe	31(5.6)	3(1.9)	
Moderate	50(9.0)	16(10.4)	
Not sure	40(7.2)	9(5.8)	
Mild	47(8.4)	10(6.5)	
No trouble	389(69.8)	116(75.3)	
In the case of emergency , UC patient can utilize the health service at any health facilities, which are in the National Health Security System or any others which have registered at the NHSO, located anywhere nearby. (n=710)			0.276
Severe	30(5.4)	3(2.0)	
Moderate	57(10.2)	13(8.5)	
Not sure	41(7.4)	10(6.5)	
Mild	47(8.4)	10(6.5)	
No trouble	382(68.6)	117(76.5)	

Table 86: Attitude of decision maker related to the regulation of accident and emergency service under the UCS in emergency cases classified by type of health service utilization (continue)

Regulation of AE service utilization and level of troublesome	Number of participants (%)		P-Value [a]
	Within the registered province	Outside the registered province	
In case of emergency illness, utilization of service outside the registered hospital must not exceed twice a year. (n=711)			0.786
Severe	67(12.0)	23(14.9)	
Moderate	95(17.1)	29(18.8)	
Not sure	78(14.0)	18(11.7)	
Mild	42(7.5)	10(6.5)	
No trouble	275(49.4)	74(48.1)	
In case of road traffic injury, UC patient may, firstly, file an insurance claim under the Traffic Accident Insurance (TAI) regulation for the reimbursement and the rest can be reimbursed by the National Health Security Funds. (n=712)			0.030*
Severe	42(7.5)	7(4.6)	
Moderate	81(14.5)	35(22.9)	
Not sure	66(11.8)	25(16.3)	
Mild	46(8.2)	9(5.9)	
No trouble	324(58.0)	77(50.3)	

a: Chi-square, * Significant difference

4. Expectation and satisfaction toward accident and emergency service in emergency cases classified by type of health service utilization

From the data obtained, it was found that there was no significant difference between utilization within and outside the registered province in their expectation score and satisfaction score, as presented in Table 87. Moreover, Table 88 and 89 reveal no significant difference between two types of utilization in the decision maker's expectation on emergency service and satisfaction toward service received.

Table 87: Expectation and satisfaction score in emergency cases classified by type of health service utilization

Characteristics	Type of utilization	Mean (S.D.)	P-Value [b]
Expectation score	Within the registered province (n=555)	7.48(1.46)	0.506
	Outside the registered province (n=152)	7.32(1.84)	
Satisfaction score	Within the registered province (n=560)	22.92(2.53)	0.842
	Outside the registered province (n=154)	22.97(2.35)	

b: Mann-Whitney U test

Table 88: Expectation of decision maker on accident and emergency service quality in emergency cases classified by type of health service utilization

Characteristics	Number of participants (%)		P-Value [a]
	Within the registered province	Outside the registered province	
Having doctors, nurses and other officers working at ER throughout 24-hour. (n=707)			0.297
Expected	532(95.9)	142(93.4)	
Unexpected	23(4.1)	10(6.6)	
Having good quality of medical equipment. (n=712)			0.737
Expected	528(94.6)	144(93.5)	
Unexpected	30(5.4)	10(6.5)	
Doctors, nurses, and other officers have good skill. (n=710)			0.442
Expected	529(94.8)	141(92.8)	
Unexpected	29(5.2)	11(7.2)	
The service quality of this hospital is reliable. (n=711)			0.950
Expected	521(93.4)	142(92.8)	
Unexpected	37(6.6)	11(7.2)	
Doctors, nurses and other officers provide prompt service. (n=711)			0.570
Expected	517(92.7)	139(90.8)	
Unexpected	41(7.3)	14(9.2)	

Table 88: Expectation of decision maker on accident and emergency service quality in emergency cases classified by type of health service utilization (continue)

Characteristics	Number of participants (%)		P-Value [a]
	Within the registered province	Outside the registered province	
Doctors, nurses and other officers provide clear information and good suggestion. (n=711)			0.107
Expected	526(94.3)	138(90.2)	
Unexpected	32(5.7)	15(9.8)	
Reputation of this hospital. (n=711)			0.509
Expected	498(89.2)	133(86.9)	
Unexpected	60(10.8)	20(13.1)	
Doctors, nurses and other officers who provide care with empathy. (n=711)			0.287
Expected	523(93.7)	139(90.8)	
Unexpected	35(6.3)	14(9.2)	

a: Chi-square

Table 89: Satisfaction toward AE service received in emergency cases classified by type of health service utilization

Characteristics	Number of participants (%)		P-Value [a]
	Within the registered province	Outside the registered province	
Having doctors, nurses and other officers working at ER throughout 24-hour. (n=716)			0.175
Good	541(96.4)	152(98.1)	
Not sure	8(1.4)	3(1.9)	
Poor	12(2.1)	0(0.0)	
Having good quality of medical equipment. (n=717)			0.378
Good	535(95.5)	149(94.9)	
Not sure	12(2.1)	6(3.8)	
Poor	13(2.3)	2(1.3)	
Doctors, nurses, and other officers have good skill. (n=718)			0.277
Good	529(94.3)	144(91.7)	
Not sure	17(3.0)	9(5.7)	
Poor	15(2.7)	4(2.5)	
The service quality of this hospital is reliable. (n=718)			0.068
Good	523(93.2)	140(89.2)	
Not sure	19(3.4)	12(7.6)	
Poor	19(3.4)	5(3.2)	

Table 89: Satisfaction toward AE service received in emergency cases classified by type of health service utilization (continue)

Characteristics	Number of participants (%)		P-Value [a]
	Within the registered province	Outside the registered province	
Doctors, nurses and other officers provide prompt service. (n=718)			0.477
Good	481(85.7)	140(89.2)	
Not sure	24(4.3)	4(2.5)	
Poor	56(10.0)	13(8.3)	
Doctors, nurses and other officers provide clear information and good suggestion. (n=717)			0.628
Good	517(92.2)	140(89.7)	
Not sure	14(2.5)	5(3.2)	
Poor	30(5.3)	11(7.1)	
Reputation of this hospital. (n=717)			0.874
Good	492(87.7)	137(87.8)	
Not sure	39(7.0)	12(7.7)	
Poor	30(5.3)	7(4.5)	
Doctors, nurses and other officers who provide care with empathy. (n=718)			0.607
Good	493(87.9)	139(88.5)	
Not sure	15(2.7)	6(3.8)	
Poor	53(9.4)	12(7.6)	

a: Chi-square

5. Convenience, accessibility and reliance in hospital of the emergency cases classified by type of health service utilization

5.1 Convenience, accessibility and reliance in the registered hospital of the emergency cases classified by type of health service utilization

From a statistical point of view, there were differences between two types of utilization (within and outside the registered province) in their distance and travel time to the registered hospital. The emergency patients who sought care outside the registered province had longer distance and spent longer travel time to their registered

hospitals, as depicted in Table 90. Moreover, they had significantly less convenience transporting to their registered hospitals (see Table 91).

Table 90: Distance and travel time from emergency place to the registered hospital in emergency cases classified by type of health service utilization

Characteristic	Type of utilization	Mean (S.D.)	P-Value [b]
Distance to the registered hospital (kilometer)	Within the registered province (n=400)	11.83(21.82)	0.001*
	Outside the registered province (n=56)	88.08(164.93)	
Travel time to the registered hospital (minute)	Within the registered province (n=488)	26.35(23.61)	<0.001*
	Outside the registered province (n=79)	289.11(246.24)	

b: Mann-Whitney U test, * Significant difference

Table 91: Convenience transporting to the registered hospital in emergency cases classified by type of health service utilization

Characteristics	Number of participants (%)		P-Value [a]
	Within the registered province	Outside the registered province	
Convenience transporting to the registered hospital (n=691)			<0.001*
Yes	477(87.4)	20(13.8)	
No	57(10.4)	94(64.8)	
Unknown	12(2.2)	31(21.4)	

a: Chi-square, * Significant difference

As displayed in Table 92, there were statistically significant differences between two types of health service utilization in prior visiting and satisfaction in service quality of the registered hospital. It was found that the emergency patients who utilized the ED outside the registered province were less likely to have ever visited their registered hospital during the past one year, as compared to those who utilized emergency service within the registered province. They also felt less satisfied with service quality of their registered hospitals.

According to Table 93, the emergency patients who utilized emergency service outside the registered province felt significantly slower and less rapid in service rate of their registered hospitals, as compared to the emergency patients utilizing within the registered province. Moreover, they were less relied on service quality of their registered hospitals.

Table 92: Satisfaction with the prior service received from the registered hospital in emergency cases classified by type of health service utilization

Characteristics	Number of participants (%)		P-Value [a]
	Within the registered province	Outside the registered province	
Prior visit to the registered hospital during the past one year. (n=698)			<0.001*
Yes	373(67.8)	54(36.5)	
No	165(30.0)	70(47.3)	
Unknown	12(2.2)	24(16.2)	
Satisfaction with the service quality of the registered hospital (n=408)			0.001*
Satisfied	329(92.4)	38(73.0)	
Unsatisfied	21(5.9)	11(21.2)	
Unknown	6(1.7)	3(5.8)	

a: Chi-square using Fisher's exact test, * Significant difference

Table 93: Perceived service quality of the registered hospital in emergency cases classified by type of health service utilization

Characteristics	Number of participants (%)		P-Value [a]
	Within the registered province	Outside the registered province	
Perceived service rate of the registered hospital (n=693)			<0.001*
Rapid	426(77.9)	64(43.8)	
Slow	75(13.7)	27(18.5)	
Unknown	46(8.4)	55(37.7)	
Reliance on service quality of the registered hospital (n=693)			<0.001*
Relied	472(86.3)	61(41.8)	
Not relied	27(4,9)	34(23.3)	
Unknown	48(8.8)	51(34.9)	

a: Chi-square, * Significant difference

5.2 Convenience, accessibility and reliance in the utilized hospital of the emergency cases classified by type of health service utilization

This study found that there were significant differences between two types of utilization (within and outside the registered province) in their distance and travel time to the utilized hospitals. The emergency patients who sought care outside the registered province had longer distance and spent longer travel time to their utilized hospitals, as depicted in Table 94. Moreover, they had significantly less convenience transporting to the utilized hospitals for this visit (Table 95).

Table 94: Distance and travel time from emergency place to the utilized hospital in this visit of the emergency cases classified by type of health service utilization

Characteristic	Type of utilization	Mean (S.D.)	P-Value [b]
Distance to the utilized hospital (kilometer)	Within the registered province (n=407)	10.89(17.62)	0.002*
	Outside the registered province (n=55)	39.47(88.25)	
Travel time to the utilized hospital (minute)	Within the registered province (n=513)	26.41(22.40)	<0.0001*
	Outside the registered province (n=137)	60.18(72.33)	

b: Mann-Whitney U test, * Significant difference

Table 95: Convenience transporting to the utilized hospital of the emergency cases classified by type of health service utilization

Characteristics	Number of participants (%)		P-Value [a]
	Within the registered province	Outside the registered province	
Convenience transporting to the utilized hospital (n=691)			<0.001*
Yes	515(93.1)	119(77.3)	
No	37(6.7)	35(22.7)	
Unknown	1(0.2)	0(0.0)	

a: Chi-square, * Significant difference

As displayed in Table 96, there was statistically significant difference in prior visiting to the utilized hospital between two types of health service utilization. It was found that the emergency patients who utilized the ED outside the registered province

were less likely to have ever visited their utilized hospitals during the previous year, as compared to those who utilized AE service within the registered province. On the other hand, there was no significant difference between two types of health service utilization in their satisfaction with service quality of the utilized hospital.

In Table 97, there were no significant differences in perceived service rate and reliance on service quality of the utilized hospital in this episode between utilization within and outside the registered province among the emergency patients.

Table 96: Satisfaction in the prior service received from the utilized hospital in this episode of the emergency cases classified by type of health service utilization

Characteristics	Number of participants (%)		P-Value [a]
	Within the registered province	Outside the registered province	
Prior visit to the utilized hospital during the past one year. (n=714)			<0.001*
Yes	393(70.3)	58(37.4)	
No	163(29.2)	96(61.9)	
Unknown	3(0.5)	1(0.6)	
Satisfaction with the service quality of the utilized hospital (n=431)			0.899
Satisfied	357(95.2)	54(96.4)	
Unsatisfied	14(3.7)	2(3.6)	
Unknown	4(1.1)	0(0.0)	

a: Chi-square using Fisher's exact test, * Significant difference

Table 97: Perceived service quality of the utilized hospital in this episode of the emergency cases classified by type of health service utilization

Characteristics	Number of participants (%)		P-Value [a]
	Within the registered province	Outside the registered province	
Perceived service rate of the utilized hospital (n=710)			0.050
Rapid	463(83.3)	123(79.9)	
Slow	77(13.8)	20(13.0)	
Unknown	16(2.9)	11(7.1)	

Table 97: Perceived service quality of the utilized hospital in this episode of the emergency cases classified by type of health service utilization (continue)

Characteristics	Number of participants (%)		P-Value [a]
	Within the registered province	Outside the registered province	
Reliance on service quality of the utilized hospital (n=711)			0.685
Relied	527(94.8)	144(92.9)	
Not relied	13(2.3)	5(3.2)	
Unknown	16(2.9)	6(3.9)	

a: Chi-square

6. Type of hospital and type of area for registration in emergency cases classified by types of health service utilization

In this study, it was found that the emergency patients who utilized service outside the registered provinces were more likely to live in district which were not bordered the other district that were the location of general/ regional hospital, as compared to those who visited the ED within the registered province. Moreover, type of emergency patients' registered hospital went along with area for registration. Their registered hospitals were community hospitals more than those who attended the ED within the registered province. However, the utilized hospitals which they visited in this episode were more likely to be Bangkok-hospitals, as compared to those of the emergency patients utilized services within the registered provinces. (Table 98 and 99).

Table 98: Type of area for registration in accident cases classified by type of health service utilization

Type of area for registration (n=720)	**Number of participants (%)**		**P-Value** [a]
	Within the registered province	**Outside the registered province**	
District which not bordered the other district that were the location of general/ regional hospital.	47(8.3)	70(45.2)	<0.001*
District which bordered the other district that were the location of general/ regional hospital.	97(17.2)	43(27.7)	
District that was the location of general/ regional hospital	308(54.5)	40(25.8)	
Villages which bordered the other provinces	0(0.0)	0(0.0)	
Bangkok district	113(20.0)	2(1.3)	

a: Chi-square, * Significant difference

Table 99: Type of hospital in emergency cases classified by type of health service utilization

Characteristics	**Number of participants (%)**		**P-Value** [a]
	Within the registered province	**Outside the registered province**	
Type of patient's registered hospital (n=722)			<0.001*
Community hospital	141(25.0)	113(72.0)	
Regional hospital/General hospital	312(55.2)	42(26.8)	
Bangkok-hospital	112(19.8)	2(1.3)	
Type of utilized hospital in this episode (n=723)			<0.001*
Community hospital	102(18.1)	7(4.4)	
Regional hospital/General hospital	350(61.9)	45(28.5)	
Bangkok-hospital	113(20.0)	106(67.1)	

a: Chi-square, * Significant difference

7. Patient-referral system, influence of significant person, and place of accident/ emergency in accident cases classified by type of health service utilization

As given in Table 100, there was no significant difference in the decision maker and patient-deliver in the case of emergency between two types of health service utilization. On the other hand, there was statistically significant difference ($p<0.001$) in mode of transportation. It was found that the emergency patients who visited the ED outside registered province went to the utilized hospitals by taxi or tuk tuk or waged car more than those who seeking emergency care within registered province.

Table 100: Decision maker, patient-deliver, and mode of transportation in the case of emergency classified by type of health service utilization

Characteristics	Number of participants (%)		P-Value [a]
	Within the registered province	Outside the registered province	
The person who decided to utilize accident service at the sampled hospital (n=723)			0.255
Patients themselves	214(37.9)	55(34.8)	
Relatives/ friends/ neighbor	350(61.9)	102(64.6)	
Witness	1(0.2)	0(0.0)	
Police/ EMS/ other foundation	0(0.0)	0(0.0)	
Others	0(0.0)	1(0.6)	
The person who delivered accident patient to utilized hospital in this episode (n=723)			0.454
Patients themselves/ relatives	556(98.4)	154(97.5)	
Policeman	0(0.0)	0(0.0)	
Witness	2(0.4)	1(0.6)	
EMS/ other foundation	3(0.5)	0(0.0)	
Others	4(0.7)	3(1.9)	
Mode of transportation (n=715)			<0.001*
Motorcycle	142(25.4)	7(4.5)	
Own car/ relatives'/ friends'/ neighbors' car	228(40.7)	54(34.8)	
Bus	15(2.7)	13(8.4)	
Taxi/ tuk-tuk/ waged-car	156(27.9)	75(48.4)	
Others	19(3.4)	6(3.9)	

a: Chi-square using Fisher's exact test, * Significant difference

According to Table 101, it was found that the emergency patients utilizing outside the registered province had emergency illness at their workplaces more than those who utilized emergency service within the registered province.

Table 101: Place of emergency classified by type of health service utilization

Characteristics	Number of participants (%)		P-Value [a]
	Within the registered province	Outside the registered province	
Place of emergency (n=722)			<0.001*
At residence	527(93.5)	110(69.6)	
At workplace	12(2.1)	26(16.5)	
Others	25(4.4)	22(13.9)	

a: Chi-square, * Significant difference

8. Experience and perception of this illness episode (only emergency conditions) classified by type of health service utilization

In Table 102, experience and perception of this illness episode, only the level of severity of perceived illness was found to be statistically significant ($p<0.05$). The emergency patients attending the ED outside the registered province were more likely to felt that their emergency conditions were severe, as compared to those who visited the ED within the registered province.

Table 102: Experience and perception about this illness episode (only emergency conditions) classified by type of health service utilization

Characteristics	Number of participants (%)		P-Value [a]
	Within the registered province	Outside the registered province	
Having prior experience about this illness (n=719)			0.141
Yes	277(49.4)	70(4.3)	
No	281(50.1)	85(53.8)	
Unknown	3(0.5)	3(1.9)	

Table 102: Experience and perception of this illness episode classified by type of health service utilization (continue)

Characteristics	Number of participants (%)		P-Value [a]
	Within the registered province	Outside the registered province	
Perceived need of health care service in this illness episode (n=714)			0.081
Acute, severe conditions and might lead to death if not received immediate service	174(31.2)	49(31.4)	
Not acute but severe and might lead to death if not received immediate service	124(22.2)	49(31.4)	
Not acute nor severe but it disturbed daily activity	137(24.6)	27(17.3)	
Not severe but worrying that it might get worse	119(21.3)	31(19.9)	
Not severe but this time was convenient to visit the doctor	4(0.7)	0(0)	
Perceived severity of this illness episode (n=711)			0.022*
Mild	40(7.2)	2(1.3)	
Moderate	248(44.6)	72(46.5)	
Severe	268(48.2)	81(52.3)	

a: Chi-square using Fisher's exact test, * Significant difference

Part 3: Factors affecting utilization of accident and emergency services outside the registered province

The results comparing the utilization services within the registered health facility province and the health facility outside the registered province in each factor (univariate analysis) were shown in part 2 and also were summarized in Appendix B. According to the previous result, the statistically significant differences were found with the factors concerning socio-demography, the reliance in the health facility, satisfaction with the prior services of the health facility, attitude towards the regulation of AE service system, convenience and the accessibility of the health services, modes of transportation, relationship between location of registered and current residence and current workplace, place of the accident/emergency, types of area for registration, and the perception of the illness severity. However, no statistically significant differences was found with the educational groups, the expectation on service qualities, decision makers, patient transporters, the experience of past illnesses, the perception of the need for health care services, and the satisfaction from the services. Although initial univariate analysis showed great similarities between the accident patients and the emergency patients, few differences were found. One of the differences was the attitude towards the patients' rights and the service system. This difference was found between the emergency patients utilizing health care services within the registered health facility province and outside the registered province, but none was found between the accident cases. Furthermore, no difference was found with some of the socio-demographic factors and the mode of transportation among the accident cases who utilized health services within the registered health facility province and outside the registered province.

In order to study the factors affecting the utilization of accident and emergency services outside the registered province more clearly, the binary logistic regression analysis was used. With this analysis the dependent variable is the type of health services utilized, which is classified into two groups: the service utilization within the registered health facility province and the service utilization outside the registered

province. Among the 920 cases of data collected there were only 197 patients involved in accidents (21.4%), while 723 patients (78.6%) were emergency patients. Therefore, the binary logistic regression method was analyzed twice, in all patients (920 patients) and in emergency patients only (723 patients).

Part 3.1: Binary logistic regression analysis in all accident and emergency patients

With this analysis, the dependent variable which is the type of health service utilization is classified into two groups: the service utilization within the registered health facility province and the service utilization outside the registered province. These variables were analyzed using the Forward LR Method. All variables that are significantly related to utilization outside the registered province in univariate analysis were screened to be included in the model. Due to the limitation of cases since only non-missing case will be included in the model and each dummy variable will be treated as one variable in the model, twelve independent variables were selected for logistic regression analysis in this study. The twelve factors chosen in this analysis were factors that could be intervened in order to improve the health policy and regulation or can help identifying the group of population that are more likely to use the service outside the registered provinces. The selected factors in the binary logistic model, as specified in conceptual framework are:

1) Predisposing factors
    1.1) Types of socio-demography
        i. gender of the decision maker
        ii. patient's occupation
    1.2) Knowledge, attitude and the experience in health care service
        i. attitude towards the regulation of AE service system under the UCS
        ii. experience with service utilization within the registered hospital
        iii. reliance in the quality of the registered hospital
        iv. perception of the service rate provided at the registered hospital

2) Enabling factors

2.1) Convenience and accessibility of the service

i. distance from the place of accident/emergency to the registered hospital

ii. time to travel from the place of accident/emergency to the registered hospital

iii. mode of transportation

iv. place of the accident/emergency

2.2) Relationship between the location of the registered hospital and current residence

2.3) Types of health facility

i. Type of the utilized hospital

From the binary logistic analysis, factors affecting the service utilization outside the registered province in all accident and emergency cases are time to travel from the place of accident/emergency to the registered hospital, reliance in service quality of the registered hospital, relationship between the location of the registered hospital and current residence, patient's occupation, and the type of utilized hospital, as shown in Table 103. The Nagelkerke R Square is 0.836 and the Hosmer and Lemeshow test has the $\chi^2 = 4.366$, df = 8 (P-Value = 0.823) as shown in Appendix C.

From the analysis, if the time used to travel from the place of accident/emergency to the registered hospital increased 1 minute, service utilization outside the registered province will increase 1.013 times (P = 0.008). As for the reliance in the service quality of the registered hospital, the patients' who were not relied in the service quality of their registered hospital has 37.5 times more chances of utilizing service outside the registered province ($p < 0.001$) as compared to those who were relied. Furthermore, the patients whose their registered hospitals and current residences were not located in the same province would have 40 times more chances of utilizing services outside the registered facility ($p = 0.002$) as compare to those whose their registered hospitals and current residences were located in the same province. When looking at the occupation, comparing to the patients who were unemployed, students or housewives, patients who were farmers, fishermen, laborers

or wage-worker has 18 times more chances of utilizing service outside the registered province (p = 0.008), while patients who were merchant or business owner has 67 times more chances to utilize service outside the registered province as compared to those who are unemployed, student or housewives (p = 0.014). Finally, the analysis found that hospitals in Bangkok had 90 times more likely to be the types of utilized hospital of those who utilized service outside the registered province as compared to the community hospitals (p = 0.001).

Table 103: Coefficients and adjusted odds ratio (OR) of selected variables in binary logistic regression for AE services utilization outside the registered province of all accident and emergency cases

Variables	Order	β	SE (β)	P-Value [a]	OR
Travel time from place of A/ E to the registered hospital (minute)	-	0.013	0.005	0.008*	1.013
Reliance on service quality of the registered hospital	Not relied VS Relied	3.624	0.976	<0.001*	37.488
	Unknown VS Relied	2.597	1.240	0.036*	13.428
Location of the registered hospital and present residence	Not in the same province VS Within the same province	3.686	1.208	0.002*	39.884
Occupation of patients	Agriculturist/ fisherman/ laborer VS Employed/ student/ housewife	2.878	1.082	0.008*	17.782
	Merchant/ business owner VS Unemployed/ student/ housewife	4.202	1.708	0.014*	66.848
	Employee VS Unemployed/ student/ housewife	-3.608	13.903	0.795	0.027
Type of the utilized hospital in that illness episodes	Bangkok-hospital VS Community hospital	4.497	1.398	0.001*	89.704
	Regional/ general hospital VS Community hospital	-1.062	1.514	0.483	0.346

a: Chi-square, * Significant difference

Part 3.2: Binary logistic regression analysis in the emergency patients

With this analysis, the dependent variable which is the type of health service utilization is classified into two groups: the service utilization within the registered health facility province and the service utilization outside the registered province. These variables were analyzed using the Forward LR Method. All variables that are significantly related to utilization outside the registered province in univariate analysis were screened to be included in the model. Due to the limitation of cases since only non-missing case will be included in the model and each dummy variable will be treated as one variable in the model, thirteen independent variables were selected for logistic regression analysis in this study. The twelve factors chosen in this analysis were factors that could be intervened in order to improve the health policy and regulation or can help identifying the group of population that are more likely to use the service outside the registered provinces. The selected factors in the binary logistic model, as specified in conceptual framework are:

1. Predisposing factors
    1.1) Types of socio-demography
        i. gender of the decision maker
        ii. patient's occupation
    1.2) Knowledge, attitude and the experience in health care service
        i. attitude towards the regulation of AE service system under the UCS
        ii. experience with service utilization within the registered hospital
        iii. reliance in the quality of the registered hospital
        iv. perception of the service rate provided at the registered hospital
2) Enabling factors
    2.1) Convenience and accessibility of the service
        i. distance from the place of accident/emergency to the registered hospital
        ii. time to travel from the place of accident/ emergency to the registered hospital
        iii. mode of transportation
        iv. place of the accident/emergency

2.2) Relationship between the location of the registered hospital and current residence

2.3) Types of health facility

i. Type of the utilized hospital

3) Need factors

i. Perception of severity of illness

From the binary logistic analysis, factors affecting the service utilization outside the registered province in emergency cases are time to travel from the place of emergency to the registered hospital, reliance in service quality of the registered hospital, location of the registered hospital and the current residences, patient's occupation, and types of hospital where service is utilized (utilized hospital), as shown in Table 104. The Nagelkerke R Square is 0.810 and the Hosmer and Lemeshow test has the $\chi^2 = 0.793$, df = 8 (P-Value = 0.999) as shown in Appendix D.

According to the analysis if the time spent in travel from the place of emergency to the registered health facility increase 1 minute, service utilization outside the registered province will increase 1.012 times (P = 0.008). As for the reliance in service quality of the registered hospital, the patients' who were not relied in the service quality of their registered hospital has 43 times more chances of utilizing service outside the registered province ($p < 0.001$) as compared to those who were relied. Furthermore, the patients whose their registered hospitals and current residences were not located in the same province would have 32 times more chances of utilizing services outside the registered facility ($p = 0.004$) as compare to those whose their registered hospitals and current residences were located in the same province. When looking at the occupation, comparing to the patients who were unemployed, students or housewives, patients who were farmers, fishermen, laborers or wage-worker has 19 times more chances of utilizing service outside the registered health provinces ($p = 0.012$). Finally, the analysis found that if the types of hospital, where service was utilized was hospital in Bangkok, there was 57 times more chances

of patients utilizing services outside the registered province as compared to the community hospitals (p = 0.005).

Table 104: Coefficients and adjusted odds ratio (OR) of selected variables in binary logistic regression for emergency services utilization outside the registered province

Variables	Order	β	SE (β)	P-Value [a]	OR
Travel time from emergency place to the registered hospital (minute)	-	0.012	0.005	0.008*	1.012
Reliance on service quality of the registered hospital	Not relied VS Relied	3.756	1.022	<0.001*	42.770
	Unknown VS Relied	2.545	1.372	0.064	12.748
Location of the registered hospital and present residence	Not in the same province VS Within the same province	3.474	1.219	0.004*	32.274
Occupation of patients	Agriculturist/ fisherman/ laborers VS Unemployed/ student/ housewife	2.946	1.173	0.012*	19.029
	Merchant/ business owner VS Unemployed/ student/ housewife	2.635	2.355	0.263	13.949
	Employee VS Unemployed/ student/ housewife	-3.102	12.217	0.800	0.045
Type of utilized hospital in that illness episodes	Bangkok-hospital VS Community hospital	4.050	1.430	0.005*	57.413
	Regional/ general hospital VS Community hospital	-1.178	1.542	0.445	0.308

a: Chi-square, * Significant difference

CHAPTER V
DISCUSSION

According to the objectives of this study, the discussion was divided to three parts, as follows;

Part 1: Comparison between utilization within the registered province and outside the registered province

Part 2: Factors affecting utilization of accident and emergency services outside the registered province by using binary logistic regression

Part 3: Limitation of the study

Part 1 Comparison between utilization within the registered province and outside the registered province

According to the result of this study, accident and emergency service utilization within and outside the registered province were significantly different in various factors.

1. Predisposing factors

The predisposing factors under the conceptual framework consist of

1.1 Socio-demographic factors

1.2 Knowledge, attitude and the experience in health care service

1.3 Expectation on service quality

1.1 Socio-demographic factors

In support of previous research (7-15), this study found that several factors of the population and social characteristics were related to accident and emergency service utilization. This finding showed that marital status and occupation of patients were significantly different between the service utilization within and outside the registered province, both emergency and accident patients. It was found that the proportion of patients who utilized AE service outside the registered province mostly were single, as compared to the patients who sought care within the registered province, while the proportion of patients who mostly utilized AE service outside the registered province. On the other hand, the proportion of patients who were married and who were younger than 15 years old was lower in those who utilized AE service outside the registered province. The proportion of patients utilized AE service outside the registered province who worked as farmers/fishermen/labors, or employees/ merchants/ business owner, were higher in the patients who utilized AE service outside the registered province. However, the proportion of patients who were unemployed, housewives, or students was higher in those who utilized AE services within the registered province. Comparing to unemployed person or housewife, it can

be explained that the patient in particular occupation had often moved to other place for work, therefore, they had higher chance of using service outside their registered province. In addition, most of these works were in working age and single, as compared to those who were unemployed or housewives. However, there was no significant difference between the patients who utilized AE service within and outside the registered province in the following factors; age of patients, family income of patients, highest educational level of patients and decision makers. Only in emergency patients, there were significantly differences between types of utilization in various factors, which were gender of patients, gender of decision maker, occupation and education of decision makers.

1.2 Knowledge, attitude and the experience in health care service

The result is inconsistent with the previous studies (7-9, 11, 14, 16, 17), in that the factors on knowledge affecting health care service utilization. This finding found that there was no significantly difference between utilization within and outside the registered province on the score of knowledge the regulation of AE service under the UCS. However, the knowledge of those who were decision maker in this study was quite low. It may be the case that the majority of all patients (51%) were educated in primary school or lower level. It was found that less than 60% of AE patients knew that in case of accident or emergency, UC patients can utilize health service at any health facilities, which are in the National Health Security System or any others which have registered at the NHSO, located anywhere nearby. In addition, only approximate 32% of AE patients knew that in case of emergency illness, the service utilization may be accessed at the maximum of twice a year and 46% of AE patients knew that in case of road traffic injury, UC patients may, firstly, file an insurance claim under the Traffic Accident Insurance (TAI) regulation for the reimbursement and the rest can be reimbursed by the National Health Security Funds.

As for the attitude examined in the previous studies (7-9, 11, 14, 16, 17), this finding found that the attitude score concerning the regulation of AE service system under the UCS was statistic significantly different between the service utilization within and outside the registered province in cases of accident and emergency (all patients) and in cases of emergency patients. The patients who utilized the AE service

within the registered province were more likely to view that the regulation caused them problems, as compared to the patients who utilized the service outside the registered province. However, the difference on attitude score between the patients who utilized the accident service within and outside the registered province was not found. When considering at each regulation, 56-70 % of AE patients identified that the following regulation did not cause any problems to them; **"**In general, UC patients are required to utilize regular service only at their registered health facilities", "In case of accident or emergency illness, UC patients can utilize health service at any health facilities, which are in the National Health Security System or any others which have registered at the NHSO, located anywhere nearby"**,** and "In case of emergency illness, the service utilization may be accessed at the maximum of twice a year". However, it is noted that about 15% of AE patients identified that the following regulation can cause moderate to severe problems to them; "In case of accident or emergency illness, UC patients can utilize health service at any health facilities, which are in the National Health Security System or any others which have registered at the NHSO, located anywhere nearby". It is probable that they are not satisfied with the beneficiaries of AE service under UCS or they do not understand these attitude questions during the interview. However, about 30% of them indicated that the following regulation can cause moderate-serious problems to them; "In case of emergency illness, the service utilization may be accessed at the maximum of twice a year". This finding is probably due to one-third of them (30%) think that he/she has the chronic disease(s) (i.e. asthma, diabetes mellitus (DM), cardio-vascular disease), especially in low income patients. Sometimes he/she need to seek care at the emergency department in the hospital nearby more than two times per years when unexpected disease attack or acute complications (i.e. acute asthmatic attack, hypoglycemia in DM patient, heart attack). In this case, it is really necessary to the patients to utilize AE service outside the registered province. In addition, it should be noted that these knowledge and attitude related regulation of AE utilization were asked after the utilization occured and in most cases the respondents were known of these regulations by the interviewers, therefore the attitude might not be the appropriate predictor of AE utilization.

As for the predisposing factors on the experience in health care service of the previous studies (14, 17, 18), this study found that several factors of the experience in health care service were related to the type of accident and emergency service utilization. This finding showed that there were significantly differences between the service utilization within and outside the registered province of all patients (including emergency and accident cases), emergency patients and accident patients on the following variables: experience with service utilization at the registered hospital, satisfaction with the prior service received from the registered hospital, the perception of the quickness of the service provided at the registered hospital and perceived service quality of the registered hospital. As expected, it was found that patients who utilized the ED outside the registered province were less likely to have ever visited their registered hospital during the past one year ago, as compared to those who utilized AE service within the registered province. Moreover, they also felt less satisfied with service quality of their registered hospitals. Furthermore, the AE patients utilizing services outside the registered province felt that services received from their registered hospitals were significantly less rapid and less relied, as compared to those who utilized AE care within the registered province. It can be explained that the AE patients who felt less satisfied with service quality, felt significantly less rapid in service rate and less relied on service quality of their registered hospitals may want to try utilizing ED outside the registered province. However, there was no significantly difference between within and outside the registered province in the following variables: satisfaction with the prior service received from the utilized hospital, the perception of the quickness of the service provided at the utilized hospital and perceived service quality of the utilized hospital.

1.3 Expectation on service quality and satisfaction toward the received service

The study agreed with previous research (14, 18, 22, 25, 26) that several factors in expectations on service quality related to the health care utilization. Our data confirms that there was a significantly difference on expectation score between the service utilization within and outside the registered province in all patients (both emergency and accident patients), accident patients, and emergency patients. When

considering each topic of expectations on AE services in 5 aspects, which are tangible, assurance, responsiveness, reliability, and empathy, most patients (more than 90%) identified that they had expectation on the mentioned topics. However, when comparing expectations and actual services (if the quality of actual service received is higher than the expectation, the patients will be satisfied), most patients (more than 85%) satisfied with the services they received according to the above topics. The results of this research indicated that the patients who expected on AE service had a high level of satisfaction with the AE services. Nevertheless, there was no significantly difference on the satisfaction score between utilization within and outside the registered province in all patients, accident patients, and emergency patients.

2. Enabling factors

The enabling factors under the conceptual framework consist of

2.1 Convenience and accessibility of the service

2.2 Types of health facility

2.3 Influence of significant person

2.1 Convenience and accessibility of the service

When considering the convenience and accessibility, this result is consistent with previous studies (7-17) that convenience and accessibility factors affecting health service utilization. It was found that there was significant difference between utilization within and outside the registered province in all patients, accident patients and emergency patients according in the following variables: distance and time to travel from the place of accident/emergency to the registered hospital and convenience transporting from the place of accident/emergency to the registered hospital. The average distance and travel time from the place of accident/emergency to the registered hospital of patients who utilized services within the registered province was lower than those of the patients who utilized the service outside the registered province. Meanwhile, patients who got service within the registered province

identified that the proportion of convenience on traveling from the accident/emergency scene to the registered hospital was high when comparing with the patients who utilized service outside the registered province. From the result of this study it was found that there were statistic significantly differences between within and outside the registered province utilization only in all accident and emergency patients and emergency patients according to the several factors on distance and travel time from the place of accident/emergency to the utilized hospital and the convenience of traveling from the accident/emergency scene to the utilized hospital. In case of emergency patients and all patients, the average distance and travel time from the place of accident/emergency to the utilized hospital of patients who sought care outside the registered province was longer than those of the patients who got service within the registered province. The patients who utilized service outside the registered province indicated less convenience transporting to the utilized hospital than those who got service within the registered province.

There was no significant difference between within and outside the registered province utilization of accident patients in mode of transporting the patient. However, the proportion of emergency patients and all patients within the registered province utilization who travel by their own/ family/ relatives/ friends' car was higher than those patients who utilized the ED outside the registered province. In contrast, the patients who utilized service outside the registered province were more likely to travel by bus, tricycle, and taxi, as compared to the patients who got care within the registered province. In addition, places of accident/emergency of patients who utilized service within the registered province utilization, both accident and emergency patients mostly were at their houses, while those of the patients who utilized service outside the registered province mainly were their workplace. When comparing the services utilization outside the registered province, the patients who utilized AE service within the registered province mainly lived in the same province as the 2nd registered hospital. Furthermore, the registered hospital and current workplace of patients who utilized AE service outside the registered province were mostly located in the different provinces.

2.2 Types of health facility

When looking at types of health facility, this result is similar to the previous study (7, 8, 14, 16, 25), which types of health facility affecting health service utilization. It was found that types of the registered hospital of all patients including accident and emergency patients who utilized AE service outside the registered province was mainly the community hospital, while the registered hospital of the patients who got service within the registered province mostly was general hospital/ regional hospital. It can be explained that the general hospital or the regional hospital can provide more services and having more equipments including staff and doctors, as compared to the community hospital. Therefore, if the patients felt that they got seriously sick and need high level of care, they might decide to go to regional hospital/ general rather than community hospital. The study result was related to the type of health facility they utilized at that time. It found that types of the hospital that the patients who got service outside the registered province visited in this episode was mostly the hospital in Bangkok, whereas the utilized hospital of patients who sought care within the registered province was mainly the general hospital/ regional hospital.

2.3 Influence of significant person

According to the influence of significant person, there was no significant difference between patients utilizing services within and outside the registered province utilization in their decision makers and persons who delivered patients. However, it was found that most of decision makers were relatives or family or closed persons of the patients (61%), followed by patient-themselves (37%) which is similar to the results from previous investigations (14, 19) in the influence of significant person. The persons who delivered the patients mostly were the patient, relatives or family (95%).

3. Need factors

In support of previous studies (7-9, 13, 14, 16, 17, 20, 21) according to the need factors which data was specifically collected from emergency patients, this study found that half of emergency patients (50.9%) reported that they had never experienced these symptoms/diseases before. When considering perceived need for health care services, it was found that 31.2% and 24.2% of them confirmed that their symptoms were acute and might lead to death or may harm other persons thus required urgent care and that their symptoms was not acute, but might lead to death or might harm others, thus urgent care was needed, respectively. About 23.0% of patients identified that their symptoms might not lead to death, but it interfered with their works or daily activities. About 21% and 6% of patients described that their symptom did not lead to death, but they worried that it would getting worse if no treatment was received and that their symptoms did not lead to death but it was convenient to get the service during this time. When considering the severity of illness, about 50% of patients identified that the symptom was severe, while only about 6% stated that it was mild symptoms/conditions. This finding showed that inappropriate use in AE services of this study was quite low, when comparing to all AE cases. Therefore, the NHSO should consider more effective management system (i.e. flexible registration, AE service regulations, and provider payment mechanism) in order to help facilitating these patients. Moreover, the definitions of emergency illness from perceived need about health care service and perceived severity of illness were different among individual patient and the medical providers. However, the study did not show that the experience of perceived symptoms/diseases pattern and perceived need about health care seeking were the factors affecting the emergency service utilization outside the registered province. As for the severity of illness, patients who utilized emergency service outside the registered province were more likely to perceive that their symptoms were severe, as compared to the patients who got service within the registered province.

Part 2 Factors affecting utilization of accident and emergency services outside the registered province by using binary logistic regression

The analysis on factors affecting the utilization of accident and emergency services outside the registered province was conducted using binary logistic regression. These variables were analyzed using the Forward LR Method. Those 12 factors were gender of decision maker, occupation of patients, mode of transportation, location of the 2nd registered hospital and current address, type of utilized hospital, distance and travel time from the accident/emergency scene to the registered hospital, experience in service utilization within the registered hospital, perception of the quickness of the service provided at the registered hospital, reliance in the quality of the registered hospital, attitude score towards the regulation of AE service system, location of the accident/emergency, and perception of severity of illness. There were only 5 factors that can predict the utilization of accident and emergency services outside the registered province of all patients (including both accident and emergency patients), and emergency patients which were occupation of patients, location of the 2nd registered hospital and current address, type of the utilized hospital, travel time from the place of accident/emergency to the registered hospital and reliance in quality of the registered hospital. For occupation, it can be explained that some occupations were more likely to utilize service outside the registered hospitals, as compared to other occupations. In the support of previous studies (7, 14, 16-18), this study found that another factor which is important to the utilization of service outside the registered province was the reliance in quality of the registered hospital. As expected, this finding found that if the decision-makers relied in the quality of registered hospital, it is less likely that they would utilize service outside the registered province. According to the result, the registered hospital should improve the trust of the patients in order to reduce unnecessary of utilization of service outside the registered hospital. Finally, as the previous studies (5, 7, 8, 14, 16, 17, 25), our study confirms that another factor affecting service utilization outside the registered province is type of utilized hospital. This finding found that type of health facility where service is utilized outside the registered province mostly was the hospital in Bangkok. This finding may

be due to the fact that Bangkok is surrounded by many provinces and it was convenient to travel to Bangkok because of the good transportation. In addition, the Bangkok-hospitals which were studied in this research were tertiary hospitals which can provide high quality service including specialist doctors and equipment. Moreover, there were a large number of migrations of people to these areas, without changing their registered health facility.

Part 3 Limitation of the study

This study has the following limitations;

1. Due to the purposive sampling method conducted in this study, selection bias possibly occurred.

2. According to the fact that the way to recruit the participants relied mostly on the AE patients' willingness to participate, therefore the distribution of the characteristics was not concordant with the characteristics of general AE patients as a whole in some variables, therefore in the further study the response rate of the participants and characteristics of those who refused to participate in the study should be recorded.

3. The generalizability of the result in this study is limited by the type of hospital. In this study, particularly community, general/ regional and teaching hospital was used to analyze. The private hospitals have different characteristic, therefore generalize the result to this type of hospital should be make with caution.

CHAPTER VI
CONCLUSIONS AND RECOMMENDATIONS

Conclusions

Main purpose of this study was to examine factors affecting patients' utilization of accident and emergency services under the UCS outside the registered province. Moreover, this research examines study knowledge, attitude, the utilization behaviors, expectation, and satisfaction toward the actual service received of the patients utilizing accident and emergency services under the UCS. Binary logistic regression was conducted to determine the factors affecting utilization of AE services outside the registered province.

Of the 920 patients utilizing the accident and emergency service from the twelve selected hospitals, the number of female was slightly higher than male. More than one-half (56.2%) of AE patients were in-patients. About four-fifths (77.1%) of AE patients utilized AE service within the registered province while about one-fifths (22.9%) of them utilized such service outside the registered province. In AE services utilization, approximately four-fifths (78.6%) of patients were emergency patients, while about one-fifth (21.4%) of them were accident patients. The findings from this study could be concluded as following;

1. Binary logistic regression was conducted to determine the factors affecting utilization of AE services outside the registered province. With this analysis the dependent variable, type of health services utilized, which is classified into two levels: the service utilization within the registered province and the service utilization outside the registered province. These variables were analyzed using the Forward LR Method. According to the analysis, only five factors (from 13 factors) significantly predicted the utilization of accident and emergency services outside the registered province among all patients (including accident and emergency patients) and among emergency patients were occupation of patients, location of the registered hospital and current

residence, type of the utilized hospital, travel time from the accident/emergency place to the registered hospital and reliance in service quality of the registered hospital.

For knowledge and attitude towards the regulation of AE service system under the UCS, no significantly difference between two types of health service utilization (within and outside the registered province) on their score of knowledge was found. However, it should be noted that the knowledge among these patients was quite low.

As for the attitude toward and the regulation of AE service system, this finding found that the attitude score was significantly different between these two health service utilizations in all AE patients and emergency patients. The patients who utilized AE service within the registered province were more likely to view that the regulation caused problems to them, as compared to those who utilized service outside the registered province. However, no significant difference between patients who got accident service within and outside the registered province on attitude score was found. When considering the attitude towards each regulation, 56-70 % of AE patients identified that the regulation did not cause any problems to them. In contrast, about 30% of AE patients indicated that by setting the maximum of AE service utilization outside the registered province at twice a year caused moderate to serious problem to them.

As for the experience in health care services, this finding showed that there were significantly differences between AE service utilization within and outside the registered province among all AE patients, emergency patients and accident patients on the following variables: prior visit at the registered hospital, satisfaction with the prior service received from the registered hospital, the perception of the quickness of the service provided at the registered hospital, and perceived service quality of the registered hospital. It was found that the patients who utilized the ED outside the registered province were less likely to have ever visited their registered hospital during the past one year, as compared to those who utilized AE service within the registered province. Moreover, they also felt less satisfied with service quality of their registered hospitals. Furthermore, the AE patients utilizing outside the registered province felt that the service provided by their registered hospital was significantly slower or less

rapid in service rate and less reliable, as compared to the patients utilizing AE care within the registered province.

When looking at the socio-demographic factors, this finding showed that the marital status and occupation of patients utilized such service within and outside the registered province are significantly different. It was found that the proportion of patients were single in those who utilized AE service outside the registered province was higher than those of the patients who sought care within the registered province. On the other hand, the proportion of patients who were married in those who utilized AE service outside the registered province was lower than those of the patients who utilized AE service within the registered province. The patients utilizing the AE service outside the registered province were also more likely to work as farmers, fishermen, and labors, employees, merchants and business owner than those patients who utilized AE service within the registered province. On the other hand, the proportion of patients who were unemployed, housewives, or students was higher among those who utilized AE services within the registered province.

When considering the convenience and accessibility, it was found that there were statistic significantly differences between within and outside the registered province utilization in all accident and emergency patients, accident patients and emergency patients in the following variables: distance and time to travel from the place of accident/emergency to the registered hospital and convenience transporting from the accident/emergency scene to the registered hospital. The average of distance and travel time from the place of accident/emergency to the registered hospital of patients who utilized services within the registered province was lower than those of who got the service outside the registered province. Meanwhile, patients who got service within the registered province identified that it was more convenience transporting from the place of accident/emergency to the registered when comparing with the patients who utilized service outside the registered province. In addition, the place of accident/emergency of patients utilized service within the registered province were more likely to be their residences, while the place of accident/emergency of patients who utilized service outside the registered province were more likely to be their workplace. When comparing the services utilization outside the registered

province, the location of the registered hospital and their current residence of those who utilized service within the registered province were more likely to locate in the same province. Furthermore, most patients who applied AE service outside the registered province worked in the office located in the different province of the registered hospital.

When looking at types of health facility, it was found that types of the registered hospital of all AE patients who utilize AE service outside the registered province was mainly the community hospital, while those patients who got service within the registered province mostly was general hospital/ regional hospital. The study result was related to the type of health facility at that time. It found that that utilized hospital of patients who got service outside the registered province at that illness episode was mostly the hospital in Bangkok, whereas those patients who sought care within the registered province was mainly the general hospital/ regional hospital.

According to the need factors which data was specifically collected from emergency patients, this study found that half of emergency patients (50.9%) reported that they had never had this perceived symptoms/diseases before. When considering perceived need about health care seeking, it was found that 31.2% and 24.2% of them confirmed that their symptom which were to death immediately or may harm other persons need to be treated or operated in urgent and in case that the symptom was not immediately to death, but may die or may harm other patients, such patient needed to urgently be treated or operated, respectively. When considering the severity of sickness, about 50% of patients identified that the symptom of emergency illness was too serious to work or spend their routine life. However, the study did not show that the experience of perceived symptoms/diseases pattern and perceived need about health care seeking were factors which affected the emergency service utilization outside the registered province. As for the severity of illness, most patients who utilized emergency service outside the registered province mostly perceived their symptom more serious than the patients who got service within the registered province in statistical significance.

According to the influence of significant person, there was no difference of decision makers and persons who delivered patients between within and outside the registered province utilization. However, it found that most of decision makers were relatives or family or closed persons with patients (61%) and the person who delivered the patients was the patient, relatives or family (95%).

2. When considering each topic of expectations on AE services that were be assessed in 5 aspects, which are tangibles, assurance, responsiveness, reliability, and empathy, most patients (more than 90%) identified that they expected on the mentioned topics. However, when comparing expectations and actual services (if the quality of actual service received is higher than the expectation, the patients will be satisfied), most patients (more than 85%) satisfied the services that they received according to the above topics. The results of this research indicated that the patients who expected on AE service had a high level of satisfaction with the AE services.

Recommendations to the NHSO policy maker

The results of the study can provide useful information to the NHSO policy makers. This information includes patient's perception of emergency assessment, utilization behavior, expectation, knowledge, and attitude towards the accident and emergency service of the patients under the UCS. This information can also be of beneficial in development of patient education guideline to improve knowledge and understanding of the patients, which will lead to the appropriate utilization of the service. In addition, by knowing the factors influencing the utilization outside the registered province, consequently, the policy maker can re-design the service system to enhance the efficiency of medical service in case of accident and emergency and to response to the need of patients in the real situation. According to the result, all health facilities especially community hospitals should try to improve the reliance on quality services. In addition, the regulation for twice a year utilizing emergency service outside the registered province should also be considered. In this case, it may extend the number of times or terminate this regulation since the patients who have the chronic disease(s) (i.e. asthma, diabetes mellitus (DM), cardio-vascular disease), may

need to seek care at the emergency department in the nearby hospital more than two times per years when the disease attack or acute complications occur. This suggestion is consistent with the finding indicated that about 30% of the patients identified that this limitation of service was a problem for AE service utilization and that only 6% of the patients indicated that their diseases were mild. In addition, when considering the requirements which allowed UC patients to change their registered hospitals twice a years if the house owner certified for his/her living, it still was not convenient in reality and it was hardly possible for poor patients who did not have permanent address or they are often moving temporarily from their residence because of work and who were the actual major group in the Universal Coverage Scheme. The NHSO who is the policy maker should consider the solution method in the policy level regarding more flexible registration system, which allows the patients to be able to practically change their registered health facilities wherever at their convenience to seek AE care without geographic boundary limitation in order to better serves the patients, improve accessibility and re-design the service system to response to the need for prompted medical service of accident and emergency patients in the real situation for maximize benefit, decrease patients' suffering and increase efficiency of accident and emergency service utilization. Finally, the knowledge about the regulation of AE utilization was found to be quite low, the intervention to improve knowledge about the regulation should be performed with the appropriate strategies.

REFERENCES

1. สำนักงานหลักประกันสุขภาพแห่งชาติ. คู่มือหลักประกันสุขภาพแห่งชาติ หลักประกันแห่งความเสมอภาคและคุณภาพมาตรฐานบริการสาธารณสุข. กรุงเทพฯ: สำนักงานหลักประกันสุขภาพแห่งชาติ; 2547.
2. สำนักบริหารการชดเชยค่าบริการ สำนักงานหลักประกันสุขภาพแห่งชาติ. แนวทางปฏิบัติในการขอรับค่าใช้จ่ายเพื่อบริการสาธารณสุขสำหรับหน่วยบริการตามระบบหลักประกันสุขภาพแห่งชาติ ปีงบประมาณ 2547. กรุงเทพฯ; กุมภาพันธ์ 2547.
3. ยุพดี ศิริสินสุข, จิราพร ลิ้มปนานนท์. รายงานโครงการศึกษาเพื่อทำการวิเคราะห์ข้อร้องเรียนและพัฒนาข้อเสนอแนะระบบการรับเรื่องร้องทุกข์ภายใต้สำนักงานประกันสุขภาพแห่งชาติ: สำนักงานหลักประกันสุขภาพแห่งชาติ; มกราคม 2547.
4. ศุภสิทธิ์ พรรณารุโณทัย. เศรษฐศาตร์สาธารณสุข: ในยุคปฏิรูประบบสุขภาพ. พิษณุโลก: ศูนย์วิจัยและติดตามความเป็นธรรมทางสุขภาพ; 2544.
5. พงษ์พิสุทธิ์ จงอุดมสุข, สาหร่าย เรืองเดช. ผู้ป่วยอุบัติเหตุและเจ็บป่วยฉุกเฉินในระบบหลักประกันสุขภาพถ้วนหน้า: สำนักงานหลักประกันสุขภาพแห่งชาติ; 2546.
6. สำนักงานหลักประกันสุขภาพแห่งชาติสาขากรุงเทพมหานคร. แนวทางการจัดสรรงบบริการทางการแพทย์โครงการหลักประกันสุขภาพถ้วนหน้าของพื้นที่กรุงเทพมหานคร; พฤษภาคม 2547.
7. Andersen RM, Kravits J, Anderson OW. Equity for access to medical care: Cambridge Mass Ballinger Publishing; 1975.
8. Andersen RM, Anderson OW. Trends in the use of health services in handbook of medical sociology. In: Freeman HE, Levine S, Reeder LG, editors. 3rd ed. New Jersey: Prentice-Hall; 1979.

9. กุศล สุนทรธาดา, วรชัย ทองไทย. ลักษณะผู้ใช้บริการและปัจจัยกำหนดการใช้บริการรักษาพยาบาลในภาคเอกชน. นครปฐม: สถาบันวิจัยประชากรและสังคม มหาวิทยาลัยมหิดล; 2539.

10. Teresa SS, Salvador P, Pilar SP, et al. Inappropriate use of an accident and emergency department: Magnitude, associated factors, and reasons-An approach with explicit criteria. Annals of Emergency Medicine June 2001; 37(6):p. 568-79.

11. อติญาณ์ ศรเกษตริน, เพ็ญศรี ทองเพชร, สมหมาย คชนาม, และคณะ. ปัจจัยที่มีผลต่อพฤติกรรมการสร้างเสริมสุขภาพและพฤติกรรมการใช้บริการของประชาชนภายใต้การสร้างหลักประกันสุขภาพถ้วนหน้า: สถาบันวิจัยระบบสาธารณสุข; 2547.

12. Albert L, Fei-Lung L, Clarke B, et al. Factors associated with non-urgent utilization of accident and emergency services: a case-control study in Hong Kong. Social Science & Medicine 2000; 51: p. 1075-85.

13. Linda FM, Catharine WB. National hospital ambulatory medical care survey: 2002 Emergency department summary: U.S. department of health and human services; 2004.

14. Yong JT. Illness behavior: a selective review and synthesis. Sociology of Health & Illness 2004; 26(1): p. 1-31.

15. Claudia P, Gianluca R, Italo FA. Paediatric utilization of an emergency department in Italy. European journal of Public Health 2006.

16. อดิเรก เร่งมานะวงษ์, สุดาทิพย์ เร่งมานะวงษ์, อุมาพร หินันท์ชัย, และคณะ. ปัญหาการข้ามขั้นตอนของผู้ใช้บริการสาธารณสุขโรงพยาบาลภูเขียว อำเภอภูเขียว จังหวัดชัยภูมิ: สถาบันวิจัยระบบสาธารณสุข; พฤศจิกายน 2546.

17. โยธิน แสวงดี, พิมลพรรณ อิศรภักดี, มาลี สันภูวรรณ์. ปัญหาและทุกข์ของประชาชนเมื่อใช้บริการสาธารณสุข. นครปฐม: สถาบันวิจัยประชากรและสังคม มหาวิทยาลัยมหิดล; 2543.

18. Parasuraman A, Zeithaml VA, Berry LL. Delivery quality service: Balancing customer perceptions and expectations. New York: The Free Press; 1990.

19. พวงทอง เครือมังกร, พัธนา นพคุณ, รักยิ้ม ปัทมสิงห์ ณ อยุธยา, และคณะ. รายงานการวิจัยเรื่อง ปัจจัยที่มีอิทธิพลต่อการมารับการรักษาที่โรงพยาบาลรามาธิบดีของผู้ป่วยต่างจังหวัด. กรุงเทพฯ: คณะแพทย์ศาสตร์โรงพยาบาลรามาธิบดี มหาวิทยาลัยมหิดล; 2535.

20. วิโรจน์ ตั้งเจริญเสถียร, ภิรมย์ กมลรัตนกุล, อนุวัฒน์ ศุภชุติกุล, และคณะ. พฤติกรรมการใช้บริการทางการแพทย์ของผู้ประกันตนในจังหวัดสมุทรปราการ. กรุงเทพฯ: สำนักนโยบายและแผนสาธารณสุข กระทรวงสาธารณสุข; ธันวาคม 2536.

21. ทวีทอง หงษ์วิวัฒน์, พิมพวัลย์ ปรีดาสวัสดิ์, ประสิทธิ์ ลีระพันธ์, และคณะ. พฤติกรรมการใช้บริการสาธารณสุขในโครงการบัตรสุขภาพ: ศูนย์ศึกษานโยบายสาธารณสุข มหาวิทยาลัยมหิดล; 2529.

22. Bartley B, Cameron P. QUEST: Questionnaire relating to patients' understanding and expectations of their symptoms and treatment. Emergency Medicine 2000; 12: p. 123-7.

23. สำนักงานหลักประกันสุขภาพแห่งชาติ. สรุปรายงานผลและอุปสรรคในการดำเนินงาน ปีงบประมาณ 2546. กรุงเทพฯ: สำนักงานหลักประกันสุขภาพแห่งชาติ; 2547.

24. Phromporn Prammualratana, Suwit Wibulpolprasert, editor. Health insurance systems in Thailand. Nonthaburi: Health Systems Research Institute; 2002.

25. Aday LA, Andersen R. Development of indices of access to medical care. Ann Arbor Michigan: Health Administration Press; 1975.

26. Millett JD. Management in the public service. New York: Mc Graw-Hill Book Company; 1954.

27. ณัชชา มิลินทานุช. คุณภาพบริการงานวิสัญญี โรงพยาบาลราชวิถี ตามความคาดหวังและการรับรู้ของผู้รับบริการ: วิทยานิพนธ์ปริญญาวิทยาศาตรมหาบัณฑิต (สาธารณสุขศาสตร์) มหาวิทยาลัยมหิดล; 2545.

28. ดุษฎี ใหญ่เรืองศรี. คุณภาพบริการตามความคาดหวังที่มีความสัมพันธ์กับความพึงพอใจในการบริการรักษาพยาบาลของพระภิกษุอาพาธในหอผู้ป่วยใน โรงพยาบาลสงฆ์ กระทรวงสาธารณสุข: วิทยานิพนธ์ปริญญาวิทยาศาสตรมหาบัณฑิต (สาธารณสุขศาสตร์) บัณฑิตวิทยาลัย มหาวิทยาลัยมหิดล; 2541.

29. ทรวงทิพย์ วงศ์พันธ์. คุณภาพบริการตามความคาดหวังและการรับรู้ของผู้รับบริการในงานผู้ป่วยนอกโรงพยาบาลรัฐ จังหวัดสุพรรณบุรี: วิทยานิพนธ์ปริญญาวิทยาศาสตรมหาบัณฑิต (สาธารณสุขศาสตร์) บัณฑิตวิทยาลัย มหาวิทยาลัยมหิดล; 2541.

30. วศิน ฑีฆวาณิช, ผ่องพรรณ ธีระวัฒนศักดิ์, จิรยุทธ์ คงนุ่น. ความคาดหวังของประชาชนต่อคุณภาพบริการในโครงการหลักประกันสุขภาพถ้วนหน้า จังหวัดพิจิตร. วารสารวิชาการสาธารณสุข 2546; 12 (5):p. 796-802.

31. เกศินี สราญฤทธิชัย, ดวงชีวัน บูรณะกิจ, ศิริกุล กุลเลียบ, และคณะ. การรับรู้ของชุมชนต่อการบริการผู้ป่วยฉุกเฉิน ณ จุดเกิดเหตุ โรงพยาบาลขอนแก่น. ขอนแก่น: สำนักงานโครงการวิจัยและตำราโรงพยาบาลขอนแก่น; 2546.

32. Lwanga SK, Lemeshow S. Sample size determination in health studies a practical manual. Geneva: World Health Organization; 1991.

33. กัลยา วานิชย์บัญชา. การวิเคราะห์สถิติขั้นสูงด้วย SPSS for Windows. กรุงเทพฯ: ศูนย์หนังสือแห่งจุฬาลงกรณ์มหาวิทยาลัย; 2546.

34. สำนักงานบริหารโครงการวิจัยและตำราโรงพยาบาลขอนแก่น. คู่มือการจัดระบบบริการการแพทย์ฉุกฉินจังหวัดขอนแก่น. ขอนแก่น: สำนักงานบริหารโครงการวิจัยและตำราโรงพยาบาลขอนแก่น; 2547.

APPENDIX

Appendix A

กลุ่มอาการและโรคที่เข้าเกณฑ์เป็นภาวะฉุกเฉิน (34)

1. หมดสติ เป็นลม

   วิงเวียนมาก

2. หอบ มีอาการต่อไปนี้อย่างใดอย่างหนึ่ง

   - หายใจเร็ว หอบ เหนื่อย รวมทั้งกรณีเด็กหายใจหน้าอกบุ๋ม
   - หายใจลำบาก เช่น “หายใจไม่อิ่ม”
   - ริมฝีปาก เล็บ ปลายมือ ปลายเท้า เขียวคล้ำ หรือเย็น ซีด
   - ใจสั่น

   ตัวอย่างโรคในกลุ่มนี้ได้แก่ acute asthmatic attack, COPD, diabetic ketoacidosis, CHF, CRF

3. เจ็บหน้าอกเฉียบพลัน (acute chest pain) เกิดจากการเจ็บจากโรคหัวใจ ซึ่งมีอาการร่วมดังต่อไปนี้ อย่างใดอย่างหนึ่ง

   - เจ็บหน้าอก ใจสั่น เหงื่อออก ตัวเย็น
   - หายใจเร็ว หอบเหนื่อย หายใจไม่สะดวก
   - หัวใจเต้นเร็ว หรือช้า จนรู้สึกเหนื่อย
   - เจ็บแน่นหน้าอก นอนราบไม่ได้

   ตัวอย่างโรคในกลุ่มนี้ได้แก่ AMI, angina pectoris, pericarditis, pleural effusion, pneuthorax

4. ไข้ มีอาการร่วมดังต่อไปนี้อย่างใดอย่างหนึ่ง

   - ปวดศีรษะมาก
   - ไข้สูง หนาวสั่น
   - ชัก เกร็ง
   - ซึมลง เพ้อ สับสน
   - มีเลือดออกผิดปกติ เช่น มีจุดเลือดออกตามตัว, เลือดออกตามไรฟัน

ตัวอย่างโรคในกลุ่มนี้ได้แก่ DHF, febrile convulsion, sepsis, meningitis, acute pyelonephritis, scrup typhus

5. ท้องเสียฉับพลัน (acute diarrhea) ถ่ายอุจจาระบ่อยครั้ง หรือร่วมกับ
   - ปวดท้อง ปวดบิด
   - เหงื่อออก ตัวเย็น
   - อ่อนเพลียมาก
   - มีภาวะขาดน้ำ เช่น ปากแห้ง ตาลึกโบ๋ หรือกระหม่อมบุ๋มในเด็กเล็ก
   - เป็นตะคริว
6. อาเจียนมาก หรือร่วมกับ
   - ปวดท้อง ปวดจุกเสียด แน่นท้อง
   - เหงื่อออก ตัวเย็น
   - อ่อนเพลีย
   - มีภาวะขาดน้ำ เช่น ปากแห้ง ตาลึกโบ๋ หรือกระหม่อมบุ๋มในเด็กเล็ก
   - เป็นตะคริว

   ตัวอย่างโรคในกลุ่มนี้ได้แก่ อาหารเป็นพิษ, acute gastroenteritis
7. ปวดท้องอย่างรุนแรง (severe abdominal pain) มีอาการร่วมดังต่อไปนี้อย่างใดอย่างหนึ่ง
   - ไข้
   - ตัวเหลือง, ตาเหลือง
   - คลื่นไส้อาเจียน
   - ท้องอืด ตึง แข็ง เกร็ง

   ตัวอย่างโรคในกลุ่มนี้ได้แก่ acute appendecitis, cholecysitis, pancreatitis, cholangitis, acute peptic ulcer, gut obstruction, severe dysmenorrhea, PU perforation, peritonitis, ectopic pregnancy

8. อาเจียนเป็นเลือด หรือถ่ายเป็นเลือด

ตัวอย่างโรคในกลุ่มนี้ได้แก่ UGI bleeding, esophageal varices, intestinal polyp, intussusception

9. ไอเป็นเลือด (hemoptysis)

ตัวอย่างโรคในกลุ่มนี้ได้แก่ pulmonary TB, bronchiolectasis

10. ปวดศีรษะมาก หรือมีอาการร่วมกับ

- ตาลาย ตาพร่ามัว (มองเห็นไม่ชัด)
- หูอื้อ
- คลื่นไส้ อาเจียน
- บ้านหมุน
- ซึมลง สับสน ไม่รู้สึกตัว
- เดินเซ แขน ขา อ่อนแรง
- พูดไม่ชัด ปากเบี้ยว
- ไข้ คอแข็ง

ตัวอย่างโรคในกลุ่มนี้ได้แก่ severe hypertension, acute glaucoma, migrain, CVA, HI

11. ปวดหลังมาก (severe back pain) จนเดินไม่ไหว

- ชา
- แขน ขา อ่อนแรง

ตัวอย่างโรคในกลุ่มนี้ได้แก่ HNP, acute discitis, low back pain, RC

12. ผื่นแพ้อย่างรุนแรง อาจมีอาการร่วมดังต่อไปนี้

- หอบเหนื่อย แน่นหน้าอก หายใจลำบาก
- ผื่นลุกลามทั่วตัว
- ตาบวม

ตัวอย่างโรคในกลุ่มนี้ได้แก่ severe urticaria, angio edema, สัตว์มีพิษกัดต่อย, พิษจากพืช, แพ้ยา

13. ภาวะฉุกเฉินจากการตั้งครรภ์ อาจมีอาการร่วมอย่างใดอย่างหนึ่งต่อไปนี้

- เจ็บครรภ์ก่อนกำหนด
- ปวดศีรษะ ตาพร่ามัว
- ตัวบวมมาก
- มีเลือดออกทางช่องคลอด หรือน้ำเดิน กรณียังไม่ถึงกำหนดคลอด
- คลอดฉุกเฉิน

ตัวอย่างโรคในกลุ่มนี้ได้แก่ abortion, PROM, pre-eclampsia, premature labor pain, fetal distress, abruptio placenta, ectopic pregnancy

14. ปัสสาวะไม่ออก (acute retention of urine) ร่วมกับ

- ปวดท้อง ท้องน้อยโป่งตึง

ตัวอย่างโรคในกลุ่มนี้ได้แก่ obstructed UC, BPH

15. ดื่มหรือกินสารพิษต่างๆ
16. ภาวะจิตฉุกเฉิน เช่น

- เอะอะ โวยวาย คลุ้มคลั่ง
- ประสาทหลอนรุนแรง
- ซึม เศร้ามาก พยายามฆ่าตัวตาย
- ทำร้ายตัวเอง หรือทำร้ายผู้อื่น

17. ถูกกระทำชำเรา
18. ถูกทำร้ายร่างกายอย่างรุนแรง
19. การอุดตันของหลอดเลือดแดงอย่างเฉียบพลัน (acute arterial occlusion)
20. การบาดเจ็บจากอุบัติเหตุต่างๆ
21. โรคอื่นๆ ตามดุลยพินิจของแพทย์ประจำห้องฉุกเฉิน

Appendix B

The analytic results comparing each factor from the utilization services within and outside the registered province (univariate analysis)

List of factors	P-value [a] (Utilization within the registered province VS outside the registered province)		
	Accident	Emergency	Total
1. Age of patient (year)	0.850	0.207	0.235
2. Family income of patients (baht/month)	0.523	0.589	0.892
3. Gender of patient	0.189	0.028	0.003
4. Marital status of patient	<0.001	0.004	<0.001
5. Occupation of patient	0.001	0.002	<0.001
6. Education level of patient	0.218	0.402	0.182
7. Age of decision maker (year)	0.147	0.001	<0.001
8. Gender of decision maker	0.187	0.019	0.003
9. Occupation of decision maker	0.278	0.001	0.001
10. Education level of decision maker	0.819	0.206	0.344
11. Decision maker	0.622	0.255	0.622
12. The registered hospital and current residence located within the same province	<0.001	<0.001	<0.001
13. The registered hospital and current workplace located within the same province	<0.001	<0.001	<0.001
14. Knowledge score	0.676	0.134	0.128
15. Attitude score	0.090	0.007	0.001
16. Expectation score of decision maker	0.154	0.506	0.950
17. Satisfaction score of patient	0.080	0.842	0.543
18. Distance from accident/emergency place to registered hospital (km.)	0.007	0.001	<0.001
19. Travel time from accident/emergency place to registered hospital (minute)	<0.001	<0.001	<0.001
20. Convenient travel to the registered hospital	<0.001	<0.001	<0.001
21. Experience in service utilization within the registered hospital within 1 years ago	<0.001	<0.001	<0.001
22. Satisfaction in service quality of the registered hospital	<0.001	0.001	<0.001
23. The perception of the quickness of the service provided at the registered hospital	<0.001	<0.001	<0.001
24. Reliance in the service quality of the registered hospital	<0.001	<0.001	<0.001

The analytic results comparing each factor from the utilization services within and outside the registered province (Univariate analysis) (continue)

List of factors	P-value [a] (Utilization within the registered province VS outside the registered province)		
	Accident	Emergency	Total
26. Travel time from accident/emergency place to that utilized hospital (minute)	0.023	<0.001	<0.001
27. Convenient travel to that utilized hospital*	0.278	<0.001	<0.001
28. Experience in service utilization within that utilized hospital within 1 years ago	<0.001	<0.001	<0.001
29. Satisfaction in service quality of that utilized hospital	1.000	0.899	0.473
30. The perception of the quickness of the service provided at that utilized hospital	0.766	0.050	0.058
31. Reliance in the service quality of that utilized hospital	0.389	0.685	0.341
32. Area for registration	<0.001	<0.001	<0.001
33. Type of the registered hospital	<0.001	<0.001	<0.001
34. Type of that utilized hospital	<0.001	<0.001	<0.001
35. Mode of transportation	0.147	<0.001	<0.001
36. The perceived symptoms/diseases pattern	NA	0.141	0.141
37. The perceived need about health care seeking	NA	0.081	0.081
38. The perception of severity of illness	NA	0.022	0.022
39. Patient-deliver	0.289	0.454	0.073
40. Place of accident/emergency	<0.001	<0.001	<0.001
41. Knowledge item no. 1	0.180	0.074	0.016
42. Knowledge item no. 2	1.000	0.739	0.762
43. Knowledge item no. 3	0.626	0.746	0.965
44. Knowledge item no. 4	0.405	0.356	0.184
45. Knowledge item no. 5	0.076	<0.001	<0.001
46. Attitude item no. 1	0.003	<0.001	<0.001
47. Attitude item no. 2	0.387	0.292	0.181
48. Attitude item no. 3	0.514	0.276	0.407
49. Attitude item no. 4	0.769	0.786	0.724
50. Attitude item no. 5	0.116	0.030	0.003
51. Expectation item no. 1	0.378	0.297	0.232
52. Expectation item no. 2	0.043	0.737	0.247
53. Expectation item no. 3	0.170	0.442	0.234

The analytic results comparing each factor from the utilization services within and outside the registered province (Univariate analysis) (continue)

List of factors	P-value [a] (Utilization within the registered province VS outside the registered province)		
	Accident	Emergency	Total
54. Expectation item no. 4	0.520	0.950	0.733
55. Expectation item no. 5	0.363	0.570	0.484
56. Expectation item no. 6	0.115	0.107	0.082
57. Expectation item no. 7	0.481	0.509	0.841
58. Expectation item no. 8	0.532	0.287	0.246
59. Satisfaction item no. 1	0.832	0.175	0.287
60. Satisfaction item no. 2	0.608	0.378	0.165
61. Satisfaction item no. 3	0.083	0.277	0.905
62. Satisfaction item no. 4	0.648	0.068	0.292
63. Satisfaction item no. 5	0.076	0.477	0.114
64. Satisfaction item no. 6	0.410	0.628	0.593
65. Satisfaction item no. 7	0.088	0.874	0.541
66. Satisfaction item no. 8	0.011	0.607	0.227

a: Chi-square

Appendix C

Binary logistic regression analysis in all accident and emergency patients

Case Processing Summary

Unweighted Cases[a]		N	Percent
Selected Cases	Included in Analysis	453	49.2
	Missing Cases	467	50.8
	Total	920	100.0
Unselected Cases		0	.0
Total		920	100.0

a. If weight is in effect, see classification table for the total number of cases.

Dependent Variable Encoding

Original Value	Internal Value
same province	0
different province	1

Categorical Variables Codings

			Parameter coding			
		Frequency	(1)	(2)	(3)	(4)
Mode of transportation	by motorcycle	132	1.000	.000	.000	.000
	by own car	180	.000	1.000	.000	.000
	by bus	15	.000	.000	1.000	.000
	by taxi	107	.000	.000	.000	1.000
	others	19	.000	.000	.000	.000
occupation_recode	agricultarist/fisherman/laborer	134	1.000	.000	.000	
	merchant/business	41	.000	1.000	.000	
	private company/employee	7	.000	.000	1.000	
	student/unemployed/housewife/other	271	.000	.000	.000	
types of utilized hospital	community hospital	84	.000	.000		
	general*/regional hospital	300	1.000	.000		
	hospital in bangkok	69	.000	1.000		
Place of accident /emergency	at home	408	.000	.000		
	at workplace	19	1.000	.000		
	at the other places	26	.000	1.000		
Prior service utilization from the registered hospital for everyone	used to	318	1.000	.000		
	not used to	132	.000	1.000		
	not sure	3	.000	.000		
service rate of the registered hospital for everyone	rapid	373	1.000	.000		
	slow	59	.000	1.000		
	not sure	21	.000	.000		
reliance in the registered hospital for everyone	rely	404	.000	.000		
	not rely	26	1.000	.000		
	not sure	23	.000	1.000		
gender of all decision makers	male	140	1.000			
	female	313	.000			
second hos and present house	same	435	.000			
	different	18	1.000			

Block 0: Beginning Block

Classification Table[a,b]

Observed			Predicted		
			service utilization recode		
			same province	different province	Percentage Correct
Step 0	service utilization recode	same province	415	0	100.0
		different province	38	0	.0
	Overall Percentage				91.6

a. Constant is included in the model.

b. The cut value is .500

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 0	Constant	-2.391	.169	198.967	1	.000	.092

Variables not in the Equation

			Score	df	Sig.
Step 0	Variables	v11_131(1)	137.003	1	.000
		v17	152.875	2	.000
		v17(1)	52.224	1	.000
		v17(2)	152.855	1	.000
		v27	40.060	2	.000
		v27(1)	39.211	1	.000
		v27(2)	.356	1	.551
		disregis	114.969	1	.000
		timregis	210.975	1	.000
		v38	36.119	4	.000
		v38(1)	17.057	1	.000
		v38(2)	.001	1	.973
		v38(3)	20.173	1	.000
		v38(4)	5.778	1	.016
		prioregi	.756	2	.685
		prioregi(1)	.385	1	.535
		prioregi(2)	.517	1	.472
		seregis	5.545	2	.062
		seregis(1)	5.526	1	.019
		seregis(2)	4.161	1	.041
		reliregi	55.232	2	.000
		reliregi(1)	51.191	1	.000
		reliregi(2)	2.556	1	.110
		sexall(1)	1.426	1	.232
		attscore	1.119	1	.290
		v8_recode	7.257	3	.064
		v8_recode(1)	1.050	1	.306
		v8_recode(2)	4.424	1	.035
		v8_recode(3)	.322	1	.571
	Overall Statistics		308.370	22	.000

Block 1: Method = Forward Stepwise (Likelihood Ratio)

Omnibus Tests of Model Coefficients

		Chi-square	df	Sig.
Step 1	Step	121.792	1	.000
	Block	121.792	1	.000
	Model	121.792	1	.000
Step 2	Step	47.758	2	.000
	Block	169.550	3	.000
	Model	169.550	3	.000
Step 3	Step	15.509	2	.000
	Block	185.058	5	.000
	Model	185.058	5	.000
Step 4	Step	8.367	1	.004
	Block	193.426	6	.000
	Model	193.426	6	.000
Step 5	Step	13.138	3	.004
	Block	206.564	9	.000
	Model	206.564	9	.000

Model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	139.279[a]	.236	.538
2	91.521[b]	.312	.713
3	76.012[b]	.335	.766
4	67.645[b]	.348	.793
5	54.507[c]	.366	.836

a. Estimation terminated at iteration number 6 because parameter estimates changed by less than .001.

b. Estimation terminated at iteration number 8 because parameter estimates changed by less than .001.

c. Estimation terminated at iteration number 10 because parameter estimates changed by less than .001.

Hosmer and Lemeshow Test

Step	Chi-square	df	Sig.
1	5.966	7	.544
2	3.451	8	.903
3	4.209	8	.838
4	3.756	7	.807
5	4.366	8	.823

Contingency Table for Hosmer and Lemeshow Test

		service utilization recode = same province		service utilization recode = different province		
		Observed	Expected	Observed	Expected	Total
Step 1	1	43	42.078	0	.922	43
	2	15	14.658	0	.342	15
	3	59	60.507	3	1.493	62
	4	67	67.138	2	1.862	69
	5	68	68.850	3	2.150	71
	6	8	7.729	0	.271	8
	7	114	111.568	2	4.432	116
	8	38	39.924	6	4.076	44
	9	3	2.547	22	22.453	25
Step 2	1	45	44.821	0	.179	45
	2	42	41.818	0	.182	42
	3	47	46.775	0	.225	47
	4	51	50.731	0	.269	51
	5	8	7.953	0	.047	8
	6	75	74.515	0	.485	75
	7	41	40.696	0	.304	41
	8	44	44.543	1	.457	45
	9	40	42.115	7	4.885	47
	10	22	21.033	30	30.967	52
Step 3	1	43	42.901	0	.099	43
	2	38	37.905	0	.095	38
	3	46	45.873	0	.127	46
	4	56	55.829	0	.171	56
	5	30	29.898	0	.102	30
	6	70	69.736	0	.264	70
	7	43	43.794	1	.206	44
	8	43	43.327	1	.673	44
	9	39	39.391	6	5.609	45
	10	7	6.345	30	30.655	37
Step 4	1	43	42.934	0	.066	43
	2	38	37.937	0	.063	38
	3	45	44.920	0	.080	45
	4	48	47.908	0	.092	48
	5	76	75.832	0	.168	76
	6	44	43.851	0	.149	44
	7	44	44.794	1	.206	45
	8	48	48.265	2	1.735	50
	9	29	28.558	35	35.442	64
Step 5	1	55	54.995	0	.005	55
	2	60	59.993	0	.007	60
	3	45	44.994	0	.006	45
	4	47	46.985	0	.015	47
	5	46	45.917	0	.083	46
	6	45	44.866	0	.134	45
	7	43	43.714	1	.286	44
	8	43	42.294	0	.706	43
	9	30	30.927	15	14.073	45
	10	1	.315	22	22.685	23

Classification Table[a]

Observed			Predicted		
			service utilization recode		
			same province	different province	Percentage Correct
Step 1	service utilization recode	same province	412	3	99.3
		different province	16	22	57.9
	Overall Percentage				95.8
Step 2	service utilization recode	same province	413	2	99.5
		different province	16	22	57.9
	Overall Percentage				96.0
Step 3	service utilization recode	same province	409	6	98.6
		different province	9	29	76.3
	Overall Percentage				96.7
Step 4	service utilization recode	same province	410	5	98.8
		different province	6	32	84.2
	Overall Percentage				97.6
Step 5	service utilization recode	same province	411	4	99.0
		different province	5	33	86.8
	Overall Percentage				98.0

a. The cut value is .500

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)	95.0% C.I.for EXP(B) Lower	Upper
Step 1[a]	timregis	.024	.004	35.918	1	.000	1.024	1.016	1.032
	Constant	-3.940	.322	149.478	1	.000	.019		
Step 2[b]	v17			33.065	2	.000			
	v17(1)	-.517	1.244	.173	1	.678	.596	.052	6.833
	v17(2)	3.493	1.075	10.559	1	.001	32.890	4.000	270.469
	timregis	.020	.006	12.677	1	.000	1.020	1.009	1.032
	Constant	-5.124	1.065	23.148	1	.000	.006		
Step 3[c]	v17			23.250	2	.000			
	v17(1)	-.278	1.302	.046	1	.831	.757	.059	9.707
	v17(2)	3.430	1.170	8.592	1	.003	30.868	3.116	305.807
	timregis	.021	.006	13.281	1	.000	1.021	1.010	1.032
	reliregi			14.507	2	.001			
	reliregi(1)	2.727	.733	13.860	1	.000	15.291	3.638	64.266
	reliregi(2)	1.446	1.047	1.906	1	.167	4.245	.545	33.061
	Constant	-5.915	1.204	24.151	1	.000	.003		
Step 4[d]	v11_131(1)	3.020	1.106	7.457	1	.006	20.492	2.345	179.043
	v17			19.453	2	.000			
	v17(1)	-.795	1.361	.341	1	.559	.452	.031	6.502
	v17(2)	2.980	1.150	6.720	1	.010	19.697	2.069	187.520
	timregis	.015	.005	10.523	1	.001	1.015	1.006	1.025
	reliregi			16.869	2	.000			
	reliregi(1)	3.130	.773	16.407	1	.000	22.863	5.029	103.942
	reliregi(2)	1.673	1.077	2.412	1	.120	5.329	.645	44.014
	Constant	-5.766	1.174	24.103	1	.000	.003		
Step 5[e]	v11_131(1)	3.686	1.208	9.306	1	.002	39.884	3.735	425.884
	v17			20.994	2	.000			
	v17(1)	-1.062	1.514	.493	1	.483	.346	.018	6.713
	v17(2)	4.497	1.398	10.351	1	.001	89.704	5.796	1388.254
	timregis	.013	.005	7.033	1	.008	1.013	1.003	1.023
	reliregi			14.220	2	.001			
	reliregi(1)	3.624	.976	13.780	1	.000	37.488	5.532	254.033
	reliregi(2)	2.597	1.240	4.386	1	.036	13.428	1.181	152.647
	v8_recode			8.911	3	.031			
	v8_recode(1	2.878	1.082	7.070	1	.008	17.782	2.131	148.383
	v8_recode(2	4.202	1.708	6.053	1	.014	66.848	2.351	1901.081
	v8_recode(3	-3.608	13.903	.067	1	.795	.027	.000	2E+010
	Constant	-8.224	1.760	21.833	1	.000	.000		

a. Variable(s) entered on step 1: timregis.

b. Variable(s) entered on step 2: v17.

c. Variable(s) entered on step 3: reliregi.

d. Variable(s) entered on step 4: v11_131.

e. Variable(s) entered on step 5: v8_recode.

Model if Term Removed

Variable		Model Log Likelihood	Change in -2 Log Likelihood	df	Sig. of the Change
Step 1	timregis	-130.535	121.792	1	.000
Step 2	v17	-69.640	47.758	2	.000
	timregis	-78.501	65.480	1	.000
Step 3	v17	-54.101	32.190	2	.000
	timregis	-71.801	67.589	1	.000
	reliregi	-45.760	15.509	2	.000
Step 4	v11_131	-38.006	8.367	1	.004
	v17	-47.432	27.220	2	.000
	timregis	-49.815	31.986	1	.000
	reliregi	-43.414	19.183	2	.000
Step 5	v11_131	-32.475	10.443	1	.001
	v17	-44.832	35.157	2	.000
	timregis	-39.274	24.041	1	.000
	reliregi	-36.821	19.134	2	.000
	v8_recode	-33.822	13.138	3	.004

Appendix D

Binary logistic regression analysis in the emergency patients

Case Processing Summary

Unweighted Cases [a]		N	Percent
Selected Cases	Included in Analysis	356	49.2
	Missing Cases	367	50.8
	Total	723	100.0
Unselected Cases		0	.0
Total		723	100.0

a. If weight is in effect, see classification table for the total number of cases.

Dependent Variable Encoding

Original Value	Internal Value
same province	0
different province	1

Categorical Variables Codings

			Parameter coding			
		Frequency	(1)	(2)	(3)	(4)
Mode of transportation	by motorcycle	100	1.000	.000	.000	.000
	by own car	148	.000	1.000	.000	.000
	by bus	10	.000	.000	1.000	.000
	by taxi	85	.000	.000	.000	1.000
	others	13	.000	.000	.000	.000
occupation_recode	agricultarist/fisherman/laborer	97	1.000	.000	.000	
	merchant/business	33	.000	1.000	.000	
	private company/employee	5	.000	.000	1.000	
	student/unemployed/housewife/other	221	.000	.000	.000	
Perceived seriousness of illness	mild illness	23	.000	.000		
	moderate illness	160	1.000	.000		
	severe illness	173	.000	1.000		
types of utilized hospital	community hospital	74	.000	.000		
	general*/regional hospital	225	1.000	.000		
	hospital in bangkok	57	.000	1.000		
Place of accident /emergency	at home	338	.000	.000		
	at workplace	8	1.000	.000		
	at the other places	10	.000	1.000		
Prior service utilization from the registered hospital for everyone	used to	254	1.000	.000		
	not used to	101	.000	1.000		
	not sure	1	.000	.000		
service rate of the registered hospital for everyone	rapid	295	1.000	.000		
	slow	45	.000	1.000		
	not sure	16	.000	.000		
reliance in the registered hospital for everyone	rely	319	.000	.000		
	not rely	19	1.000	.000		
	not sure	18	.000	1.000		
gender of all decision makers	male	102	1.000			
	female	254	.000			
second hos and present house	same	340	.000			
	different	16	1.000			

Block 0: Beginning Block

Classification Table[a,b]

Observed			Predicted		
			service utilization recode		
			same province	different province	Percentage Correct
Step 0	service utilization recode	same province	327	0	100.0
		different province	29	0	.0
	Overall Percentage				91.9

a. Constant is included in the model.

b. The cut value is .500

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 0	Constant	-2.423	.194	156.344	1	.000	.089

Variables not in the Equation

			Score	df	Sig.
Step 0	Variables	v11_131(1)	119.654	1	.000
		v17	104.611	2	.000
		v17(1)	33.141	1	.000
		v17(2)	104.598	1	.000
		v27	32.446	2	.000
		v27(1)	32.313	1	.000
		v27(2)	.047	1	.828
		disregis	84.405	1	.000
		timregis	155.177	1	.000
		v38	18.854	4	.001
		v38(1)	12.333	1	.000
		v38(2)	.138	1	.711
		v38(3)	6.567	1	.010
		v38(4)	3.431	1	.064
		prioregi	.193	2	.908
		prioregi(1)	.088	1	.767
		prioregi(2)	.110	1	.740
		seregis	4.443	2	.108
		seregis(1)	4.296	1	.038
		seregis(2)	3.779	1	.052
		reliregi	44.193	2	.000
		reliregi(1)	41.266	1	.000
		reliregi(2)	1.840	1	.175
		sexall(1)	1.330	1	.249
		attscore	.588	1	.443
		v8_recode	4.239	3	.237
		v8_recode(1)	.228	1	.633
		v8_recode(2)	2.386	1	.122
		v8_recode(3)	.952	1	.329
		v26	2.782	2	.249
		v26(1)	.162	1	.687
		v26(2)	1.270	1	.260
	Overall Statistics		234.720	24	.000

Block 1: Method = Forward Stepwise (Likelihood Ratio)

Omnibus Tests of Model Coefficients

		Chi-square	df	Sig.
Step 1	Step	86.440	1	.000
	Block	86.440	1	.000
	Model	86.440	1	.000
Step 2	Step	38.071	2	.000
	Block	124.511	3	.000
	Model	124.511	3	.000
Step 3	Step	13.638	2	.001
	Block	138.148	5	.000
	Model	138.148	5	.000
Step 4	Step	6.399	1	.011
	Block	144.547	6	.000
	Model	144.547	6	.000
Step 5	Step	8.453	3	.038
	Block	153.000	9	.000
	Model	153.000	9	.000

Model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	114.574[a]	.216	.500
2	76.503[b]	.295	.684
3	62.865[b]	.322	.745
4	56.466[b]	.334	.773
5	48.014[c]	.349	.810

a. Estimation terminated at iteration number 6 because parameter estimates changed by less than .001.

b. Estimation terminated at iteration number 8 because parameter estimates changed by less than .001.

c. Estimation terminated at iteration number 9 because parameter estimates changed by less than .001.

Hosmer and Lemeshow Test

Step	Chi-square	df	Sig.
1	5.707	6	.457
2	3.636	7	.821
3	1.754	7	.972
4	2.091	7	.955
5	.793	8	.999

Contingency Table for Hosmer and Lemeshow Test

		service utilization recode = same province		service utilization recode = different province		
		Observed	Expected	Observed	Expected	Total
Step 1	1	38	37.082	0	.918	38
	2	49	50.631	3	1.369	52
	3	55	54.371	1	1.629	56
	4	51	52.261	3	1.739	54
	5	7	6.752	0	.248	7
	6	93	91.257	2	3.743	95
	7	31	32.044	4	2.956	35
	8	3	2.601	16	16.399	19
Step 2	1	30	29.893	0	.107	30
	2	29	28.890	0	.110	29
	3	38	37.844	0	.156	38
	4	38	37.831	0	.169	38
	5	64	63.669	0	.331	64
	6	40	39.660	0	.340	40
	7	44	44.459	1	.541	45
	8	28	30.682	8	5.318	36
	9	16	14.071	20	21.929	36
Step 3	1	26	25.951	0	.049	26
	2	28	27.943	0	.057	28
	3	37	36.917	0	.083	37
	4	36	35.912	0	.088	36
	5	59	58.827	0	.173	59
	6	40	39.787	0	.213	40
	7	46	46.626	1	.374	47
	8	35	34.773	2	2.227	37
	9	20	20.264	26	25.736	46
Step 4	1	26	25.963	0	.037	26
	2	28	27.958	0	.042	28
	3	36	35.942	0	.058	36
	4	36	35.937	0	.063	36
	5	59	58.882	0	.118	59
	6	40	39.817	0	.183	40
	7	45	45.671	1	.329	46
	8	35	34.464	1	1.536	36
	9	22	22.367	27	26.633	49
Step 5	1	35	34.995	0	.005	35
	2	47	46.991	0	.009	47
	3	36	35.992	0	.008	36
	4	34	33.985	0	.015	34
	5	37	36.936	0	.064	37
	6	35	34.887	0	.113	35
	7	36	35.780	0	.220	36
	8	34	34.438	1	.562	35
	9	30	30.129	6	5.871	36
	10	3	2.869	22	22.131	25

Classification Table[a]

			Predicted		
			service utilization recode		
	Observed		same province	different province	Percentage Correct
Step 1	service utilization recode	same province	326	1	99.7
		different province	14	15	51.7
	Overall Percentage				95.8
Step 2	service utilization recode	same province	325	2	99.4
		different province	13	16	55.2
	Overall Percentage				95.8
Step 3	service utilization recode	same province	324	3	99.1
		different province	7	22	75.9
	Overall Percentage				97.2
Step 4	service utilization recode	same province	323	4	98.8
		different province	5	24	82.8
	Overall Percentage				97.5
Step 5	service utilization recode	same province	322	5	98.5
		different province	5	24	82.8
	Overall Percentage				97.2

a. The cut value is .500

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)	95.0% C.I.for EXP(B) Lower	Upper
Step 1[a]	timregis	.021	.004	29.392	1	.000	1.021	1.013	1.029
	Constant	-3.818	.345	122.620	1	.000	.022		
Step 2[b]	v17			24.831	2	.000			
	v17(1)	-.923	1.361	.459	1	.498	.398	.028	5.728
	v17(2)	3.236	1.071	9.123	1	.003	25.425	3.115	207.551
	timregis	.016	.004	15.330	1	.000	1.016	1.008	1.024
	Constant	-4.808	1.030	21.790	1	.000	.008		
Step 3[c]	v17			17.536	2	.000			
	v17(1)	-1.095	1.438	.579	1	.447	.335	.020	5.608
	v17(2)	2.837	1.144	6.143	1	.013	17.058	1.810	160.726
	timregis	.018	.005	12.862	1	.000	1.019	1.008	1.029
	reliregi			12.807	2	.002			
	reliregi(1)	2.986	.836	12.752	1	.000	19.797	3.845	101.917
	reliregi(2)	.810	1.230	.434	1	.510	2.248	.202	25.021
	Constant	-5.280	1.136	21.615	1	.000	.005		
Step 4[d]	v11_131(1)	2.835	1.166	5.914	1	.015	17.030	1.733	167.326
	v17			14.123	2	.001			
	v17(1)	-1.347	1.478	.830	1	.362	.260	.014	4.713
	v17(2)	2.410	1.175	4.210	1	.040	11.135	1.114	111.295
	timregis	.015	.005	9.365	1	.002	1.015	1.005	1.024
	reliregi			14.914	2	.001			
	reliregi(1)	3.442	.894	14.816	1	.000	31.241	5.415	180.232
	reliregi(2)	1.401	1.237	1.284	1	.257	4.061	.360	45.853
	Constant	-5.297	1.164	20.699	1	.000	.005		
Step 5[e]	v11_131(1)	3.474	1.219	8.118	1	.004	32.274	2.957	352.206
	v17			16.648	2	.000			
	v17(1)	-1.178	1.542	.584	1	.445	.308	.015	6.319
	v17(2)	4.050	1.430	8.026	1	.005	57.413	3.484	946.061
	timregis	.012	.005	7.028	1	.008	1.012	1.003	1.022
	reliregi			13.692	2	.001			
	reliregi(1)	3.756	1.022	13.511	1	.000	42.770	5.773	316.882
	reliregi(2)	2.545	1.372	3.441	1	.064	12.748	.866	187.682
	v8_recode			6.609	3	.085			
	v8_recode(1	2.946	1.173	6.311	1	.012	19.029	1.911	189.506
	v8_recode(2	2.635	2.355	1.252	1	.263	13.949	.138	1411.075
	v8_recode(3	-3.102	12.217	.064	1	.800	.045	.000	1E+009
	Constant	-7.653	1.731	19.542	1	.000	.000		

a. Variable(s) entered on step 1: timregis.

b. Variable(s) entered on step 2: v17.

c. Variable(s) entered on step 3: reliregi.

d. Variable(s) entered on step 4: v11_131.

e. Variable(s) entered on step 5: v8_recode.

Model if Term Removed

Variable		Model Log Likelihood	Change in -2 Log Likelihood	df	Sig. of the Change
Step 1	timregis	-100.507	86.440	1	.000
Step 2	v17	-57.287	38.071	2	.000
	timregis	-64.177	51.851	1	.000
Step 3	v17	-44.558	26.250	2	.000
	timregis	-58.886	54.907	1	.000
	reliregi	-38.251	13.638	2	.001
Step 4	v11_131	-31.433	6.399	1	.011
	v17	-38.617	20.768	2	.000
	timregis	-38.863	21.260	1	.000
	reliregi	-36.664	16.862	2	.000
Step 5	v11_131	-28.317	8.620	1	.003
	v17	-37.418	26.823	2	.000
	timregis	-33.518	19.023	1	.000
	reliregi	-32.213	16.412	2	.000
	v8_recode	-28.233	8.453	3	.038

Appendix E

Reliability

	Chronbach alpha	N
Knowledge related to the regulation of accident and emergency service system under the UCS	0.780	897
Attitude towards the regulation of accident and emergency service system under the UCS	0.857	890
Expectation of the decision makers on accident and emergency service	0.902	885
Satisfaction of the accident and emergency service received	0.815	908

Knowledge related to the regulation of accident and emergency service system under the UCS

Case Processing Summary

		N	%
Cases	Valid	897	97.5
	Excluded [a]	23	2.5
	Total	920	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.780	5

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Knowledge in regular service of decision maker	1.93	2.352	.365	.792
Knowledge in accident service of decision maker	2.21	1.681	.728	.675
Knowledge in emergency service of decision maker	2.23	1.676	.728	.675
Knowledge in emergency service not exceed twice times per year of decision maker	2.48	1.942	.537	.745
Knowledge in car-accident service of decision maker	2.33	1.990	.439	.781

Attitude towards the regulation of accident and emergency service system under the UCS

Case Processing Summary

		N	%
Cases	Valid	890	96.7
	Excluded [a]	30	3.3
	Total	920	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.857	5

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Attitude to regulation in regular service of decision maker	7.97	21.476	.526	.867
Attitude to regulation in accident service of decision maker	8.33	20.627	.768	.807
Attitude to regulation in emergency service of decision maker	8.31	20.780	.747	.812
Attitude to regulation in emergency service not exceed twice times per year of decision maker	7.63	19.358	.672	.830
Attitude to regulation in car-accident service of decision maker	7.90	19.931	.693	.822

Expectation of the decision makers on accident and emergency service

Case Processing Summary

		N	%
Cases	Valid	885	96.2
	Excluded [a]	35	3.8
	Total	920	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.902	8

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
doctors nurses and officers work at the ER through 24 hour for decision maker	6.51	1.963	.628	.895
modern equipment for respondent for all decision maker	6.51	1.933	.648	.893
good skill of doctors, nurse and officer for all decision maker	6.51	1.900	.717	.887
reliability of hospital service for all decision maker	6.52	1.825	.758	.883
doctors, nurse and officers work rapidly for all decision maker	6.53	1.822	.708	.888
doctors, nurses, and officers explain to you very well for all decision maker	6.52	1.827	.762	.883
many people said that hosptial is good for all decision makers	6.57	1.770	.609	.902
doctors nurses and officers are empathic for all decision maker	6.52	1.824	.751	.884

Satisfaction of the accident and emergency service received

Case Processing Summary

		N	%
Cases	Valid	908	98.7
	Excluded [a]	12	1.3
	Total	920	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.815	8

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
satisfactor to doctors, nurses, and officer work at ER throuth 24 hr of patient	19.96	5.255	.368	.814
satisfactor to modern equipment of patient	19.98	5.184	.379	.812
satisfacton to skill of doctor, nurses, and officers of patient	19.99	4.868	.543	.795
satisfacgon to reliability of hospital serivce of patient	20.01	4.659	.613	.785
satisfacton to work rate of doctors, nurse, and officer of patient	20.17	3.999	.554	.797
satisfaction to explanations of doctor, nurse and officer of patient	20.07	4.137	.693	.767
satisfaction to hospital reputation of patient	20.07	4.405	.603	.783
satisfaction to empathy of doctors , nurses, and officers of patient	20.12	4.071	.593	.786

Appendix F: Questionnaire 3 types

Questionnaire type I

เลขที่แบบสอบถาม**ชุดที่ 1**

(สำหรับสัมภาษณ์ ผู้ป่วยที่เป็นผู้ตัดสินใจด้วยตนเอง)

แบบสอบถามโครงการวิจัยปัจจัยที่มีผลต่อการใช้บริการอุบัติเหตุและเจ็บป่วยฉุกเฉินต่างกองทุนสาขา และพฤติกรรมการใช้บริการของผู้ป่วยอุบัติเหตุและเจ็บป่วยฉุกเฉินในระบบประกันสุขภาพถ้วนหน้า

H.N. ผู้ป่วย*.....

โรงพยาบาล.....จังหวัด.....

ชื่อพนักงานสัมภาษณ์.....

วันเดือนปีที่ทำการสัมภาษณ์.....เวลา.....

ผู้ป่วยเข้ารับการรักษาในรอบเวร ☐ 1. เช้า ☐ 2. บ่าย ☐ 3. ดึก

สถานพยาบาลลำดับที่ 1** ที่ระบุในบัตรทองของผู้ป่วย คือ .....

สถานพยาบาลลำดับที่ 2 ** ที่ระบุในบัตรทองของผู้ป่วย คือ .....

ชื่อผู้ตรวจภาคสนาม.....

ลักษณะ ☐ ไม่ผ่านเกณฑ์คัดเลือก

☐ ไม่ให้ความยินยอม

☐ ผ่านเกณฑ์

ผลการตรวจสอบ ☐ ถูกต้อง/ ครบถ้วน

☐ ต้องแก้ไข ☐ แก้ไขแล้ว

** **HN** (เลขประจำตัวผู้ป่วย) สามารถขอดูได้จากบัตรผู้ป่วย หากผู้ป่วยมิได้นำบัตรมา ให้จดชื่อ-นามสกุลผู้ป่วย แล้วนำไปถามที่ห้องบัตร (เวชระเบียน)*

*** หากผู้ป่วยไม่ทราบให้ทำการขอดูบัตรทองของผู้ป่วย หรือ จดชื่อ/นามสกุลผู้ป่วยและติดต่อกับหน่วยงานที่รับผิดชอบเรื่องโครงการ **30** บาท ของโรงพยาบาลต่อไป*

สำหรับพนักงานสัมภาษณ์

การสัมภาษณ์ในครั้งนี้มี 5 ขั้นตอน โปรดทำตามขั้นตอนต่าง ๆ ดังต่อไปนี้

ขั้นตอนที่ 1 การคัดเลือกผู้ป่วยเข้าร่วมในการศึกษา

คำชี้แจง ผู้ป่วยที่เข้าอยู่ในการศึกษาต้องมีลักษณะตามเกณฑ์คัดเข้าทุกประการ และไม่มีลักษณะใดที่เข้าเกณฑ์ในการคัดออก (ต้องตอบ "ใช่" ทุกข้อ ในเกณฑ์คัดเข้า และ ตอบ "ไม่ใช่" ทุกข้อ ในเกณฑ์คัดออก)

เกณฑ์คัดเข้า (Inclusion criteria)

ใช่	ไม่ใช่	
☐	☐	*1. เป็นผู้ป่วยที่มารับบริการที่แผนก/หน่วยอุบัติเหตุและฉุกเฉิน*
☐	☐	*2. เป็นผู้ป่วยที่มีสิทธิประกันสุขภาพถ้วนหน้า (ไม่ว่าจะใช้สิทธิในการใช้บริการครั้งนั้นหรือไม่)*
☐	☐	*3. เป็นผู้ป่วยอุบัติเหตุ หรือผู้ป่วยที่ระบุว่าอาการที่เป็นนั้นมีความจำเป็นที่จะต้องมาพบแพทย์เนื่องจากอยู่ในภาวะเจ็บป่วยฉุกเฉิน*

เกณฑ์การคัดออก (Exclusion criteria)

ใช่	ไม่ใช่	
☐	☐	*1. ผู้ป่วยไม่มีอาการแสดงที่ต้องการการรักษาพยาบาล เช่น ขอใบรับรองแพทย์, ขอซื้อยา/เวชภัณฑ์ที่ไม่ใช่ยา, ตัดไหม, ทำแผลที่มีบัตรนัด, ฉีดยา/วัคซีนที่มีบัตรนัด เป็นต้น*
☐	☐	*2. ผู้ป่วยยอมรับว่าตนเองไม่ได้อยู่ในภาวะที่เจ็บป่วยฉุกเฉิน แต่มาใช้บริการที่แผนก/หน่วยอุบัติเหตุและฉุกเฉินเนื่องจากความสะดวกในช่วงเวลานั้น ๆ หรือมาใช้บริการด้วยสาเหตุอื่น ๆ*
☐	☐	*3. ผู้ป่วยที่เสียชีวิตตั้งแต่ก่อนมาถึงโรงพยาบาล หรือเสียชีวิตในขณะทำการรักษาโดยที่ผู้นำส่งไม่สามารถให้ข้อมูลได้ครบถ้วน*
☐	☐	*4. ผู้ป่วยที่มาใช้บริการครั้งแรกและยังไม่ได้ลงทะเบียน (สิทธิว่าง ตามมาตรา 8 ของหลักประกันสุขภาพแห่งชาติ พ.ศ. 2545) ที่มารับบริการที่แผนก/หน่วยอุบัติเหตุและฉุกเฉิน*
☐	☐	*5. ผู้ป่วยที่เป็นทหารเกณฑ์*
☐	☐	*6. ผู้ป่วยที่เป็นผู้พิการ*
☐	☐	*7. ผู้ป่วยที่เป็นทหารผ่านศึก*
☐	☐	*8. ผู้ป่วยที่มีการส่งตัวมาโรงพยาบาลด้วยระบบการส่งต่อจากสถานพยาบาล*
☐	☐	*9. ผู้ป่วย หรือ ผู้แทน (กรณีผู้ป่วยเป็นเด็ก หรือ ชรา หรืออยู่ในภาวะที่ไม่สามารถสื่อสารได้) ไม่ยินยอมให้สัมภาษณ์*

ขั้นตอนที่ 2 การคัดเลือกผู้ที่จะได้รับการสัมภาษณ์

คำชี้แจง ผู้ที่จะถูกสัมภาษณ์ ได้แก่ **"ผู้ป่วย"** ยกเว้น กรณีที่ผู้ป่วยไม่ได้เป็นผู้ตัดสินใจมาใช้บริการที่โรงพยาบาลนี้ด้วยตนเอง เช่น *ผู้ป่วยเด็ก หรือ สูงอายุ หรือ มูลนิธิเป็นผู้ตัดสินใจ หรือ ผู้ป่วยที่อยู่ในภาวะที่ไม่สามารถสื่อสารได้* ในกรณีดังกล่าวให้ทำการสัมภาษณ์ **"ผู้ที่เป็นผู้ตัดสินใจ"**

1. ในครั้งนี้ใครเป็นผู้ตัดสินใจเลือกให้ผู้ป่วยมารักษาที่โรงพยาบาลแห่งนี้

☐ 1. ผู้ป่วย ☐ 4. ตำรวจ / มูลนิธิ

☐ 2. ญาติ / ครอบครัว / คนรู้จัก ☐ 5. อื่นๆ ระบุ.....

☐ 3. ผู้เห็นเหตุการณ์

หาก

1. ผู้ป่วยเป็นผู้ตัดสินใจเองและสามารถสื่อสารได้ ให้*สัมภาษณ์ผู้ป่วยโดยใช้แบบสอบถาม****ชุดที่ 1***
2. ผู้ป่วยไม่ได้เป็นผู้ตัดสินใจ แบ่งเป็น 2 กรณี คือ
   - 2.1 ผู้ป่วยเป็นเด็ก หรือผู้สูงอายุ หรือผู้ป่วยที่ไม่สามารถติดต่อสื่อสารได้
     - 2.1.1 ผู้ตัดสินใจมีความเกี่ยวข้องกับผู้ป่วย ให้*สัมภาษณ์ผู้ตัดสินใจ โดยใช้แบบสอบถาม****ชุดที่ 2***
     - 2.1.2 ผู้ตัดสินใจไม่มีความเกี่ยวข้องกับผู้ป่วย ให้*สัมภาษณ์ผู้ตัดสินใจและผู้ป่วย โดยใช้แบบสอบถาม****ชุดที่ 3***
   - 2.2 ผู้ป่วยที่ไม่ใช่เด็ก หรือผู้สูงอายุ ซึ่งสามารถติดต่อสื่อสารได้ด้วยตนเอง แต่ไม่ได้เป็นผู้ตัดสินใจเอง ให้*สัมภาษณ์ผู้ตัดสินใจและผู้ป่วย โดยใช้แบบสอบถาม****ชุดที่ 3***

ขั้นตอนที่ 3 การขอความยินยอมในการให้สัมภาษณ์ และชี้แจงเรื่องระยะเวลาที่จะทำการสัมภาษณ์

คำชี้แจง ให้ทำการขอความยินยอมในการให้สัมภาษณ์ โดยใช้หนังสือให้ความยินยอม หลังจากนั้นชี้แจงเรื่องระยะเวลาที่จะทำการสัมภาษณ์ ดังรายละเอียดต่อไปนี้

- กรณีเป็นผู้ป่วยที่ไม่ได้รับค้างคืน (ผู้ป่วยนอก) ให้ทำการสัมภาษณ์ หลังจากที่ได้รับการรักษาเรียบร้อยแล้ว
- กรณีเป็นผู้ป่วยที่ต้องรับไว้ค้างคืน (ผู้ป่วยใน) ให้ทำการสัมภาษณ์ที่หอผู้ป่วย ในวันที่ผู้ป่วยออกจากโรงพยาบาล หากภายใน 3 วันผู้ป่วยยังไม่ออกจากโรงพยาบาล ให้ทำการสัมภาษณ์ในวันที่ 3 นับจากวันที่รับเข้าไว้ในโรงพยาบาล
- กรณีที่ผู้ตัดสินใจไม่มีความเกี่ยวข้องกับผู้ป่วย ให้ทำการสัมภาษณ์ได้เลยภายหลังจากให้ความยินยอม

ขั้นตอนที่ 4 การสัมภาษณ์

คำชี้แจง ให้ทำเครื่องหมาย √ หน้าข้อที่เหมาะสม หรือ เติมข้อความในช่องว่างที่กำหนด

- สำหรับคำถามที่มีวงกลม ◯ อยู่หน้าข้อ ให้ผู้สัมภาษณ์ทำเครื่องหมาย √ ลงในช่องที่เหมาะสม **โดยไม่ต้องถามผู้ให้สัมภาษณ์ซ้ำอีก**
- สำหรับคำถามที่อยู่ในกรอบสี่เหลี่ยมแรเงา และระบุว่า "ข้อมูลสำหรับนักวิจัย (ไม่ต้องสัมภาษณ์)" ***ไม่ต้องทำการสัมภาษณ์***

เริ่มทำการสัมภาษณ์ได้

ส่วนที่ 1 ข้อมูลผู้ป่วย

① วัน / เดือน / ปี ที่ทำการสัมภาษณ์..... เวลาที่เริ่มสัมภาษณ์ .....

② ประเภทการมารับบริการของผู้ป่วยในครั้งนี้

☐ 1. ผู้ป่วยนอก ☐ 2. ผู้ป่วยใน ตึก/ แผนก.....

③ **ผู้ให้สัมภาษณ์ คือ ผู้ป่วย**

ข้อมูลทั่วไปของผู้ป่วย

4. เพศของผู้ป่วย

☐ 1. ชาย

☐ 2. หญิง – ผู้ป่วยตั้งครรภ์หรือไม่

☐ 1. ใช่ ☐ 2. ไม่ใช่ ☐ 3. ไม่รู้/ไม่แน่ใจ

5. อายุของผู้ป่วย .....ปี

6. สถานภาพสมรสของผู้ป่วย

☐ 1. โสด ☐ 4. สมณะเพศ

☐ 2. สมรส ☐ 5. เด็กอายุต่ำกว่า 15 ปี

☐ 3. หม้าย/หย่า/แยกกันอยู่

7. ระดับการศึกษาสูงสุดของผู้ป่วย

☐ 1. ไม่ได้เรียน ☐ 5. อนุปริญญา/ปวส.

☐ 2. ประถมศึกษา ☐ 6. ปริญญาตรี/เทียบเท่า

☐ 3. มัธยมศึกษาตอนต้น ☐ 7. สูงกว่าปริญญาตรี

☐ 4. มัธยมศึกษาตอนปลาย/ปวช.

8. อาชีพของผู้ป่วย

☐ 1. เกษตรกร/ชาวประมง/ผู้ใช้แรงงาน/รับจ้างทั่วไป ☐ 4. นักเรียน/นักศึกษา

☐ 2. ค้าขาย/ธุรกิจ/กิจการส่วนตัว ☐ 5. ไม่ได้ทำงาน/ว่างงาน

☐ 3. พนักงานบริษัท/โรงงาน ☐ 6. อื่นๆ ระบุ.....

9. รายได้ครอบครัวของผู้ป่วยเฉลี่ยต่อเดือน

☐ 1. ระบุประมาณ.....บาท

10. **สถานพยาบาลลำดับที่ 1** ที่ระบุในบัตรทองของผู้ป่วย คือ

☐ 1. ชื่อสถานพยาบาล.....ตำบล/แขวง.....อำเภอ/เขต.....จังหวัด.....

☐ 2. ไม่รู้/ไม่แน่ใจ

11. **สถานพยาบาลลำดับที่ 2** ที่ระบุในบัตรทองของผู้ป่วย คือ

☐ 1. ชื่อสถานพยาบาล.....ตำบล/แขวง.....อำเภอ/เขต.....จังหวัด.....

☐ 2. ไม่รู้/ไม่แน่ใจ

12. ที่อยู่ปัจจุบัน/ที่อยู่จริงของผู้ป่วยในวันสัมภาษณ์ ระบุตำบล/แขวง.....อำเภอ/เขต.....
จังหวัด.....

13. ที่อยู่ตามทะเบียนบ้านของผู้ป่วย

☐ 1. ระบุตำบล/แขวง.....อำเภอ/เขต.....จังหวัด.....

☐ 2. เหมือนข้อ 12

14. สถานที่ทำงานของผู้ป่วยในปัจจุบัน

☐ 1. ระบุตำบล/แขวง.....อำเภอ/เขต.....จังหวัด.....

☐ 2. เหมือนข้อ 12

ข้อมูลสำหรับนักวิจัย (ไม่ต้องสัมภาษณ์)

15. ลักษณะพื้นที่เพื่อการลงทะเบียนของผู้ป่วย
    - ☐ 1. อยู่ในอำเภอที่ไม่ติดต่อกับอำเภอที่มีโรงพยาบาลทั่วไป/โรงพยาบาลศูนย์ตั้งอยู่
    - ☐ 2. อยู่ในอำเภอที่ติดต่อกับอำเภอที่มีโรงพยาบาลทั่วไป/โรงพยาบาลศูนย์ตั้งอยู่
    - ☐ 3. อยู่ในอำเภอที่มีโรงพยาบาลทั่วไป/โรงพยาบาลศูนย์/โรงพยาบาลของรัฐนอกสังกัดตั้งอยู่
    - ☐ 4. อยู่ในหมู่บ้านที่อยู่ตรงรอยต่อระหว่างจังหวัดที่มีพื้นที่ติดต่อกัน/ต่อเนื่องกัน
    - ☐ 5. อยู่ในเขตกรุงเทพมหานคร
16. ลักษณะของโรงพยาบาลที่ระบุในบัตรทองของผู้ป่วย
    - ☐ 1. โรงพยาบาลชุมชน
    - ☐ 2. โรงพยาบาลทั่วไป/โรงพยาบาลศูนย์
    - ☐ 3. โรงพยาบาลในเขตกรุงเทพมหานคร
17. ลักษณะของโรงพยาบาลที่ผู้ป่วยมาใช้บริการในครั้งนี้
    - ☐ 1. โรงพยาบาลชุมชน
    - ☐ 2. โรงพยาบาลทั่วไป/โรงพยาบาลศูนย์
    - ☐ 3. โรงพยาบาลในเขตกรุงเทพมหานคร
18. ระบุประเภทการใช้บริการของผู้ป่วย โดยดูจากข้อมูลโรงพยาบาลในบัตรทองและโรงพยาบาลที่ใช้บริการในครั้งนี้
    - ☐ 1. เป็นโรงพยาบาลเดียวกัน
    - ☐ 2. ต่างโรงพยาบาลแต่อยู่ภายในกองทุนสาขาเดียวกัน
    - ☐ 3. ต่างโรงพยาบาลและอยู่ต่างกองทุนสาขา

ส่วนที่ 2 พฤติกรรมการใช้บริการอุบัติเหตุและเจ็บป่วยฉุกเฉินและการรับรู้เกี่ยวกับการเจ็บป่วย

19. ในครั้งนี้ใครเป็นผู้นำผู้ป่วยมาส่งที่โรงพยาบาลแห่งนี้
    - ☐ 1. มาด้วยตนเอง/ญาตินำมาส่ง
    - ☐ 2. ตำรวจ
    - ☐ 3. ผู้เห็นเหตุการณ์
    - ☐ 4. หน่วยกู้ชีพ / มูลนิธิ /EMS
    - ☐ 5. อื่นๆ ระบุ.....
20. นอกเหนือจากสิทธิบัตรทองแล้ว ผู้ป่วยมีสิทธิการรักษาพยาบาลอื่นๆ อีกหรือไม่
    - ☐ 1. มี ได้แก่.....
    - ☐ 2. ไม่มี
21. ในการรักษาพยาบาลครั้งนี้ ผู้ป่วยใช้สิทธิบัตรทองหรือไม่
    - ☐ 1. ใช้ → ***ข้ามไปถามข้อ 23 ต่อ***
    - ☐ 2. ไม่ใช้
22. เหตุผลที่ผู้ป่วย**ไม่ใช้**สิทธิบัตรทองในการรักษาพยาบาลในครั้งนี้ คือ **(ตอบได้มากกว่า 1 คำตอบ)**
    - ☐ 1. ใช้สิทธิรักษาพยาบาลอย่างอื่นแทน รวมถึงการไม่ใช้สิทธิใดๆ (จ่ายเงินเอง) ระบุ.....
    - ☐ 2. เกรงว่าจะได้รับการบริการไม่รวดเร็วทันท่วงที
    - ☐ 3. เกรงว่าจะได้รับการรักษาไม่มีคุณภาพ/ได้รับยาไม่ดี
    - ☐ 4. ไม่รู้ว่าใช้สิทธิได้/ไม่รู้วิธีใช้สิทธิ
    - ☐ 6. มีปัญหาเรื่องเอกสาร/หลักฐาน
    - ☐ 7. ทางโรงพยาบาลไม่ให้ใช้สิทธิเนื่องจากไม่มีสิทธิบัตรทองในโรงพยาบาลนี้และไม่ใช่กรณีอุบัติเหตุ/เจ็บป่วยฉุกเฉิน
    - ☐ 8. ไม่ได้เป็นคนคิด/ตัดสินใจใช้สิทธิด้วยตนเอง เนื่องจากมีญาติ/คนรู้จักเป็นคนคิด/ตัดสินใจให้แทน
    - ☐ 9. อื่นๆ ระบุ.....

23. สาเหตุการมาใช้บริการในครั้งนี้ คือ

☐ 1. อุบัติเหตุจราจร ⟶ ***ข้ามไปถาม ส่วนที่ 3 ต่อไป***

☐ 2. อุบัติเหตุอื่นๆ ได้แก่ ⟶ ***ข้ามไปถาม ส่วนที่ 3 ต่อไป***

- ☐ 2.1 ดื่ม/กิน/ได้รับสารพิษต่างๆ
- ☐ 2.2 แพ้ยา/เกิดอาการอันไม่พึงประสงค์จากการใช้ยา
- ☐ 2.3 ถูกกระทำชำเรา
- ☐ 2.4 ถูกทำร้ายร่างกาย/เหตุจากการทะเลาะวิวาทกัน
- ☐ 2.5 ฆ่าตัวตาย
- ☐ 2.6 พลัดตกหกล้มเนื่องจากสาเหตุต่างๆ
- ☐ 2.7 อื่นๆ ระบุ.....

☐ 3. ภาวะเจ็บป่วยฉุกเฉินกะทันหัน ได้แก่ **(ตอบได้มากกว่า 1 คำตอบ)**

- ☐ 3.1 หมดสติ
- ☐ 3.2 หอบ
- ☐ 3.3 โรคหัวใจ (เจ็บหน้าอกเฉียบพลัน)
- ☐ 3.4 ไข้
- ☐ 3.5 ท้องเสียเฉียบพลัน
- ☐ 3.6 อาเจียนมาก
- ☐ 3.7 ปวดท้องอย่างรุนแรง
- ☐ 3.8 อาเจียน/ถ่ายเป็นเลือด
- ☐ 3.9 เส้นเลือดในสมองตีบ, แตก (เป็นอัมพาต, อัมพฤกษ์)
- ☐ 3.10 ปวดศีรษะ
- ☐ 3.11 ปวดหลังมาก
- ☐ 3.12 ผื่นแพ้อย่างรุนแรง
- ☐ 3.13 คลอด, แท้ง, อื่นๆ ที่เกี่ยวกับการตั้งครรภ์
- ☐ 3.14 ปัสสาวะไม่ออก
- ☐ 3.15 โรคจิต/โรคเครียด/เป็นบ้า
- ☐ 3.16 ไอเป็นเลือด
- ☐ 3.17 อื่นๆ ระบุ.....

24. ผู้ป่วยเคยเป็นแบบนี้มาก่อนหรือไม่

☐ 1. เคย ☐ 2. ไม่เคย ☐ 3. ไม่แน่ใจ

25. จากลักษณะอาการที่ผู้ป่วยเป็นในครั้งนี้ ทำไมผู้ป่วยจึงคิดว่าจำเป็นต้องมารักษาที่โรงพยาบาล (เพราะผู้ป่วย...)

☐ 1. มีอาการรุนแรงเฉียบพลันถึงชีวิตหรืออาจเป็นอันตรายต่อผู้อื่นได้ จำเป็นต้องรักษาเร่งด่วน หรือผ่าตัดด่วน

☐ 2. มีอาการรุนแรงไม่เฉียบพลันแต่อาจตายได้หรือเป็นอันตรายต่อผู้อื่น จำเป็นต้องรักษาเร่งด่วนหรือผ่าตัดด่วน

☐ 3. มีอาการไม่รุนแรงถึงชีวิต แต่ทำให้รู้สึกเจ็บป่วยหรือรำคาญจนไม่สามารถทำงาน/ใช้ชีวิตประจำวันได้

☐ 4. มีอาการไม่รุนแรงถึงชีวิต แต่กังวลว่าหากปล่อยทิ้งไว้จะทำให้อาการลุกลามรุนแรงขึ้น เนื่องจากไม่ทราบว่าเป็นโรคอะไร และ/หรือมีลักษณะอาการเจ็บป่วยแบบนี้ซึ่งเหมือนกับที่เคยเป็นมาก่อนในอดีตจึงต้องมาโรงพยาบาล

☐ 5. มีอาการไม่รุนแรง แต่เป็นช่วงเวลาที่สะดวกสำหรับการมาใช้บริการของผู้ป่วย

26. โดยประเมินจากอาการที่เป็น ผู้ป่วยคิดว่าการเจ็บป่วยในครั้งนี้มีความรุนแรงเพียงใด

☐ 1. เจ็บป่วยเล็กน้อย ยังสามารถทำงาน/ใช้ชีวิตประจำวันได้

☐ 2. เจ็บป่วยปานกลาง สามารถทำงาน/ใช้ชีวิตประจำวันพอได้บ้าง

☐ 3. เจ็บป่วยรุนแรง ไม่สามารถทำงาน/ใช้ชีวิตประจำวันได้เลย

ส่วนที่ 3 ปัจจัยอื่นๆ ที่คาดว่าจะมีผลต่อการใช้บริการอุบัติเหตุและเจ็บป่วยฉุกเฉิน

27. สถานที่ที่เกิดอุบัติเหตุหรือเกิดอาการเจ็บป่วยกะทันหันในครั้งนี้ คือ

☐ 1. ที่บ้าน

☐ 2. ที่ทำงาน

☐ 3. ที่อื่นๆ ระบุ.....

28. โรงพยาบาลลำดับที่ 2 ที่ระบุในบัตรทองผู้ป่วย **(ในข้อ 11)** เป็นโรงพยาบาลเดียวกับโรงพยาบาลที่ผู้ป่วยมาใช้บริการในครั้งนี้หรือไม่ **(ให้พนักงานสัมภาษณ์ตรวจสอบความจริง)**

☐ 1. ใช่ → ***ข้ามไปถามข้อ 36 ต่อไป***

☐ 2. ไม่ใช่

☐ 3. ไม่รู้ / ไม่แน่ใจ → ***ข้ามไปถามข้อ 36 ต่อไป***

29. ระยะทางจากจุดเกิดเหตุ หรือจุดที่เกิดเจ็บป่วยกะทันหันในครั้งนี้ไปยัง**โรงพยาบาลที่ระบุในบัตรทอง** ของผู้ป่วย

☐ 1. ประมาณ.....กิโลเมตร.....เมตร ☐ 2. ไม่รู้/ไม่แน่ใจ

30. ระยะเวลาที่ใช้ในการเดินทางจากจุดเกิดเหตุ หรือจุดที่เกิดเจ็บป่วยกะทันหันในครั้งนี้ไปยัง**โรงพยาบาลที่ระบุในบัตรทอง**ของผู้ป่วย

☐ 1. ประมาณ.....ชั่วโมง.....นาที ☐ 2. ไม่รู้/ไม่แน่ใจ

31. จากจุดเกิดเหตุหรือจุดที่เกิดเจ็บป่วยกะทันหันในครั้งนี้ ผู้ป่วยสะดวกที่จะเดินทางไปใช้บริการใน**โรงพยาบาลที่ระบุในบัตรทอง** ของตนเอง หรือไม่

☐ 1. สะดวก ☐ 2. ไม่สะดวก ☐ 3. ไม่รู้/ไม่แน่ใจ

32. ในรอบ 1 ปีที่ผ่านมา ผู้ป่วยเคยไปใช้บริการใน**โรงพยาบาลที่ระบุในบัตรทอง**ของตนเอง มาก่อนหรือไม่

☐ 1. เคย

☐ 2. ไม่เคย → ***ข้ามไปถามข้อ 34 ต่อไป***

☐ 3. ไม่รู้/ไม่แน่ใจ → ***ข้ามไปถามข้อ 34 ต่อไป***

33. จากการที่ผู้ป่วยเคยใช้บริการมาก่อน ผู้ป่วยพอใจในคุณภาพบริการของ**โรงพยาบาลที่ระบุในบัตรทอง**ของตนเองหรือไม่

☐ 1. พอใจ ☐ 2. ไม่พอใจ ☐ 3. ไม่รู้/ไม่แน่ใจ

34. ผู้ป่วยคิดว่า**โรงพยาบาลที่ระบุในบัตรทอง** ของตนเอง ให้บริการด้วยความรวดเร็ว หรือไม่

☐ 1. รวดเร็ว ☐ 2. ช้า ☐ 3. ไม่รู้/ไม่แน่ใจ

35. ผู้ป่วยเชื่อมั่นในคุณภาพบริการของ**โรงพยาบาลที่ระบุในบัตรทอง** ของตนเอง หรือไม่

☐ 1. เชื่อมั่น ☐ 2. ไม่เชื่อมั่น ☐ 3. ไม่รู้/ไม่แน่ใจ

36. ระยะทางจากจุดเกิดเหตุหรือจุดที่เกิดเจ็บป่วยกะทันหันในครั้งนี้มายัง**โรงพยาบาลนี้**ประมาณ.....กิโลเมตร.....เมตร

37. ระยะเวลาที่ใช้ในการเดินทางจากจุดเกิดเหตุหรือจุดที่เกิดเจ็บป่วยกะทันหันในครั้งนี้มายัง**โรงพยาบาลนี้** ประมาณ.....ชั่วโมง ..... นาที

38. ผู้ป่วยเดินทางมาโรงพยาบาลนี้ด้วยวิธีใด

☐ 1. มอเตอร์ไซด์ ☐ 4. รถรับจ้าง/สามล้อ/แท็กซี่

☐ 2. รถยนต์ส่วนตัว/ของญาติ/เพื่อนบ้าน/คนรู้จัก ☐ 5. อื่นๆ ระบุ.....

☐ 3. รถโดยสารประจำทาง

39. จากจุดเกิดเหตุหรือจุดที่เกิดเจ็บป่วยกะทันหันในครั้งนี้ ผู้ป่วยสะดวกที่จะเดินทางมายัง**โรงพยาบาลนี้** หรือไม่

☐ 1. สะดวก ☐ 2. ไม่สะดวก

40. ในรอบ 1 ปีที่ผ่านมา ผู้ป่วยเคยใช้บริการใน**โรงพยาบาลนี้** มาก่อนหรือไม่

☐ 1. เคย ☐ 2. ไม่เคย → ***ข้ามไปถามข้อ 42 ต่อไป***

41. จากการที่ผู้ป่วยเคยใช้บริการมาก่อน ผู้ป่วยพอใจในคุณภาพบริการของ**โรงพยาบาลนี้**หรือไม่

☐ 1. พอใจ ☐ 2. ไม่พอใจ ☐ 3. ไม่รู้/ไม่แน่ใจ

42. ผู้ป่วยคิดว่า**โรงพยาบาลนี้**ให้บริการ ด้วยความรวดเร็ว หรือไม่

☐ 1. รวดเร็ว ☐ 2. ช้า ☐ 3. ไม่รู้/ไม่แน่ใจ

43. ผู้ป่วยเชื่อมั่นในคุณภาพบริการของ**โรงพยาบาลนี้**หรือไม่

☐ 1. เชื่อมั่น

☐ 2. ไม่เชื่อมั่น

☐ 3. ไม่รู้/ไม่แน่

ส่วนที่ 4 ความรู้ ความเข้าใจ และทัศนคติของผู้ใช้บริการที่มีสิทธิบัตรทองต่อโครงการประกันสุขภาพถ้วนหน้า (30 บาทรักษาทุกโรค)

ข้อความ	ท่านทราบหรือไม่ว่า...		ท่านคิดว่าข้อกำหนดนี้ได้สร้างปัญหาให้แก่ผู้ป่วยเพียงใด			
	ทราบ	ไม่ทราบ	มาก	ปานกลาง	น้อย	ไม่แน่ใจ
44. เมื่อเจ็บป่วยทั่วไป ผู้ป่วย 30 บาทต้องไปใช้บริการในสถานพยาบาลที่ระบุไว้ในบัตรทองเท่านั้น						
45. กรณีเกิดอุบัติเหตุ ผู้ป่วย 30 บาทสามารถไปใช้บริการสถานพยาบาลแห่งใดก็ได้ที่ใกล้ที่สุดที่เข้าร่วมในโครงการฯ แม้**ไม่ใช่**สถานพยาบาลที่ระบุในบัตรทองก็ตาม						
46. เมื่อเจ็บป่วยกะทันหัน ผู้ป่วย 30 บาทสามารถไปใช้บริการสถานพยาบาล แห่งใดก็ได้ที่ใกล้ที่สุดที่เข้าร่วมในโครงการฯ แม้**ไม่ใช่**สถานพยาบาลที่ระบุในบัตรทองก็ตาม						
47. กรณีเจ็บป่วยกะทันหัน ผู้ป่วย 30 บาทสามารถไปใช้บริการในสถานพยาบาล**นอกเหนือ**จากที่ระบุไว้ในบัตรทองได้ **แต่ต้องไม่เกิน** 2 ครั้ง/ปี						
48. หากได้รับอุบัติเหตุจากรถ ผู้ป่วย 30 บาทต้องใช้สิทธิเบิกค่ารักษาตามพระราชบัญญัติ (พรบ.) ผู้ประสบภัยจากรถฯ **ก่อน**ใช้สิทธิบัตรทอง						

ส่วนที่ 5 ความคาดหวังและบริการที่ได้รับจริงจากการใช้บริการอุบัติเหตุหรือเจ็บป่วยฉุกเฉิน

คำชี้แจง โปรดทำเครื่องหมาย √ ลงในช่องที่ตรงกับความรู้สึกที่แท้จริงของท่านมากที่สุด

ข้อความ	ท่านมาโรงพยาบาลนี้เพราะคิดว่า...		มาในครั้งนี้เป็นอย่างที่คิดไว้มั้ย?		
	ใช่	ไม่ใช่	ดี	ไม่ดี	ไม่แน่ใจ
49. มีหมอ พยาบาล เจ้าหน้าที่อยู่ประจำห้องฉุกเฉินตลอด 24 ช.ม.					
50. มีเครื่องมือ เครื่องไม้ดี					
51. มีหมอ พยาบาล เจ้าหน้าที่ เก่ง					
52. โรงพยาบาลนี้รักษาดี					
53. หมอ พยาบาล เจ้าหน้าที่ ดูแลดี ทำงานเร็ว					
54. หมอ พยาบาล เจ้าหน้าที่ อธิบายแนะนำดี					
55. ใครๆ ก็ชมว่าโรงพยาบาลนี้ดี					
56. หมอ พยาบาล เจ้าหน้าที่ ใจดี พูดเพราะ					

57. หากมีการเปิดโอกาสให้เลือกสถานพยาบาลที่ระบุไว้ในบัตรทองใหม่ ผู้ป่วยจะเลือกเปลี่ยนสถานพยาบาลหรือไม่

☐ 1. เปลี่ยน ☐ 2. ไม่เปลี่ยน ☐ 3. ไม่ได้เป็นผู้ตัดสินใจเลือกเอง

- จบการสัมภาษณ์ ขอขอบคุณทุกท่านที่ให้ความร่วมมือในครั้งนี้

ขั้นตอนที่ 5 ตรวจสอบความถูกต้อง ครบถ้วน และ กรอกรายละเอียดเกี่ยวกับผู้สัมภาษณ์

คำชี้แจง ทำการกรอกรายละเอียดในแบบสอบถามทั้ง 8 หน้าให้ครบถ้วน

Questionnaire type II

เลขที่แบบสอบถาม**ชุดที่ 2**

(สำหรับสัมภาษณ์ ผู้ตัดสินใจที่มีความเกี่ยวข้องกับผู้ป่วย)

แบบสอบถามโครงการวิจัยปัจจัยที่มีผลต่อการใช้บริการอุบัติเหตุและเจ็บป่วยฉุกเฉินต่างกองทุนสาขา และพฤติกรรมการใช้บริการของผู้ป่วยอุบัติเหตุและเจ็บป่วยฉุกเฉินในระบบประกันสุขภาพถ้วนหน้า

H.N. ผู้ป่วย*.....

โรงพยาบาล.....จังหวัด.....

ชื่อพนักงานสัมภาษณ์.....

วันเดือนปีที่ทำการสัมภาษณ์.....เวลา.....

ผู้ป่วยเข้ารับการรักษาในรอบเวร ☐ 1. เช้า ☐ 2. บ่าย ☐ 3. ดึก

สถานพยาบาลลำดับที่ 1** ที่ระบุในบัตรทองของผู้ป่วย คือ .....

สถานพยาบาลลำดับที่ 2 ** ที่ระบุในบัตรทองของผู้ป่วย คือ .....

ชื่อผู้ตรวจภาคสนาม.....

ลักษณะ ☐ ไม่ผ่านเกณฑ์คัดเลือก

☐ ไม่ให้ความยินยอม

☐ ผ่านเกณฑ์

ผลการตรวจสอบ ☐ ถูกต้อง/ ครบถ้วน

☐ ต้องแก้ไข ☐ แก้ไขแล้ว

** **HN** (เลขประจำตัวผู้ป่วย) สามารถขอดูได้จากบัตรผู้ป่วย หากผู้ป่วยมิได้นำบัตรมา ให้จดชื่อ-นามสกุลผู้ป่วย แล้วนำไปถามที่ห้องบัตร (เวชระเบียน)*

*** หากผู้ป่วยไม่ทราบให้ทำการขอดูบัตรทองของผู้ป่วย หรือ จดชื่อ/นามสกุลผู้ป่วยและติดต่อกับหน่วยงานที่รับผิดชอบเรื่องโครงการ **30** บาท ของโรงพยาบาลต่อไป*

สำหรับพนักงานสัมภาษณ์

การสัมภาษณ์ในครั้งนี้มี 5 ขั้นตอน โปรดทำตามขั้นตอนต่าง ๆ ดังต่อไปนี้

ขั้นตอนที่ 1 การคัดเลือกผู้ป่วยเข้าร่วมในการศึกษา

คำชี้แจง ผู้ป่วยที่เข้าอยู่ในการศึกษาต้องมีลักษณะตามเกณฑ์คัดเข้าทุกประการ และไม่มีลักษณะใดที่เข้าเกณฑ์ในการคัดออก (ต้องตอบ "ใช่" ทุกข้อ ในเกณฑ์คัดเข้า และ ตอบ "ไม่ใช่" ทุกข้อ ในเกณฑ์คัดออก)

เกณฑ์คัดเข้า (Inclusion criteria)

ใช่	ไม่ใช่	
☐	☐	*1. เป็นผู้ป่วยที่มารับบริการที่แผนก/หน่วยอุบัติเหตุและฉุกเฉิน*
☐	☐	*2. เป็นผู้ป่วยที่มีสิทธิประกันสุขภาพถ้วนหน้า (ไม่ว่าจะใช้สิทธิในการใช้บริการครั้งนั้นหรือไม่)*
☐	☐	*3. เป็นผู้ป่วยอุบัติเหตุ หรือผู้ป่วยที่ระบุว่าอาการที่เป็นนั้นมีความจำเป็นที่จะต้องมาพบแพทย์เนื่องจากอยู่ในภาวะเจ็บป่วยฉุกเฉิน*

เกณฑ์การคัดออก (Exclusion criteria)

ใช่	ไม่ใช่	
☐	☐	*1. ผู้ป่วยไม่มีอาการแสดงที่ต้องการการรักษาพยาบาล เช่น ขอใบรับรองแพทย์, ขอซื้อยา/เวชภัณฑ์ที่ไม่ใช่ยา, ตัดไหม, ทำแผลที่มีบัตรนัด, ฉีดยา/วัคซีนที่มีบัตรนัด เป็นต้น*
☐	☐	*2. ผู้ป่วยยอมรับว่าตนเองไม่ได้อยู่ในภาวะที่เจ็บป่วยฉุกเฉิน แต่มาใช้บริการที่แผนก/หน่วยอุบัติเหตุและฉุกเฉินเนื่องจากความสะดวกในช่วงเวลานั้น ๆ หรือมาใช้บริการด้วยสาเหตุอื่น ๆ*
☐	☐	*3. ผู้ป่วยที่เสียชีวิตตั้งแต่ก่อนมาถึงโรงพยาบาล หรือเสียชีวิตในขณะทำการรักษาโดยที่ผู้นำส่งไม่สามารถให้ข้อมูลได้ครบถ้วน*
☐	☐	*4. ผู้ป่วยที่มาใช้บริการครั้งแรกและยังไม่ได้ลงทะเบียน (สิทธิว่าง ตามมาตรา 8 ของหลักประกันสุขภาพแห่งชาติ พ.ศ. 2545) ที่มารับบริการที่แผนก/หน่วยอุบัติเหตุและฉุกเฉิน*
☐	☐	*5. ผู้ป่วยที่เป็นทหารเกณฑ์*
☐	☐	*6. ผู้ป่วยที่เป็นผู้พิการ*
☐	☐	*7. ผู้ป่วยที่เป็นทหารผ่านศึก*
☐	☐	*8. ผู้ป่วยที่มีการส่งตัวมาโรงพยาบาลด้วยระบบการส่งต่อจากสถานพยาบาล*
☐	☐	*9. ผู้ป่วย หรือ ผู้แทน (กรณีผู้ป่วยเป็นเด็ก หรือ ชรา หรืออยู่ในภาวะที่ไม่สามารถสื่อสารได้) ไม่ยินยอมให้สัมภาษณ์*

ขั้นตอนที่ 2 การคัดเลือกผู้ที่จะได้รับการสัมภาษณ์

คำชี้แจง ผู้ที่จะถูกสัมภาษณ์ ได้แก่ **"ผู้ป่วย"** ยกเว้น กรณีที่ผู้ป่วยไม่ได้เป็นผู้ตัดสินใจมาใช้บริการที่โรงพยาบาลนี้ด้วยตนเอง เช่น *ผู้ป่วยเด็ก หรือ สูงอายุ หรือ มูลนิธิเป็นผู้ตัดสินใจ หรือ ผู้ป่วยที่อยู่ในภาวะที่ไม่สามารถสื่อสารได้* ในกรณีดังกล่าวให้ทำการสัมภาษณ์ **"ผู้ที่เป็นผู้ตัดสินใจ"**

1. ในครั้งนี้ใครเป็นผู้ตัดสินใจเลือกให้ผู้ป่วยมารักษาที่โรงพยาบาลแห่งนี้

☐ 1. ผู้ป่วย ☐ 4. ตำรวจ / มูลนิธิ

☐ 2. ญาติ / ครอบครัว / คนรู้จัก ☐ 5. อื่นๆ ระบุ.....

☐ 3. ผู้เห็นเหตุการณ์

หาก

1. ผู้ป่วยเป็นผู้ตัดสินใจเองและสามารถสื่อสารได้ ให้*สัมภาษณ์ผู้ป่วยโดยใช้แบบสอบถาม****ชุดที่ 1***
2. ผู้ป่วยไม่ได้เป็นผู้ตัดสินใจ แบ่งเป็น 2 กรณี คือ
   - 2.1 ผู้ป่วยเป็นเด็ก หรือผู้สูงอายุ หรือผู้ป่วยที่ไม่สามารถติดต่อสื่อสารได้
     - 2.1.1 ผู้ตัดสินใจมีความเกี่ยวข้องกับผู้ป่วย ให้*สัมภาษณ์ผู้ตัดสินใจ โดยใช้แบบสอบถาม****ชุดที่ 2***
     - 2.1.2 ผู้ตัดสินใจไม่มีความเกี่ยวข้องกับผู้ป่วย ให้*สัมภาษณ์ผู้ตัดสินใจและผู้ป่วย โดยใช้แบบสอบถาม****ชุดที่ 3***
   - 2.2 ผู้ป่วยที่ไม่ใช่เด็ก หรือผู้สูงอายุ ซึ่งสามารถติดต่อสื่อสารได้ด้วยตนเอง แต่ไม่ได้เป็นผู้ตัดสินใจเอง ให้*สัมภาษณ์ผู้ตัดสินใจและผู้ป่วย โดยใช้แบบสอบถาม****ชุดที่ 3***

ขั้นตอนที่ 3 การขอความยินยอมในการให้สัมภาษณ์ และชี้แจงเรื่องระยะเวลาที่จะทำการสัมภาษณ์

คำชี้แจง ให้ทำการขอความยินยอมในการให้สัมภาษณ์ โดยใช้หนังสือให้ความยินยอม หลังจากนั้นชี้แจงเรื่องระยะเวลาที่จะทำการสัมภาษณ์ ดังรายละเอียดต่อไปนี้

- กรณีเป็นผู้ป่วยที่ไม่ได้รับค้างคืน (ผู้ป่วยนอก) ให้ทำการสัมภาษณ์ หลังจากที่ได้รับการรักษาเรียบร้อยแล้ว
- กรณีเป็นผู้ป่วยที่ต้องรับไว้ค้างคืน (ผู้ป่วยใน) ให้ทำการสัมภาษณ์ที่หอผู้ป่วย ในวันที่ผู้ป่วยออกจากโรงพยาบาล หากภายใน 3 วันผู้ป่วยยังไม่ออกจากโรงพยาบาล ให้ทำการสัมภาษณ์ในวันที่ 3 นับจากวันที่รับเข้าไว้ในโรงพยาบาล
- กรณีที่ผู้ตัดสินใจไม่มีความเกี่ยวข้องกับผู้ป่วย ให้ทำการสัมภาษณ์ได้เลยภายหลังจากให้ความยินยอม

ขั้นตอนที่ 4 การสัมภาษณ์

คำชี้แจง ให้ทำเครื่องหมาย √ หน้าข้อที่เหมาะสม หรือ เติมข้อความในช่องว่างที่กำหนด

- สำหรับคำถามที่มีวงกลม ◯ อยู่หน้าข้อ ให้ผู้สัมภาษณ์ทำเครื่องหมาย √ ลงในช่องที่เหมาะสม **โดยไม่ต้องถามผู้ให้สัมภาษณ์ซ้ำอีก**
- สำหรับคำถามที่อยู่ในกรอบสี่เหลี่ยมแรเงา และระบุว่า "ข้อมูลสำหรับนักวิจัย (ไม่ต้องสัมภาษณ์)" ***ไม่ต้องทำการสัมภาษณ์***

เริ่มทำการสัมภาษณ์ได้

ส่วนที่ 1 ข้อมูลผู้ป่วย

① วัน / เดือน / ปี ที่ทำการสัมภาษณ์..... เวลาที่เริ่มสัมภาษณ์ .....

② ประเภทการมารับบริการของผู้ป่วยในครั้งนี้

☐ 1. ผู้ป่วยนอก ☐ 2. ผู้ป่วยใน ตึก/ แผนก.....

③ **ผู้ให้สัมภาษณ์ คือ ผู้ป่วย**

ข้อมูลทั่วไปของผู้ป่วย

4. เพศของผู้ป่วย

☐ 1. ชาย

☐ 2. หญิง – ผู้ป่วยตั้งครรภ์หรือไม่

☐ 1. ใช่ ☐ 2. ไม่ใช่ ☐ 3. ไม่รู้/ไม่แน่ใจ

5. อายุของผู้ป่วย .....ปี

6. สถานภาพสมรสของผู้ป่วย

☐ 1. โสด ☐ 4. สมณะเพศ

☐ 2. สมรส ☐ 5. เด็กอายุต่ำกว่า 15 ปี

☐ 3. หม้าย/หย่า/แยกกันอยู่

7. ระดับการศึกษาสูงสุดของผู้ป่วย

☐ 1. ไม่ได้เรียน ☐ 5. อนุปริญญา/ปวส.

☐ 2. ประถมศึกษา ☐ 6. ปริญญาตรี/เทียบเท่า

☐ 3. มัธยมศึกษาตอนต้น ☐ 7. สูงกว่าปริญญาตรี

☐ 4. มัธยมศึกษาตอนปลาย/ปวช.

8. อาชีพของผู้ป่วย

☐ 1. เกษตรกร/ชาวประมง/ผู้ใช้แรงงาน/รับจ้างทั่วไป ☐ 4. นักเรียน/นักศึกษา

☐ 2. ค้าขาย/ธุรกิจ/กิจการส่วนตัว ☐ 5. ไม่ได้ทำงาน/ว่างงาน

☐ 3. พนักงานบริษัท/โรงงาน ☐ 6. อื่นๆ ระบุ.....

9. รายได้ครอบครัวของผู้ป่วยเฉลี่ยต่อเดือน

☐ 1. ระบุประมาณ.....บาท

10. **สถานพยาบาลลำดับที่ 1** ที่ระบุในบัตรทองของผู้ป่วย คือ

☐ 1. ชื่อสถานพยาบาล.....ตำบล/แขวง.....อำเภอ/เขต.....จังหวัด.....

☐ 2. ไม่รู้/ไม่แน่ใจ

11. **สถานพยาบาลลำดับที่ 2** ที่ระบุในบัตรทองของผู้ป่วย คือ

☐ 1. ชื่อสถานพยาบาล.....ตำบล/แขวง.....อำเภอ/เขต.....จังหวัด.....

☐ 2. ไม่รู้/ไม่แน่ใจ

12. ที่อยู่ปัจจุบัน/ที่อยู่จริงของผู้ป่วยในวันสัมภาษณ์ ระบุตำบล/แขวง.....อำเภอ/เขต.....
จังหวัด.....

13. ที่อยู่ตามทะเบียนบ้านของผู้ป่วย

☐ 1. ระบุตำบล/แขวง.....อำเภอ/เขต.....จังหวัด.....

☐ 2. เหมือนข้อ 12

14. สถานที่ทำงานของผู้ป่วยในปัจจุบัน

☐ 1. ระบุตำบล/แขวง.....อำเภอ/เขต.....จังหวัด.....

☐ 2. เหมือนข้อ 12

ข้อมูลสำหรับนักวิจัย (ไม่ต้องสัมภาษณ์)

14. ลักษณะพื้นที่เพื่อการลงทะเบียนของผู้ป่วย
    - ☐ 1. อยู่ในอำเภอที่ไม่ติดต่อกับอำเภอที่มีโรงพยาบาลทั่วไป/โรงพยาบาลศูนย์ตั้งอยู่
    - ☐ 2. อยู่ในอำเภอที่ติดต่อกับอำเภอที่มีโรงพยาบาลทั่วไป/โรงพยาบาลศูนย์ตั้งอยู่
    - ☐ 3. อยู่ในอำเภอที่มีโรงพยาบาลทั่วไป/โรงพยาบาลศูนย์/โรงพยาบาลของรัฐนอกสังกัดตั้งอยู่
    - ☐ 4. อยู่ในหมู่บ้านที่อยู่ตรงรอยต่อระหว่างจังหวัดที่มีพื้นที่ติดต่อกัน/ต่อเนื่องกัน
    - ☐ 5. อยู่ในเขตกรุงเทพมหานคร
16. ลักษณะของโรงพยาบาลที่ระบุในบัตรทองของผู้ป่วย
    - ☐ 1. โรงพยาบาลชุมชน
    - ☐ 2. โรงพยาบาลทั่วไป/โรงพยาบาลศูนย์
    - ☐ 3. โรงพยาบาลในเขตกรุงเทพมหานคร
17. ลักษณะของโรงพยาบาลที่ผู้ป่วยมาใช้บริการในครั้งนี้
    - ☐ 1. โรงพยาบาลชุมชน
    - ☐ 2. โรงพยาบาลทั่วไป/โรงพยาบาลศูนย์
    - ☐ 3. โรงพยาบาลในเขตกรุงเทพมหานคร
18. ระบุประเภทการใช้บริการของผู้ป่วย โดยดูจากข้อมูลโรงพยาบาลในบัตรทองและโรงพยาบาลที่ใช้บริการในครั้งนี้
    - ☐ 1. เป็นโรงพยาบาลเดียวกัน
    - ☐ 2. ต่างโรงพยาบาลแต่อยู่ภายในกองทุนสาขาเดียวกัน
    - ☐ 3. ต่างโรงพยาบาลและอยู่ต่างกองทุนสาขา

ส่วนที่ 2 พฤติกรรมการใช้บริการอุบัติเหตุและเจ็บป่วยฉุกเฉินและการรับรู้เกี่ยวกับการเจ็บป่วย

19. ในครั้งนี้ใครเป็นผู้นำผู้ป่วยมาส่งที่โรงพยาบาลแห่งนี้
    - ☐ 1. มาด้วยตนเอง/ญาตินำมาส่ง
    - ☐ 2. ตำรวจ
    - ☐ 3. ผู้เห็นเหตุการณ์
    - ☐ 4. หน่วยกู้ชีพ / มูลนิธิ /EMS
    - ☐ 5. อื่นๆ ระบุ.....
20. นอกเหนือจากสิทธิบัตรทองแล้ว ผู้ป่วยมีสิทธิการรักษาพยาบาลอื่นๆ อีกหรือไม่
    - ☐ 1. มี ได้แก่.....
    - ☐ 2. ไม่มี
21. ในการรักษาพยาบาลครั้งนี้ ผู้ป่วยใช้สิทธิบัตรทองหรือไม่
    - ☐ 1. ใช้ → ***ข้ามไปถามข้อ 23 ต่อ***
    - ☐ 2. ไม่ใช้
22. เหตุผลที่ผู้ป่วย**ไม่ใช้**สิทธิบัตรทองในการรักษาพยาบาลในครั้งนี้ คือ **(ตอบได้มากกว่า 1 คำตอบ)**
    - ☐ 1. ใช้สิทธิรักษาพยาบาลอย่างอื่นแทน รวมถึงการไม่ใช้สิทธิใดๆ (จ่ายเงินเอง) ระบุ.....
    - ☐ 2. เกรงว่าจะได้รับการบริการไม่รวดเร็วทันท่วงที
    - ☐ 3. เกรงว่าจะได้รับการรักษาไม่มีคุณภาพ/ได้รับยาไม่ดี
    - ☐ 4. ไม่รู้ว่าใช้สิทธิได้/ไม่รู้วิธีใช้สิทธิ
    - ☐ 6. มีปัญหาเรื่องเอกสาร/หลักฐาน
    - ☐ 7. ทางโรงพยาบาลไม่ให้ใช้สิทธิเนื่องจากไม่มีสิทธิบัตรทองในโรงพยาบาลนี้และไม่ใช่กรณีอุบัติเหตุ/เจ็บป่วยฉุกเฉิน
    - ☐ 8. ไม่ได้เป็นคนคิด/ตัดสินใจใช้สิทธิด้วยตนเอง เนื่องจากมีญาติ/คนรู้จักเป็นคนคิด/ตัดสินใจให้แทน
    - ☐ 9. อื่นๆ ระบุ.....

23. สาเหตุการมาใช้บริการในครั้งนี้ คือ

☐ 1. อุบัติเหตุจราจร ⟶ ***ข้ามไปถาม ส่วนที่ 3 ต่อไป***

☐ 2. อุบัติเหตุอื่นๆ ได้แก่ ⟶ ***ข้ามไปถาม ส่วนที่ 3 ต่อไป***

- ☐ 2.1 ดื่ม/กิน/ได้รับสารพิษต่างๆ
- ☐ 2.2 แพ้ยา/เกิดอาการอันไม่พึงประสงค์จากการใช้ยา
- ☐ 2.3 ถูกกระทำชำเรา
- ☐ 2.4 ถูกทำร้ายร่างกาย/เหตุจากการทะเลาะวิวาทกัน
- ☐ 2.5 ฆ่าตัวตาย
- ☐ 2.6 พลัดตกหกล้มเนื่องจากสาเหตุต่างๆ
- ☐ 2.7 อื่นๆ ระบุ.....

☐ 3. ภาวะเจ็บป่วยฉุกเฉินกะทันหัน ได้แก่ **(ตอบได้มากกว่า 1 คำตอบ)**

- ☐ 3.1 หมดสติ
- ☐ 3.2 หอบ
- ☐ 3.3 โรคหัวใจ (เจ็บหน้าอกเฉียบพลัน)
- ☐ 3.4 ไข้
- ☐ 3.5 ท้องเสียเฉียบพลัน
- ☐ 3.6 อาเจียนมาก
- ☐ 3.7 ปวดท้องอย่างรุนแรง
- ☐ 3.8 อาเจียน/ถ่ายเป็นเลือด
- ☐ 3.9 เส้นเลือดในสมองตีบ, แตก (เป็นอัมพาต, อัมพฤกษ์)
- ☐ 3.10 ปวดศีรษะ
- ☐ 3.11 ปวดหลังมาก
- ☐ 3.12 ผื่นแพ้อย่างรุนแรง
- ☐ 3.13 คลอด, แท้ง, อื่นๆ ที่เกี่ยวกับการตั้งครรภ์
- ☐ 3.14 ปัสสาวะไม่ออก
- ☐ 3.15 โรคจิต/โรคเครียด/เป็นบ้า
- ☐ 3.16 ไอเป็นเลือด
- ☐ 3.17 อื่นๆ ระบุ.....

24. ผู้ป่วยเคยเป็นแบบนี้มาก่อนหรือไม่

☐ 1. เคย ☐ 2. ไม่เคย ☐ 3. ไม่แน่ใจ

25. จากลักษณะอาการที่ผู้ป่วยเป็นในครั้งนี้ ทำไมผู้ป่วยจึงคิดว่าจำเป็นต้องมารักษาที่โรงพยาบาล (เพราะผู้ป่วย...)

☐ 1. มีอาการรุนแรงเฉียบพลันถึงชีวิตหรืออาจเป็นอันตรายต่อผู้อื่นได้ จำเป็นต้องรักษาเร่งด่วน หรือผ่าตัดด่วน

☐ 2. มีอาการรุนแรงไม่เฉียบพลันแต่อาจตายได้หรือเป็นอันตรายต่อผู้อื่น จำเป็นต้องรักษาเร่งด่วนหรือผ่าตัดด่วน

☐ 3. มีอาการไม่รุนแรงถึงชีวิต แต่ทำให้รู้สึกเจ็บป่วยหรือรำคาญจนไม่สามารถทำงาน/ใช้ชีวิตประจำวันได้

☐ 4. มีอาการไม่รุนแรงถึงชีวิต แต่กังวลว่าหากปล่อยทิ้งไว้จะทำให้อาการลุกลามรุนแรงขึ้น เนื่องจากไม่ทราบว่าเป็นโรคอะไร และ/หรือมีลักษณะอาการเจ็บป่วยแบบนี้ซึ่งเหมือนกับที่เคยเป็นมาก่อนในอดีตจึงต้องมาโรงพยาบาล

☐ 5. มีอาการไม่รุนแรง แต่เป็นช่วงเวลาที่สะดวกสำหรับการมาใช้บริการของผู้ป่วย

26. โดยประเมินจากอาการที่เป็น ผู้ป่วยคิดว่าการเจ็บป่วยในครั้งนี้มีความรุนแรงเพียงใด

☐ 1. เจ็บป่วยเล็กน้อย ยังสามารถทำงาน/ใช้ชีวิตประจำวันได้

☐ 2. เจ็บป่วยปานกลาง สามารถทำงาน/ใช้ชีวิตประจำวันพอได้บ้าง

☐ 3. เจ็บป่วยรุนแรง ไม่สามารถทำงาน/ใช้ชีวิตประจำวันได้เลย

ส่วนที่ 3 ปัจจัยอื่นๆ ที่คาดว่าจะมีผลต่อการใช้บริการอุบัติเหตุและเจ็บป่วยฉุกเฉิน

27. สถานที่ที่เกิดอุบัติเหตุหรือเกิดอาการเจ็บป่วยกะทันหันในครั้งนี้ คือ

☐ 1. ที่บ้าน

☐ 2. ที่ทำงาน

☐ 3. ที่อื่นๆ ระบุ.....

28. โรงพยาบาลลำดับที่ 2 ที่ระบุในบัตรทองผู้ป่วย **(ในข้อ 11)** เป็นโรงพยาบาลเดียวกับโรงพยาบาลที่ผู้ป่วยมาใช้บริการในครั้งนี้หรือไม่ **(ให้พนักงานสัมภาษณ์ตรวจสอบความจริง)**

☐ 1. ใช่ → ***ข้ามไปถามข้อ 36 ต่อไป***

☐ 2. ไม่ใช่

☐ 3. ไม่รู้ / ไม่แน่ใจ → ***ข้ามไปถามข้อ 36 ต่อไป***

29. ระยะทางจากจุดเกิดเหตุ หรือจุดที่เกิดเจ็บป่วยกะทันหันในครั้งนี้ไปยัง**โรงพยาบาลที่ระบุในบัตรทอง** ของผู้ป่วย

☐ 1. ประมาณ.....กิโลเมตร.....เมตร ☐ 2. ไม่รู้/ไม่แน่ใจ

30. ระยะเวลาที่ใช้ในการเดินทางจากจุดเกิดเหตุ หรือจุดที่เกิดเจ็บป่วยกะทันหันในครั้งนี้ไปยัง**โรงพยาบาลที่ระบุในบัตรทอง**ของผู้ป่วย

☐ 1. ประมาณ.....ชั่วโมง.....นาที ☐ 2. ไม่รู้/ไม่แน่ใจ

31. จากจุดเกิดเหตุหรือจุดที่เกิดเจ็บป่วยกะทันหันในครั้งนี้ ผู้ป่วยสะดวกที่จะเดินทางไปใช้บริการใน**โรงพยาบาลที่ระบุในบัตรทอง** ของตนเอง หรือไม่

☐ 1. สะดวก ☐ 2. ไม่สะดวก ☐ 3. ไม่รู้/ไม่แน่ใจ

32. ในรอบ 1 ปีที่ผ่านมา ผู้ป่วยเคยไปใช้บริการใน**โรงพยาบาลที่ระบุในบัตรทอง**ของตนเอง มาก่อนหรือไม่

☐ 1. เคย

☐ 2. ไม่เคย → ***ข้ามไปถามข้อ 34 ต่อไป***

☐ 3. ไม่รู้/ไม่แน่ใจ → ***ข้ามไปถามข้อ 34 ต่อไป***

33. จากการที่ผู้ป่วยเคยใช้บริการมาก่อน ผู้ป่วยพอใจในคุณภาพบริการของ**โรงพยาบาลที่ระบุในบัตรทอง**ของตนเองหรือไม่

☐ 1. พอใจ ☐ 2. ไม่พอใจ ☐ 3. ไม่รู้/ไม่แน่ใจ

34. ผู้ป่วยคิดว่า**โรงพยาบาลที่ระบุในบัตรทอง** ของตนเอง ให้บริการด้วยความรวดเร็ว หรือไม่

☐ 1. รวดเร็ว ☐ 2. ช้า ☐ 3. ไม่รู้/ไม่แน่ใจ

35. ผู้ป่วยเชื่อมั่นในคุณภาพบริการของ**โรงพยาบาลที่ระบุในบัตรทอง** ของตนเอง หรือไม่

☐ 1. เชื่อมั่น ☐ 2. ไม่เชื่อมั่น ☐ 3. ไม่รู้/ไม่แน่ใจ

36. ระยะทางจากจุดเกิดเหตุหรือจุดที่เกิดเจ็บป่วยกะทันหันในครั้งนี้มายัง**โรงพยาบาลนี้**ประมาณ.....กิโลเมตร.....เมตร

37. ระยะเวลาที่ใช้ในการเดินทางจากจุดเกิดเหตุหรือจุดที่เกิดเจ็บป่วยกะทันหันในครั้งนี้มายัง**โรงพยาบาลนี้** ประมาณ.....ชั่วโมง..... นาที

38. ผู้ป่วยเดินทางมาโรงพยาบาลนี้ด้วยวิธีใด

☐ 1. มอเตอร์ไซด์ ☐ 4. รถรับจ้าง/สามล้อ/แท็กซี่

☐ 2. รถยนต์ส่วนตัว/ของญาติ/เพื่อนบ้าน/คนรู้จัก ☐ 5. อื่นๆ ระบุ.....

☐ 3. รถโดยสารประจำทาง

39. จากจุดเกิดเหตุหรือจุดที่เกิดเจ็บป่วยกะทันหันในครั้งนี้ ผู้ป่วยสะดวกที่จะเดินทางมายัง**โรงพยาบาลนี้** หรือไม่

☐ 1. สะดวก ☐ 2. ไม่สะดวก

40. ในรอบ 1 ปีที่ผ่านมา ผู้ป่วยเคยใช้บริการใน**โรงพยาบาลนี้** มาก่อนหรือไม่

☐ 1. เคย ☐ 2. ไม่เคย → ***ข้ามไปถามข้อ 42 ต่อไป***

41. จากการที่ผู้ป่วยเคยใช้บริการมาก่อน ผู้ป่วยพอใจในคุณภาพบริการของ**โรงพยาบาลนี้**หรือไม่

☐ 1. พอใจ ☐ 2. ไม่พอใจ ☐ 3. ไม่รู้/ไม่แน่ใจ

42. ผู้ป่วยคิดว่า**โรงพยาบาลนี้**ให้บริการ ด้วยความรวดเร็ว หรือไม่

☐ 1. รวดเร็ว ☐ 2. ช้า ☐ 3. ไม่รู้/ไม่แน่ใจ

43. ผู้ป่วยเชื่อมั่นในคุณภาพบริการของ**โรงพยาบาลนี้**หรือไม่

☐ 1. เชื่อมั่น

☐ 2. ไม่เชื่อมั่น

☐ 3. ไม่รู้/ไม่แน่

ส่วนที่ 4 ความรู้ ความเข้าใจ และทัศนคติของผู้ใช้บริการที่มีสิทธิบัตรทองต่อโครงการประกันสุขภาพถ้วนหน้า (30 บาทรักษาทุกโรค)

ข้อความ	ท่านทราบหรือไม่ว่า...		ท่านคิดว่าข้อกำหนดนี้ได้สร้างปัญหาให้แก่ผู้ป่วยเพียงใด			
	ทราบ	ไม่ทราบ	มาก	ปานกลาง	น้อย	ไม่แน่ใจ
44. เมื่อเจ็บป่วยทั่วไป ผู้ป่วย 30 บาทต้องไปใช้บริการในสถานพยาบาลที่ระบุไว้ในบัตรทองเท่านั้น						
45. กรณีเกิดอุบัติเหตุ ผู้ป่วย 30 บาทสามารถไปใช้บริการสถานพยาบาลแห่งใดก็ได้ที่ใกล้ที่สุดที่เข้าร่วมในโครงการฯ แม้**ไม่ใช่**สถานพยาบาลที่ระบุในบัตรทองก็ตาม						
46. เมื่อเจ็บป่วยกะทันหัน ผู้ป่วย 30 บาทสามารถไปใช้บริการสถานพยาบาล แห่งใดก็ได้ที่ใกล้ที่สุดที่เข้าร่วมในโครงการฯ แม้**ไม่ใช่**สถานพยาบาลที่ระบุในบัตรทองก็ตาม						
47. กรณีเจ็บป่วยกะทันหัน ผู้ป่วย 30 บาทสามารถไปใช้บริการในสถานพยาบาล**นอกเหนือ**จากที่ระบุไว้ในบัตรทองได้ **แต่ต้องไม่เกิน** 2 ครั้ง/ปี						
48. หากได้รับอุบัติเหตุจากรถ ผู้ป่วย 30 บาทต้องใช้สิทธิเบิกค่ารักษาตามพระราชบัญญัติ (พรบ.) ผู้ประสบภัยจากรถฯ **ก่อน**ใช้สิทธิบัตรทอง						

ส่วนที่ 5 ความคาดหวังและบริการที่ได้รับจริงจากการใช้บริการอุบัติเหตุหรือเจ็บป่วยฉุกเฉิน

คำชี้แจง โปรดทำเครื่องหมาย √ ลงในช่องที่ตรงกับความรู้สึกที่แท้จริงของท่านมากที่สุด

ข้อความ	ท่านมาโรงพยาบาลนี้เพราะคิดว่า...		มาในครั้งนี้เป็นอย่างที่คิดไว้มั้ย?		
	ใช่	ไม่ใช่	ดี	ไม่ดี	ไม่แน่ใจ
49. มีหมอ พยาบาล เจ้าหน้าที่อยู่ประจำห้องฉุกเฉินตลอด 24 ช.ม.					
50. มีเครื่องมือ เครื่องไม้ดี					
51. มีหมอ พยาบาล เจ้าหน้าที่ เก่ง					
52. โรงพยาบาลนี้รักษาดี					
53. หมอ พยาบาล เจ้าหน้าที่ ดูแลดี ทำงานเร็ว					
54. หมอ พยาบาล เจ้าหน้าที่ อธิบายแนะนำดี					
55. ใครๆ ก็ชมว่าโรงพยาบาลนี้ดี					
56. หมอ พยาบาล เจ้าหน้าที่ ใจดี พูดเพราะ					

ส่วนที่ 6 ข้อมูลผู้ให้สัมภาษณ์

57. เพศของผู้ให้สัมภาษณ์

☐ 1. เพศชาย ☐ 2. เพศหญิง

58. อายุของผู้ให้สัมภาษณ์ ..... ปี

59. ระดับการศึกษาสูงสุดของผู้ให้สัมภาษณ์

☐ 1. ไม่ได้เรียน
☐ 2. ประถมศึกษา
☐ 3. มัธยมศึกษาตอนต้น
☐ 4. มัธยมศึกษาตอนปลาย/ปวช.
☐ 5. อนุปริญญา/ปวส.
☐ 6. ปริญญาตรี/เทียบเท่า
☐ 7. สูงกว่าปริญญาตรี

60. อาชีพของผู้ให้สัมภาษณ์

☐ 1. เกษตรกร/ชาวประมง/ผู้ใช้แรงงาน/รับจ้างทั่วไป
☐ 2. ค้าขาย/ธุรกิจ/กิจการส่วนตัว
☐ 3. พนักงานบริษัท/โรงงาน
☐ 4. นักเรียน/นักศึกษา
☐ 5. ไม่ได้ทำงาน/ว่างงาน
☐ 6. อื่นๆ ระบุ.....

- จบการสัมภาษณ์ ขอขอบคุณทุกท่านที่ให้ความร่วมมือในครั้งนี้ -

ขั้นตอนที่ 5 ตรวจสอบความถูกต้อง ครบถ้วน และ กรอกรายละเอียดเกี่ยวกับผู้สัมภาษณ์

คำชี้แจง ทำการกรอกรายละเอียดในแบบสอบถามทั้ง 9 หน้าให้ครบถ้วน

Questionnaire type III

เลขที่แบบสอบถาม**ชุดที่ 3**

(สำหรับสัมภาษณ์ ผู้ป่วย ในกรณีที่ผู้ป่วยไม่ได้เป็นผู้ตัดสินใจ และผู้ตัดสินใจที่ไม่มีความเกี่ยวข้องกับผู้ป่วย)

แบบสอบถามโครงการวิจัยปัจจัยที่มีผลต่อการใช้บริการอุบัติเหตุและเจ็บป่วยฉุกเฉินต่างกองทุนสาขา และพฤติกรรมการใช้บริการของผู้ป่วยอุบัติเหตุและเจ็บป่วยฉุกเฉินในระบบประกันสุขภาพถ้วนหน้า

H.N. ผู้ป่วย*.....

โรงพยาบาล.....จังหวัด.....

ชื่อพนักงานสัมภาษณ์.....

วันเดือนปีที่ทำการสัมภาษณ์.....เวลา.....

ผู้ป่วยเข้ารับการรักษาในรอบเวร ☐ 1. เช้า ☐ 2. บ่าย ☐ 3. ดึก

สถานพยาบาลลำดับที่ 1** ที่ระบุในบัตรทองของผู้ป่วย คือ .....

สถานพยาบาลลำดับที่ 2 ** ที่ระบุในบัตรทองของผู้ป่วย คือ .....

ชื่อผู้ตรวจภาคสนาม.....

ลักษณะ ☐ ไม่ผ่านเกณฑ์คัดเลือก

☐ ไม่ให้ความยินยอม

☐ ผ่านเกณฑ์

ผลการตรวจสอบ ☐ ถูกต้อง/ ครบถ้วน

☐ ต้องแก้ไข ☐ แก้ไขแล้ว

** **HN** (เลขประจำตัวผู้ป่วย) สามารถขอดูได้จากบัตรผู้ป่วย หากผู้ป่วยมิได้นำบัตรมา ให้จดชื่อ-นามสกุลผู้ป่วย แล้วนำไปถามที่ห้องบัตร (เวชระเบียน)*

*** หากผู้ป่วยไม่ทราบให้ทำการขอดูบัตรทองของผู้ป่วย หรือ จดชื่อ/นามสกุลผู้ป่วยและติดต่อกับหน่วยงานที่รับผิดชอบเรื่องโครงการ **30** บาท ของโรงพยาบาลต่อไป*

สำหรับพนักงานสัมภาษณ์

การสัมภาษณ์ในครั้งนี้มี 5 ขั้นตอน โปรดทำตามขั้นตอนต่าง ๆ ดังต่อไปนี้

ขั้นตอนที่ 1 การคัดเลือกผู้ป่วยเข้าร่วมในการศึกษา

คำชี้แจง ผู้ป่วยที่เข้าอยู่ในการศึกษาต้องมีลักษณะตามเกณฑ์คัดเข้าทุกประการ และไม่มีลักษณะใดที่เข้าเกณฑ์ในการคัดออก (ต้องตอบ "ใช่" ทุกข้อ ในเกณฑ์คัดเข้า และ ตอบ "ไม่ใช่" ทุกข้อ ในเกณฑ์คัดออก)

เกณฑ์คัดเข้า (Inclusion criteria)

ใช่	ไม่ใช่	
☐	☐	*1. เป็นผู้ป่วยที่มารับบริการที่แผนก/หน่วยอุบัติเหตุและฉุกเฉิน*
☐	☐	*2. เป็นผู้ป่วยที่มีสิทธิประกันสุขภาพถ้วนหน้า (ไม่ว่าจะใช้สิทธิในการใช้บริการครั้งนั้นหรือไม่)*
☐	☐	*3. เป็นผู้ป่วยอุบัติเหตุ หรือผู้ป่วยที่ระบุว่าอาการที่เป็นนั้นมีความจำเป็นที่จะต้องมาพบแพทย์เนื่องจากอยู่ในภาวะเจ็บป่วยฉุกเฉิน*

เกณฑ์การคัดออก (Exclusion criteria)

ใช่	ไม่ใช่	
☐	☐	*1. ผู้ป่วยไม่มีอาการแสดงที่ต้องการการรักษาพยาบาล เช่น ขอใบรับรองแพทย์, ขอซื้อยา/เวชภัณฑ์ที่ไม่ใช่ยา, ตัดไหม, ทำแผลที่มีบัตรนัด, ฉีดยา/วัคซีนที่มีบัตรนัด เป็นต้น*
☐	☐	*2. ผู้ป่วยยอมรับว่าตนเองไม่ได้อยู่ในภาวะที่เจ็บป่วยฉุกเฉิน แต่มาใช้บริการที่แผนก/หน่วยอุบัติเหตุและฉุกเฉินเนื่องจากความสะดวกในช่วงเวลานั้น ๆ หรือมาใช้บริการด้วยสาเหตุอื่น ๆ*
☐	☐	*3. ผู้ป่วยที่เสียชีวิตตั้งแต่ก่อนมาถึงโรงพยาบาล หรือเสียชีวิตในขณะทำการรักษาโดยที่ผู้นำส่งไม่สามารถให้ข้อมูลได้ครบถ้วน*
☐	☐	*4. ผู้ป่วยที่มาใช้บริการครั้งแรกและยังไม่ได้ลงทะเบียน (สิทธิว่าง ตามมาตรา 8 ของหลักประกันสุขภาพแห่งชาติ พ.ศ. 2545) ที่มารับบริการที่แผนก/หน่วยอุบัติเหตุและฉุกเฉิน*
☐	☐	*5. ผู้ป่วยที่เป็นทหารเกณฑ์*
☐	☐	*6. ผู้ป่วยที่เป็นผู้พิการ*
☐	☐	*7. ผู้ป่วยที่เป็นทหารผ่านศึก*
☐	☐	*8. ผู้ป่วยที่มีการส่งตัวมาโรงพยาบาลด้วยระบบการส่งต่อจากสถานพยาบาล*
☐	☐	*9. ผู้ป่วย หรือ ผู้แทน (กรณีผู้ป่วยเป็นเด็ก หรือ ชรา หรืออยู่ในภาวะที่ไม่สามารถสื่อสารได้) ไม่ยินยอมให้สัมภาษณ์*

ขั้นตอนที่ 2 การคัดเลือกผู้ที่จะได้รับการสัมภาษณ์

คำชี้แจง ผู้ที่จะถูกสัมภาษณ์ ได้แก่ **"ผู้ป่วย"** ยกเว้น กรณีที่ผู้ป่วยไม่ได้เป็นผู้ตัดสินใจมาใช้บริการที่โรงพยาบาลนี้ด้วยตนเอง เช่น *ผู้ป่วยเด็ก หรือ สูงอายุ หรือ มูลนิธิเป็นผู้ตัดสินใจ หรือ ผู้ป่วยที่อยู่ในภาวะที่ไม่สามารถสื่อสารได้* ในกรณีดังกล่าวให้ทำการสัมภาษณ์ **"ผู้ที่เป็นผู้ตัดสินใจ"**

1. ในครั้งนี้ใครเป็นผู้ตัดสินใจเลือกให้ผู้ป่วยมารักษาที่โรงพยาบาลแห่งนี้

☐ 1. ผู้ป่วย ☐ 4. ตำรวจ / มูลนิธิ

☐ 2. ญาติ / ครอบครัว / คนรู้จัก ☐ 5. อื่นๆ ระบุ.....

☐ 3. ผู้เห็นเหตุการณ์

หาก

1. ผู้ป่วยเป็นผู้ตัดสินใจเองและสามารถสื่อสารได้ ให้*สัมภาษณ์ผู้ป่วยโดยใช้แบบสอบถาม****ชุดที่ 1***
2. ผู้ป่วยไม่ได้เป็นผู้ตัดสินใจ แบ่งเป็น 2 กรณี คือ
   - 2.1 ผู้ป่วยเป็นเด็ก หรือผู้สูงอายุ หรือผู้ป่วยที่ไม่สามารถติดต่อสื่อสารได้
     - 2.1.1 ผู้ตัดสินใจมีความเกี่ยวข้องกับผู้ป่วย ให้*สัมภาษณ์ผู้ตัดสินใจ โดยใช้แบบสอบถาม****ชุดที่ 2***
     - 2.1.2 ผู้ตัดสินใจไม่มีความเกี่ยวข้องกับผู้ป่วย ให้*สัมภาษณ์ผู้ตัดสินใจและผู้ป่วย โดยใช้แบบสอบถาม****ชุดที่ 3***
   - 2.2 ผู้ป่วยที่ไม่ใช่เด็ก หรือผู้สูงอายุ ซึ่งสามารถติดต่อสื่อสารได้ด้วยตนเอง แต่ไม่ได้เป็นผู้ตัดสินใจเอง ให้*สัมภาษณ์ผู้ตัดสินใจและผู้ป่วย โดยใช้แบบสอบถาม****ชุดที่ 3***

ขั้นตอนที่ 3 การขอความยินยอมในการให้สัมภาษณ์ และชี้แจงเรื่องระยะเวลาที่จะทำการสัมภาษณ์

คำชี้แจง ให้ทำการขอความยินยอมในการให้สัมภาษณ์ โดยใช้หนังสือให้ความยินยอม หลังจากนั้นชี้แจงเรื่องระยะเวลาที่จะทำการสัมภาษณ์ ดังรายละเอียดต่อไปนี้

- กรณีเป็นผู้ป่วยที่ไม่ได้รับค้างคืน (ผู้ป่วยนอก) ให้ทำการสัมภาษณ์ หลังจากที่ได้รับการรักษาเรียบร้อยแล้ว
- กรณีเป็นผู้ป่วยที่ต้องรับไว้ค้างคืน (ผู้ป่วยใน) ให้ทำการสัมภาษณ์ที่หอผู้ป่วย ในวันที่ผู้ป่วยออกจากโรงพยาบาล หากภายใน 3 วันผู้ป่วยยังไม่ออกจากโรงพยาบาล ให้ทำการสัมภาษณ์ในวันที่ 3 นับจากวันที่รับเข้าไว้ในโรงพยาบาล
- กรณีที่ผู้ตัดสินใจไม่มีความเกี่ยวข้องกับผู้ป่วย ให้ทำการสัมภาษณ์ได้เลยภายหลังจากให้ความยินยอม

ขั้นตอนที่ 4 การสัมภาษณ์

คำชี้แจง ให้ทำเครื่องหมาย √ หน้าข้อที่เหมาะสม หรือ เติมข้อความในช่องว่างที่กำหนด

- สำหรับคำถามที่มีวงกลม ◯ อยู่หน้าข้อ ให้ผู้สัมภาษณ์ทำเครื่องหมาย √ ลงในช่องที่เหมาะสม **โดยไม่ต้องถามผู้ให้สัมภาษณ์ซ้ำอีก**
- สำหรับคำถามที่อยู่ในกรอบสี่เหลี่ยมแรเงา และระบุว่า "ข้อมูลสำหรับนักวิจัย (ไม่ต้องสัมภาษณ์)" ***ไม่ต้องทำการสัมภาษณ์***

เริ่มทำการสัมภาษณ์ได้

<u>คำชี้แจง</u> ส่วนที่ 1 - 4 (คำถามที่ 1 - 35) ให้ทำการสัมภาษณ์ผู้ป่วย หรือบุคคลที่เกี่ยวข้องกับผู้ป่วย
ส่วนที่ 5 เป็นต้นไป (คำถามที่ 36 - 69) ให้ทำการสัมภาษณ์ผู้ตัดสินใจ

<u>ส่วนที่ 1</u> ข้อมูลผู้ป่วย

① วัน / เดือน / ปี ที่ทำการสัมภาษณ์..... เวลาที่เริ่มสัมภาษณ์ .....

② ประเภทการมารับบริการของผู้ป่วยในครั้งนี้

☐ 1. ผู้ป่วยนอก ☐ 2. ผู้ป่วยใน ตึก/ แผนก.....

③ ผู้ให้สัมภาษณ์ คือ

☐ 1. ผู้ป่วย ☐ 3. เพื่อน/คนรู้จัก

☐ 2. ญาติ/ครอบครัว ☐ 4. อื่นๆ ระบุ.....

<u>ข้อมูลทั่วไปของผู้ป่วย</u>

4. เพศของผู้ป่วย

☐ 1. ชาย

☐ 2. หญิง – ผู้ป่วยตั้งครรภ์หรือไม่

☐ 1. ใช่ ☐ 2. ไม่ใช่

5. อายุของผู้ป่วย

☐ 1. ระบุ.....ปี

6. สถานภาพสมรสของผู้ป่วย

☐ 1. โสด ☐ 4. สมณะเพศ

☐ 2. สมรส ☐ 5. เด็กอายุต่ำกว่า 15 ปี

☐ 3. หม้าย/หย่า/แยกกันอยู่

7. ระดับการศึกษาสูงสุดของผู้ป่วย

☐ 1. ไม่ได้เรียน ☐ 5. อนุปริญญา/ปวส.

☐ 2. ประถมศึกษา ☐ 6. ปริญญาตรี/เทียบเท่า

☐ 3. มัธยมศึกษาตอนต้น ☐ 7. สูงกว่าปริญญาตรี

☐ 4. มัธยมศึกษาตอนปลาย/ปวช.

8. อาชีพของผู้ป่วย

☐ 1. เกษตรกร/ชาวประมง/ผู้ใช้แรงงาน/รับจ้างทั่วไป ☐ 4. นักเรียน/นักศึกษา

☐ 2. ค้าขาย/ธุรกิจ/กิจการส่วนตัว ☐ 5. ไม่ได้ทำงาน/ว่างงาน

☐ 3. พนักงานบริษัท/โรงงาน ☐ 6. อื่นๆ ระบุ.....

9. รายได้ครอบครัวของผู้ป่วยเฉลี่ยต่อเดือน

☐ 1. ระบุประมาณ.....บาท

10. **สถานพยาบาลลำดับที่ 1** ที่ระบุในบัตรทองของผู้ป่วย คือ

☐ 1. ชื่อสถานพยาบาล.....ตำบล/แขวง.....อำเภอ/เขต.....จังหวัด.....

☐ 2. ไม่รู้/ไม่แน่ใจ

11. **สถานพยาบาลลำดับที่ 2** ที่ระบุในบัตรทองของผู้ป่วย คือ

☐ 1. ชื่อสถานพยาบาล.....ตำบล/แขวง.....อำเภอ/เขต.....จังหวัด.....

☐ 2. ไม่รู้/ไม่แน่ใจ

12. ที่อยู่ปัจจุบัน/ที่อยู่จริงของผู้ป่วยในวันสัมภาษณ์

☐ 1. ระบุตำบล/แขวง.....อำเภอ/เขต.....จังหวัด.....

☐ 2. ไม่รู้/ไม่แน่ใจ

13. ที่อยู่ตามทะเบียนบ้านของผู้ป่วย

☐ 1. ระบุตำบล/แขวง……อำเภอ/เขต…….....จังหวัด…….

☐ 2. เหมือนข้อ 12

☐ 3. ไม่รู้/ไม่แน่ใจ

14. สถานที่ทำงานของผู้ป่วยในปัจจุบัน

☐ 1. ระบุตำบล/แขวง.....อำเภอ/เขต.....จังหวัด.....

☐ 2. เหมือนข้อ 12

☐ 3. ไม่รู้/ไม่แน่ใจ

ข้อมูลสำหรับนักวิจัย (ไม่ต้องสัมภาษณ์)

15. ลักษณะพื้นที่เพื่อการลงทะเบียนของผู้ป่วย

☐ 1. อยู่ในอำเภอที่ไม่ติดต่อกับอำเภอที่มีโรงพยาบาลทั่วไป/โรงพยาบาลศูนย์ตั้งอยู่

☐ 2. อยู่ในอำเภอที่ติดต่อกับอำเภอที่มีโรงพยาบาลทั่วไป/โรงพยาบาลศูนย์ตั้งอยู่

☐ 3. อยู่ในอำเภอที่มีโรงพยาบาลทั่วไป/โรงพยาบาลศูนย์/โรงพยาบาลของรัฐนอกสังกัดตั้งอยู่

☐ 4. อยู่ในหมู่บ้านที่อยู่ตรงรอยต่อระหว่างจังหวัดที่มีพื้นที่ติดต่อกัน/ต่อเนื่องกัน

☐ 5. อยู่ในเขตกรุงเทพมหานคร

16. ลักษณะของโรงพยาบาลที่ระบุในบัตรทองของผู้ป่วย

☐ 1. โรงพยาบาลชุมชน

☐ 2. โรงพยาบาลทั่วไป/โรงพยาบาลศูนย์

☐ 3. โรงพยาบาลในเขตกรุงเทพมหานคร

17. ลักษณะของโรงพยาบาลที่ผู้ป่วยมาใช้บริการในครั้งนี้

☐ 1. โรงพยาบาลชุมชน

☐ 2. โรงพยาบาลทั่วไป/โรงพยาบาลศูนย์

☐ 3. โรงพยาบาลในเขตกรุงเทพมหานคร

18. ระบุประเภทการใช้บริการของผู้ป่วย โดยดูจากข้อมูลโรงพยาบาลในบัตรทองและโรงพยาบาลที่ใช้บริการในครั้งนี้

☐ 1. เป็นโรงพยาบาลเดียวกัน

☐ 2. ต่างโรงพยาบาลแต่อยู่ภายในกองทุนสาขาเดียวกัน

☐ 3. ต่างโรงพยาบาลและอยู่ต่างกองทุนสาขา

ส่วนที่ 2 พฤติกรรมการใช้บริการอุบัติเหตุและเจ็บป่วยฉุกเฉินและการรับรู้เกี่ยวกับการเจ็บป่วย

19. ในครั้งนี้ใครเป็นผู้นำผู้ป่วยมาส่งที่โรงพยาบาลแห่งนี้

☐ 1. มาด้วยตนเอง/ญาตินำมาส่ง ☐ 4. หน่วยกู้ชีพ / มูลนิธิ /EMS

☐ 2. ตำรวจ ☐ 5. อื่นๆ ระบุ.....

☐ 3. ผู้เห็นเหตุการณ์

20. นอกเหนือจากสิทธิบัตรทองแล้ว ผู้ป่วยมีสิทธิการรักษาพยาบาลอื่นๆ อีกหรือไม่

☐ 1. มี ได้แก่.....

☐ 2. ไม่มี

21. ในการรักษาพยาบาลครั้งนี้ ผู้ป่วยใช้สิทธิบัตรทองหรือไม่

☐ 1. ใช้ ⟶ ***ข้ามไปถามข้อ 23 ต่อ***

☐ 2. ไม่ใช้

22. เหตุผลที่ผู้ป่วย**ไม่ใช้**สิทธิบัตรทองในการรักษาพยาบาลในครั้งนี้ คือ **(ตอบได้มากกว่า 1 คำตอบ)**

☐ 1. ใช้สิทธิรักษาพยาบาลอย่างอื่นแทน รวมถึงการไม่ใช้สิทธิใดๆ (จ่ายเงินเอง) ระบุ.....

☐ 2. เกรงว่าจะได้รับการบริการไม่รวดเร็วทันท่วงที

☐ 3. เกรงว่าจะได้รับการรักษาไม่มีคุณภาพ/ได้รับยาไม่ดี

☐ 4. ไม่รู้ว่าใช้สิทธิได้/ไม่รู้วิธีใช้สิทธิ

☐ 6. มีปัญหาเรื่องเอกสาร/หลักฐาน

☐ 7. ทางโรงพยาบาลไม่ให้ใช้สิทธิเนื่องจากไม่มีสิทธิบัตรทองในโรงพยาบาลนี้และไม่ใช่กรณีอุบัติเหตุ/เจ็บป่วยฉุกเฉิน

☐ 8. ไม่ได้เป็นคนคิด/ตัดสินใจใช้สิทธิด้วยตนเอง เนื่องจากมีญาติ/คนรู้จักเป็นคนคิด/ตัดสินใจให้แทน

☐ 9. อื่นๆ ระบุ.....

23. สาเหตุการมาใช้บริการในครั้งนี้ คือ

☐ 1. อุบัติเหตุจราจร → ***ข้ามไปถาม ส่วนที่ 3 ต่อไป***

☐ 2. อุบัติเหตุอื่นๆ ได้แก่ → ***ข้ามไปถาม ส่วนที่ 3 ต่อไป***

- ☐ 2.1 ดื่ม/กิน/ได้รับสารพิษต่างๆ
- ☐ 2.2 แพ้ยา/เกิดอาการอันไม่พึงประสงค์จากการใช้ยา
- ☐ 2.3 ถูกกระทำชำเรา
- ☐ 2.4 ถูกทำร้ายร่างกาย/เหตุจากการทะเลาะวิวาทกัน
- ☐ 2.5 ฆ่าตัวตาย
- ☐ 2.6 พลัดตกหกล้มเนื่องจากสาเหตุต่างๆ
- ☐ 2.7 อื่นๆ ระบุ.....

☐ 3. ภาวะเจ็บป่วยฉุกเฉินกะทันหัน ได้แก่ **(ตอบได้มากกว่า 1 คำตอบ)**

- ☐ 3.1 หมดสติ
- ☐ 3.2 หอบ
- ☐ 3.3 โรคหัวใจ (เจ็บหน้าอกเฉียบพลัน)
- ☐ 3.4 ไข้
- ☐ 3.5 ท้องเสียเฉียบพลัน
- ☐ 3.6 อาเจียนมาก
- ☐ 3.7 ปวดท้องอย่างรุนแรง
- ☐ 3.8 อาเจียน/ถ่ายเป็นเลือด
- ☐ 3.9 เส้นเลือดในสมองตีบ, แตก (เป็นอัมพาต, อัมพฤกษ์)
- ☐ 3.10 ปวดศีรษะ
- ☐ 3.11 ปวดหลังมาก
- ☐ 3.12 ผื่นแพ้อย่างรุนแรง
- ☐ 3.13 คลอด, แท้ง, อื่นๆ ที่เกี่ยวกับการตั้งครรภ์
- ☐ 3.14 ปัสสาวะไม่ออก
- ☐ 3.15 โรคจิต/โรคเครียด/เป็นบ้า
- ☐ 3.16 ไอเป็นเลือด
- ☐ 3.17 อื่นๆ ระบุ.....

24. ผู้ป่วยเคยเป็นแบบนี้มาก่อนหรือไม่

☐ 1. เคย ☐ 2. ไม่เคย ☐ 3. ไม่แน่ใจ

25. จากลักษณะอาการที่ผู้ป่วยเป็นในครั้งนี้ ทำไมผู้ป่วยจึงคิดว่าจำเป็นต้องมารักษาที่โรงพยาบาล (เพราะผู้ป่วย...)

☐ 1. มีอาการรุนแรงเฉียบพลันถึงชีวิตหรืออาจเป็นอันตรายต่อผู้อื่นได้ จำเป็นต้องรักษาเร่งด่วน หรือผ่าตัดด่วน

☐ 2. มีอาการรุนแรง**ไม่**เฉียบพลันแต่อาจตายได้หรือเป็นอันตรายต่อผู้อื่น จำเป็นต้องรักษาเร่งด่วนหรือผ่าตัดด่วน

☐ 3. มีอาการไม่รุนแรงถึงชีวิต แต่ทำให้รู้สึกเจ็บป่วยหรือรำคาญจนไม่สามารถทำงาน/ใช้ชีวิตประจำวันได้

☐ 4. มีอาการไม่รุนแรงถึงชีวิต แต่กังวลว่าหากปล่อยทิ้งไว้จะทำให้อาการลุกลามรุนแรงขึ้น เนื่องจากไม่ทราบว่าเป็นโรคอะไร และ/หรือมีลักษณะอาการเจ็บป่วยแบบนี้ซึ่งเหมือนกับที่เคยเป็นมาก่อนในอดีตจึงต้องมาโรงพยาบาล

☐ 5. มีอาการไม่รุนแรง แต่เป็นช่วงเวลาที่สะดวกสำหรับการมาใช้บริการของผู้ป่วย

26. โดยประเมินจากอาการที่เป็น ผู้ป่วยคิดว่าการเจ็บป่วยในครั้งนี้มีความรุนแรงเพียงใด

☐ 1. เจ็บป่วยเล็กน้อย ยังสามารถทำงาน/ใช้ชีวิตประจำวันได้

☐ 2. เจ็บป่วยปานกลาง สามารถทำงาน/ใช้ชีวิตประจำวันพอได้บ้าง

☐ 3. เจ็บป่วยรุนแรง ไม่สามารถทำงาน/ใช้ชีวิตประจำวันได้เลย

ส่วนที่ 3 ปัจจัยอื่น ๆ ที่คาดว่าจะมีผลต่อการใช้บริการอุบัติเหตุและเจ็บป่วยฉุกเฉิน

27. สถานที่ที่เกิดอุบัติเหตุหรือเกิดอาการเจ็บป่วยกะทันหันในครั้งนี้ คือ

☐ 1. ที่บ้าน ☐ 2. ที่ทำงาน ☐ 3. ที่อื่นๆ ระบุ.....

ส่วนที่ 4 ความคาดหวังและบริการที่ได้รับจริงจากการใช้บริการอุบัติเหตุหรือเจ็บป่วยฉุกเฉิน

คำชี้แจง โปรดทำเครื่องหมาย √ ลงในช่องที่ตรงกับความรู้สึกที่แท้จริงของท่านมากที่สุด

ข้อความ	ท่านมาโรงพยาบาลนี้ เพราะคิดว่า...		มาในครั้งนี้เป็นอย่างที่คิดไว้มั้ย?		
	ใช่	ไม่ใช่	ดี	ไม่ดี	ไม่แน่ใจ
28. มีหมอ พยาบาล เจ้าหน้าที่อยู่ประจำห้องฉุกเฉินตลอด 24 ช.ม.					
29. มีเครื่องมือ เครื่องไม้ดี					
30. มีหมอ พยาบาล เจ้าหน้าที่ เก่ง					
31. โรงพยาบาลนี้รักษาดี					
32. หมอ พยาบาล เจ้าหน้าที่ ดูแลดี ทำงานเร็ว					
33. หมอ พยาบาล เจ้าหน้าที่ อธิบายแนะนำดี					
34. ใครๆ ก็ชมว่าโรงพยาบาลนี้ดี					
35. หมอ พยาบาล เจ้าหน้าที่ ใจดี พูดเพราะ					

คำชี้แจง ตั้งแต่ส่วนที่ 5 เป็นต้นไป (คำถามข้อ 36 – 69) ให้ทำการสัมภาษณ์จากผู้ตัดสินใจ

ส่วนที่ 5 ปัจจัยอื่น ๆ ที่คาดว่าจะมีผลต่อการใช้บริการอุบัติเหตุและเจ็บป่วยฉุกเฉิน (ผู้ตัดสินใจ)

36. โรงพยาบาลลำดับที่ 2 ที่ระบุในบัตรทองผู้ป่วย **(ในข้อ 11)** เป็นโรงพยาบาลเดียวกับโรงพยาบาลที่ผู้ป่วยมาใช้บริการในครั้งนี้หรือไม่ **(ให้พนักงานสัมภาษณ์ตรวจสอบความจริง)**

☐ 1. ใช่ ⟶ ***ข้ามไปถามข้อ 44 ต่อไป***

☐ 2. ไม่ใช่

☐ 3. ไม่รู้ / ไม่แน่ใจ ⟶ ***ข้ามไปถามข้อ 44 ต่อไป***

37. ระยะทางจากจุดเกิดเหตุ หรือจุดที่เกิดเจ็บป่วยกะทันหันในครั้งนี้ไปยัง**โรงพยาบาลที่ระบุในบัตรทอง** (ของผู้ป่วย)

☐ 1. ประมาณ.....กิโลเมตร.....เมตร

☐ 2. ไม่รู้/ไม่แน่ใจ

38. ระยะเวลาที่ใช้ในการเดินทางจากจุดเกิดเหตุ หรือจุดที่เกิดเจ็บป่วยกะทันหันในครั้งนี้ไปยัง**โรงพยาบาลที่ระบุในบัตรทอง(**ของผู้ป่วย)

☐ 1. ประมาณ.....ชั่วโมง.....นาที

☐ 2. ไม่รู้/ไม่แน่ใจ

39. จากจุดเกิดเหตุหรือจุดที่เกิดเจ็บป่วยกะทันหันในครั้งนี้ ท่านสะดวกที่จะเดินทางไปใช้บริการใน**โรงพยาบาลที่ระบุในบัตรทอง** (ของผู้ป่วย) หรือไม่

☐ 1. สะดวก ☐ 2. ไม่สะดวก ☐ 3. ไม่รู้/ไม่แน่ใจ

40. ในรอบ 1 ปีที่ผ่านมา ท่านเคยไปใช้บริการใน**โรงพยาบาลที่ระบุในบัตรทอง** (ของตนเอง) มาก่อนหรือไม่

☐ 1. เคย

☐ 2. ไม่เคย → ***ข้ามไปถามข้อ 42 ต่อไป***

☐ 3. ไม่รู้/ไม่แน่ใจ → ***ข้ามไปถามข้อ 42 ต่อไป***

41. จากการที่ท่านเคยใช้บริการมาก่อน ท่านพอใจในคุณภาพบริการของ**โรงพยาบาลที่ระบุในบัตรทอง**(ของผู้ป่วย)หรือไม่

☐ 1. พอใจ ☐ 2. ไม่พอใจ ☐ 3. ไม่รู้/ไม่แน่ใจ

42. ท่านคิดว่า**โรงพยาบาลที่ระบุในบัตรทอง** (ของผู้ป่วย) ให้บริการด้วยความรวดเร็ว หรือไม่

☐ 1. รวดเร็ว ☐ 2. ช้า ☐ 3. ไม่รู้/ไม่แน่ใจ

43. ท่านเชื่อมั่นในคุณภาพบริการของ**โรงพยาบาลที่ระบุในบัตรทอง (**ของผู้ป่วย) หรือไม่

☐ 1. เชื่อมั่น ☐ 2. ไม่เชื่อมั่น ☐ 3. ไม่รู้/ไม่แน่ใจ

44. ระยะทางจากจุดเกิดเหตุหรือจุดที่เกิดเจ็บป่วยกะทันหันในครั้งนี้มายัง**โรงพยาบาลนี้**ประมาณ.....กิโลเมตร.....เมตร

45. ระยะเวลาที่ใช้ในการเดินทางจากจุดเกิดเหตุหรือจุดที่เกิดเจ็บป่วยกะทันหันในครั้งนี้มายัง**โรงพยาบาลนี้** ประมาณ.....ชั่วโมง ..... นาที

46. ท่านเดินทางมา**โรงพยาบาลนี้**ด้วยวิธีใด

☐ 1. มอเตอร์ไซด์ ☐ 4. รถรับจ้าง/สามล้อ/แท็กซี่

☐ 2. รถยนต์ส่วนตัว/ของญาติ/เพื่อนบ้าน/คนรู้จัก ☐ 5. อื่นๆ ระบุ.....

☐ 3. รถโดยสารประจำทาง

47. จากจุดเกิดเหตุหรือจุดที่เกิดเจ็บป่วยกะทันหันในครั้งนี้ ท่านสะดวกที่จะเดินทางมายัง**โรงพยาบาลนี้** หรือไม่

☐ 1. สะดวก ☐ 2. ไม่สะดวก

48. ในรอบ 1 ปีที่ผ่านมา ท่านเคยใช้บริการใน**โรงพยาบาลนี้** มาก่อนหรือไม่

☐ 1. เคย ☐ 2. ไม่เคย → ***ข้ามไปถามข้อ 50 ต่อไป***

49. จากการที่ท่านเคยใช้บริการมาก่อน ท่านพอใจในคุณภาพบริการของ**โรงพยาบาลนี้**หรือไม่

☐ 1. พอใจ ☐ 2. ไม่พอใจ ☐ 3. ไม่รู้/ไม่แน่ใจ

50. ท่านคิดว่า**โรงพยาบาลนี้**ให้บริการแก่ผู้ป่วยด้วยความรวดเร็ว หรือไม่

☐ 1. รวดเร็ว ☐ 2. ช้า ☐ 3. ไม่รู้/ไม่แน่ใจ

51. ท่านเชื่อมั่นในคุณภาพบริการของ**โรงพยาบาลนี้**หรือไม่

☐ 1. เชื่อมั่น ☐ 2. ไม่เชื่อมั่น ☐ 3. ไม่รู้/ไม่แน่ใจ

<u>ส่วนที่ 6</u> ความรู้ ความเข้าใจ และทัศนคติของผู้ใช้บริการที่มีสิทธิบัตรทองต่อโครงการประกันสุขภาพถ้วนหน้า (30 บาทรักษาทุกโรค)

ข้อความ	ท่านทราบหรือไม่ว่า...		ท่านคิดว่าข้อกำหนดนี้ได้สร้างปัญหาให้แก่ผู้ป่วยเพียงใด			
	ทราบ	ไม่ทราบ	มาก	ปานกลาง	น้อย	ไม่แน่ใจ
52. เมื่อเจ็บป่วยทั่วไป ผู้ป่วย 30 บาทต้องไปใช้บริการในสถานพยาบาลที่ระบุไว้ในบัตรทองเท่านั้น						
53. กรณีเกิดอุบัติเหตุ ผู้ป่วย 30 บาทสามารถไปใช้บริการสถานพยาบาลแห่งใดก็ได้ที่ใกล้ที่สุดที่เข้าร่วมในโครงการฯ แม้**ไม่ใช่**สถานพยาบาลที่ระบุในบัตรทองก็ตาม						
54. เมื่อเจ็บป่วยกะทันหัน ผู้ป่วย 30 บาทสามารถไปใช้บริการสถานพยาบาล แห่งใดก็ได้ที่ใกล้ที่สุดที่เข้าร่วมในโครงการฯ แม้**ไม่ใช่**สถานพยาบาลที่ระบุในบัตรทองก็ตาม						

ข้อความ	ท่านทราบหรือไม่ว่า...		ท่านคิดว่าข้อกำหนดนี้ได้สร้างปัญหาให้แก่ผู้ป่วยเพียงใด			
	ทราบ	ไม่ทราบ	มาก	ปานกลาง	น้อย	ไม่แน่ใจ
55. กรณีเจ็บป่วยกะทันหัน ผู้ป่วย 30 บาทสามารถไปใช้บริการในสถานพยาบาล**นอกเหนือ**จากที่ระบุไว้ในบัตรทองได้ **แต่ต้องไม่เกิน** 2 ครั้ง/ปี						
56. หากได้รับอุบัติเหตุจากรถ ผู้ป่วย 30 บาทต้องใช้สิทธิเบิกค่ารักษาตามพระราชบัญญัติ (พรบ.) ผู้ประสบภัยจากรถฯ **ก่อนใช้สิทธิบัตรทอง**						

<u>ส่วนที่ 7</u> ความคาดหวังจากการใช้บริการอุบัติเหตุหรือเจ็บป่วยฉุกเฉินของผู้ตัดสินใจ

<u>คำชี้แจง</u> โปรดทำเครื่องหมาย √ ลงในช่องที่ตรงกับความรู้สึกที่แท้จริงของท่านมากที่สุด

ข้อความ	ท่านมาโรงพยาบาลนี้ เพราะคิดว่า...	
	ใช่	ไม่ใช่
57. มีหมอ พยาบาล เจ้าหน้าที่อยู่ประจำห้องฉุกเฉินตลอด 24 ช.ม.		
58. มีเครื่องมือ เครื่องไม้ดี		
59. *มีหมอ พยาบาล เจ้าหน้าที่ เก่ง*		
60. *โรงพยาบาลนี้รักษาดี*		
61. หมอ พยาบาล เจ้าหน้าที่ ดูแลดี ทำงานเร็ว		
62. หมอ พยาบาล เจ้าหน้าที่ อธิบายแนะนำดี		
63. *ใครๆ ก็ชมว่าโรงพยาบาลนี้ดี*		
64. หมอ พยาบาล เจ้าหน้าที่ ใจดี พูดเพราะ		

<u>ส่วนที่ 8</u> ข้อมูลผู้ให้สัมภาษณ์

65. เพศของผู้ให้สัมภาษณ์

☐ 1. เพศชาย ☐ 2. เพศหญิง

66. อายุของผู้ให้สัมภาษณ์ ..... ปี

67. ระดับการศึกษาสูงสุดของผู้ให้สัมภาษณ์

☐ 1. ไม่ได้เรียน ☐ 5. อนุปริญญา/ปวส.

☐ 2. ประถมศึกษา ☐ 6. ปริญญาตรี/เทียบเท่า

☐ 3. มัธยมศึกษาตอนต้น ☐ 7. สูงกว่าปริญญาตรี

☐ 4. มัธยมศึกษาตอนปลาย/ปวช.

68. อาชีพของผู้ให้สัมภาษณ์

☐ 1. เกษตรกร/ชาวประมง/ผู้ใช้แรงงาน/รับจ้างทั่วไป ☐ 4. นักเรียน/นักศึกษา

☐ 2. ค้าขาย/ธุรกิจ/กิจการส่วนตัว ☐ 5. ไม่ได้ทำงาน/ว่างงาน

☐ 3. พนักงานบริษัท/โรงงาน ☐ 6. อื่นๆ ระบุ.....

69. ผู้ให้สัมภาษณ์คือ

☐ 1. ตำรวจ ☐ 3. มูลนิธิ / EMS

☐ 2. ผู้เห็นเหตุการณ์ ☐ 4. อื่นๆ ระบุ.....

- จบการสัมภาษณ์ ขอขอบคุณทุกท่าน ที่ให้ความร่วมมือในครั้งนี้ -

<u>ขั้นตอนที่ 5</u> ตรวจสอบความถูกต้อง ครบถ้วน และ กรอกรายละเอียดเกี่ยวกับผู้สัมภาษณ์

<u>คำชี้แจง</u> ทำการกรอกรายละเอียดในแบบสอบถามทั้ง 9 หน้าให้ครบถ้วน

BIOGRAPHY

NAME	Miss Krittiya Nurach
DATA OF BIRTH	February 10, 1978
PLACE OF BIRTH	Phatthalung, Thailand
INSTITUTIONS ATTENDED	Mahidol University, 1995-2000: Bachelor of Science in Pharmacy (Second Honor) Mahidol University, 2003-2006: Master of Science in Pharmacy (Pharmacy Administration)
POSITION & OFFICE	Petchaboon Hospital, Petchaboon, Thailand Position: Pharmacist Tel. (056) 712235-9 E-mail: tik003@yahoo.com