

**Managing Pre-hospital Emergency Medical Services of  
Road Traffic Injuries  
in Khon Kaen Province, Thailand**

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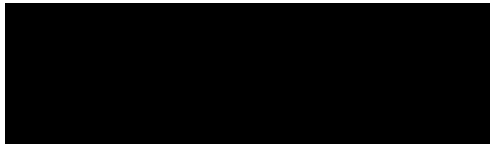
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August 2010

## **Certificate**

I certify that the substance of this thesis has not already been submitted for any degree and is not currently being submitted for any other degree or qualification.

I certify that any help received in preparing this thesis, and all sources used, have been acknowledged in this thesis.



Tanongson Tienthavorn

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## **Abstract**

Road trauma is a public health issue worldwide. The Emergency Medical Service (EMS) focuses on improving trauma patient outcomes by providing medical care and transporting patients to the appropriate health facility as quickly as possible. The aim of this study is to provide basic knowledge and recommendations for the improvement of current EMS management practice in relation to road trauma, in particular, in Khon Kaen Province, Thailand. An understanding of current EMS operation in response to Road Traffic Injury (RTI) enhances knowledge that informs the management of EM Services and identifies factors that can achieve better patient outcomes.

The study consists of two parts: (i) a description of a road traffic injury and EMS response profile based on data available from KKRH Trauma Registry and the KK EMS database for KK EMS health area, and (ii) an exploratory qualitative analysis using in-depth interviews with KK EMS staff to determine how EMS management and patient outcomes could be improved.

Many important road traffic injury risks from an eight year period from 1998-2005 were identified such as being a motorcycle rider, a young male, working as a labourer, not wearing a helmet while riding two-wheeled vehicles, festival and weekend periods, and rural location. The available EMS data from 2003-2007 indicates that EMS responses are to some extent adequate for the requirement of emergency calls. However, the dramatic increase in non-urgent cases in the past several years indicates some level of inefficiency.

In-depth interviews with 20 EMS staff, who had experience in EMS employment, provided data for the qualitative part of the study. Thematic analysis was used. EMS staff commented on a number of social issues particularly regarding issues associated with alcohol-related injuries of young male motorcyclists, lack of the public awareness of EM Service provision and the professionalism of

EMS staff. The study highlights that the KK social context has an influence on the effectiveness of management of both road safety strategies and EMS provided. The recognition of the impact of local worldview of management needs to be considered in the management of EMS of RTI.

## Table of Contents

<b>Certificate</b> .....	<b>i</b>
<b>Acknowledgements</b> .....	<b>ii</b>
<b>Abstract</b> .....	<b>iii</b>
<b>List of Figures</b> .....	<b>ix</b>
<b>List of Tables</b> .....	<b>xi</b>
<b>List of Appendices</b> .....	<b>xiii</b>
<b>Glossary</b> .....	<b>xiv</b>
<b>Abbreviations</b> .....	<b>xv</b>
<b>Presentations arising from this thesis</b> .....	<b>xvi</b>
<b>Chapter 1 Introduction</b> .....	<b>1</b>
<b>1.1 Introduction</b> .....	<b>1</b>
<b>1.2 The importance of pre-hospital Emergency Medical Services</b> .....	<b>2</b>
<b>1.3 Background of the study</b> .....	<b>5</b>
<b>1.4 Aims of the thesis</b> .....	<b>8</b>
<b>1.5 Significance of the thesis</b> .....	<b>8</b>
<b>1.6 Organisation of the thesis</b> .....	<b>11</b>
<b>Chapter 2 Theoretical frameworks and literature review</b> .....	<b>13</b>
<b>2.1 Introduction</b> .....	<b>13</b>
<b>2.2 The theoretical frameworks underpinning this study</b> .....	<b>13</b>
2.2.1 An outcome management approach and the concept of episode of care.....	14
2.2.2 Contingency theory .....	19
2.2.3 Institutional theory.....	21
2.2.4 Haddon’s matrix .....	23
<b>2.3 Road traffic injury</b> .....	<b>26</b>
2.3.1 Road traffic injury and its management .....	26
2.3.2 Road traffic injury and its management in Thailand .....	32
<b>2.4 Pre-hospital emergency medical services system</b> .....	<b>38</b>
2.4.1 Pre-hospital emergency medical services.....	39
2.4.2 Pre-hospital emergency medical services in Thailand .....	49
<b>2.5 Thai management context</b> .....	<b>57</b>

2.5.1 Thailand country profile .....	57
2.5.2 Thai health service and its management.....	58
<b>2.6 Summary .....</b>	<b>72</b>
<b>Chapter 3 Study setting and methodology .....</b>	<b>73</b>
<b>3.1 Introduction .....</b>	<b>73</b>
<b>3.2 Study setting.....</b>	<b>73</b>
3.2.1 Khon Kaen Province and its health facilities.....	73
3.2.2 Khon Kaen Emergency Medical Services .....	77
<b>3.3 Research design .....</b>	<b>80</b>
<b>3.4 Quantitative research methodology .....</b>	<b>82</b>
3.4.1 Theoretical framework .....	83
3.4.2 Quantitative data source .....	85
3.4.3 Validity and reliability of quantitative component.....	92
3.4.4 Limitations.....	93
<b>3.5 Qualitative research methodology .....</b>	<b>95</b>
3.5.1 An eclectic approach to interpretivist phenomenology .....	96
3.5.2 Thematic analysis .....	97
3.5.3 The qualitative design.....	99
3.5.4 Rigour and trustworthiness of qualitative component.....	105
3.5.5 Limitations.....	107
<b>3.6 Inference and inference quality.....</b>	<b>108</b>
<b>3.7 Reflection on the researcher experience.....</b>	<b>108</b>
3.7.1 The researcher's roles.....	109
3.7.2 Professional and research distance .....	109
<b>3.8 Ethical considerations .....</b>	<b>111</b>
<b>3.9 Summary .....</b>	<b>112</b>
<b>Chapter 4 Investigating road traffic injuries in Khon Kaen Province .....</b>	<b>114</b>
<b>4.1 Introduction .....</b>	<b>114</b>
<b>4.2 The use of KKRH Emergency Department .....</b>	<b>114</b>
<b>4.3 KKRH Trauma Registry 1998-2005 .....</b>	<b>115</b>
<b>4.4 Road traffic injuries in KKRH 1998-2005 .....</b>	<b>119</b>

4.4.1 Fatal road traffic injuries .....	119
4.4.2 Non-fatal road traffic injuries .....	125
4.4.3 Motorcycle injury .....	131
4.4.4 Alcohol related RTI .....	136
4.4.5 Seasonal and day of week variation .....	137
4.4.6 Treatment and financial cost outcomes .....	139
<b>4.5 Key findings and discussion related to road traffic injury in Khon Kaen Province</b> .....	<b>141</b>
<b>4.6 Limitations: Trauma Registry and injury profile</b> .....	<b>146</b>
<b>4.7 Summary</b> .....	<b>148</b>
<b>Chapter 5 Investigating pre-hospital emergency medical services data</b> .....	<b>150</b>
<b>5.1 Introduction</b> .....	<b>150</b>
<b>5.2 EMS Resources</b> .....	<b>150</b>
5.2.1 EMS units .....	150
5.2.2 EMS ambulance types .....	151
5.2.3 EMS personnel .....	152
<b>5.3 EMS Processes</b> .....	<b>153</b>
5.3.1 Number of call outs .....	155
5.3.2 Method of calling .....	156
5.3.3 Dispatchers' triage classification of cases .....	156
5.3.4 Level of response .....	157
5.3.5 Response times .....	158
<b>5.4 Key findings and discussion related to emergency medical services in Khon Kaen Province</b> .....	<b>162</b>
<b>5.5 Limitations: EMS database</b> .....	<b>167</b>
<b>5.6 Summary</b> .....	<b>169</b>
<b>Chapter 6 Perceptions of emergency medical services personnel about factors contributing to RTIs and EMS patient outcomes</b> .....	<b>171</b>
<b>6.1 Introduction</b> .....	<b>171</b>
<b>6.2 Participant profile</b> .....	<b>171</b>
<b>6.3 Perceptions about road traffic injuries</b> .....	<b>173</b>
6.3.1 Emerging themes regarding factors associated with road traffic injuries .....	174



6.3.2 Solutions to the road traffic injury situation .....	186
<b>6.4 Perceptions about emergency medical services .....</b>	<b>191</b>
6.4.1 Factors which affect outcomes of EMS patients in KK Province .....	192
6.4.2 Suggestions to improve emergency medical services .....	212
<b>6.5 Summary .....</b>	<b>224</b>
<b>Chapter 7 Discussions and conclusions.....</b>	<b>225</b>
<b>7.1 Introduction .....</b>	<b>225</b>
<b>7.2 Drawing the thesis findings together .....</b>	<b>225</b>
7.2.1 The role of KK EMS in RTI.....	227
7.2.2 Reflection on perceptions of emergency medical service workers .....	234
<b>7.3 Presentation of Emergency Medical Services management of road traffic trauma in Haddon’s matrix and outcome management approach.....</b>	<b>243</b>
7.3.1 Haddon’s matrix and EMS management of RTI.....	244
7.3.2 The Outcome Management Approach and EMS management of RTI .....	247
<b>7.4 Steps for improvements in Emergency Medical Services management of RTI in Khon Kaen Province .....</b>	<b>250</b>
<b>7.5 Implications for policy, practice and research in EMS context: facilitating change in Khon Kaen Province .....</b>	<b>260</b>
<b>7.6 Limitations of the study .....</b>	<b>263</b>
<b>7.7 Contributions of the study .....</b>	<b>265</b>
<b>References .....</b>	<b>269</b>
<b>Appendices .....</b>	<b>294</b>

## List of Figures

Figure 1.1: A trimodal distribution of death from road traffic injury .....	3
Figure 2.1: A conceptual framework of patient care following a road traffic injury .....	14
Figure 2.2: An episode of EMS care .....	17
Figure 2.3: A pre-hospital interval of an episode of EMS care .....	18
Figure 2.4: Epidemiological triad of injury .....	24
Figure 2.5: Estimated global mortality by cause and sex, 2000 .....	27
Figure 2.6: Thailand road safety action plan 2004-2008 .....	37
Figure 2.7: EMS time and terminology .....	40
Figure 2.8: The historical development of Thailand pre-hospital health services.....	50
Figure 2.9: The first seven pioneer Provinces in establishing Provincial EMS .....	52
Figure 2.10: Emergency medical services structure use in Thailand .....	54
Figure 2.11: An expected financial plan for EMS establishment and administration in Thailand in 2002 .....	55
Figure 2.12: Map of Thailand and Indo-China peninsula .....	58
Figure 2.13: MoPH and NHSO relationship in the Universal Coverage Scheme Insurance .....	60
Figure 2.14: Local government (LAO) involvement role in provision of health services .....	63
Figure 3.1: Khon Kaen Province and its districts.....	74
Figure 3.2: Khon Kaen Province and its districts' geographical environment.....	75
Figure 3.3: Khon Kaen Regional Hospital, KK district hospital and community health facilities. .	76
Figure 3.4: The data flow of the <i>KKRH Trauma Registry</i> .....	88
Figure 3.5: The data flow of cases entering the EMS database.....	90
Figure 3.6: An overlapping of existing RTI in Trauma registry and EMS datasets (An estimated number of cases) .....	93
Figure 4.1: Total number of fatal and non-fatal KKRH ER cases for the period 2003-2005 .....	115
Figure 4.2: Total number of fatal & non-fatal injuries per year registered in the KKRH Trauma Registry for the period (1998-2005) (n=162,078) .....	116
Figure 4.3: Fatal and non-fatal injuries registered in the KKRH Trauma Registry for the period 1998-2005 by type of transfer and year (n=162,078).....	118
Figure 4.4: Total number of fatal RTIs per year registered in the KKRH Trauma Registry for the period (1998-2005) by year and sex (n=2,902) .....	119
Figure 4.5: Total number of fatal RTIs registered in the KKRH Trauma Registry for the period (1998-2005) by age and year (n=2,902) .....	120
Figure 4.6: Total number of fatal RTIs registered in the KKRH Trauma Registry for the period (1998-2005) by age and sex (n=2,902).....	121
Figure 4.7: Total number of fatal RTIs registered in the KKRH Trauma Registry for the period 1998-2005 by type of injured person and year (n=2,902) .....	123
Figure 4.8: Total number of fatal RTIs registered in the KKRH Trauma Registry for the period 1998-2005 by occupation (n=68,903) .....	123
Figure 4.9: Total number of fatal RTIs registered in the KKRH Trauma Registry for the period 1998-2005 by bodily region involved and year (n=2,902 cases*) .....	124

Figure 4.10: Total number of fatal RTIs registered in the KKRH Trauma Registry for the period 1998-2005 by jurisdictional location and year (n=2,902) .....	125
Figure 4.11: Total number of non-fatal RTIs per year registered in the KKRH Trauma Registry for the period (1998-2005) by year and sex (n=68,903) .....	126
Figure 4.12: Total number of non-fatal RTIs registered in the KKRH Trauma Registry for the period 1998-2005 by agent (n=68,903) .....	128
Figure 4.13: Total number of non-fatal RTIs registered in the KKRH Trauma Registry for the period 1998-2005 by type of road user and year (n=68,903) .....	129
Figure 4.14: Total number of non-fatal RTIs registered in the KKRH Trauma Registry for the period 1998-2005 by occupation (n=68,903) .....	129
Figure 4.15: Total number of non-fatal RTIs registered in the KKRH Trauma Registry for the period 1998-2005 by bodily region involved and year (n=68,903 cases*) .....	130
Figure 4.16: Total number of non-fatal RTIs registered in the KKRH Trauma Registry for the period 1998-2005 by location and year (n=68,903) .....	131
Figure 4.17: Total number of fatal and non-fatal motorcycle injuries registered in the KKRH Trauma Registry for the period 1998-2005 by age (n=56,143).....	132
Figure 4.18: Total number of fatal and non-fatal RTIs registered in the KKRH Trauma Registry for the period 1998-2005 by month (n=68,903).....	138
Figure 4.19: Total number of fatal and non fatal RTIs registered in the KKRH Trauma Registry for the period 1998-2005 by day of week and year (n=68,903).....	138
Figure 5.1: Number of EMS units registered in KK EMS system 2007 .....	151
Figure 5.2: Number of EMS call outs registered in Provincial KK EMS system by type of unit for the period 1994-2007 .....	154
Figure 5.3: Expected response-time in KK EMS systems .....	155
Figure 5.4: Number of EMS call outs registered in KK EMS system by <i>call taking time</i> for FY 2007 (October 2006-September 2007) .....	159
Figure 5.5: Number of EMS call outs registered in KK EMS system by <i>dispatch time</i> for FY 2007 (October 2006-September 2007) .....	159
Figure 5.6: Number of call outs for EMS registered in KK EMS system by <i>travel time from base to scene</i> for FY 2007 (October 2006-September 2007).....	160
Figure 5.7: Number of EMS call outs registered in KK EMS system by <i>time at injury scene</i> for FY 2007 (October 2006-September 2007) .....	161
Figure 5.8: Number of EMS call outs registered in KK EMS system by <i>travel time from injury scene to hospital</i> for FY 2007 (October 2006-September 2007) .....	162
Figure 5.9: Percent of EMS call outs registered in KK EMS system by <i>travel distance</i> for FY 2007 (October 2006-September 2007) .....	162
Figure 7.1: The episode of care (outcome management) applied to EMS response to road trauma .....	250

## List of Tables

Table 2.1: Steps and strategies to improve organisation management.....	21
Table 2.2: A modified version of Haddon’s matrix describing how to analyse and prevent injury events.....	24
Table 2.3: World ranking of injury-related mortality and burden of disease (DALYs lost), 1990 and 2020 .....	27
Table 2.4: Enforcement relating important issue (% of countries rating of > 7 out of 10) .....	31
Table 2.5: Road traffic injury data sources, Thailand .....	33
Table 2.6: EMS systems in various countries .....	42
Table 2.7: Fee schedule for EMS operation by level of care, 2008 .....	56
Table 3.1: Expected data sources .....	86
Table 3.2: Variables used in this study.....	87
Table 4.1: Proportion of fatal and non-fatal injuries per year reported in the KKRH Trauma Registry for the period 1998-2005 (n=162,078).....	116
Table 4.2: Number of fatal and non-fatal injuries per year by injury types in the KKRH Trauma Registry (1998-2005).....	117
Table 4.3: Total number of fatal RTIs registered in the KKRH Trauma Registry for the period 1998-2005 by year and agent (n=2,902).....	122
Table 4.4: Non-fatal RTIcases reported in the KKRH Trauma Registry for the period 1998-2005 by year and age (n=68,903). .....	127
Table 4.5: Fatal and non-fatal motorcycle injuries registered in the KKRH Trauma Registry for the period 1998-2005 by age (n=56,143) .....	132
Table 4.6: Fatal and non-fatal motorcycle injuries registered in the KKRH Trauma Registry for the period 1998-2005 by type of person injured (n=56,143) .....	133
Table 4.7: Fatal and non-fatal motorcycle injuries registered in the KKRH Trauma Registry for the period 1998-2005 by mechanism of injury (n=56,143).....	134
Table 4.8: Fatal & non-fatal motorcycle related RTI registered in the KKRH Trauma Registry for the period 1998-2005 by helmet use (n=56,143).....	135
Table 4.9: Fatal & non-fatal motorcycle related RTIs registered in the KKRH Trauma Registry for the period 1998-2005 by alcohol involvement (n=56,143) .....	136
Table 4.10: Fatal and non-fatal RTI registered in the KKRH Trauma Registry for the period 1998-2005 by blood alcohol level (n=71,805).....	137
Table 4.11: Total number of fatal and non-fatal RTIs registered in the KKRH Trauma Registry for the period 1998-2005 by patient outcome (n=71,805). .....	139
Table 4.12: Total number of fatal and non-fatal RTIs registered in the KKRH Trauma Registry for the period 1999-2005 by agent of injury and cost (AUD\$)*/**. ....	140
Table 5.1: Number of new EMS ambulances registered in KK EMS system by type of ambulance for the period 1994-2007 .....	152
Table 5.2: Number of new EMS personnel registered in KK EMS system for the period 1994-2007 by employment role .....	153
Table 5.3: Number of EMS call outs registered in KK EMS system by type of unit for the period 2003*-2007 .....	155

Table 5.4: Number of EMS call outs registered in KK EMS system by channels used for the period 2003*-2007 .....	156
Table 5.5: Number of EMS call outs registered in KK EMS system by triage classification of case for the period 2003*-2007 .....	157
Table 5.6: Number of EMS call outs registered in KK EMS system by level of response for the period 2003*-2007 .....	158
Table 6.1: Participant profile by employment role and level .....	172
Table 6.2: Participant profile by age and gender .....	173
Table 6.3: Participant profile by education level.....	173
Table 6.4: Participant profile by experience in health service and EMS .....	173
Table 6.5: Perceptions of KK Province EMS staff regarding road traffic injuries .....	174
Table 6.6: Perceptions of KK Province EMS staff regarding emergency medical services .....	192
Table 7.1: Presentation of EMS management of RTI in Haddon’s matrix with current status and suggestions for change based on EMS staff interviews .....	246

## List of Appendices

Appendix 1: Injury Surveillance Record Form .....	295
Appendix 2: Emergency Medical Services Record Forms (Command and Control Centre Form)	296
Appendix 3: Emergency Medical Services Record Forms (Basic Life Support form) .....	297
Appendix 4: Emergency Medical Services Record Forms (Advanced Life Support Form).....	298
Appendix 5: Provincial Injury Surveillance Coding System .....	299
Appendix 6: Thai Emergency Medical Services Coding System.....	330
Appendix 7: ICD 10 Definitions Related to Transport Accidents.....	345
Appendix 8: Information Sheet .....	346
Appendix 9: Consent Form .....	350
Appendix 10: Interview Guide .....	353
Appendix 11: A Table Used in Coding .....	360
Appendix 12: Tables Used to Assist Grouping of Comments.....	361
Appendix 13: The Permission Letter from the Thai Health Authority (Khon Kaen Regional Hospital) .....	362

## Glossary

Advanced Life Support	The term used to describe the capability of a medical response team to render sophisticated life support procedures beyond basic life support. Traditionally requires medical oversight.
Basic Life Support	The term used to define the capability of a medical response team to render non-invasive basic life support procedures with limited equipment on board the vehicle.
Emergency Medical Services	A collective term describing the many agencies, personnel, and institutions involved in planning for, providing, and monitoring emergency medical care.
Emergency Medical Technician	Emergency Medical Technician-Intermediate. An EMT with a two-year EMT training course with additional training in some advanced procedures.
First Responder	The term defines the first response team to provide medical assistance in an emergency. The degree of training is a formal approximately 16 hour course in emergency medical care termed registered First Responder (FR). The course includes minimum first aid instructions on airway management, cervical spine control, breathing assistance, circulation assistance, haemorrhage control, and basic patient movement skills.

## **Abbreviations**

EMS	Emergency Medical Service or EM Service(s)
EMT	Emergency Medical Technician (Intermediate)
FR	First Responder
LAO	Local Administrative Organisation
NHSO	National Health Security Office
EMIT	Emergency Medical Institute of Thailand
KK	Khon Kaen
RTI	Road Traffic Injury



## Presentations arising from this thesis

- 2007 Managing Pre-hospital Emergency Medical Services on Road Traffic Accident in Khon Kaen Province, *5<sup>th</sup> International Convention of Asian Scholars (ICAS5)*, Kuala Lumpur, 2-5 August 2007.
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- Subdistrict Level EMSS in Khon Kaen. Virtual Data Object (VDO) Presentation, *2<sup>nd</sup> International Training on Prehospital Care*, Khon Kaen Hospital, Khon Kaen, 20-31 August 2007.
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