

**IMPLEMENTATION OF CONTINUOUS QUALITY
IMPROVEMENT (CQI) PROCESS
TO MINIMIZE THE RISK ON MEDICATION ERRORS
IN THE IMPATIENT DEPARTMENT, BANGRAK HOSPITAL**

Rungphet Saengthong

A Thesis Submitted in Partial Fulfillment of the Requirements

for the Degree of Master of Public Health

Health Systems Development Programme

College of Public Health

Chulalongkorn University

Academic Year 2001

ISBN: 974-17-0154-3

© College of Public Health, Chulalongkorn University

Bangkok, Thailand

I 20693175


Thesis Title : Implementation of Continuous Quality Improvement (CQI)
Process to Minimize the Risk on Medication Errors in the
Inpatient Department, Banprak Hospital

By : Rungphet Saengthong


Program : Master of Public Health (Health Systems Development)
College of Public Health


Thesis Advisor : Associate Professor Sauwakon Ratawijitrasin, Ph.D.


Accepted by the College of Public Health, Chulalongkorn University,
Bangkok Thailand in Partial Fulfillment of the Requirements for the Master's Degree

 Dean of the College of Public Health
(Samlee Plianbangchang, M.D., Dr.P.H.)

THESIS COMMITTEE


....., Chairman
(Ratana Somrongthong, M.A.)


....., Thesis Advisor
(Associate Professor Sauwakon Ratawijitrasin, Ph.D.)


....., Member
(Professor Edgar J. Love, M.D., Ph.D.)

ABSTRACT

The aim of this research was to assess and evaluate the effectiveness of CQI that was used for reduction the risk of medication error in the Inpatient department of Banprak Hospital. The assessment was done through the process of comparison between the percentage of medication error made by IPD nurses and other related disciplines i.e. doctors & pharmacists before and after implementing CQI. During April 2001 – September 2001.

The assessment of medication error was performed based on 3 factors, namely document/equipment/medicine, the preparation of medicine and techniques of medicine dispensing. After implementing CQI, it was found that the risk to medication error caused by document/equipment/medicine, the preparation of medicine and techniques of medicine dispensing had decreased from 1.34 % to 0.55 %, 1.26% to 0.48 % and 48% to 1.45 %, respectively. It can be said that the errors due to techniques of medicine dispensing had dropped significantly as the initial value was high. Modifications and corrections were performed with in the unit only. Conclusively, the average of percentage error had dropped from 3.38% to 1.08 % and all errors ware no harm to patients. The supportive factors contributing to the success of the implementation of CQI, are that the hospital has set up a policy to achieve better quality of services and its a aims to obtain the Hospital Accreditation by 2002.

Though, the study has shown that CQI has helped the hospital to reach the goal of the reduction medication error, i.e. to reduce to less than 5 %, this result cannot guarantee that the effect of medication error to patients will decrease accordingly. Therefore, to improve the effectiveness as well as the efficiency of medicine dispensing, there should be other procedures to prevent medication error for certain types of medicines which are considered as high risk to patient.

ACKNOWLEDGEMENT

I would like to express my sincere gratitude and deep appreciation to my advisor, Dr.Sauwakon Ratanawijitrasin for her kind, guidance, valuable advice, and encouragement throughout this study.

My special appreciation thanks to my co-advisor, Dr. Chumni Jittriprasert for valuable suggestion and discussion.

Grateful acknowledgement is here by made to Dr.Paticom Jetwattana, Dr.Khaunchai visittanon (Director of Banprak Hospital) and all officers at Banprak Hospital for their co-operation and helpfulness during my project.

Indeed, I wish to express my infinite gratitude to Piyathida Poonphanapricha (pharmacist) and all officers in Inpatient Department for their love, care, continuous support and encouragement.

Rungphet Saengthong

TABLE OF CONTENTS

	Page
ABSTRACT	iii
ACKNOWLEDGEMENT	v
TABLE OF CONTENTS	vi
LIST OF TABLES	viii
LIST OF FIGURES	ix
CHAPTER 1 INTRODUCTION	1
CHAPTER 2 RESEARCH DESCRIPTION	6
2.1 Objectives	6
2.2 Definition	8
2.3 Data Collection	28
2.4 Data Analysis	29
2.5 Expected Outcomes	29
2.6 Potential problems, Conflict and possible Means for resolution	30
CHAPTER 3 EVALUATION	31
3.1 Introduction	31
3.2 Purpose	31
3.3 Evaluation Design	32

CHAPTER 4	DISCUSSION AND CONCLUSION.....	61
CHAPTER 5	RECOMMENDATIONS.....	69
REFERENCES.....		73
CURRICULUM VITAE.....		75

LIST OF TABLES

Tables	Page
Table 2.1: Study factors and sources.....	21
Table 3.1: Percentage of Medication Error risk by types.....	41
Table 3.2: Causes and its proposed solution.....	48
Table 3.3: Existing causes of medication error and new policy for addressing causes.....	51
Table 3.4: Percentage of Medication error risk by types.....	53
Table 4.1: Table shows the percentage of medication error risk before and after CQI implementation.....	61
Table 4.2: Details that illustrate human errors that potentially have causes problems to reduce and remain.....	63
Table 4.3: Details illustrate on Medication error data on before and after CQI implementation.....	64

LIST OF FIGURES

Figures	Page
Figure 2.1: Conceptual Framework.....	7
Figure 2.2: Plan-Do-Check-Act Circle.....	15
Figure 2.3: Group activities for Continuous Quality Improvement (CQI).....	17
Figure 3.1: Evaluation design.....	33
Figure 3.2: Deployment flowchart of Medication Dispensing Process in Inpatient Department.....	38
Figure 3.3: Potential Causes for Medication Errors.....	39
Figure 3.4: Tree diagram illustrates causes of Medication error in the Inpatient Department by group activities of CQI.....	46
Figure 3.5: Percentage of Medication risk before and after CQI Implementation.....	56