

QUALITY IMPROVEMENT FOR STOCK RECORDING OF
PHARMACEUTICAL AND MEDICAL SUPPLIES
AT SOMDEJPRASUNGKARAJ HOSPITAL

PORNCHANOK KOOMPAI

A Thesis Submitted in Partial Fulfillment of the Requirements
for the Degree of Master of Public Health Program in Health Systems Development

College of Public Health

Chulalongkorn University


Academic Year 2006

Copyright of Chulalongkorn University

492230


Thesis Title Quality Improvement for Stock Recording of Pharmaceutical
 and Medical Supplies at Somdejprasungkaraj Hospital
By Pornchanok Koompai
Field of study Health Systems Development
Thesis Advisor Assoc Prof. Sauwakon Ratanawijitrasin, Ph.D.

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


..... Dean of College of Public Health
(Professor Surasak Taneepanichsakul, M.D., M.Med.)

THESIS COMMITTEE


..... Chairperson
(Associate Professor Sathirakorn Pongpanich, Ph.D.)


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


..... Committee
(Assistant Professor Rungpetch Sakulbumrungsil, Ph.D.)

PH : 972065 : HEALTH SYSTEMS DEVELOPMENT PROGRAM
 KEY WORD : CQI / STOCK RECORDING / INVENTORY MANAGMENT /
 DRUG SUPPLY SYSTEM

PORNCHANOK KOOMPAI : QUALITY IMPROVEMENT FOR STOCK
 RECORDING OF PHARMACEUTICAL AND MEDICAL SUPPLIES AT
 SOMDEJPRASUNGKARAJ HOSPITAL THESIS ADVISOR :
 ASSOC.PROF.Dr.SAUWAKON RATANAWIJITRASIN,Ph.D., 93 pp.

This project aimed to improve the inaccuracy of stock record (stock cards and computerized system) in Somdejprasungkaraj hospital, which is a community hospital with 60-bed capacity located in Nakornluang, Ayutthaya province. Continuous Quality Improvement (CQI) technique was introduced and applied to solve the inaccuracy problem. Total stock count carried out two months after implementation aimed to check the immediate result of the implementation. Continuous stock count carried out later for ten months long (for 20 times) aimed to check the maintenance result.

Clear steps of CQI helped the pharmacy team, consisting of 2 pharmacists 3 pharmacist's assistants and 3 employees, found out root causes of the problem that led to suitable solutions. After implementing the solutions, total stock count conducted in October 2001 showed a big drop of inaccurate records from 14.8% to 0% and continuous stock counts from November to September showed 0% error.

Accurate stock data were used to measure inventory management performance such as

- Loss due to damage and theft
- Stock turnover rate
- Loss due to expired items in stock
- Service level

This study clearly shows that CQI process can be used to improve an inaccuracy of stock records. It improves work system and increase staff satisfaction. However the success of the project does not imply that the inventory management is effective. It only means that the foundation for the effective inventory management is in place. That is the records are accurate. In fact, the indicators suggest that the inventory management is still ineffective in many aspects, and they should be further explored.

Field of study Health Systems Development Student's signature

Academic year 2006

Advisor's signature




ACKNOWLEDGMENTS

I would like to thank the college of public health and Dr.Nongnoi Puriruntpinyo, my beloved boss, for giving me the opportunity to attend Learning at the Work Place(LWP) course.

I would like to thank my advisors, Ajarn Tanawat Likitkererat and especially Associate Professor Sauwakon Ratanawijitrasin. Without her, the completion of this thesis would not have been possible.

I also acknowledge Assistant Professor Rungpetch Sakulbumrungsil who spent her valuable time guiding me throughout the whole period of this thesis. Without her support and encouragement, I would not have passed those hardest days.

I also thank Associate Professor Sathirakorn Pongpanich for his kindness to be my thesis chairperson.

I also take this opportunity to thank Khun Sunanta for her help in the college library. Her help made my life much easier.

I deeply thank my colleagues, the member of the pharmacy section of Somdejprasungkaraj hospital and other staffs for their co-operation in carrying out this project.

My acknowledgment would be incomplete if I fail to thank my family: my father, my mother, my husband and my son, for their support and great encouragement throughout the whole period of time. My husband has provided me with his warm love and strong support from the beginning to the completion of my study.

TABLE OF CONTENTS

	Page
ABSTRACT.....	iii
ACKNOWLEDGEMENTS.....	iv
TABLE OF CONTENTS.....	v
LIST OF TABLES.....	vii
LIST OF FIGURES.....	viii
CHAPTER I INTRODUCTION.....	1
CHAPTER II PROJECT DESCRIPTION.....	5
2.1 Rationale.....	5
2.2 Objectives.....	9
2.3 Study Design, Approaches, Methods and/or Techniques.....	9
2.4 Conceptual Framework.....	16
CHAPTER III PROJECT EVALUATION.....	17
3.1 Introduction.....	17
3.2 Purpose.....	17
3.3 Formative Evaluation.....	18
3.4 Summative Evaluation.....	60
CHAPTER IV DISCUSSION AND CONCLUSION.....	62
CHAPTER V RECOMMENDATIONS.....	66
REFERENCES.....	67
APPENDIX.....	68
APPENDIX A.....	69

TABLE OF CONTENTS (Cont.)

	Page
APPENDIX B.....	71
APPENDIX C.....	72
APPENDIX D.....	92
CURRICURUM VITAE.....	93

LIST OF TABLES

Table		Page
3.1	Result of total stock count in August 2001.....	23
3.2	Proportion of over and under record in computer.....	25
3.3	Proportion of over and under record in stock cards.....	25
3.4	Frequency of borrowings of each unit from drug stock.....	42
3.5	Result of total stock count in October 2001.....	47
3.6	Results of continuous stock counts.....	50
3.7	Percentage of loss due to damage and theft.....	53
3.8	Turn over rate of drugs in stock from October 2001 – June 2002.....	54
3.9	Turn over rate of medical supplies in stock from October 2001 – June 2002.....	55
3.10	Expiry status of drugs in stock in the next one year.....	57
3.11	Service level from November 2001 – April 2002.....	59

LIST OF FIGURES

Figure	Page
2.1 Time frame of stock counting.....	11
2.2 Steps of CQI.....	15
2.3 Conceptual Framework.....	16
3.1 Inventory Management flowchart.....	19
3.2 Percentage of correct and incorrect records from two sources : computer and stock records.....	24
3.3 Proportion of over and under record of drugs in both sources.....	26
3.4 Proportion of over and under record of medical supplies in both sources.....	26
3.5 Proportion of over and under record of items in two sources.....	27
3.6 Cause analysis.....	29
3.7 Inventory Management (Error) flowchart.....	31
3.8 Old work schedule of stock personnel.....	40
3.9 New work schedule of stock personnel.....	40
3.10 Number of drugs borrowed by Pharmacy room.	43
3.11 Number of medical supplies borrowed by Pharmacy room	43
3.12 The result of total stock count before and after implementation.....	48
3.13 The results of continuous stock counts of drugs.....	51
3.14 The results of continuous stock counts of medical supplies.....	51
3.15 Turn over rate of drugs in stock from October 2001 – June 2002.....	56
3.16 Turn over rate of medical supplies in stock from October 2001 – June 2002.....	56