



The relationship between the management and control  
of asthma in primary health care

BY

JESSLEE MELINDA DU PLESSIS

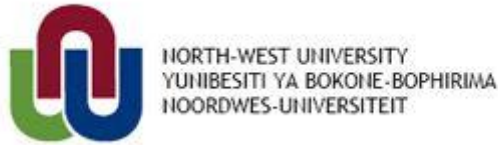
A dissertation submitted in partial fulfilment  
of the requirements for the degree of

*MAGISTER PHARMACIAE* IN PHARMACY PRACTICE

At the  
Potchefstroom campus  
North-West University

Supervisors: Prof JJ Gerber  
Prof L Brand

April 2011



# DECLARATION

**Student number: 20984634**

I, Jesslee Melinda du Plessis, declare herewith that the dissertation entitled:

**THE RELATIONSHIP BETWEEN THE MANAGEMENT AND CONTROL OF  
ASTHMA IN PRIMARY HEALTH CARE**

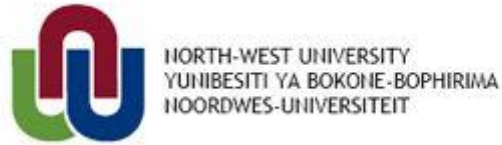
is my own work, has been text edited, and that it has not been submitted before for any degree or examination at any other institution. All the sources that have been used or quoted have been acknowledged by means of complete references in the text and bibliography.

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**JESSLEE M DU PLESSIS**

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**DATE**



## DEDICATION

This study is dedicated to my family, André, Anjé and Alchané Booysen, who through their encouragement and inspiration allowed me to finish this project, to GOD who gave me the courage and strength to persist and who guides my life, my parents who always has faith in me, and to all the people who dedicate their professional skills and energy to improve the quality of life of asthma sufferers.

“HE WHO UPSETS A THING MUST KNOW HOW TO REARRANGE IT”

--- African proverb ---

## ACKNOWLEDGEMENTS

I wish to express my appreciation to all who made this research possible:

- My almighty creator for seeing me through my difficulties
- My supervisors, Prof Jan J Gerber and Prof Linda Brand, who believes in the value of clinical research, for all their guidance, encouragement and positive motivation, and for their critical review of the manuscript. Their contribution to my training is invaluable
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- Dr Claire van Deventer, Department of Health (DOH), local government administrators and the staff of the Potchefstroom primary health care clinics, Dr Kenneth Kaunda Municipal District. The co-operation of numerous staff and managers in the health facilities involved in this study, who spent time to provide the necessary information, is highly appreciated
- The Ethics Committee of the North-West University for permission to conduct the study
- The assistants who collected the patient records from the specific clinics, for all your time, effort and integrity
- All the volunteers who participated in the study, for their valuable contribution
- Melanie Terblanche, who assisted with the editing of the manuscript
- Anriëtte Pretorius, the librarian, for excellent assistance with the literature search and referencing.



## ABSTRACT

### THE RELATIONSHIP BETWEEN THE MANAGEMENT AND CONTROL OF ASTHMA IN PRIMARY HEALTH CARE

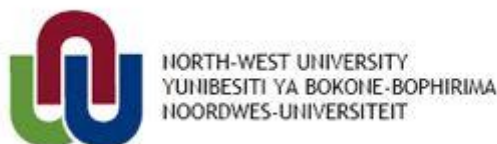
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The aim of the study was to determine, evaluate, and improve the management and control of asthma in primary health care clinics in Potchefstroom, an entity of the Dr Kenneth Kaunda Municipal District. The ultimate goal of the study was to measure the guideline-directed outcomes and to supply useful retrospective health status data.

A three-stage, non-experimental, quantitative, repeated measures, descriptive designed study reviewed and checked key performance measures and documented compliance for applicability in the setting.

Medical records of all asthma-diagnosed patients who attended the primary health care clinics for asthma-related or –unrelated visits during the period May to July 2008, 2009 and 2010 were reviewed. This resulted in a total of 323 asthma patient records, ranging from 3 – 81 years of age, over the three timeslots. Overall, a mere 0,6% of patients reached the well-controlled level ( $PEF \geq 80\%$ ) as stipulated by the 2007 updated guidelines for the diagnosis and management of asthma (the Expert Panel Report 3) of the National Asthma Education and Prevention Program (NAEPP).

After a greater focus was placed on essential outcomes, by means of different disease management documents, an improvement in quality of managed care were noticeable although dedicated and continuous education and motivation are still required.



## OPSOMMING

### DIE VERHOUDING TUSSEN DIE BESTUUR EN KONTROLE VAN ASMA IN PRIMÊRE GESONDHEIDSORG

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Die doel van hierdie studie was die bepaling, evaluasie, en verbetering van die bestuur en kontrole van asma in primêre gesondheidsorg klinieke in Potchefstroom, 'n entiteit van die Dr Kenneth Kaunda Munisipale Distrik. Die uiteinde was gemik op die bepaling van riglyn gebaseerde uitkomst en om bruikbare retrospektiewe gesondheidsdata te kan lewer.

'n Drie-fase, non-eksperimentele, kwantitatiewe, herhaalde meting, beskrywende ontwerp studie het sleutel prestasie maatstawwe en dokumentering van meewerkendheid vir die toepaslikheid in die opset hersien en nagegaan.

Mediese rekords van alle asma-gediagnoseerde pasiënte wat die primêre gesondheidsorg klinieke besoek het vir asma-verwante of -nie-verwante toestande gedurende die tydperk Mei tot Julie 2008, 2009 en 2010 was nagegaan. Hierdie het gelei tot 'n totaal van 323 asma pasiënt rekords, wissellend tussen 3 en 81jarige ouderdomme, oor die drie tydsintervalle. In die algeheel het 'n skrale 0,6% van die pasiënte die goed gekontroleerde vlak ( $PEF > 80\%$ ) soos aangedui deur: "The 2007 updated guidelines for the diagnosis and management of asthma (the Expert Panel Report 3) of the National Asthma Education and Prevention Program (NAEPP)" bereik.

Nadat 'n groter klem geplaas is op noodsaaklike uitkomst, deur middel van verskillende siekte beheer dokumente, was daar 'n verbetering in die kwaliteit van die bestuurde sorg, alhoewel toegewyde en deurvoerende onderrig en motivering steeds vereis word.

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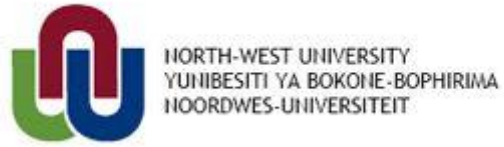
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## LIST OF ABBREVIATIONS

AIDS	Acquired immune deficiency syndrome
BHR	Bronchial hyperresponsiveness
BP	Blood pressure
BT	Boiki Tlhapi Clinic
CAM	Complementary – and alternative medicine
CMPs	Care management processes
COPD	Chronic obstructive pulmonary disease
CS	Oral corticosteroids
CT	Computed tomography
DOH	Department of Health
Dx	Diagnosis
EDL	Essential Drug List
EIA	Exercise-induced asthma
EPR	Expert Panel Report
FBD	Functional breathing disorders
FEV <sub>1</sub>	Forced expiratory volume in one second
GERD	Gastroesophageal reflux disease
GINA®	The Global Initiative for Asthma

HCP	Health care provider
HIV	Human immunodeficiency virus
ICS	Inhaled corticosteroids
IgE	Immunoglobulin E
IOM	Institute of Medicine
L	Lesego Clinic
LABA	Long-acting $\beta_2$ -agonist
M	Mohadin Clinic
NAEPP	National Asthma Education and Prevention Program
NHLBI	The National Heart Lung and Blood Institute
NO	Nitric oxide
NSAID	Non-steroidal anti-inflammatory drugs
P	Promosa Clinic
PEF	Peak expiratory flow
PEFR	Peak expiratory flow rates
PF%	Peak flow percentage
PND	post-nasal drip
PT	Potchefstroom Town Clinic
PUD	Peptic ulcer disease
QOC	Quality of care
SABA	Short-acting $\beta_2$ -selective adrenergic agonist
SMART	Single inhaler for maintenance and relief therapy

SOB	Shortness of breath
TC	Top City Clinic
TCB	Follow-up date
VCD	Vocal cord dysfunction
WHO	World health Organisation



## LIST OF ANNEXURES

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## EDITING



### THE SOUTH AFRICAN TRANSLATORS' INSTITUTE

This is to certify that

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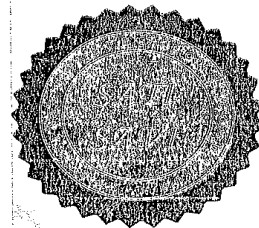
has passed the required examination and is  
hereby accorded accreditation as follows:

*Editing: English*

Issued at *POTCHEFSTROOM* this *30* day of *January 2001*

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Accreditation is valid only if supported by current membership