

**DEMAND FUNCTION FOR MALARIA SERVICES:
A CASE STUDY OF MALARIA CLINICS IN THAILAND**



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A Thesis Submitted in Partial Fulfillment of the Requirements
for the Degree of Master of Science
Department of Economics
Graduate School
Chulalongkorn University
1994
ISBN 974-584-701-1

I17058685

Thesis Title : DEMAND FUNCTION FOR MALARIA SERVICES: A
CASE STUDY OF MALARIA CLINICS IN THAILAND

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Accepted by the Graduate School, Chulalongkorn University in
Partial Fulfillment of of the requirements for Master of Science
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C660290 : MAJOR HEALTH ECONOMICS

KEY WORD : DEMAND FUNCTION/MALARIA CLINICS

CHARLES ADJEI ACQUAH : DEMAND FUNCTION FOR MALARIA SERVICES : A CASE STUDY OF MALARIA CLINICS IN THAILAND. THESIS ADVISOR : Dr. PONGSA PORNCHAIWISESKUL, Ph.D. 79 pp. ISBN 974-584-701-1

The goal of this research study is to identify the factors that influence demand for malaria clinics services and to develop suitable models to estimate the relationship between the demand for the services and the factors influencing it.

Malaria services in Thailand involve first and foremost, blood slides examinations of all patients attending the malaria clinics and then second, drug treatment of positive malaria cases. Therefore, two models one, to estimate demand for treatment services and other, to forecast the total demand for the malaria services (measured by the total blood slides examination) are developed in this research.

A priori theoretical considerations shows that the annual demand for the malaria treatment services, Q , is a function of services (total annual blood slides examined), S , the annual household income, I , travel distance X , the annual incidence rate, R and per capita government expenditure, G , spent annually on malaria control activities and expressed mathematically as

$$Q = f(S, I, X, R, G)$$

A pooled data from 10 sector malaria clinics of 3 districts in Tak Province, Thailand for an average period of 3 years (1991-1993) are collected and fitted with the models developed. During the initial run of the regression, the variable R , is removed from the function due to the problem of multicollinearity. R seems to have equal marginal effect as $\log I$ on Q . However, the effect of lagged G on transmission rate and gametocyte output in the community indirectly explains the effect of R on Q and S .

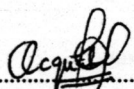
An error-components polling technique proves most efficient under the present circumstances and it therefore forms the basis for the development of the models after having accounted for the district differences. The resulting function shows a significant positive coefficient for variable S and negative coefficients for variables I , X , and lagged G on the output variable Q . Also the other model developed to forecast S shows that to forecast S , one only requires the lagged values of S , I and G .

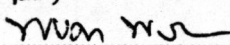
The implications of these findings in planning and policy formulation are very revealing and important for managers in the service. And most importantly the methods used in this research can be applied to develop a demand function in other areas in Thailand and other countries.

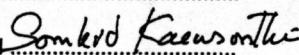
ภาควิชา Economics

สาขาวิชา Health Economics

ปีการศึกษา 2536

ลายมือชื่อผู้สมัคร 

ลายมือชื่ออาจารย์ที่ปรึกษา 

ลายมือชื่ออาจารย์ที่ปรึกษาร่วม 

ACKNOWLEDGEMENTS

First of all, I am very thankful to God, the Most High, for His grace, strength, guidance and care throughout this programme including this research study. Without him it would have been impossible to complete this study.

I am also deeply indebted to Dr.Pongsa Pornchaiwiseskul, my thesis advisor and Professor Somkid Kaewsonthi, my co-thesis advisor, from both of whom I received very helpful and invaluable comments which served as a useful guide to the completion of this thesis.

Many sincere thanks go to Professor Somkid Kaewsonthi, who is also the Programme Director and her team of very able lecturers including Dr.Alan Harding, Dr.Chev Kidson, Assistant Professor Dr.Kaemthong Indaratana, Associate Professor Dr.Wattana Suwansang Janjaroen, Dr.Siripen Supakankunti, and others who spent their most invaluable times to provide me with the much needed knowledge which helped in no small way in the building up and completion of this study.

Ms.Nongluck Jirachaisopit, and Ms.Patchanee Rodsampao, both Secretaries of the Centre of Health Economics, need special mention in carrying out the formalities for implementing the study and defending the proposal and the thesis. I am grateful to them all.

I cannot over emphasize my sincere thanks to Dr.Surang Tanpradist, Director of the Malaria Division, Bangkok who with her staff offered me all the assistance I needed in the planning and collection of the data for the study. Ms.Phairah, head of laboratory section, Mr.Pongwit Bualombai, her assistant, and the entire malaria parasitology laboratory staff, Malaria Division, Bangkok need special mention in this respect.

Many thanks to the Director in-charge of Malaria Region 1, the Deputy Director Mr Uthai Traiton, who was extremely helpful in the planning and collection of the data from the Tak Province, Malaria Region 1, and the entire staff who were involved one way or the other in this study. I am very grateful to them all.

I also thank Mr.Komsan Nilphairoj and Ms. Sipporn Guptarak of the Faculty of Economics, Chulalongkorn University for assisting me with computer manuals and the typing of the scripts.

My very special thanks should go to the UNDP/World Bank/WHO Special Programme for Research and Training in tropical Disease (TDR) who supported me with funding for this programme of Master of Science, Health Economics, I owe the organization a great deal of gratitude.

Charles Adjei Acquah
May, 1994



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