A STANDARDIZATION MODEL FOR STAFFING AMONG MEDICAL DOCTORS AT HOSPITALS IN NAIROBI COUNTY, KENYA.

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Declaration

This Proposal is my original work and has not been presented for a degree in any other university.

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Dedication

To my dear wife, Magdalene, flower of my life. You graciously bore my absences, a firm support through all the trying moments of this project.
Acknowledgement

I acknowledge, Dr. John Tole, Associate Dean and Chief of Medical Staff Aga Khan University Hospital Nairobi who agreed to be my shadow supervisor in this thesis project and lent his decades of experience in dealing with Medical staff of all carders as a voice of wisdom and counsel whenever I needed to bounce ideas and navigate through uncertain sections of this journey.

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I thank my supervisors who were always available to provide their expert guidance and challenged me to produce the best I could.

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Abbreviations and Acronyms

AKUH, N  Aga Khan University Hospital, Nairobi
AKDN  Aga Khan Development Network
AKHS  Aga Khan Health Service
CHW  Community Health Worker
CHEW  Community Health Extension Worker
EBPSM  Empirically Based Physician Staffing Model
FBO  Faith Based Organization
FTEE  Full-Time-Equivalent Employees
HIMS  Hospital Information Management System
IDH  Infectious Diseases Hospital
IPF  Inverse Production function
ISO  International Systems Organization
JCIA  Joint Commission International Accreditation
KNH  Kenyatta National Hospital
MDH  Mbagathi District Hospital
MTRH  Moi Teaching and Referral Hospital
MOH  Ministry Of Health
NGO  Non-Governmental Organization
PCA  Patient care Area
PF  Production Function
SMMH  Saint Mary's Mission Hospital
SPSS  Statistical Package for Social Sciences
WHO  World Health Organisation
WISN  Work-load Indicator of Staffing Needs
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Definition of Operational Terms

“Physician” Means Health professional with at least Bachelor’s degree in Medicine Qualification working in the hospital. Physician & Doctor are used interchangeably

“Doctor” Means physician

“Physician Staffing” Means the process of obtaining and maintaining the required number of physicians in the organization

“Occupancy” Means the number of patients in the hospital

“Standardization Model” Means the model proposed by Irad Ben-Gal et al (2010) for determining the required number of doctors in any hospital department by taking into account factors such as average occupancy rates, Staff leave, allowances, doctors’ duties and patient service levels and which is published in the International Journal of Productivity and Performance Management, Issue 59(8), pages 769-791.

“Discipline” Means one of the subspecialties in the area of Medical Practice such as Pediatrics, Medicine, Surgery or Obstetrics and Gynecology.

“Direct Patient Care Activity” Means those activities which immediately arise from the duty of care to patients and which increase directly in proportion to increased patient volume including such as history taking, writing of progress notes and patient examination.

“Indirect Patient Care activities” Means those activities associated with care of patients usually of a support nature and do not increase directly in proportion to increase in patient volume and include such activities as handing over rounds, preparation of duty rota etc.

“Paediatric” Means that which refers to the patients who are children of age 14 years and below.

“Paediatric Ward” Means the section of a hospital facility where paediatric patients are admitted for in-patient treatment.
Abstract

Across the globe it has been a challenge for Hospital Administrators to accurately estimate the required workforce to cater for patient needs. Various methodologies have been used including Hospital bed capacity to doctor ratio, Population to doctor ratio and policy guidelines. None of these systems have adequately addressed the problem. Irad Ben-Gal et al (2010) proposed a model for determining the required number of doctors in any hospital department by taking into account factors such as average occupancy rates, staff leave, allowances, doctors’ duties and patient service levels. This proposal aims to assess how adaptable the proposed model is through replication in a different setting. The study aims to confirm or disapprove the correlation between the time taken to perform direct and indirect patient care activities and the required physician staffing level at four hospitals in Nairobi County, Kenya namely Kenyatta National Hospital (KNH), Aga Khan University Hospital, Nairobi (AKUH,N), St. Mary’s Mission Hospital (SMMH) and Mbagathi District Hospital (MDH) while taking into account patient occupancy rates. Arising from this study, recommendations will be made for any modifications to the model found necessary. A comparison will be made between the results established using the proposed model and those using the current method of staffing requirement in KNH, AKUH, N, SMMH and MDH. A cross sectional survey will be done to establish the current method of determining the required number of doctors in the hospitals under study. The survey will employ use of an orally administered questionnaire to establish the different types of activities that physicians carry out in their daily work and the approximate length of time each activity takes. The results of the survey will help design the work sampling study. The work sampling will be carried out using an Observation Schedule & Work Sampling Data Collection application tool. The tool will be downloaded onto a Samsung Galaxy 3 android handset or a handset of similar capability. In order to test the Standardization Model, work sampling studies will be carried out on the various factors and variables that affect the work load and required physician capacity. The data collected from the survey will be analyzed and factored into the model so as to derive the required physician staffing level. The data collected will be analyzed using Statistical Package for Social Sciences (SPSS) version 22. Linear regression analysis will be used to correlate the average occupancy rates and the required physician staffing level. Test for statistical significance will be carried out on each variable measured to determine the variable’s importance in influencing physician staffing requirement. This study is expected to provide suggested ways of increasing staff utilization of permanent staff, reducing staff burnout and driving lowered cost of employing locum (temporary) doctors.