

**IN-SERVICE TRAINING AND SERVICE DELIVERY IN PUBLIC HOSPITALS
IN BUNGOMA COUNTY, KENYA**

SOLOMON WABOMBA MUKHWANA

**A Thesis Submitted in Partial Fulfillment of the Requirements for the Award of the
Degree of Master of Science in Human Resource Management of Masinde Muliro
University of Science and Technology.**

AUGUST, 2019

DECLARATION

This thesis is my original work and has not been presented for a degree in any other University or any other award.

Signature _____

Date _____

SOLOMON WABOMBA MUKHWANA

BHR/G/25/10

CERTIFICATION BY SUPERVISORS.

The undersigned certify that they have read and hereby recommend for acceptance of Masinde Muliro University of Science and Technology a thesis entitled, **“In-service training and service delivery in public hospitals in Bungoma County, Kenya.”**

Dr. Robert Egessa

Signature _____

Date _____

Department of Business Administration and Management Science.

MasindeMuliro University of Science and Technology.

Dr. Willis Otuya

Signature _____

Date _____

Department of Business Administration and Management Science.

MasindeMuliro University of Science and Technology.

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DEDICATION

I dedicate this thesis to my late parents, the late Mwalimu Chapman Mukhwana Murunga and the late Mwalimu Rose Nakoba Mukhwana, my wife Rhoda Machuma Mamuli, our beloved children; Prudence Ushindi, Serine Luyali, Purity Bahati, Mary Heri, Abednego Sikuku, Anne Neema and Elisha Furaha whose names keep exciting many people, my teachers at all levels for starting an academic fire that cannot go out and the world of academia. My late father tactfully triggered an unquenchable academic thirst within me at a tender age of fourteen years by taking me to Professor Richard Musang'iri's home for an academic chat. This became a life changing moment of my life when I made him my role model immediately. My late mum encouraged me to keep reading day and night by physically supervising my private studies whenever I could be sent home to collect fees. She also paid a good proportion of my high school and university fees. Thank you parents for the immense support and may your souls rest in peace. My beloved wife impressed upon me to go back to school and promised to take good care of our children. In fact, I left her in the labor ward as I proceeded to sit for my final coursework examination at the university and before I started the said examination she called and informed me that our family had been blessed with the first baby boy whom we named Abednego Sikuku. My wife's strong self-drive and possession of a deep desire for more knowledge eventually landed her in a masters class of Applied Mathematics. This single act transformed our family into a learning family, with parents and all children being students which we celebrate and cherish to date. I count it a great privilege and joy to have a visionary and organized wife of your caliber. May our good God protect you and reward you greatly.

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SOLOMON WABOMBA MUKHWANA

ABSTRACT

Despite the efforts of the medical society and health staff alongside the advancements in medical technologies, patients' dissatisfaction and complaints remain a norm rather than an exception in Kenya today. Effective training programs create desired knowledge, skills, attitudes and abilities of the employees to perform well on the job and impact employee motivation and commitment. The purpose of this study was to assess the effect of in-service training and service delivery in public hospitals in Bungoma County, Kenya. The objectives of the study were to determine the effect of training needs assessment on service delivery in public hospitals in Bungoma County, to evaluate the effect of training methodology on service delivery in public hospitals in Bungoma County, to examine the effect of training evaluation on service delivery in public hospitals in Bungoma County and to establish the moderating effect of organizational factors on the relationship between in-service training and service delivery in public hospitals in Bungoma County. The researcher used a correlation research design. Stratified proportionate random sampling was used to acquire a sample size of 196 nurses and data was collected using questionnaires. Validity of the data collection instruments was determined by conducting a pilot study at the Matete Health Centre in Kakamega County. Cronbach's alpha score for reliability was 0.7 and data analysis was done using SPSS version 21. Descriptive statistics included measures of central tendency and measures of dispersion and inferential statistics involved Pearson's Product Moment Correlation test and T-test. The research findings of this study were represented in tables. The expected result of this study was in-service training increased nurses' productivity and output in public hospitals through timely initiation of treatment to patients, increasing the number of patients served while on duty and reducing patients' complaints to the very minimum.

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LIST OF ABBREVIATIONS AND ACRONYMS

AMREF	-	African Medical Research Foundation
AVNS	-	African Virtual Nursing School
CBT	-	Computer Based Training
CPSA	-	College of Physicians Surgeons of Alberta
G.O.K	-	Government of Kenya
HRH	-	Human Resource for Health
I.T	-	Information Technology
J.I.T	-	Just –In-Time
KECHN	-	Kenya Enrolled Community Health Nurse
KNH	-	Kenyatta National Hospital
M.O.H	-	Ministry of Health
M.O.o.H	-	Medical Officer of Health
MTRH	-	Moi Teaching and Referral Hospital
N.G.O	-	Non – Governmental Organization
NACOSTI	-	National Commission of Science, Technology and Innovation
NCK	-	Nursing Council of Kenya
RN	-	Registered Nurse
RoI	-	Returns on investment
SDG	-	Sustainable Development Goals
SPSS	-	Statistical Package of Social Sciences
U.S.A	-	United States of America
UHC	-	Universal Health Coverage

- UN** - United Nations
- W.H.O** - World Health Organization
- WB** - World Bank

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OPERATIONAL DEFINITION OF TERMS

In-service training - training of selected healthcare professionals to help them develop specific clinical skills.

Training and development- an educational process involving sharpening of skills, concepts, changing of attitude and gaining of more knowledge to enhance the performance of nurses.

Training needs assessment – an essential that looks at nurses and organizational skills, knowledge, attitudes and abilities to identify any gaps at areas of need for the sake of resolving them through learning to up the level of nurses’ performance at the workplace. Training needs assessment was measured by job, organizational and personal analyses.

Training methodologies - a set of training approaches and principles used for imparting new skills, knowledge, and competences in nurses in the health sector. Training methodologies included coaching and mentoring, simulation and internet based training.

Training evaluation – a systematic analysis of training to determine whether training has met its objectives in so far as strengthening service delivery is concerned. Training evaluation was measured by reaction, learning, behavior and performance and results.

Timeliness – a medical action, intervention or process that happens at the right time, to the right patient and in the right way.

Patient complaint -a dissatisfaction symptom which needs attention and response and is recognized as a valuable source of information about the quality of the current service delivery process in public hospitals.

Service delivery-the manner in which healthcare is delivered to patients by nurses in public hospitals in Bungoma County such that they take action at the right time, they serve as

many patients as possible and endeavor to reduce or eliminate patients' complaints. Service delivery was measured by timeliness; number of patients served and reduced patients' complaints.

Organizational factors-systemic issues inherent in public hospitals that impact both positively and negatively on the operations of public health providers .Organizational factors were measured by hospital values, hospital size and hospital culture.

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

The health sector is a critical unit of the society for citizens to function optimally in economic production. They need to be whole and adequately equipped for the same portfolio or duty. This is consistent with the old adage that a healthy nation is a wealthy nation. The health status of the citizens of any jurisdiction worth its salt and its economic development are inextricably intertwined. Universal health coverage (UHC) is part of the seventeen declarations of the New York-UN (2016) heads of states and governments Sustainable Development Goals (SDG) that are meant to be achieved by 2030. No wonder, the Government of Kenya (GoK) has embarked on the implementation of the UHC program in the Jubilee Party's second term in the presidency because Kenya is a signatory to SDG. Shaheen et al. (2013) averred that training is a systematic creation of requisite knowledge, skills, attitudes and behavior required by employees like nurses in order to serve adequately in confirmed duties. In view of this, nurses who are under oath to save life at all times should render superior services always and sometimes at all costs to patients. This will develop a positive and memorable encounter with patients who will in turn have a positive word of mouth about the hospital in the society. However, this is not usually the case in public hospitals with regard to nurses' service delivery in public hospitals yet they all underwent at least a three years pre-service training. So where is the disconnect between pre-service training of nurses and service delivery in the public hospitals?

UN(2009) in , “The UN Handbook of Competencies” posited that in ‘In Building the Future’ organizations’ greatest strength – and key to success- was the quality of staff and hospital managers. The quality of nurses in public hospitals can only be upgraded through in-service training which is a learning process. Marchington and Wilkinson (2006) alluded that a learning event involved establishing needs, agreeing on the overall purpose and objectives, identifying the profiles of the intended learning population, selecting strategy and designing the event delivery plus monitoring and evaluating the process.

In-service training of medics has been interrogated by a myriad of scholars in the world. Some of the scholars are nationals of India, Pakistan, Jordan, Ghana, South Africa, Uganda and Kenya. Globally, Jeremy (2009) declared that in the US and Europe, globalization and the need for organizations to be more competitive than ever before had led to changes in the way organizations trained their workforces at home and overseas in the quest to succeed in today’s increasingly competitive knowledge economy. The corporate learning landscape had undergone a major transformation during the last few years from instructor-led to e-learning and blended learning. As organizations focussed more closely on the bottom line, measuring the effectiveness and business value of learning and development had never been as important. Training expenditure has often been scrutinized hence the clammer for a strong return on investment (ROI) focus, from day one, is become essential.

In India, Sohail (2014) in, “An Assessment of the Impact of Training and Development on Employee Performance: A Case Study from Different Banking Sectors of North Punjab” indicated existence of a significant positive relationship between employee performance and employee training and development. The objectives were to observe the impact of training and development on employee performance, to observe the impact of

job training on employee performance and to see the impact of delivery style on employee performance. This study had completely different objectives. Sohail used one hundred employees from 11 banks whereas this study utilized 196 nurses and 42 public hospitals in Bungoma County.

In United Arab Emirates, Ghufli (2012) studied, "Training Needs Analysis: An Empirical Study of the Abu Dhabi Police" and aimed at understanding the role of the existing training needs assessment, and the factors that affected the process, to identify the needs and its impact on improving organizational performance. The study found that training needs analysis was the most important step among other steps in the training cycle hence needed to precede any training intervention. The study failed to cover a County in Kenya apart from being anchored in the police service instead of the health sector.

Continental, in South Africa, the Public Service Commission (2014) indicated that organizations were faced with the challenge of ensuring that they had the necessary capacity to achieve their strategic objectives and the public service was no exception. Competent employees deliver services in an effective and efficient manner hence government departments needed to employ people with appropriate skills and knowledge to perform at the expected standards. Organizations ensured that the right people were prepared in the right place, at the right time and for the right position to which they would readily contribute organization's strategy. Human capital development aimed at strengthening systems for workplace learning to enhance the quality and relevance of training materials for educational initiatives in the workplace to be applied and skills developed on an ongoing basis. The study revealed that PALAMA as a government training institute, managed to train senior managers according to departmental needs and

gaps identified in the core management competencies. Majority of respondents said that areas like planning and operation management, policy analysis and implementation and financial management had improved senior managers' service delivery programs and departmental performance.

In Uganda, Nassazi (2013) examined, "Effect of Training on Employee Performance; Evidence from Uganda." The study's goals were identifying the training programs in the industry, the objectives of the training offered, the method employed and the effect of in-service training on employee performance. The study concluded that in-service training positively impacted employees job performance, training programs resonated with employee needs and most employees were trained under the compulsory training program of the company. Nassazi's study was based on the telecommunication industry in Uganda using one hundred and twenty respondents while this study was based on the health sector in a County using opinions of 196 nurses.

In Kenya some of the scholars who explored the field of training included Ngure and Njiru (2013), Korir et al. (2015) and Musyoki (2015). Ngure and Njiru (2013) noted that employee training and development was a common human resource management practice that dealt with the harnessing of individuals and teams with the aim of improving effectiveness of organizations and institutions. Ngure and Njiru (2013) gathered that capacity building had streamlined leadership, interpersonal, financial, and managerial skills of participants empowered them to perform their work more professionally. The study was premised on the Kenya School of Government and focused senior managers as opposed to public hospitals and nurses in Bungoma County.

Researchers who had interrogated training and development in Bungoma County included Juma (2013), Marumbu (2014), Okongo (2015) and Marangu and Ogoti (2014). Musyoki (2015) interrogated Performance Appraisal in Public Hospitals: A Case of Mbagathi Hospital-Kenya and noted that human resource management practices like performance appraisal could transform health workers into productive, motivated, and supported workforce capable of improving healthcare services and saving lives. Performance appraisal identified who was eligible for promotion and salary increments and was a bedrock for exposing training needs among workers. The researcher concluded that performance appraisal was minimally used at the hospital which was contrary to having it as a program for monitoring employee performance, motivating them and improving staff morale. Musyoki's study dealt with performance appraisal for all health workers in a single public hospital- Mbagathi, while my study looked at in-service training in public hospitals in Bungoma County.

Marangu and Ogoti(2014) investigated "The Relationship between Pre-Service Training and Service Delivery by the National Police Service in Bungoma County, Kenya" and found a significant and positive relationship between service delivery and pre-service training. Their study was based on pre-service training and the national police service whereas this study focused on in-service training of nurses and service delivery in public hospitals in Bungoma County because the findings of Marangu and Ogoti in the national police service may not be applicable in public hospitals.

1.2 Statement of the Problem

Medics, particularly nurses, operate in an ever changing environment hence continuous in-service training is a pre-requisite for cushioning them to effectively and efficiently

discharge their mandate in their speciality. The drivers of the need for in-service training of nurses include new innovations in the medical field like the Moi University student doctor who invented a one month HIV drugs implanting device and a Kenyatta National Hospital radiologist who invented a radiological operation table for patients with fractures on their limbs and hips, discovery of new vaccines like those for malaria, typhoid, cervical cancer, AIDS among others, emergence of new medical machines like CT-Scan, Dialysis and digital thermometers, DNA digital test kits, development of new drugs for known diseases, the need to embed IT in nursing and outbreaks of unknown diseases like Ebola, Chikungunya at the Kenyan coast, Birds Flu and Mad Cow Disease among many others.

Nassazi (2013) asserted that the active role that employees; the major assets of any organization, played towards a company's success could not be underestimated. Equipping employees through effective training was welcome to maximize their job performance and position them to take on challenges of today's competitive business climate. Pfeifer et al (2011) posited that after schooling, human capital accumulation after entry into the labor market was key to employee performance at both micro and macro level.

Enelga and Imran (2013) argued that developing desired knowledge, skills and abilities of employees to perform well on the job required robust training programs that affected employee morale. Most firms invested in building new skills in their workforce to enable them cope with uncertain conditions that they might face in future, thus improving superior levels of employee motivation and commitment. Eventually when employees notice their organizations' interest in them through offering training programs they finally apply their best efforts to achieve organizational goals. Dysvic and Kuvass (2008) opined that training

improved productivity in employees and the assumption cut across countries and cultural settings.

Debate had been on among professionals and scholars about the effect of training to employee and organizational goals. One school of thought believed that training led to employees turnover while the opponents conceptualize that training was led to higher levels of employee retention and achievement of organizational or hospital goals. This study is in support of the later school of thought.

In Bungoma County hospitals, all nurses were trained yet patients and their relatives rated the quality of service delivery to be average or slightly above average. Average health services was caused by absenteeism, lack of drugs, understaffing, dilapidated health facilities and equipments, endless go slows and strikes among other drawbacks in the Kenyan health sector. Therefore, where is the mismatch between training and service delivery? Nobakht et al.(2002) observed that besides the effort of the medical society and superior modern medical technology, patients' dissatisfaction and complaints had been increased by the available modern information system and better civic education, increased patients and families awareness of their rights about their health and the choice of treatment available. These had encouraged an upsurge of sentinel events between nurses and relatives of patients in public hospitals in recent times.

Healthcare is dynamic and medics cannot rely on the pre-service training to address emerging issues in medical circles of the modern world hence the need for in-service training. These point to the need for this study, **“in-service training and service delivery in public hospitals in Bungoma County, Kenya.”** The constructs of the independent variable were training needs assessment, training methodologies, training evaluation and

dependent variable was service delivery which was measured by timeliness, the number of patients served and reduced patient complaints.

In reference to the studies mentioned in the background of the study, none concentrated on in-service training of nurses and service delivery in public hospitals in Bungoma County specifically.

This study sought to inform nurses and policy formulators and implimentors on how to step up service delivery in public hospitals in Bungoma County and beyond by being timely or more responsive,endeavouring to serve the most number of patients each day and reducing the number of patients complaints.That would be done by manipulating positively the moderating effect of organizatinal factors such as values of local community and the hospital,the size of the hospital, and the culture of the hospital to accelerate effective and efficient nurses' service delivery in public hospital in Bungoma County via in-service training.The study title is, **“In-Service Training and Service Delivery in Public Hospitals in Bungoma County,Kenya.”**

1.3 Purpose of the Study

The purpose of this study was to assess the effect of in-service training and service delivery in public hospitals in Bungoma County, Kenya.

1.4 Objectives of the Study

The specific objectives of the study were:

- (i) To determine the effect of training needs assessment on service delivery in public hospitals in Bungoma County.
- (ii) To evaluate the effect of training methodologies on service delivery in public hospitals in Bungoma County.

- (iii) To examine the effect of training evaluation on service delivery in public hospitals in Bungoma County.
- (iv) To establish the moderating effect of organizational factors on the relationship between in-service training and service delivery in public hospitals in Bungoma County.

1.5 Hypotheses to the Study

Ho1-Training needs assessment had no significant effect on service delivery in public hospitals in Bungoma County.

Ho2-Training methodology did not significantly impact on service delivery in public hospitals in Bungoma County.

Ho3-Training evaluation did not significantly affect service delivery in public hospitals in Bungoma County.

Ho4- Organizational factors had no significant moderating influence on the relationship between in-service training and service delivery in public hospitals in Bungoma County.

1.6 Significance of the Study

The findings of this research will be used by the government of Kenya to improve the effectiveness of in-service training for nurses to realize quality healthcare in the country and by extension the County Government of Bungoma will use the research findings to routinely sponsor in-service training for nurses in the county given the dynamism in this sector. Future researchers will benefit from the findings of this study by using it as a point of reference in their research papers. The thesis will also trigger further research in this field for the sake of formulating policies and implementing them. Citizens will gain from this study by being assured of quality services by being relieved of their pain and suffering

whenever they fall sick for them to remain a productive workforce. The findings will be helpful to Human Resource Managers in policy making and implementation in the health sector.

1.7 Scope of the Study

This research was done in the Ministry of Health at the Bungoma County Referral hospital, the Sub-County health facilities and other major health centers and dispensaries within the county between July and September 2018. The research concentrated on nurses in public hospitals and data was collected between 8.00 am and 7.00 pm. The health facilities were representative samples of the state of affairs of in-service training and service delivery in public hospitals in Bungoma County. In-service training was the independent variable and service delivery the dependent variable. The study population was 798 nurses in Bungoma County out of which a sample size of 196 nurses was selected.

1.8 The Conceptual Framework

Oseno (2012) postulated that conceptual frameworks were divided into two categories; simple and complex conceptual frameworks. On the conceptual framework there are independent, dependent and moderating variables. The independent variable in this study was in-service training and its measures were training needs assessment, training methodologies and training evaluation. These were integral parts of the training process where weaknesses in nurses performance are identified, interventions are formulated through teaching, and an assessment of achievement of objectives is established at the end. Training is the process of teaching nurses the art and science of performing a job in areas that they display identifiable incompetencies or inefficiencies. Training needs assessment is the process of identifying an area of nurses' shortage of skills with a view of inculcating

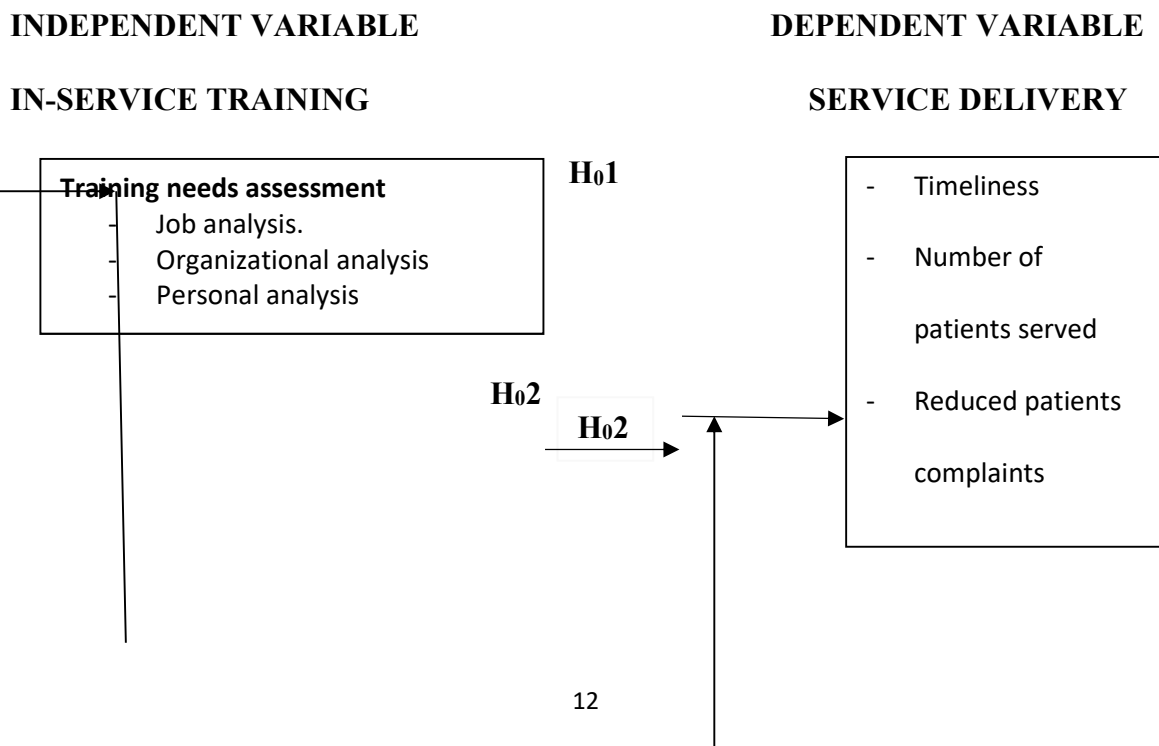
the same in them for better job performance. The components of training needs assessment were job analysis, organizational analysis and personal analysis. Training methodologies are the approaches that a trainer employs to impart the needed new skills in nurses for them to function optimally at the workplace. The components of training methodologies were coaching and mentoring, simulation and internet based training. Training evaluation is how well a training program meets the objective it was intended to achieve by training designers to boost service delivery. The constructs of training evaluation were reaction, learning, behaviour and performance and result and reaction.

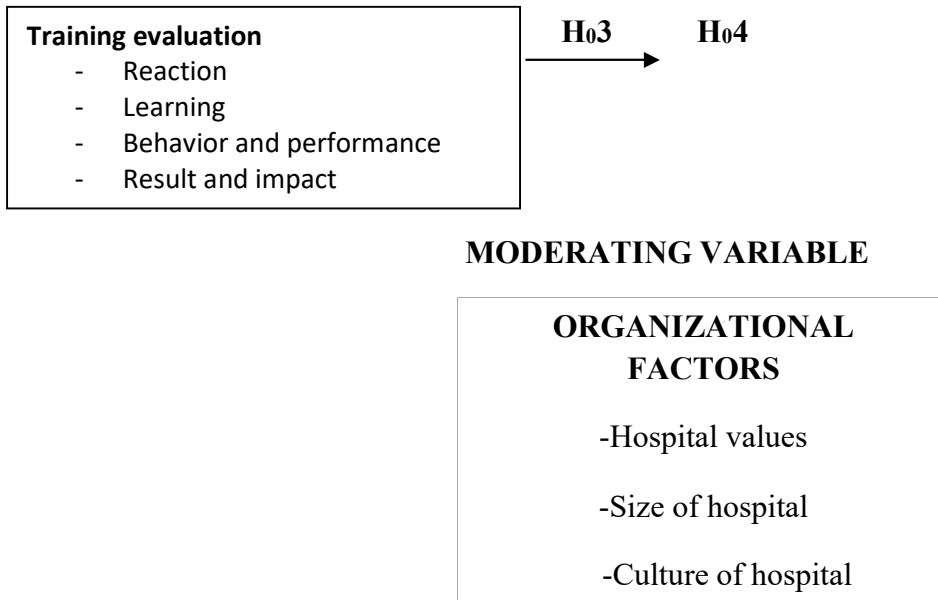
The dependent variable was service delivery and it was measured by timelessness, number of patients served, and reduced patient complaints. Number of patients served is the population of sick people who seek treatment in a public hospital in a day or over a specified period, timeliness is being prompt in meeting and possibly exceeding customers expectations, reduced patients complaints is a decline in cases of harassment or negligence of patients' rights.

In this study, the moderating variable was organizational factors whose measures were values of the hospital, size of hospital and culture of hospital. Hospital values are stable evaluative beliefs that guide our preference for outcome or causes of action in a variety of situations. The size of hospital is the maximum number of patients that a hospital is designed to effectively handle in a day, given the number of medical practitioners available for service provision and other support equipments beyond which the quality of service will be compromised greatly. The culture of the hospital is a system of shared meaning held by members that distinguishes one hospital from other hospitals. Figure 1.1

indicates the relationship between in-service training and service delivery and the moderating effect of organizational factors.

Figure 1.1: Conceptual Framework Showing In-Service Training and its Impact on Service Delivery in Public Hospital in Bungoma County





Source:Author(2018)

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter presents a review of related literature on previous studies on in-service training, service delivery and influence of organizational factors on the relationship between in-service training and service delivery in public hospitals in Bungoma County, Kenya.

2.2 Theoretical background

This study, “In-service Training and Service Delivery in Public Hospitals in Bungoma County” is underpinned by the Human Capital and Operant Conditioning Learning

Theories that were proposed by Becker and Mincer (1964) and Skinner (1939) respectively. Human Capital Theory refers to an accumulation of knowledge, habits, and social attributes like creativity, displayed in the ability to perform labor to produce economic value. Basically it is a store of inborn and learnt characteristics that a worker has that supports his or her productivity. Human Capital Theory reminds us about years of schooling, training, and attitude towards work. The demerit of the Human Capital Theory is that at some point we think every difference in remuneration at the labor market is due to human capital. Sources of human capital include intrinsic ability and schooling and non-schooling investment and training. Training is the component of human capital that workers attain after getting formal education associated with some set of skills useful for a particular industry or a set of technologies.

Firms need to invest in training of workers and end up bearing a large fraction of the cost of the training investments. An organization has a bigger task in training because training is a requisite 'matching' aspect since it is most useful for the employee to invest in a set of selected technologies that the firm will use in future. Training is often a joint venture between firms and its staff. The Human Capital Theory has been criticized by scholars like Micheal Spence (1975) who offered the Signaling Theory as an alternative to Human Capital Theory and Pierre Bourdieu (1986) who suggested the Nuanced Concept. The two critiques indicated that Human Capital Theory is a reified concept without sufficient explanatory power. The Human Capital Theory is relevant to this study because it is concerns accumulation of knowledge, habits, and social personality attributes, including creativity built in the ability to perform labor by a worker like a nurse to produce economic value.

Operant Conditioning is the learning in which reward of behavior produces change in the probability of occurrence of behavior . Operant Condition I made up of three types of feedbacks; positive and negative reinforcements and punishment. Punishments decrease the probability of occurrence of behavior. Proper policies to reward and punish must be formulated and be implemented correctly so as to create trust, credibility reliability and between nurses and management. Rewards to nurses provided better incentives, and motivation than punishment. Rewards include pay rise, promotion, power, time off and awards and punishments involve being assigned work during flexi hour only and no promotion policies after undesirable actions.Hospitals can use Operant Conditioning to build hospital climate and a learning culture.

2.3 Empirical Literature Review

2.3.1 Training and Development

The term training has attracted serious discussion among professionals and scholars. Dessler (2008) defined training as the process of equipping new employees with basic skills they need to perform their job.Shaheen et al. (2013) took it to mean a systematic formation of attributes required by employees to serve adequately in confirmed tasks or jobs.Elnaga and Imran (2013) on their part stated that training are programs that provide workforce with information, new competencies or opportunities to scale the professional ladder. Development focuses on activities that are an integral part of an employee and may partake in the future.Pfeifer et al. (2011) posited that next to schooling, human capital accumulation

after entry into the labor market is key to economic performance at both micro and macro level.

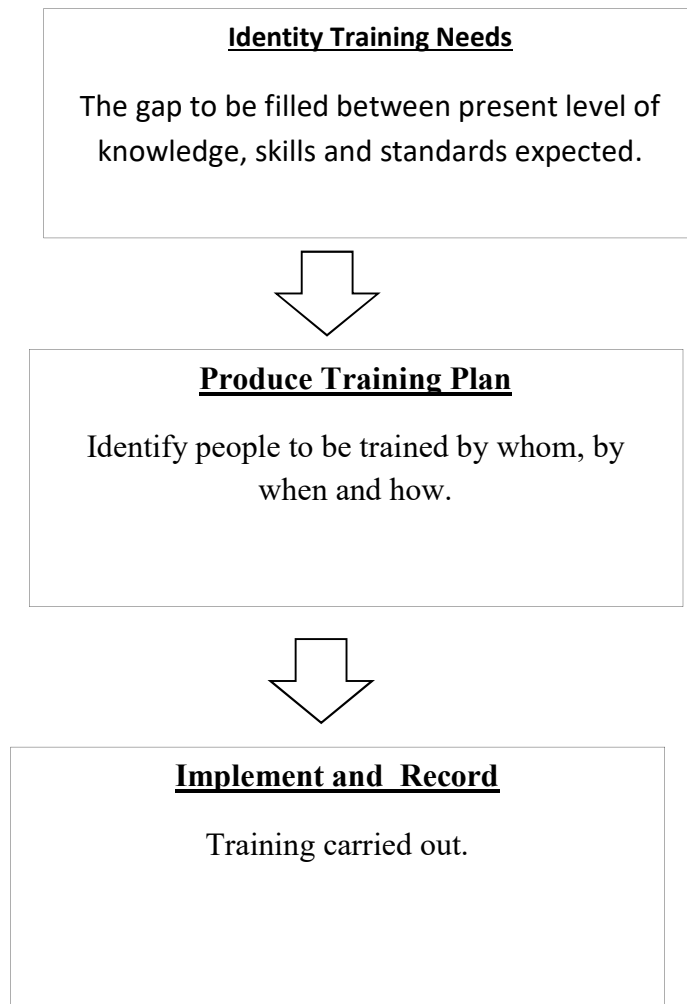
Enelga and Imran (2013) urged that developing desired knowledge, skills and abilities in employees to perform well on the job called for effective training programs. The two researchers established that organizations provided training to optimize their employees' potential so as to prepare them for their jobs as desired. They also noted that many firms apply long term planning, invest in building new skills in their workforce to enable them cope with the uncertain conditions of the future and encourage superior levels of employee motivation and commitment. When employees recognize their organizations' interest in them through offering training programs, they in turn apply their best efforts to achieve organizational goals.

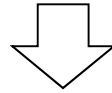
Amin (2013) opined that training is critical in achieving an elastic, motivated and committed workforce. The "UN Handbook of competencies" (2009) posited that in "In Building the Future" the organizations' greatest strength and key to success was the quality of staff and managers. Hence the UN needed to create an organizational culture of employee training and an enabling environment for the staff to contribute to maximum potential. Kanu (2014) observed that capacity building eliminated employee weaknesses, caused improvement in work performance, created consistence in performance of duty, ensured employee satisfaction, increased productivity, improved quality of services and products, reduced cost and supervision.

Hogarh, (2012) asserted that training was important despite the level of education that an employee had attained in his or her life. An organization that combined its strategy and training and development had a good business sense. Recruiting, retaining and training and

developing the right and talented people gave an organization a competitive edge over its competitors. Marchington and Wilkinson (2006) averred that a learning event was based on the training process system involved establishing needs, agreeing on the overall purpose and objectives, identifying the profiles of the intended learning population, selecting strategy, designing the event delivery and monitoring and evaluation. The systematic training cycle is indicated below.

Figure 1.2: The Training Cycle





Evaluate Training Needs

Against original needs identified.

Source:Kirkpartrick(2006)

This study focussed on training needs assessment, training methodology and training evaluation as constructs of in-service training which was the independent variable.

2.4 Training Needs Assessment and Service Delivery

Bernadine (2010) stated that a training need assessment is a systematic, objective determination of training needs that incorporated organizational, job or operational and individual or personal analyses. It was also essential to analyze organizational external and internal climate, trends in the strategic priorities of business, judicial decisions, civic rights laws, union activities, employees, productivity, accidents, turnover, absenteeism and on-the-job behavior of employees to get relevant information at these level. The critical first step was to relate training needs to the achievement of key strategic business objectives. Training need assessment helped managers to note any discrepancy between what is desired and what exists. However, performance discrepancies should not automatically be

interpreted to mean need for training. The analyst must determine whether it is a skill or knowledge discrepancy, thus requiring training. If the skill is present and performance is lacking, then the problem might be motivational in nature and needed other types of organization interventions like a new reward or discipline system.

Organizations that conducted need analyses were better in using the results in designing and evaluating training programs. Many companies relied on very detailed surveys of the workforce to determine training needs as part of planning. Motorola and IBM, for example, conducted annual surveys that assessed particular training needs of the company's short-term and long-term goals. The review of the short-term and the long-term goals of the organization and the trends that might affect them are meant to channel training towards specific issues of importance to the firm like international expansion, improved satisfaction and increased productivity.

Many scholars have undertaken researches on training. The internet is awash with such studies, for example, Ghufli (2012) studied, "Training Needs Analysis: An Empirical Study of the Abu Dhabi Police" and aimed at understanding the role of existing training needs assessment, the factors that affected the process of identify the needs and the impact of that on improving organizational performance. They concluded that training needs analysis was the most important step of all steps in the training cycle hence needed to precede any training intervention. The study failed to cover a County in Kenya apart from being anchored in the police service and not the health sector.

Kyeretwie(2012) in, "An Assessment of the Effect of Training Practices on Employee Skill Development: A Case of Electricity Company of Ghana- Ashanti East Region noted that the electricity company of Ghana had a training policy that was not accessible to

employees, training practices did not follow any systematic scientific process and that employees performance had increased due to acquisition of expertise through training. This work regards public hospitals unlike the former which was biased toward the energy sector of the economy .The former was only interested in employee development and not in-service training.

Nassazi (2013) examined the“Effect of Training on Employee Performance; Evidence from Uganda. The goals of the study were identifying the training programs in the telecommunication industry, the objectives of the training offered, the method employed and the effect of training and development on employee performance. The study nested that training and development had impact on employee performance on the jobs, training programs were relevant and most employees were trained under the compulsory practice of the company for all employees. Nassazi’s study was based on the telecommunication industry in Uganda and it used one hundred and twenty respondents while this study is based on the health sector in a County in Kenya and had one hundred and ninty six nurses in public hospital as respondents.

Wanjau, et al. (2012) undertook a study about,“Factors Affecting Provision of Services Quality in the Public Health Sector: A Case of Kenyatta National Hospital” and found that low employees capacity, low technology adoption, ineffective communication channels and insufficient funds affected the delivery of service quality perceptions, patients’ satisfaction and patients’ loyalty in the public health sector.Wanjau focussed on factors hindering service quality in KNH while the current study,dealt with in-service training of nurses as a means of improving service quality in public hospitals in Bungoma county,Kenya.

Ejakait (2016) investigated, "Effect of Training Needs Assessment in the Postal Corporation of Kenya, Bungoma County and revealed that the organization did not carry out training needs assessment before developing training programs and selecting employees for training. Ultimately, employees were not sure whether their performance was reviewed and how they were considered for training. The target population was 120 employees and 4 departmental heads. Ejakait's study used a population of 50 employees and a survey research design however this study used a correlation design and a study population of 196 nurses in 42 public hospitals in Bungoma County.

2.5 Training Methodology and Service Delivery

Training addresses gaps between an ideal and an optimal stage of employee development. Comparison between desired and actual work methods lead to a discovery of training needs in employees performance of the job. Dessler (2005) averred that training should commence after determining the employees to receive it and what their current levels of knowledge and skills are. An assessment of the individual would indicate the range of skills and knowledge that is to be acquired. The difference between actual performance and required performance was the training gap would show the extent of training needed. There are two main types of training methods namely: On-the-job and off-the job. On-the-Job training involves new and inexperienced employees learning by observing peers or managers perform the job as they imitate their behavior. This method does not cost much and is less disruptive as employees are always on the job, the trainee is given the same machines, experience will be on already approved standards and above all the trainee learns while earning. Conversely, off-the-job training methods are conducted in separate places from the job environment, study materials are supplied, there is full concentration of

learning rather than performance and there is freedom of expression. This study featured coaching and mentoring, simulation case study and internet based training.

2.5.1 Coaching and Mentoring

Dessler (2005) observed that coaching was a case of an experienced worker training an employee and the employee learnt from the worker by observing or a trainer showed the employee the basic procedures of what was done in the organization. In some organizations each manager got the opportunity to have a face to face or telephone coaching from a qualified life coach. According to Laird, et al. (2003) coaching and mentoring provided an internal answer to employees and an individual's training needs since it could be personalized and there was more validation if the coach or the mentor was the employee's immediate boss or superior. Landale (2000) posited that mentoring was when an experienced staff member provided help and support to a less experienced colleague in order to improve his or her job performance. Johnson, et al. (2005) asserted that coaching and mentoring were used to support self-development and were important skills for individuals if their organizational strategies were changing and developing constantly.

2.5.2 Simulation Case Study

Kanu (2015) indicated that simulation was an artificial environment exactly similar to the actual situation. Case studies are complex examples which give an insight into the context of the problem and they illustrate the main points. Case studies are trainee-centered activities based on topics that demonstrated theoretical concepts in an applied setting. A case study allows the demonstration of theoretical concepts thus bridging the gap between theory and practice, it encourages active learning, provides an opportunity for the

development of key skills such as communication, group working and problem solving, increases the trainees' enjoyment of the topic and so up scales their desire to learn.

2.5.3 Internet-Based Training

Landale (2000) postulated that with access to web-based communication over company intranets or through the internet, training had been made available to staff at their own work stations. With this, specific programs are designed for the employee to shape up his/ her expertise in a chosen career. Dessler (2005) argued that in many organizations, employees took online courses offered by online course providers such as Click2Learn.com and others used their proprietary internal internets to facilitate computer-based training. This helped the employee to keep in touch with everything that went on in business. Programs were designed such that one could learn at his/her own pace and time and take control of their own development. Employees were also given the opportunity to branch into professional qualifications as time went on and they were able to develop their leadership capacity.

In 2007 AMREF set up a Virtual Nursing School (AVNS) so as to experience directly the e-learning program. AVNS was both a laboratory and an incubator for the ongoing experience of e-learning in Africa. The e-learning initiative for upgrading nurses in Kenya was expected to go beyond the lifetime of the original project with permanent stakeholders taking ownership. Nguku(2009) stated that evaluation by the nursing council of Kenya (NCK) of the upgrading program as a whole found that it had a positive impact on the provision of healthcare services by improving knowledge, skills and attitudes.

Maina (2009) and Mbindyo (2010) also postulated that evidence of the AVNS program impact on health and development was enormous and covered equipping nurses with knowledge to address emerging and re-emerging diseases, many new nurses being re-

designated by their employers after acquiring ability to head nursing units and take part in research, providing nurses with opportunities for promotion and enhancing potential for employment because most private hospitals did not employ certificate nurses, an increase in salary award to registered nurses, nurses using their own initiatives and not always waiting for instructions from doctors, questioning diagnosis and generally providing holistic care.

Scholars who had explored the field of training methodology included Degraft (2012), Githinji (2014) and Al-Mzary, et al. (2015). Al-Mzary (2015) investigated, “Training and its Impact on the Performance of Employees at a Jordanian University from the Perspective of Employees: The Case of Yarmouk University” using administrative leaders and administrative employees and concluded that performance was related to training needs of the employees to a medium degree, several conditions determined the selection of eligible employees for training and there was a relationship between effective training and employee’s job performance. This study concerned the health sector and nurses in particular and not a university and its administrative leaders and employees. It is also based on an African situation as opposed to the Arabian point of view.

Degraft(2012) studied, “The Effect of Training and Development on Employee Performance at Accra Polytechnic” and established that training and development had an impact on Accra polytechnic employees but lack of management support for training and development issues hindered training and development. Degraft’s study never included in-service training and it focused on the education sector. This study is about in-service training and service delivery in public hospitals in Bungoma County.

Githinji (2014) interrogated the, “Effect of Training on Employee Performance: A Case of United Nations Support Office for East African Union Mission in Somalia” and revealed that training enhanced employee engagement in change process, increased employee engagement, up scaled innovation, increased employee performance and enthusiasm to work for an organization and aligned employee to organization goals and enhanced positive leadership traits in the organization’s leaders. Githinji used a survey research design on a study population of 144 staff of the organization while this study utilized 196 nurses and a correlation research design.

2.6 Training Evaluation and Service Delivery

This is the last stage of the training process but it is the most critical. Evaluation is the assessment of value or worth of an activity in terms of some criterion of value in light of available information. In training and development, evaluation is the measurement of the value of a training program together with the collection and analysis of data to facilitate the assessment. Evaluation is an analytical process involving collection of data from all or some phases of the training program and ends with the compilation of a report about the training program under review.

Hamblin (2009) defined evaluation of training as an attempt to obtain feedback on the impact of the training programs and assessing the value of training in light of that information for the sake of strengthening it further. The purposes of evaluation include confirming needs assessment tools, revising the solution alternatives, reviewing training strategies, determining participants reactions, assessing acquisition of knowledge and attitudes, assessing trainee performance and determining if organizational goals were met.

Kirkpatrick (2006) proposed a four level model of training evaluation. Kirkpatrick emphasized that every level is very important and had an impact on the next level. At the reaction stage, the designer or trainer assessed how well the nurses reacted to or liked the program because people learn better when their attention, interest and motivation was positive to the learning environment.

The second level entailed interrogating the knowledge (principles, facts, techniques) that nurses learnt in the program and the extent to which nurses changed attitudes, improved knowledge and increased skills after participating in the learning process. Learning evaluation needs post-testing to know the skills learnt during training. Also a pre-test is done to differentiate between what they already knew prior to learning and what they actually learnt during training.

Behavior or Performance; the third level examined if the positive changes in nurses' job behavior stemmed from the training program. Whether nurses could perform and produce the needed results in the working environment.

Result and Impact was the last level involving establishing whether application of learning was achieving results by measuring the training programs effectiveness in order to know the impact the training was achieving in the working environment.

Researchers have committed a lot of time and effort in studying training evaluation. Some of the researchers include: Khan et al. (2016), Sohail et al. (2014), Hafeez & Akbar (2015), Mohamud (2014) and Beyazen (2011).

Hafeez & Akbar (2015) studied, "The Impact of Training on Employee Performance: Evidence from Pharmaceutical Companies in Pakistan" based on the opinion of 256 employees and revealed that, the companies had to set up and implement an advanced

roadmap for training as it enhanced employee performance. It also would built skilled and motivated employees which would translate into superior performance. The two recommended that management training needed to be done regularly, evaluation of training programs to ensure they met employees desires for them to guarantee success of the training courses and training needs assessment was to be done for the companies to find training objectives. The study was predicated on pharmaceutical companies, it had unique objectives and away from Africa hence different from the current study “In-Service Training and Service Delivery in Public Hospitals in Bungoma County, Kenya.”

Sohail (2014) in, “An Assessment of the Impact of Training and Development on Employee Performance: A Case Study from Different Banking Sectors of North Punjab” indicated a significant positive relationship between employee performance and employee training and development. The objectives were to observe the impact of training and development on employee performance, to observe the impact of job training on employee performance and to see the impact of delivery style on employee performance. This study had completely different objectives. Sohail used one hundred employees from 11 banks whereas this study utilized 196 public hospitals’ nurses and 42 public hospitals in Bungoma County.

Mohamud(2014) investigated, “The Effect of Employee Performance in Public Sector Organizations in Kenya: The Case of NHIF – Machakos County.” The author had four objective namely to assess training and its relationship with employee performance, to determine the effect of training design on employee performance, to evaluate the impact of training programs on performance and to explore the challenges that affected employee

performance. This is a departure from the objectives of this study which was based on Bungoma County and not Machakos County inasmuch both dealt with the health sector.

2.7 Organizational Factors and Service Delivery

2.7.1 Culture of the Hospital and Service Delivery

William and Farrell (2011) described culture as the accumulation of values, knowledge, beliefs, customs, objects and concepts that a society uses to cope with its environment and passes them on to the future generations. Culture encompassed core values and the degree of acceptability of a variety of behavior in a specific society.

Robin and Judge (2013) defined organizational culture as a system of shared meaning held by members that distinguishes the organization from other organizations. Schulte (2009) argued that a strong culture reduced employee turnover, because it demonstrated a high agreement about what the organization represents. Such unanimity of purpose employee cohesiveness, loyalty and organizational commitment and lessened employee propensity to leave. The scholar advanced an argument that high formalization created predictability, orderliness and consistency. The stronger the organizational culture, the less management needed to be concerned with developing formal rules and regulations to guide employees behavior.

Schulte (2009) proposed that organizational culture created distinctions between one organization and the other, conveyed a sense of identity for organization members, facilitated generation of commitment to something larger than individual self-interest. It also stabilised the social system as the social glue that helped hold the organization together by providing good standards for what employees should say and do. Lastly, it was

a sense making mechanism that guided and shaped behavior by defined the rule of the game.

Robert and Angelo (2010) opined that there were four types of organizational culture namely clan, adhocracy, market and hierarchy cultures. Clan culture had an internal focus and valued flexibility than stability and control although effectiveness was achieved by encouraging collaboration between employees . The culture was “employee focused” and strived to instil cohesion through consensus, job satisfaction and commitment via employee investment. Clan organizations commit a lot of resources to hiring and developing their employees and view customers as partners.

Robert and Angela (2010) observed that adhocracy culture had an external focus and valued flexibility. The culture fostered creation of innovative products and services by being adaptable, creative and responsive to variations in market forces. It did not rely on centralized power and authority but motivated employees to take risks, think outside the box and trying the new ways of getting things done. The culture is good for startup companies, those in dynamic industries and those in mature industries that need innovation to accelerate growth. Market culture had a strong external focus and valued stability and control . Organizations with this culture were driven by competition and a strong desire to deliver results and accomplish goals . Since that culture focused on the external environment , customers and profit took precedence over employee development and satisfaction . The major goal of the manager was to drive toward productivity, profit and customer satisfaction . Employees were expected to react fast , work hard and deliver quality work on time . Organizations with this culture rewarded people who deliver results.

Hierarchy culture had control as the driving force and an internal focus that produced a more formalized and structured work environment. It valued stability and control over flexibility. This culture stimulated development of control mechanisms. Companies using hierarchy culture mostly apply total quality management programs. Effectiveness in a company with hierarchy culture could be assessed with measures of efficiency, timeliness and reliability of producing and delivering products and services.

Gladder (2009) posited that the symptoms of organizational culture were manifested in acronyms, manner of address, awards, myths and stories about organization, published list of values, observable rituals and ceremonies, special parking spaces, decoration and physical behavior exhibited by people and groups.

Eleni, et al. (2019) in, "Healthcare Providers Organizational Culture Profile: A Literature Review." sought to establish a synthesis of the literature review of organizational culture and assess whether a single dominant organizational culture existed in public hospitals. The scholars used an electronic search in four databases and utilized twelve studies. They concluded that an association existed between organization culture and healthcare performance but some of the relationships were weak. On the contrary, this study used a correlation design and a sample size of 196 nurses in public hospitals in a single County in Africa.

Ping, et al. (2011) studied, "Organizational Culture and its Relationship with Hospital Performance in Public Hospitals" and concentrated on the perception of organizational culture among employees of public hospitals in China and determining whether perceptions are associated with hospital performance. Data was derived from hospital employees and patients from 87 Chinese public hospitals. The researchers used factors and multivariate

analyses of employees perception of culture and hospital performance. The outcome of the research was that employees perceived the culture of Chinese public hospitals as strong in internal rules and regulations and weak in empowerment. Hospitals where employees perceived that the culture emphasized cost control were more profitable and had high rates of out-patient visits and lower levels of satisfaction. The researchers opined that managers in Chinese public hospitals should consider whether the culture of their organization will enable them respond effectively to the changing environment. This study had an absolutely reversed perspective of organizational factors which were the size of hospital, number of patients served and reduced patient complaints. Furthermore, this study was based on a county in Kenya and not a developed nation like China.

2.7.2 Values of the Hospital and Service Delivery

Meglino and Ravin (1998) defined values as a stable, evaluative belief that guides our preferences for outcomes or causes of action in a variety of situations. Values are moral compasses that direct our motivation and potentially our decisions and actions. According to Schwartz (1992) values are categorized into two groups namely espoused and enacted. Espoused values had five key components which were concepts of beliefs pertaining to desired end behaviors, transcend situations, guide selection and/or evaluation of behaviors and events and are ordered by relative importance. Espoused values represent the clearly stated values and norms preferred by the organizations that were established by the founder of a new company or the top management in a large organization. A perfect example of an espoused value in the modern world is sustainability- making profit without sacrificing the resources of people, the community and the planet or fundamentally it is about being green. Espoused values are explicitly communicated to employees. Managers always hoped that

the values directly impacted employees' behavior but regrettably people did not always "walk- the-talk."

On the contrary, enacted values in the opinion of Schwartz (1992) were values and norms that were actually translated into employee behavior. They were the values that employees displayed in an organization based on their observation of daily occurrences. It is important for managers to reduce immensely the gaps between espoused and enacted values because they greatly influence employee attitudes and organizational performance.

Kaptein (2008) in a survey administered by the Ethics Resource Centre showed that employees behaved ethically when management's conduct set a good ethical example and kept its promises and commitment. The HR Magazine (2003) in a study of 7500 employees from four continents revealed that employees did not trust senior management because their speech and actions were antagonistic. This discrepancy affected employees' satisfaction, performance and turnover it showed that their values were not aligned to the organization's values. There was need for organizations to use innovative methods in the hiring process to ensure a match between applicants' and organizational values. Rocass et al. (2002) observed that personality could be linked to values, meaning our values may partly be determined by our genetically transmitted traits.

Micheal, et al.(2013) asserted that in healthcare, the overarching goal for providers together with every stakeholder, was improving value for patients, where value was the health outcomes that matter to patients relative to the cost of achieving those outcomes. Embracing the goal of value at the senior management and board level is essential, because the agenda requires a radical departure from the past.

Mattila, et al.(2014) studied ,”The Effect of the Primary Nursing Care Model:A Systematic Review” and found that no data was available on how the primary nursing model affected the patient’s family members and the care organization.Preliminary evidence suggested that the primary care nursing model might have had beneficial effects for patients in the context of maternity care although it was also possible that the model contributed to increased sense of job control and autonomy.The sources of data were four databases using an electronic literature review design.The objective was to describe the effect of the primary nursing care model to patients,their family members,nursing staff and the care organization.This orientation is contrary to that of this thesis because i used primary data from questionnaires, had four objectives as opposed to one and i dealt with in-service training but not a practice model.

2.7.3 Size of the hospital and Service Delivery

Choi (2017) focused on investigating determinants of government subsidy in the U.S healthcare industry especially the Medicaid Disproportionate Share Hospital (DSH) program. Medicaid DSH payment was a form of subsidy and reimbursement from Medicaid, paid to hospitals that treated a large share of Medicaid and uninsured patients to compensate the cost of providing care. The Medicaid DSH program was intended to sustain hospitals with a large share of Medicaid and uninsured patients. However, the Affordable Care Act (ACA) was supposed to reduce the amount of federal contribution to the Medicaid DSH program because ACA reduced the uninsured population through Medicaid expansions. Hospitals in states that had not expanded Medicaid eligibility were experience huge reductions in Medicaid payments raising concern about their future financial stability.

Medicaid DSH payments varied significantly across states. The federal government determined DSH payments as a function of key statistics such as Medicaid inpatient utilization rates and costs of uninsured patients care. Urban and southern states of the USA differed significantly from other states in alternative dimensions. Hospitals in urban states were larger than those in other states. Vogt and Toron (2006) noted that southern states had the strongest degree of hospital concentration and the period of rapid increases in DSH payments of the 1990's concurred with a wave of hospital mergers and acquisition.

Chai and Lim (2017) revealed that large hospitals, where size was measured by the number of beds, received a significantly large amount of Medicaid DSH payments per bed, compared to small hospitals. However, this relationship held only for government hospitals in urban and southern states of the USA. Large government hospitals had a higher share of Medicaid and uninsured patients care costs subsidized by Medicaid DSH payments. This advantage of large government hospitals was neither driven by the magnitude of their Medicaid and uninsured costs itself nor the high cost services they provided to their community but DSH payments schedules themselves favored large government hospitals in urban and southern states.

Compared to large private hospitals which had a relatively large pool of financially endowed patients with private insurance, large government hospitals experienced financial disadvantages. Therefore, a DSH payment scheme that favored large government hospitals counterbalanced disparities across hospitals in their capacity to cross-subsidize Medicaid and uninsured patients with that of private insurance. Hence the welfare implication of large government hospitals' advantage in the DSH payment contrasted with private hospitals' advantage of contracting private insurance. Large private hospitals had

bargaining power but patients' welfare was compromised due to high prices. Large government hospitals, on the other hand, had an advantage in DHS payments such that patients' welfare for those enrolled in Medicaid, was potentially enhanced.

According to Gallagher Healthcare(2018) there were three primary classifications of hospital size based on the number of beds they had although there could be variations within the groups of the same hospitals and medical centres. Small hospital had less than one hundred beds, medium hospitals had between one hundred and four hundred and ninety nine beds and large hospitals had over five hundred beds.

GoK(2014) in, "National Health Sector Strategic Plan II of 2008-2010" Kenyan public hospitals were categorised in six levels namely level 1- community medical centres, level 2- dispensaries, level 3 - health centres, level 4 - district referral hospitals, level 5 - provincial referral hospitals and level 6 - national referral hospitals. After the new constitution came into effect in 2010 the government formulated, "The Kenya Health Sector Strategic Plan III of 2012-2017" which introduced tiers instead of levels in public hospitals classification. Tier 1 included community medical centres, tier 2 concerned primary care level, tier 3 county level and tier 4 national level. Tiers 1 and 2 which were community medical centres, dispensaries and health centres provided promotive and preventive health services to the public whereas tiers 3 and 4 delivered curative services in sub-counties, counties and the nation as a whole.

2.8 Service Delivery in Public Hospitals

Dean and Lang(2008) noted that in Kenya, health services are provided through a network of over 4700 health facilities countrywide with the public sector system accounting for about fifty percent of these facilities. The public health sector had national referral

hospitals – Kenyatta National Hospital (K.N.H) and Moi Teaching and Referral Hospital (M.T.R.H), County hospitals, Sub- County hospital, health centers and dispensaries. Dispensaries were the first line of contact with the patients, and health centers offered preventive and curative services mostly adapted to local needs. Dispensaries covered a wide range of preventive health measures, a primary goal of the health policy. County and Sub- County hospitals(the focus of this study) concentrated on delivery of curative healthcare services in the County and Sub County.

Wanjohi and Wangai (2012) indicated that quality was a relative and if the inherent characteristics of a service met the requirements of the customer, then it was rated as high quality. According Tam (2005) quality in healthcare comprised of newer technology, newer and effective medication, and higher staff to patient ratio, affordability, efficiency and effectiveness of service delivery.

Dean and Lang (2008) argued that healthcare service quality could be broken into technical and functional quality. Technical quality in the healthcare sector was the technical accuracy of medical diagnoses, the procedures and conformance to professional specifications. Functional quality on the other hand, was the manner in which the healthcare service was delivered to the patient. Wambugu and Wangai (2008) attempts had been made to improve the situation but it seemed much had not been fulfilled in raising the quality of the services in the public sector in Kenya.

Mosadeghrad (2013) defined quality as consistently delighting the customer by providing products and services of the latest functional specifications which met and exceeded the customer's explicit and implicit needs and satisfied the producer or provider. Healthcare service quality was more difficult to measure than any other sector. Distinct healthcare

industry characteristics like intangibility, heterogeneity (different professionals doctors and nurses delivered the service to the patients with varying needs and factors such as experience, individual abilities and personalities differ) and simultaneity made it complex to measure quality. Healthcare service is an intangible product and could not be physically touched, felt, viewed, counted or measured like manufactured goods. McLaughlin and Kaluzny (2006) asserted that quality healthcare included characteristics such as availability, accessibility, affordability, acceptability, appropriateness, competency, timeliness, privacy, confidentiality, attentiveness, caring, responsiveness, accountability, equity, amenities and facilities.

Ndambuki (2013) confirmed that quality healthcare was the care that fitted one's needs and preferences, did not cause harm, was right for one's illness, and was given without unnecessary delay. It was also the kind of care which included only the medical tests and procedures one needed, was fair and was not affected by such forces as gender, language, color, age and income. Flynn et al. (2009) asserted that to give a high quality care, nurses were expected to be kind, joyful, warm, polite, understanding and featuring clinical competence to patients. Janice and Celia (2005) posited that as we moved into the 21st century, provision of health care needed to become cost-effective, cost efficient and accountability would be the hall mark of the first decade. The authors noted that a balance among cost of care, quality of care and patient satisfaction was to be achieved.

2.8.1 Timeliness as a Measure of Service Delivery in Public Hospitals

Alan and Robert (2009) proposed that trainers must find ways of providing learning opportunities on demand or what had come to be known as just in time (JIT) learning. Just in time learning was the capacity to provide learning and training opportunities when they

were needed and where they were needed. To do that trainers had to find new and innovative ways to design and deliver training. Trainers were facing increasing pressure to deliver training programs at an increasingly rapid pace because of the fast change processes in organizations. Trainers did not have much time to design and deliver training programs to employees who increasingly needed to obtain new knowledge and skills immediately. Trainers had to find new and innovative ways to design and deliver training. The role of trainers had evolved into more of knowledge structuring learning, facilitation and support.

Boehle (2005) stated that there was a modern software that used a template approach to develop courses and easy-to-use interfaces that guided trainers through the courses development process. This approach was called rapid e-learning which referred to the developmental software that allowed organizations to develop e-learning more quickly and at a lower price than the conventional e-learning development tools. Just in time learning used technology to deliver training to unlimited number of trainees very quickly. Organizations had discovered that they needed to provide training often to an increasing number of employees hence the need to use approaches that are timely and cost effective. According to the GoK (2001) successful technology strategy that needed to be adopted by hospitals involved four main commitments: a willingness to invest in IT, working with physicians and others to customize an information system that could meet their specific institutions' needs and cultures, nurture and encourage buy-in so new systems that could be used and their benefits would be realized and diversifying information technology systems that produced real-time feedback to providers as they cared for patients.

Kirimi, et al. (2001) noted that the main ingredients of real time system involved its timelessness and that hospitals wanted to develop a system that allowed all healthcare providers to have access to relevant information as soon as it was available. To that end, the three scholars opined that hospitals were adopting applications that reduced time lags in getting laboratory and imaging results.

Sun and Shibo (2005) urged that whether an information system was homegrown or purchased off the shelves, it needed to be customized to incorporate and meet the particular needs and circumstances of the hospital. Singh and Ranchord (2004) asserted that customizing purchased or homegrown IT was not a one-time process, but one that needed to engage clinicians and administrators to adopt and refine the system over time. Tam (2005) stated that hospitals prefer systems that deliver information on test results, history, and health status while providers are testing patients so that treatment decisions can be made based on the latest information. Rust and Truck (2006) indicated that hospitals placed emphasis on getting the right information to the right people at the right time, resulting in demonstrable quality improvement. The quality and timing of information should be tailored to the needs of decision makers.

Muhammad,et al.(2017) in a study entitled,Service Quality Assessment of Hospitals in Asian Context:An Emprical Evidence from Pakistan” gathered data using questionnaires in nine public hospitals.The researchers concluded that the five dimensions of SERVQUAL namely reliability,tangibility,responsiveness,emphathy and assurance were valid in Asian countries hence healthcare authorities like managers,practitioners and decision makers could bring substantial changes within hospitals.This was the contrast of

the current study which had separate objectives, measures of service quality and moderating variables. This study also was in an African set up as opposed to an Asian background.

Irfan, et al. (2011) examined “Comparison of Service Quality between Private and Public Hospitals: An Empirical Evidence from Pakistan” using 320 respondents of Lahore city. The objective was to compare quality of healthcare services provided by the public and private hospitals to gain patient satisfaction in Pakistan. Five service quality dimensions of empathy, tangibility, assurance, timeliness and responsiveness were utilized and the conclusion was that private hospitals provided better quality services to patients than public hospitals. This orientation isolates my research from Irfan’s in terms of location, objectives and service quality dimensions.

2.8.2 Number of Patients Served as a Measure of Service Delivery in Public

Hospitals

Department of Health and Human Services-USA (2017) argued that for more than 50 years, health centers had delivered affordable, accessible, quality and cost effective primary healthcare to patients regardless of their ability to pay. Health centers had become an essential primary health care provider for America’s most vulnerable population by advancing a model of coordinated, comprehensive, patient-centered care, coordinating a wide range of medical, dental, mental health, substance abuse, and patient support services. Upto 2017, nearly 1400 health centers operated more than 10,400 service delivery sites that provided care in every U.S state including the District of Columbia, Puerto Rico, the US Virgin Island and the Pacific basin.

Health centers delivered care to the nation’s most vulnerable populations, and by 2017, more than ever, the nation’s veterans. Nearly 26 million people -1 in 12 nationwide- relied

on a HRSA-funded health center for affordable, and accessible primary healthcare which included: 1 in 3 people who lived in poverty nationwide, one in six people who lived in rural communities, one in ten children, 17 years or younger nationwide, more than 330,000 veterans –a 14 percent increase from 2014-which was expected to increase as more health centers participated in the Veterans Choice Act.

Health centers focussed on integrating care for their patients across the full range of services; medical, oral health, mental health, substance abuse, and vision services. Health centers also delivered crucial health services such as case management, transport, and health education to enable vulnerable population to access care.

In 2016, health centers continued to function as leaders in quality health care. Nearly all (99.6 percent) health centers demonstrated improvement on one or more clinical quality measures, which included exceeding the national average in key diabetic and hypertension measures as 68 percent of health centers’ patients had their diabetes controlled (national average was 55 percent) and 62 percent of hypertensive patients had their blood pressure controlled (the national average was 53 percent.)

Between 2001-2016, the health center program greatly expanded in response to the need for affordable, high quality and comprehensive primary health care services in underserved communities. Health centers increased the total number of patients served by more than 150 percent (15.6 million additional patients) that period.

Table 2.1: Number of health center patients in USA

Year	Population
2001	10.3m
2006	15.0m

2011	20.2m
2016	25.9m

Source: Department of Health and Human Services-USA(2017)

Peter, et al. (2014) in, “Empirical Investigation of Service Quality in Ghanaian Hospitals” aimed at assessing the service quality in hospitals located in the greater Accra region of Ghana using a cross-sectional design and a modified SERVQUAL questionnaire as a data collection tool. The sample size was 400 out-patients and analysis was done by descriptive, exploratory factor analyses and multiple regressions. The findings were that empathy was the best important predictor of service quality, affordability and tangibility were the most significant predictors while responsiveness and assurance were the less significant predictors. This point of view was a complete departure from the orientation of my study.

Sofia, et al. (2016) researched about, “Patient Satisfaction with the Healthcare System: Assessing the Impact of Socio-Economic and Healthcare Provision Factors” by means of 31 countries between 2007-2012 and a patient satisfaction index of their country’s health system. The objective was to study the relationship between patient satisfaction of healthcare system and a set of socio-economic and healthcare provision factors. The study showed that there was a strong positive association between patient satisfaction level and health provision indicators like nurses and physicians but physicians were the most important contributors. There was also an association between patient satisfaction level and

the number of hospital beds. Socio-economic factors like public health expenditures greatly shaped and positively related to patient satisfaction. This approach was not in tandem with the perspective in the present study.

2.8.3 Reduced patients' complaints as a Measure of Service Delivery in Public

Hospitals

Nobakht, et al. (2002) noted that despite the effort of the medical community and healthcare staff along with advancements in medical technology, patients' dissatisfaction and complaints had been increased in modern days because of the available modern information system and better public education, increased patients and families awareness of their rights about their health and the choice of treatment available. Montini, et al. (2008) stated that a complaint was a dissatisfaction symptom which needed attention, response and was recognized as a valuable source of information about the quality of the current service delivery process. On the other hand, the Dublin Dental School and Hospital (2007) defined a complaint as an official written or verbal statement by a patient which was not reconciled in the beginning.

WHO (2000) posited that Patient complaints are a way of increasing the quality of care, improving physicians' attention and knowledge, increasing patients satisfaction, reducing medical costs, and eventually preserving the sanctity of the medical society. College of Physicians and Surgeons of Alberta-CPSA (2012) averred that a hospital had a pivotal role of improving the physical and mental health of the community in its strategy but personnel and organizational errors were unavoidable despite the great efforts of the hospital staff. Errors and adverse events occur and lead to patients' dissatisfaction. Ebrahimipour, et al. (2013) established that a total of 233 complaints were reviewed, of which 46.35

percent, 31.34 percent and 22.31 percent respectively were verbal, written and made on the phone respectively. The main reasons for complaints were accessibility to medical staff - 21.46 percent, communication failure-20.17 percent and dissatisfaction with the provided care-14.59 percent.

Ebrahimipour, et al.(2013) recommended that a complaints registry systems in hospitals and other health settings needed be improved and proper policies for improving their procedures in responding to complaints and systematically determine causes of patients' complaints were to be created. Secondly, personnel skills in providing high quality healthcare, increasing their communication skills and providing proper information to patients was to be multiplied. Thirdly, more welfare facilities were to be designated to patients, conditions of hospital rooms to be improved, staff numbers to be increased and hospitals needed sufficient equipments. Lastly, promoting cleanliness of the hospital environment, controlling noises, air conditioning, convenient temperature in the rooms and public places and improving washroom conditions needed to be attended to.

Tom (2018) in a study entitled, "Patients Complaints in Healthcare Systems: A Systematic Review and Coding Taxonomy" alluded that detailed analysis of patients complaints would identify problems with patients safety using a coding taxonomy for supportig future research and practice in analysis of patient complaints data. Tom(2018) had the objective of critically reviewing literature on patients complaints and synthesizing the research finding to develop a coding taxonomy for analysing patients complaints. The sample size was 59 studies found in Pubmed, Science Direct and Medline databases searches. Tom's approach was quite opposite of what my research set out to do. I was not interested in coming up with a taxonomy for analysing patients complaint.

2.9 Summary and Research Gap the Study Attempted to Fill

Micheal and Thomas (2013) indicated that in healthcare, the days of business as usual had expired. Around the world, healthcare systems were struggling with rising cost and uneven quality despite the hardwork of well intentioned and well trained clinicians. Healthcare leaders and policy makers had tried infinite progressive remedies with little success. At the centre of the dilemma was maximizing value for patients in terms of achieving the best outcomes at the lowest cost.

Micheal and Thomas(2013) proposed that the world and nations needed to move from a supply-driven healthcare system organised around what physicians do toward what patients need; from the volume and profitability services provided- physician visits, hospitalizations, procedures, and tests –to patients outcomes achieved and replace the fragmented services of the time, in which every local provider offered a full range of services, with a system where services for particular medical conditions were concentrated in health-delivery organizations and the right station to provide high- value care. In healthcare, the overarching goal for providers and all stakeholders was improving value for patients, where value was defined as the health outcome achieved that mattered to the patients relative to the cost of achieving those outcomes. Embracing the goal of value at the senior management and board level was essential, because the value agenda required a fundamental departure from the past.

The World Bank(2011) opined that research and empirical literature in low- and middle income reported many examples of underperforming healthcare organizations. In some countries, it was usual to find rural clinics in areas of great unmet needs serving very small numbers of patients even though they had a sizeable salaried staff and adequate

supplies. Similarly, resourced counties achieved very desperate levels of coverage, varying by multiples of five or more with services such as immunization and antenatal care (ANC). Rural hospitals with similar size and scope could range in their bed occupancy rates from 20-90 percent in the same country or province.

Scholars had already studied training and service delivery in Kenya and other parts of the world. Some of these researchers included Ahmad and Youssef (2012), Irfan, Aamir and Farooq (2012) & Wanjau, et al. (2012). Ahmed and Youssef (2012) interrogated, "The Impact of Health Services Quality on Patients' Satisfaction over Private and Public Hospitals in Jordan: A Comparative Study." The researchers found that there was an impact on health service quality in private hospitals than in the public hospitals and that responsiveness diminution of health service quality had the lowest mean of all other diminutions in public and private hospitals. Ahmed and Youssef's study was a comparison between public and private hospitals and health service quality was an independent variable and patient satisfaction a dependent variable. The study also focused on a larger area- an entire nation of Jordan and covered private and public hospitals, an orientation that is different from mine.

Irfan, et al. (2012) studied "Patient Satisfaction and Service Quality of Public Hospitals in Pakistan: An Empirical Assessment" and realized that public hospitals were not making any visible effort to deliver quality service to their patients to meet patients' needs and wants. In that study, patient satisfaction again was an independent variable while service quality was the dependent variable. The study focussed on an entire nation and its findings might not be universally applicable.

Wanjau, et al. (2012) studied “Factors Affecting Provision of Service Quality in the Public Health Sector. A Case of Kenyatta National Hospital” and observed that low employees capacity, low technology adoption, ineffective communication channel and insufficient funds affect delivery of service quality to patients among public health providers. In that study, organizational factors were the independent variable and service quality was the dependent variable. As for me, in-service training was the independent variable organizational factors a moderating variable and service delivery a dependent variable. That study also focused on Kenyatta National Hospital only while i targeted a county. In all these studies, none focused on in-service training as an independent variable and service delivery in public hospitals in Bungoma County as dependent variable. Although, three of the four studies concentrated on service quality as dependent variables, the components are different. Tom(2018) observed that if the overall performance of the healthcare system were raised and the performance gaps between the higher-performing and lower- performing organizations were closed or reduced,health outcomes in low- and middle-income countries would improve by a big margin.Given the pressing need to improve health in developing countries,a great deal of attention had been given to development of interventions to improve healthcare delivery performance.Different strategies had been advocated and implimented in persuit of healthcare facilities performance improvement.This study,”**In-Service Training and Service Delivery in Public Hospitals in Bungoma County,Kenya**” is part of the endless and noble attempts to streamline operations in public hospitals to guarantee consumers(patients) seamless and state of art services in public hospitals.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter focuses on the description of the study area, the research design, the study population, sample size and the sampling procedure. Instruments for data collection, reliability and validity of the research instruments and data analysis strategies are considered too.

3.2 Study Area

The study was undertaken in Bungoma County, Kenya. Purposive sampling was used to select the area because it was cosmopolitan; it had ten Sub-County hospitals, one referral hospital, health centers, dispensaries and three medical training colleges. Bungoma County is situated in western Kenya. Its headquarters is Bungoma town. According to the Kenya National Bureau of Statistics (2009) population census, Bungoma County had 1,375,063 people which made it to be the third largest county in Kenya after Nairobi and Kakamega respectively. The poverty index for the county was 3.79 in 2018 according to Council of Governors. The county had a surface area of 3593 Km² and was bordered by Trans Nziya county to the North East, Busia County to South West, Uasin Gishu County to the South East, Kakamega County to the South in Kenya and Mbale District to the North West in Uganda. The residents of the County are mainly Bukusu, Tajoni, Wang'a, Teso and Sabaoth sub-tribes although other Kenyan communities have also settled there. The Bukusu were the majority in the county and were touted to be resilient and flamboyant people who stood up against British rule in the 19th century.

The main food crops were maize,beans,finger millet,sweet potatoes,bananas,Irish potatoes and assorted vegetables.On the otherhand, the main cash crops were sugarcane, cotton, palm oil,coffee,sunflower and coffee.Cattle,sheep,goats,donkeys,pigs, poultry and bees are kept in the county too.The leading manufacturing plants were Rai Paper Mills in Webuye which was incorporated in 1969 and manufactured paper products but had collapsed,Nzioa Sugar Company which was established in 1975 and manufactures sugar,Malakisi Tobacco Leaf Centre that manufactures tobacco,Webuye Heavy Chemical Industry,small coffee factories and large bread bakeries in major supermarkets.

In the service domain the county hosted banks like Equity,KCB,Barclays,National,Family,Bank of Africa and Diamond Trust Bank.The microfinance institutions in the county included K-Rep,Faulu and KWFT.The insurance companies with branches in the county were Amaco,Blueshied,Britam,Pan African,Gemina and others.Major communication service providers were Safaricom,Airtel,Post Offices and Telkom.Courier operators included G4S,Wells Fargo, SGA and others.General retail had become vibrant and was growing at a phenomenal rate especially supermarkets like Khetias, Naivas, Tesia, and Choppies.Chebukube second hand clothes market in Bungoma town was the most popular after a local musician composed a song that exposed the events associated with the market in the 1980s.

Bungoma County had an average temperature of 21.1⁰ C and a minimum temperature of 10.3⁰C.The rainfall total was 1628 mm per annum.About 140 Kilometers of the road network was tarmacked and approximately 2000 Kilometers of the county roads were loose surface. Mt Elgon was the largest and highest mountain in the county and it was home for

the only forest in the county. Major rivers included Swam, Kibisi, Nzioa, Kuywa, Chwele, Mayanja and Sio.

3.3 Research Design

This study employed correlation research design since the study sought to find the relationship between in-service training which was the independent variable and service delivery in public hospitals in Bungoma County, the dependent variable. The relationship between the two variables was moderated by organizational factors which were measured by size of hospital, culture of the hospital and values of the hospital. Kothari (2008) alluded that this design ensured a complete description of the situation, making sure that there was minimum bias in collection of data and it was good for finding out the what, where and how of a phenomenon. Kasomo (2007) declared that a correlation design was a quantitative method of research which sought to establish a relationship between two variables like in-service training and service delivery.

3.4 Population of the Study.

The study population was 798 nurses in the entire Bungoma County that were working in leading health centers, Sub-County and the County referral hospitals. Mugenda and Mugenda (2008) posited that a population was an entire group of events, individuals or objects with some observable characteristics. According to the County Director of Health and the County Nurse the County had a total of 798 Registered and Kenya Enrolled Community Health Nurses in the targeted public hospitals. The nurses' population was nearly balanced by gender as 410 nurses were female and 388 were male. The nurses were targeted because they were majority medical practitioners and frontline employees in public hospitals whose distribution was cut across the entire county. The availability of

nurses in all public hospitals in the county meant that in-service training initiatives of nurses had a huge potential of turning around service quality in public hospitals of the county. Registered Nurses were 633 and Kenya Enrolled Community Health Nurses were 165. The great disparity between them was attributed to the government's upgrading plan for converting KECHN to RN which was ongoing.

3.5 Sample Size

Stratified proportionate random sampling was used to find a representative sample size from a total of 798 nurses in Bungoma County.

According to Yamane (1967:889) a simplified formula for proportions at a 95% confidence level and a P-value of 0.05 was used to calculate the sample population as shown below:

$n = \frac{N}{1 + N(e)^2}$ where n = sample size, N = population size, and e is level of precision. On substitution of letters, $n = \frac{798}{1 + 798(0.05)^2} = 266$ nurses. Kothari (2007) noted that a sample is representative if it is less than thirty percent. Therefore:

$$n = \frac{30}{100} \times 798 = 240 \text{ nurses.}$$

Table 3.1 The Population of Nurses per Sub-County in Bungoma County by September 2018

Sub-County	Main Hospital Name and Tier	Nurses Population	Sample Size 30 % of N
WebuyeEast	Webuye County Hospital-Tier 3	35	11
WebuyeWest	Bokoli County Hospital-Tier 3	173	53

Bumula	Bumula Sub-County Hospital-Tier 3	56	17
Mt.Elgon	Kapsokwony Sub-County Hospital-Tier 3	55	17
Cheptais	Cheptais Sub-County Hospital-Tier 3	48	15
Tongaren	Naitiri Sub-County Hospital-Tier 3	74	22
Kimilili	Kimilili Sub-County Hospital-Tier 3	77	23
Kanduyi	Bungoma Referral Hospital-Tier 2	183	55
Sirisia	Sirisia Sub-County Hospital-Tier 3	43	13
Kabuchai	Chwele Sub-County Hospital-Tier 3	54	13
Total		798	240

Source: County Nurse-Bungoma County: 2018

3.6 Sampling Design

Oso and Onen (2009) opined that a sample is part of the accessible population that has been procedurally selected. Simple proportionate random sampling and stratified sampling were used. Sub Counties were the basis of stratification with each Sub County forming a stratum.

The targeted population of nurses in Bungoma County was 798 nurses. 240 questionnaires were administered but only 196 were returned hence 44 were not returned. Stratified proportionate random sampling was used because nurses were a homogenous group of people with related education, work environment; same employer and served patients of similar socio-economic and cultural background. Nurses belong to the middle income earners. Within the larger group of nurses, there were two sub groups of nurses namely Registered Nurses and Kenya Enrolled Community Health Nurses. The hospitals were also classified in categories according to their sizes and the services that they offered to the patients. Dispensaries mainly concentrated on preventive and promotional services, health centers focused on preventive, promotional and curative services, Sub-County hospitals provided the three services and also received referrals from dispensaries and health centers and coordinated their activities because trained and qualified doctors who could procure minor operations resided in them. The County Referral hospital was the custodian of all health matters in the County but mainly oversaw major operations on patients, supplied medicine to all other categories of hospitals and presided over in-service training and staffing of all medical practitioners in its area of jurisdiction. The Registered Nurses and Kenya Enrolled Community Health Nurses had equal chances of being selected from the public hospitals.

3.7 Data Collection Procedure

Data was collected using questionnaires because they were the most appropriate instrument given the nature of the study. After acquiring a research permit from NACOSTI and research authorization from the Bungoma County Commissioner and the County Director of Health, the researcher used self-administered questionnaires to collect information from

nurses. The nurses were picked from sampled public hospital in each Sub County. Sub-County, County hospitals and one referral hospital had Nursing Officers or Nurses-in-Charge that formed the first line of respondents to fill the questionnaires depending on their willingness since they were the first people to interact with as the researcher sought permission to administer questionnaires in their facilities. The Nursing Officers and Nurses - in - Charge assisted the researcher in administering the questionnaires to the Registered Nurses and the Kenya Community Enrolled Health Nurses and in retrieving them from them because they were central in this study. In health centers and dispensaries clinical officers were the administrators and were quite supportive to the researcher. Some questionnaires were filled and returned on the day of administration, however, where there were many patients and emergencies, the researcher left them with nurses for them to fill them at their convenient time and let them be picked after a week or two depending on the circumstances at the hospital at the time of administration. Each Sub County had a proportion of nurses to fill the questionnaires; however, some Sub Counties had more willing respondents than others. Despite the above scenario, efforts were made to ensure that each Sub County attained a threshold of the estimated number of respondents. 240 questionnaires were administered and 196 of them were filled and returned. 44 were not returned because some nurses were transferred, some were very busy, some were misplaced, some proceeded on leave and others changed their working times i.e. from day to night shifts. The respondents (nurses) were picked from sampled public hospitals in each Sub County. In most cases the researcher administered questionnaires to nurses and requested them to fill immediately for him to depart with them.

3.8 Data Collection Tools

The researcher used primary data which was collected by use of self-administered questionnaires. The questionnaires were structured according to the Likert Scale:5=Strongly Agree(SA),4=Agree(A),3=Fairly Agree(FA),2=Disagree(D),1=Strongly Disagree(SD). Training Needs Assessment had five questions, Training Methodologies seven questions and training evaluation seven questions, service delivery ten questions and organizational factors three questions. The validity of the data collection tools was ascertained by undertaking a pilot study at Matete Health Center in Kakamega County. After the pilot study the questionnaire was adjusted to ensure that it actually measured what it was supposed to measure.

3.9 Pilot Study.

Mugenda (2008) indicated that a pilot study forecasted the future attributes of the study and avoided future failure, loss of money and time. In this study, the researcher conducted a pilot study by administering the questionnaires to nurses at the Matete Health Centre to test the research instruments before real administration. Questionnaires were applicable in this study as they enable collection of data from many respondents in a short time. The results from this study were a basis for improving the research instrument to ensure it met reliability and validity tests and could help to estimate the time needed to collect the data. The Matete Health Center had a total of nine nurses but only seven were accessible during piloting because two were on day off.

3.10 Validity of Instruments

Mugenda and Mugenda (2009) noted that validity of research instruments was a measure of the extent to which the instrument measured what it was meant to measure and the

meaningfulness and accuracy of inference based on the research design. Validity was the accuracy of the research instrument, its procedures and the research findings. Test retest validity was employed. The validity of the instruments was done by performing a pilot study to ascertain if the questionnaire was appropriate for gathering sufficient and correct information. The questionnaire administered was strictly in tandem with the objectives of the study to ensure that the questions were related to the objectives and topic of study. Each questionnaire was divided into sections and each section aimed at addressing different objectives of the study. Also questionnaires were administered to nurses who worked in public hospitals, had knowledge of their mandate at the place of work and the challenges they encounter in trying to attain the targets of the Ministry of Health in Kenya and deliver the runaway quality services to the patients. Lecturers who were qualified in research were used to review the questionnaire to ensure it met high validity standards in so far as being relevant to objectives and clearly expressing what it targeted was concerned.

3.11 Reliability of Instruments

Reliability is the consistency of the instruments' measurement. This was assured by seeing to it that the scores were consistent across variables and by eliminating the errors made during scoring of the instruments. Pre-testing was done to eliminate errors for the results to be more reliable. The responses had a score of 0.70 on the Cronbachs Alpha score to test for internal consistency of the items which is scientifically accepted implying that the instrument was reliable.

Mugenda and Megenda (2009) argued that eventually, the above approach gave a good measure of reliability because by holding other factors constant, the more similar the test

content and conditions of administration, the greater the internal consistency in the results or data after repeated trials.

3.12 Data Analysis and Presentation Techniques

Karl Pearson's Zero Order Coefficients (Pearson Product Moment Correlation or Simple Correlation) was used to determine the direction and strength of the relationship between in-service training and service delivery in public hospitals in Bungoma County. On the contrary, Karl Pearson's first order partial correlation coefficient (r_{xyz}) was used to ascertain the moderating effect of organizational factors on the relationship between in-service training and service delivery in public hospitals in Bungoma County. Simple regression analysis was used to model the relationship between in-service training and service delivery and was expected to follow a regression model of the nature $SD = \beta_0 + \beta_1 TN + \beta_2 TM + \beta_3 TE + e$ while the relationship between organizational factors and service delivery was expected to follow a regression model of the nature $SD = \beta_0 + \beta_1 TN.OF + \beta_2 TM.OF + \beta_3 TE.OF + e$ where, SD = Service Delivery, β_0 = Beta constant, where TN = Training Needs Assessment, TM = Training Methodologies, TE = Training Evaluation, OF = Organizational Factors, e = error term and $\beta_1, \beta_2, \beta_3$ = regression coefficient. Mugenda and Mugenda (2003) observed that hypotheses should be tested at 0.05% significance level, with 95% confidence, which was acceptable in non-clinical research works. Karl Pearson's zero order and Karl Pearson's first order partial correlation coefficient test was used to test the hypotheses as indicated in table 3.2 below:

Table 3.2 Hypothesis Testing Framework and Analytical Model

Source: Research 2018

Hypothesis	Hypothesis test	Regression model
HO ₁ : Training needs assessment (TN) has no significant affect service delivery (SD) in public hospitals in Bungoma County.	Karl Pearson's zero order coefficient of correlation (Beta test)	Reject Ho ₂ if $\beta_1 \neq 0$ $SD = \beta_0 + \beta_1 TN + e$
HO ₂ : Training methodologies (TM) do not impact significantly on service delivery (SD) in public hospitals in Bungoma County.	Karl Pearson's zero order coefficient of correlation (Beta test)	Reject Ho ₂ if $\beta_2 \neq 0$ $SD = \beta_0 + \beta_2 TM + e$
HO ₃ Training evaluation (TE) does not significantly affect service delivery (SD) in public hospitals in Bungoma County.	Karl Pearson's zero order coefficient of correlation (Beta test)	Reject Ho ₃ if $\beta_3 \neq 0$ $SD = \beta_0 + \beta_3 TE + e$
HO ₄ : Organization Factors (OF) has no significant moderating effect on the relationship between in-service training and service delivery in public hospitals in Bungoma County.	First Order Partial correlation coefficient (r_{xyz})	Reject Ho ₃ if $r_{xyz1} \neq r_{xy.z2} \neq r_{xy.z3}$ $P = \beta_0 + \beta_4 OF + e$

Mugenda and Megenda (2009) argued that data analysis was the process of bringing order to the data by organizing it into categories, patterns and trends. Data was analysed by SPSS

version 21. The second stage of data analysis involved inferential statistics where Pearson's correlation coefficient was used to find the relationship between in-service training and service delivery in public hospitals in Bungoma County and the influence of organizational factors on the relationships. Measures of central tendency like means, median and percentages for capturing general trends of data were used and measures of spread namely range, variance and standard deviation. The data was represented in tables.

The relationship between variables in inferential analysis was done with the aid of linear analysis, ANOVA and correlation analysis. Test of significance especially the T-test was conducted to know the probability that the results of our analysis of the sample were representative of the population that the sample represented.

3.13 Ethical Consideration

Ethical issues were put in consideration with respect to this study. Confidentiality of the respondent was guaranteed by excluding personal details like names, workstations, mobile numbers and marital status on the questionnaires. Informed consent was sought from them, to ensure that they agree to be in the study by their free will. The research permit, a letter from the university and an authorization letter from the County Director of Health assisted in getting permission to undertake research in public hospitals in Bungoma County based on the rules and regulations of the institutions since most of the information in them is considered classified.

CHAPTER FOUR

DATA PRESENTATION, ANALYSIS, INTERPRETATION AND DISCUSSION

4.1 Introduction

This chapter discusses the response rate, reliability test, background of respondents, descriptive statistics, a discussion of in-service training and service delivery in public hospitals in Bungoma County.

4.2 Response Rate

The questionnaire return rate was 70.4 percent since 196 questionnaires administered to the respondents were returned out of a target of 240. Randy (2010) asserted that a response rate of 70 percent was good in health promotion and education research.

4.3 Reliability Test

The questionnaire responses were coded and Cronbach's alpha was computed using SPSS version 21 to find the reliability.

Table 4.1: Reliability Test Analysis

Variable	Cronbachs alpha
Training needs assessment	0.820
Training methodologies	0.784
Training Evaluation	0.824
Service Delivery	0.722
Organizational Factors	0.539

Source: Research Data 2018

The questionnaire had 34 questions grouped into different categories designed using the likert scale. General and specific questions based on the study objectives were posed to nurses. The questionnaire reliability was tested by computing the Cronbach’s alpha scores using SPSS version 21. Its results were as indicated in table 4.2 for all the 34 items that were coded. Marant (2003) acknowledged that an alpha score of 0.7 or greater was acceptable for social sciences and non-clinical research reliability. Therefore, organizational factors recorded an alpha score that was below the minimum for reliability test.

4.4 Background Information of The Respondents

The background information of the respondents depending on their designation, age, gender, length of service and level of education was as shown below;

4.5 Designation

The respondents showed their designation and the outcome was as indicated below;

Table 4.2 Designation of Respondents

Category	Frequency	Percent	Cumulative percent
Registered Nurses	633	79.32	79.32
Enrolled Community Health Nurses	165	20.68	100.0
Total	798	100.0	

Source: Research data, 2018

Table 4.2 shows that 79.32 percent of the sample size were registered nurse and 20.68 percent enrolled community health nurses. This meant that 24.6 percent of the total nurses in the county were involved in the study as a representative sample of other employees who can turn around the state of affairs in the health sector.

4.6 Age Bracket

Respondents revealed their age bracket as displayed below in table 4.3;

Table 4.3 Age Cohorts

Cohort	Frequency	Percent	Cumulative Percent
20 – 30	188	23.56	23.56
31 – 40	110	13.78	37.34
41 – 50	300	37.59	74.93
51 – 60 years	200	25.06	100.0
Total	798	100.0	

Source: Research 2018

The low percentage of respondents below 30 years and above 50 years was associated to regulated hiring of nurses and other medical staff in recent years, issues of looking for better pay in the private hospitals and abroad, and natural death because life expectancy in Kenya in 2018 was only 46 years. Most nurses were between 40-50 years and the age group with the least nurses was between 31-40 years.

4.7 Gender

Table 4.4 Gender Distribution among Respondents

Gender	Frequency	Percent	Valid Percent	Cumulative Percent
Male	388	48.62	48.62	48.62
Female	410	51.39	51.39	100.0
Total		100.0	100.0	

Source: Research Data 2018

Table 4.4 shows that 51.39 percent of respondents were female whereas 48.62 percent were male employees meaning that more female nurses were involved in the study as opposed to the male nurses. One reason that explained this scenario was that nursing for a long time has been dominated by female nurses and naturally the nursing profession appeals more to the females than males. What is more is that females are more predisposed to provide tender care and compassion than their male counterparts. However, there is a near balance between the two genders in terms of numbers.

4.8 Level of Education

Table 4.5 Level of Education of Respondents

Level of Education	Frequency	Percent	Valid Percent	Cumulative percentage
Secondary	196	100	100	100
Certificate	2	1	1	1

Diploma	158	80.6	80.6	81.6
Degree	32	16.3	16.3	98
Postgraduate Degree	4	2	2	100.0
Total		100.0	100.0	

Source: Research Data 2018

Results in table 4.5 show that 80.6 percent of respondents had diplomas while 2 percent of respondents had certificates, 16.3 percent were degree holders and 2 percent were post graduates. This meant that majority of the respondents were diploma holders followed by degree holders. It was also a requirement by the Ministry of Health that the minimum qualification for nurses was a certificate in Nursing.

4.9 Length of Service

The results of length of service in the ministry for the respondents were as indicated in table 4.6 below:

Table 4.6 Length of Service of Respondents

Length of service in years	Frequency	Percent	Cumulative Percent
0 – 5	79	40.31	40.31
6 – 10	59	30.10	70.41
11 – 15	14	7.14	77.50
16 and above	44	22.50	100.
Total	196	100	

Source: Research Data 2018

From table 4.6, 40.31 percent of nurses of the nurses had worked for a maximum of five years,30.1 percent for between six and ten years,7.14 percent for between eleven and fifteen years and 22.50 percent for at least sixteen years. Most of the nurses had worked for more than 6 years with the Ministry of Health showing that employee retention and intrinsic motivation was high among nurses.

4.10 Descriptive Statistics, Hypothesis Testing and Discussion of In-service Training and Service Delivery in Public Hospitals

4.10.1 Training needs assessment and service delivery in public hospitals in

Bungoma County

The section of training needs assessment nested the following outcomes from nurses;

Table 4.7 Nurses Responses on Training Needs Assessment and Service Delivery in Public Hospitals in Bungoma County

Descriptive statistics

Training needs assessment statements		SA	A	FA	D	SD
		F%	F%	F%	F%	F%
6	My employer uses my appraisal report to discover my training needs.	16.8	32.7	15.3	18.4	16.8
8	The in-service trainers participate in training needs assessment.	13.9	40.2	21.1	13.9	10.8

9	The hospital carries out employee personal analysis regularly for nurses before in-service training.	17.3	36.7	21.4	17.9	6.6
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Source :Research 2018

Table 4.7 shows that 64.8 percent of nurses agreed with the opinion that the employer used their appraisal reports to know their training needs whereas 36.2 percent disagreed with the assertion. Nurses generally stated that in-service trainers participated in training needs assessment because 85.2 percent of nurses supported the concept. 75.4 percent of nurses were of the view that hospitals conducted employees personal analysis regularly for nurses before in-service training but 24.6 percent descended the statement. On the strength of this findings, it was concluded that the nurses' employer used appraisal reports to know the training needs but appraisal reports should be compulsory to all nurses. In-service trainers were involved in training needs assessment. It was also established that hospitals conducted employees personal analyses before in-service training.

Table 4.8:Model Summary of Training Needs Assessment and Service Delivery in Public Hospitals

Model Summary				
Model	R	R Square	Adjusted R Square	Std Error of the Estimate
1	.461 ^a	.212	.208	.51480
a.Predictors:(constant),TN-Average				
b.DependentVariable:SD-Average				

Table4.9 Coefficients of Training Needs Assessment and Service Delivery in Public Hospitals in Bungoma County

coefficients^a						
Model		Unstandardized coefficient		Standardized coefficients	T	Sig
		B	Std Error	Beta		
1	(Constant)	2.986	.131		22.873	.000
	TN-Average	.281	.039	.461	72.32	.000
a.DependentVariable;SD-Average						

Table 4.10:ANOVA Between Training Needs Assessment and Service Delivery in Public Hospitals in Bungoma County

ANOVA ^a						
Model		Sum of Squares	Df	Mean Square	F	Sig
1	Regression	13.862	1	13.862	52.306	.000 ^b
	Residual	51.413	194	.265		
	Total		195			
a. Dependent Variable: SD-Average						
b. Predictors: (Constant), TN-Average						

Source: Research 2018

The results revealed a coefficient of determination (r^2) of 0.212. This illustrates that Training Needs Assessment could explain 21.2% of the variance in Service Delivery in Public Hospitals in Bungoma County. The adjusted R square attempts to produce a more honest value to estimate R square for the population. The F test gave a value of (1, 194) = 52.306, $P < 0.01$, which supports the goodness of fit of the model in explaining the variation in the dependent variable. It also means that training needs assessment is a useful predictor of Service Delivery in Public Hospitals in Bungoma County. The regression equation to estimate the Service Delivery in Public Hospitals in Bungoma County as a result of training needs assessment was stated as:

$$\text{Service Delivery} = 2.986 + 0.281 \text{ Training Needs Assessment} + e$$

The research hypotheses were tested using the significance level of both the R and R^2 ; the research aimed to test the hypothesis with an aim of accepting whether there was any effect

by training needs assessment on service delivery in public hospitals in Bungoma County. The first research hypothesis posted H_{01} : Training needs assessment (TN) has no significant effect on service delivery (SD) in public hospitals in Bungoma County. From the results, Training needs assessment (TN) and service delivery had $P < 0.01$ and it accounted for 21.2% variance in service delivery in public hospitals in Bungoma County. Therefore the null hypothesis is rejected as training needs assessment has significant effect on service delivery in public hospitals in Bungoma County. This result is buttressed by that of Ghufli (2012) who concluded that training needs assessment is a key step in the training cycle and should precede any training intervention. This is the reverse of the findings of Ejakait (2016) who established that the postal cooperation did not conduct training needs assessment before developing training programs in Bungoma County.

4.10.2 Training methodologies and service delivery in public hospitals in Bungoma County

Table 4.11 Nurses Responses on Training Methodologies and Service Delivery in Public Hospitals in Bungoma County

Descriptive Statistics						
Training Methodologies		SA	A	FA	D	SD
		F%	F%	F%	F%	F%
10	Coaching and mentoring methods were used in the in-service training that I attended.	30.6	43.9	15.3	6.1	4.1
11	I sometimes use internet based training as my in-service training.	21.9	39.3	13.8	12.8	12.2

12	I attend simulation case study frequently as my in-service training.	9.7	33.7	20.9	20.9	14.8
14	Seminars for nurses are often organised by the Ministry of Health.	30.6	31.1	6.1	15.3	16.8

Source: Research 2018

Table 4.11 shows that 89.8 percent and 10.2 percent of nurses agreed and disagreed respectively with the idea that coaching and mentoring training methods were used in the last in-service training they attended. About the use of internet as a method of in-service training, 75 percent and 25 percent of nurses agreed and disagreed respectively. Simulation case study as an in-service training method elicited 64.3 percent positive response and 35.7 percent negative responses from the nurses. 67.8 percent of the nurses supported and 32.1 percent of nurses opposed the opinion that seminars for nurses were often organized by the Ministry of Health. Therefore coaching and mentoring, internet in-service training, organization of seminars for nurses and simulation case studies were used as in-service training methodologies in the County.

Table 4.12: Model Summary of Training Methodologies and Service Delivery in Public Hospitals in Bungoma County

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.451 ^a	.203	.199	.51773	1.846

a. Predictors: (Constant), TM_Average

b. Dependent Variable: SD_Average

Source:Research 2018

Table 4.13:ANOVA^aof Training Methodologies and Service Delivery in Public Hospitals in Bungoma County

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	13.275	1	13.275	49.525	.000 ^b
	Residual	52.000	194	.268		
	Total	65.275	195			

a. Dependent Variable: SD_Average

b. Predictors: (Constant), TM_Average

Source:Research 2018

Table 4.14:Coefficients of Training Methodologies and Service Delivery in Public Hospitals in Bungoma County

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.712	.172	.451	15.804	.000
	TM_Average	.324	.046		7.037	.000

a. Dependent Variable: SD_Average

Source:Research 2018

The results revealed a coefficient of determination (R^2) of 0.203. This illustrates that training methodologies could explain 20.3% of the variance in service delivery in public hospitals in Bungoma county. The adjusted R square attempts to produce a more honest value to estimate r square for the population. The F test gave a value of $(1, 194) = 49.525$, $P < 0.01$, which supports the goodness of fit of the model in explaining the variation in the

dependent variable .It also means that training methodologies is a useful predictor of service delivery in public hospitals in Bungoma county. The regression equation to estimate service delivery in public hospitals in Bungoma county as a result of training methodologies was stated as:

$$\text{Service Delivery} = 2.712 + 0.324 \text{ Training Methodologies} + e$$

The research hypotheses were tested using the significance level of both the R and R²; the research aimed to test the hypothesis with an aim of accepting whether there was any effect by training methodologies on service delivery in public hospitals in Bungoma county. The second research hypothesis posted H₀₂: Training methodologies (TM) do not impact significantly on service delivery (SD) in public hospitals in Bungoma county. From the results, Training methodologies and service delivery had P<0.01 and it accounted for 20.3% variance in service delivery in public hospitals in Bungoma County. Therefore the null hypothesis is rejected as training methodologies has significant effect on service delivery in public hospitals in Bungoma County. This outcome echo that of Al-Mzary (2015) and Nassazi (2013) who opined that their was an association effective training and employee's job performance and that the training methods in the telecommunication industry were relevant and most employees were trained under the compulsory practice of the company respectively.

4.10.3 Training Evaluation and Service Delivery in Public Hospital in Bungoma County

Table 4.15 Nurses Responses on Training Evaluation and Service Delivery in Public Hospitals

Descriptive Statistics						
Training Evaluation statements		SA	A	FA	D	SD
		F%	F%	F%	F%	F%
18	Training evaluation is always done by the hospital management after any in-service training	16.3	29.1	27.0	16.8	10.7
19	The training content for the in-service training courses i attended was relevant for my better job performance.	38.8	40.3	14.3	4.6	2.0
20	Trainee nurses are always assessed at my work station after every in-service training to establish training transfer to the job.	19.4	32.1	18.4	16.8	13.3
21	I filled an appraisal form about the quality of training,trainers,relevance of the content and accommodation immediately after the in-service training.	19.9	31.1	17.9	16.3	14.8

Source:Research 2018

Table 4.15 reveals that 72.4 percent of nurses accepted that training evaluation was always done by the hospital management after every in-service training.93.4 percent of the nurses concurred with the view that the training content for the in-service courses was relevant for their better job performance.69.9 percent of the respondents were aligned to the fact that in-service trainee nurses were always assessed at the work station after every in-service training to establish the level of training transfer to the job. 68.9 percent of nurses were in harmony with perception that they filled appraisal forms about the quality of training ,trainers,relevance of the content and standard of accommodation immediately after the in-service training.The outcome of this study is that training evaluation was always done by hospital management after every in-service training,in-service training content was relevant for better job performance, trainee nurses were always assessed after in-service training ,the in-service training content was relevant for their better job performance and appraisal forms about the quality of training,trainers,and standard of accommodation were filled soon after in-service training.

Table 4.16:Model Summary of Training Evaluation and Service Delivery in Public Hospitals in Bungoma County

Model	R	R Square	Adjusted Square	R	Std. Error of the Estimate	Durbin-Watson
1	.528 ^a	.279	.275		.49262	1.893

a. Predictors: (Constant), TE_Average

b. Dependent Variable: SD_Average

Source:Research 2018

Table 4.17:Coefficients^aof Training Evaluation and Service Delivery in Public Hospitals in Bungoma County

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	2.507	.164		15.318	.000	
	TE_Average	.382	.044	.528	8.659	.000	1.000

a. Dependent Variable: SD_Average

Source:Research 2018

that they met employees' desires fro them to guarantee success of the training courses. Musyoki(2015) established that performance appraisal was minimally used at Mbagathi hospital contrary to having it as a programme for monitoring employee performance

4.10.4 The Moderating Effect of Organization Factors on the Relationship between In-Service Training and Service Delivery in Public Hospitals in Bungoma County

Table 4.19 Nurses Responces on the Moderating Effect of Organizational Factors on the Relationship between In-Service Training andService Delivery in Public Hospitals in Bungoma County

Organizational Factors Statements		SA	A	FA	D	SD
		F%	F%	F%	F%	F%
32	Job values affect the relationship between in-service training and service delivery in public hospitals .	19.9	49.5	15.8	10.7	4.1
33	The size of hospital influences service delivery to patients.	43.9	31.1	11.7	7.7	5.6
34	The culture of the hospital influences my service delivery.	26.5	29.6	16.8	19.9	7.1

Source:Research 2018

Table 4.19 suggests that the observation that job values affect the relationship between in-service training and service delivery in public hospitals, 14.8 percent of nurses disagreed and 75.2 percent of them agreed.86.7 percent of nurses felt that hospital size affected service delivery in public hospitals as 13.2 percent opposed the same.72.7 percent of nurses applauded the concept that the hospital culture influenced service delivery and 27.3 percent were of the contrary perspective. Therefore, this study established that job values, and hospital culture and hospital size affected the link between in-service training and service delivery.

The results in Table 4.20 show that there is a higher positive effect of the influence of organizational factors on the relationship between in service training(training needs assessment, training methodologies and training evaluation) on service delivery of public hospital in Bungoma County at 95% confidence level ($r^2=0.093$). The results on model

summary show that R-Square is 0.093 indicating that organizational factors account for 9.3% of the variability in the relationship between in service training and service delivery of public hospitals in Bungoma County.

Table 4.21:Coefficients^aof the Moderating Influence of Organizational Factors on the Relationship between In-service Training and Service Delivery in Public Hospitals in Bungoma County

Model	Unstandardized		Standardized	T	Sig.	
	Coefficients		Coefficients			
	B	Std. Error	Beta			
1	(Constant)	3.105	.180		17.239	.000
	OF_Average	.211	.047	.306	4.471	.000

a. Dependent Variable: SD_Average

Source:Research 2018

The regression equation to estimate the moderating influence of organizational factors on the relationship between in-service training and service delivery in public hospitals in Bungoma county was stated as:

$$Y=3.105+0.211X_1M+e.$$

Where: Y= Service Delivery;

X₁ = In-service Training

M = Organizational Factors

e = Error Term.

Table 4.22:ANOVA^aof the Moderating Effect of Organizational Factors on the Relationship between In-service Training and Service Delivery in Public Hospitals in Bungoma County

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	6.099	1	6.099	19.993	.000 ^b
	Residual	59.177	194	.305		
	Total	65.275	195			

a. Dependent Variable: SD_Average

b. Predictors: (Constant), OF_Average

Source :Research 2018

The ANOVA results in Table 4.22 depict that, $F=19.993$, $p=0.000$. The overall results reveal that regression model was significant in determining the applicability of the model to measure the study variables. This means that there is a satisfactorily goodness for fit between organizational factors on the relationship between in-service training and service delivery of public hospitals in Bungoma County. The fourth hypothesis, H04: Organization factors (OF) has no significant moderating effect on the relationship between in-service training and service delivery in public hospitals in Bungoma County. The results show a $p<0.05$ with an $R^2 = 0.093$ hence i reject the null hypothesis and conclude that organizational factors have a significant moderating effect on the relationship between in-service training and service delivery in public hospitals in Bungoma county. This finding

concur with that of Egessa and Ogoti (2014) who observed that organizational factors of the police station have a moderating effect on the relationship between pre-service training and service delivery hence the need to improve the organizational factors in a police station in order to improve on their service delivery.

4.13 Service Delivery in Public hospitals in Bungoma County

The study purposed to establish the level of service delivery in public hospitals. Phrases for capturing the sentiments of respondents with regard to the level of agreement and disagreement with them were designed with respect to service delivery as shown in table 4.23;

Table 4.23: Nurses Responses on Service Delivery in Public Hospitals in Bungoma County

Descriptive statistics							
Service delivery	S.A	A	FA	D	SD	Mean	S.D
Statements	F (%)	F(%)	F (%)	F(%)	F(%)		
There is a patients' complaints policy and procedure at my place of work and we are inducted in it regularly.	24.0	34.7	17.3	15.3	8.7		
Nurses take minimal time to initiate treatment after patients are diagnosed by	19.4	32.1	18.4	16.8	3.3		

clinical officers and doctors.							
Discharged patients are not delayed at the billing section.	24.0	39.8	16.3	9.2	10.7		
Nurses report on duty early.	42.3	40.8	13.3	2.6	1.0		
The number of patients served has been increasing since I started using the methods I learnt about timeliness,number of patients served and patients' complaints in my last in-service training.	22.4	38.3	20.4	11.7	7.1		

Source: Research data 2018

The phrases were put on a likert scale where strongly Agree,(SA)=5,Agree(A)=4, Fairly Agree(FA)=3,Disagree(D)=2 and Strongly Disagree(SD)=1. The means and standard deviations of the responses were as shown on the table 4.23.

The findings of table 4.23 show that there was a patients' complaints policy and procedure at nurses' places of work and that they were regularly trained in it as confirmed by 76 percent of respondents who agreed with the statement. The respondents also were in agreement with the idea that nurses took minimal time to initiate treatment after patients were diagnosed by clinical officers and doctors on the strength that 69.9 percent supported the statement. 96.4 percent of nurses stated that they reported on duty early daily and 80.1 percent felt that discharged patients were not delayed at the billing section. 81.1 percent of nurses noted that the number of patients served had increased since they started using the methods they learnt about timeliness, number of patients served and patients' complaints in their in-service training. This study therefore established that the Bungoma County public hospitals had patients' complaints policy and procedure, nurses took minimal time to initiate treatment after patients diagnosis, nurses reported on duty early daily, discharged patients were not delayed at the billing section and the number of patients served had increased because nurses were trained on timeliness, handling patients' complaints and increasing number of patients served.

The results indicated that the relationship between training needs assessment and service delivery is positive and significant ($r = .576^{**}$). Similarly, the relationship between training methodologies and service delivery is positive and significant ($r = .685^{**}$). Further, the relationship between training evaluation and service delivery is positive and significant ($r = .219^{**}$). This implied that in-service training played a critical role in influencing service delivery in public hospitals in Bungoma county.

Multiple Linear regression for in-service training on service delivery

Multiple Linear Regression analysis for in-service training on service delivery was done so as to find out the effect of in-service training on service delivery of public hospitals in Bungoma County. This aided in coming up with the coefficients of the study model as well as R square of the study. The results were as shown in Table 4.25.

Table 4.24: Model Summary^b of Multiple Regression

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.599 ^a	.359	.346	.46793	1.892

a. Predictors: (Constant), OF_Average, TN_Average, TM_Average, TE_Average

b. Dependent Variable: SD_Average

Source: Research 2018

Table 4.25:Coefficients^a of Multiple Regression

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	1.901	.208		9.155	.000		
1 TN_Average	.135	.047	.222	2.842	.005	.552	1.812
TM_Average	.080	.059	.111	1.354	.177	.496	2.016
TE_Average	.190	.064	.263	2.965	.003	.427	2.341
OF_Average	.154	.041	.223	3.731	.000	.936	1.069

a. Dependent Variable: SD_Average

Source:Research 2018

In Table 4.24, the findings further established a linear relationship between in-service training and service delivery and three predictor variables; training needs assessment, training methodology and training evaluation.

The coefficient of determination (R^2) was 0.359, and this shows that 35.9% of the variations in service delivery can be explained by the three predictor variables in the study and the remaining 64.1% of the variations in service delivery are explained by other factors not captured in the model. From the ANOVA results (Table 4.26) the F test gave a value of $F(4, 191) = 26.779$, $p < 0.01$, which supports the goodness of fit of the model in explaining the variation in the dependent variables. It also means that in-service training is a useful predictor of service delivery

From Table 4.25, training needs assessment, training methodology and training evaluation have positive significant predictive power. If in-service training is held at zero or it is absent, service delivery in public hospital in Bungoma County would be significant at 1.901, $p > 0.05$. When training needs assessment and training methodology are controlled, training evaluation with a beta of 0.190 is at a statistically significant level and is a good predictor of service delivery in public hospitals in Bungoma county implying that an increase in training evaluation by one percent will result to significant increase in service delivery by 0.190. When training needs assessment and training evaluation are controlled, training methodology with a beta of 0.080 is at a statistically significant level implying that an increase in training methodology by one percent would result to significant increase in effectiveness by 0.080. When training methodology and training evaluation are controlled, training needs assessment with a beta of 0.135 is at a statistically significant level hence an increase in training needs assessment by one percent will result in service delivery by 0.135.

A regression of the four predictor variables against service delivery established a multiple linear regression model as below:

$$\text{Service Delivery} = -1.901 + 0.0.190X_1 + 0.080X_2 + 0.135 X_3 + 0.468X_4 + e, \text{ where}$$

1.901- Beta Constant

X₁-Training Evaluation

X₂-Training Methodology

X₃-Training Needs Assessment

X₄-Organizational Factors

e-Standard Error of the Estimate or error term.

CHAPTER FIVE

SUMMARY OF THE FINDINGS, CONCLUSION AND RECOMENDATIONS

5.1 Introduction

This chapter covers a wrap up of the study findings, conclusions and recommendations from the study. Suggestions for further research are also discussed.

5.2 Summary of the Study

The purpose of this study was to assess the effect of in- service training on service delivery in public hospitals in Bungoma County. Correlation research design was used in this study. What prompted the research was an incidence of a nurse in Bungoma County Referral Hospital who verbally and physically assaulted an expectant mother in 2013. This was an example of poor service delivery that members of the public complain about in spite of the government initiatives in the civil service meant to improve effectiveness in public service delivery.

5.3 Summary of the Findings

The study sought to determine the significant effect of training needs assessment on service delivery in public hospitals in Bungoma County, to find out the significant impact of training methodologies on service delivery in public hospitals in Bungoma County, to evaluate the significant effect of training evaluation on service delivery in public hospitals in Bungoma County and to establish whether organizational factors had a significant moderating influence on the relationship between in- service training and service delivery in public hospitals in Bungoma County.

In order to establish whether training needs assessment had any significant effect on service delivery in public hospitals in Bungoma County, hypothesis Ho1- Training Needs Assessment does not significantly influence service delivery in public hospitals in Bungoma County was crafted. The study found that training needs assessment influenced service delivery in public hospitals ($r=0.212$, $p=0.000$).

The need to determine the effects of training methodologies on service delivery in public hospitals in Bungoma County, the researcher conceived hypothesis Ho2- training methodology did not impact on service delivery in public hospitals in the County. The study concluded that training methodologies had a significant effect on service delivery in public hospitals ($r=0.199$, $p=0.000$).

So as to assess whether training evaluation had any significant effect on service delivery, the researcher formulated hypothesis Ho3- training evaluation does not affect service delivery in public hospitals in Bungoma County. The study established that training evaluation influenced service delivery in public hospitals in the county ($r=0.275$, $p=0.000$).

The need of determining whether organizational factors had a significant moderating effect on the relationship between in-service training and service delivery in public hospitals called for formulation of Ho5- organizational factor do not have a significant moderating effect on the relationship between in-service training and service delivery in public hospitals in the county. The study gathered that organizational factors had a significant moderating impact on the relationship between in-service training and service delivery in public hospitals in Bungoma County. ($r=0.346$, $p=0.000$).

5.4 Conclusions

The null hypothesis Ho1, Ho2, Ho3 and Ho4 were rejected based on the research findings. It therefore followed that training needs assessment, training methodology and training evaluation significantly affected service delivery in public hospitals in Bungoma County. The study also disclosed that organizational factors like job values, size of hospital and the culture of hospital significantly moderated the relationship between in-service training and service delivery in public hospitals in Bungoma County.

5.5 Recommendations

1. In-service trainers should participate more in training needs assessment.
2. The employer needed to use intensively employees' appraisal reports to discover training needs for nurses.
3. More seminars for nurses were supposed to be organized by the Ministry of Health and participants should regularly attend simulation case studies in-service training to be effective in service delivery.
4. Training evaluation should always be conducted immediately after any in service training to strengthen areas that needed adjustments to up the quality of service delivery in public hospitals in the county.
5. In-service trainee nurses were to be frequently assessed at there work stations after any in-service training to determine training transfer to the job.
6. Organizational factors such as job values, size of hospital and culture of hospital needed periodic review because they had a huge potential to turn around service delivery in the health sector in the county.

5.6 Suggestions for Further Research

On the strength of this study, the following topics can be explored;

The research was anchored on the Ministry of Health and public hospitals. An interrogation can be done on in-service training and service delivery in other sectors of the Kenyan economy or private hospitals in Kenya.

Research is needed concerning the impact of devolution of health on service delivery in public hospitals in Kenya.

This study dealt with nurses only, an investigation can be done on in-service training of medical laboratory technologists, clinical officers, medical record officers and doctors and service delivery in public and private hospitals.

A search about the influence of devolution of health on the choice of medicine, pharmacy and other medical courses among high school students is valid.

5.7 Limitations of the Study

Bureaucratic procedures in government offices limited the researcher in acquiring data promptly but the research permit helped the researcher by placing early requests for provision of data to be assisted in good time. Some respondents were unwilling to participate in data provision hence they were exempted from participation. The researcher assured willing respondents of confidentiality and the purpose of the research to clear their fears and reservations. Nurses were also under oath to save life, hence the many emergencies typical of a hospital set up slowed down their concentration and rate of release of information. The researcher requested them to multitask which is a contemporary life skill without putting the patients' lives at risk. Finally, hospitals are of different levels,

varying sizes, ages, culture, staffing and equipment. The researcher only selected the most general facts applicable to all public hospitals.

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APPENDICES

APPENDIX 1: INTRODUCTION LETTER

Dear Sir / Madam,

REF: QUESTIONNAIRE ON IN-SERVICE TRAINING AND SERVICE DELIVERY IN PUBLIC HOSPITALS IN BUNGOMA COUNTY

My name is Solomon Wabomba, a student at Masinde Muliro University of Science and Technology- Kakamega. I am conducting research entitled “**In-service Training and Service Delivery in Public Hospitals in Bungoma County, Kenya**” to enable me complete my Master of Science in Human Resource Management (HRM) at the University. The information on In-service Training and Service Delivery in Bungoma County in this questionnaire is for educational purposes and will be treated with utmost care and confidentiality. Kindly find time and fill it exhaustively and honestly so that it can be collected after two weeks or within two weeks. For any inquiry you can reach me on mobile number 0710156946.

Thank you for your support.

Yours Faithfully,

Solomon Wabomba.

Signature.....

School of Business and Economics (SOBE)-Masinde Muliro University of Science and Technology.

APPENDIX 2: PERSONAL DATA

1. Please tick your age bracket

20-30 years

31-40 years

41-50

51-60 years

2. What is your gender?

Male

Female

3. How long have you worked as a nurse in the Ministry of Health?

0-5 years

6-10 years

11-15 years

16 years and over

4. What is your highest level of education?

Primary

Secondary

Diploma

Degree

Post graduate

APPENDIX 3: IN-SERVICE TRAINING QUESTIONNAIRE

Kindly indicate your level of agreement concerning the following statement as they relate to in-service training in the Ministry of Health. Please tick your preferred choice.

Key:

1. SA-Strongly Agree, 2. A-Agree 3. FA- Fairly 4.D-Disagree 5. SD- Strongly Disagree.

(A)Training need assessment

Please tick appropriately

		SA	A	FA	D	SD
		5	4	3	2	1
5	The hospital management carries out employees personal analysis regularly for nurses before in-service training.					
6	My employer uses my appraisal report to discover my training needs.					
7	I am regularly given questionnaires to indicate my weak and strong areas in my job and my job satisfaction level.					
8	The in-service trainers participate in the training needs assessment.					

9	Job and hospital analyses that are done before in-service training have improved my service delivery.					
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Source: Research 2018

(B) Training methodology

Please tick appropriately

		SA	A	FA	D	SD
		5	4	3	2	1
10	Different training methods were employed in the in-service training that i attended.					
11	Coaching and mentoring methods were used in the in-service training that I attend.					
12	I sometimes use internet based training as my in-service training.					
13	I attend simulation case study frequently as my in-service training.					
14	Seminars for nurses are often organized by the Ministry of Health.					

15	I have attended at least one conference for nurses for the time I have worked.					
16	The training methods that were used in my in-service training were relevant and have helped me improve service delivery.					

Source :Research 2018

(C) Training Evaluation

Please tick appropriately

		SA	A	FA	D	SD
		5	4	3	2	1
17	Training evaluation is always done by the hospital management after any in-service training.					
18	The in-service training venue was convenient and good for my in-service training.					
19	The in-service trainers were of high quality and competent in content delivery for the courses I attended.					
20	The training content for the in-service courses I attended was relevant for my better job performance.					

21	Trainee nurses are always assessed at my work station after every in-service training to establish training transfer to the job.					
22	I filled an appraisal form about the quality of training, trainers, relevance of content and accommodation immediately after the in-service training.					
23	Training evaluation has improved my service delivery at my place of work.					

Source:Research2018

(D) Service delivery questionnaire

Please tick appropriately

		SA	A	FA	D	SD
		5	4	3	2	1
24	There is a patients complaints's desk in my hospital.					
25	There is a patients' complaints policy and procedure at my place of workand we are regularly inducted in it.					
26	Patients' complaints have reduced a lot since I was trained on how to handle sensitive cases in hospital.					
27	Most patients have visited my facility many times for being ill.					

28	Nurses take minimal time to initiate treatment after patients are diagnosed by clinical officers and doctors.					
29	Nurses report on duty early.					
30	Discharged patients are not delayed at the billing section.					
31	Timeliness,increasing the number of patients served and handling patients' complaints was covered in my last in-service training.					
32	The number of patients' served has been increasing from the time I started using the methods I learnt on timeliness,number of patients servedand patients' complaints in my in-service training.					
33	The number of patients served depends on the weather of the season of the year,nature of sickness and availability of drugs.					

Source:Research 2018

(E) Organizational Factors

Please tick appropriately

		SA	A	FA	D	SD
		5	4	3	2	1
34	Job values affect the relationship between in-service training and service delivery in public hospitals.					
35	The size of hospital influences service delivery to patients.					
36	The culture of the hospital influences my service delivery to patients.					

Source: Research 2018

APPENDIX 4:THE RESEARCH PERMIT


THIS IS TO CERTIFY THAT:
MR. SOLOMON WABOMBA MUKHWANA
of MASINDE MULIRO UNIVERSITY ,
1765-50205 Webuye,has been
permitted to conduct research in
Bungoma County

on the topic: INSERVICE TRAINING AND
SERVICE DELIVERY IN PUBLIC
HOSPITALS IN BUNGOMA COUNTY,
KENYA

for the period ending:
7th February,2019

.....
Applicant's
Signature

Permit No : NACOSTI/P/18/20529/21164
Date Of Issue : 7th February,2018
Fee Recieved :Ksh 1000



J.P. Kalerwa
.....
Director General
National Commission for Science,
Technology & Innovation

APPENDIX 5:A MAP OF BUNGOMA COUNTY

