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Assessing patients' satisfaction with universal health coverage reforms using servqual model: a case of Matuu Sub County Hospital, Machakos County

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ASSESSING PATIENTS' SATISFACTION WITH UNIVERSAL HEALTH COVERAGE REFORMS USING SERVQUAL MODEL: A CASE OF MATUU SUB COUNTY HOSPITAL, MACHAKOS COUNTY.

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DECLARATION

I declare that this work has not been previously submitted and approved for the award of a degree by this or any other University. To the best of my knowledge and belief, the dissertation contains no material previously published or written by another person except where due reference is made in the dissertation itself.

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Date: 17th Nov 2021

Approval

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ABSTRACT

Kenya's quest to be among nations worldwide providing Universal Health Coverage (UHC) to their populations took off in earnest in December 2018 with the roll out of a pilot study in four Counties namely Isiolo, Kisumu, Nyeri and Machakos. Quality health care services offered in a health facility as postulated by patient satisfaction is one of the cornerstones of UHC. Some studies have shown that as financial barrier to access of health care is lifted and service coverage increases, service quality often plummets in terms of safety, timeliness, efficiency, effectiveness and patient-centeredness due to overutilization and deficient governance structures among others. Empirical evidence of this in Sub Saharan Africa is however rather thin especially the shift in patient's expectations and perceptions of service quality in the early phase (first five years) of UHC implementation. This study addressed this gap by evaluating patient's satisfaction of services offered at a public sub-national level 4 health facility in Kenya three years after UHC roll out. Using a descriptive cross sectional study design, a sample of 311 patients was randomly selected to fill a SERVQUAL questionnaire to record their pre-service expectations and post service consumption perceptions of the services given since UHC commencement. Perception-expectation (P-E) gap scores were then analyzed using Statistical Package for Social Science (SPSS Version 25) to determine the statistical significance of the mean differences between patients' expectations and perception of the five dimensions surveyed. The study findings showed a statistically significant overall patients' satisfaction with UHC reforms in Matuu Sub County hospital. Patients were most satisfied with assurance; followed by empathy, reliability, tangibles and finally responsiveness. However, notable areas of dissatisfaction included the long turn-around time, staff's inability to effectively communicate on when services will be offered and the uncaring attitude of the healthcare workers.

DEDICATION

To my 2-year-old son Curtis Masila, whose lively embrace and smile gave me the strength and energy to keep going, and my unconditionally beloved and companion Keziah Maina, thank you for your patience and love during the study period.

ACKNOWLEGMENTS

I am grateful to the Almighty God for enabling me to carry out this study to fruition. It's by His grace and sustenance that I was able to complete this project. Special thanks go to my research supervisor, Dr. Ben Ngoye for his support, patience and understanding while directing me during the entire study period.

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LIST OF ABBREVIATIONS

CDOH- County department of health

IOM-Institute of Medicine

OECD-Organization for economic Cooperation and development

MOH-Ministry of Health

NHIF- National Hospital Insurance Fund

SDG- Sustainable Development Goal

SERVQUAL- Service Quality

UHC-Universal Health Coverage

WHO-World Health Organization

KEMSA-Kenya Medical Supplies Agency

KMO- Kaiser-Meyer-Olkin test value

PCA- Principal Component Analysis

CHAPTER ONE

INTRODUCTION TO THE STUDY

1.1 Introduction

This chapter dwells on the background to the study by introducing the concept of patient satisfaction in the context of Universal Health Coverage (UHC). Further, the overview of Kenyan UHC pilot program and Matuu Sub-County Hospital in Eastern Kenya's Machakos County is outlined followed by problem statement, objectives of the study and research questions. The chapter concludes by discussing the significance of the study.

1.2 Background to the study

Quality health care services as a patient satisfaction antecedent is one of the main cornerstones of universal health coverage (UHC) ((Chakraborty & Majumdar, 2011). The World Health Organization (WHO) and the Organization for Economic Co-operation and Development (OECD) acknowledge that as more nations commit to achieving UHC, it's important that optimal care is guaranteed by not only ensuring coexistence of infrastructure, medical supplies and health care providers but also improvement in health care delivery with deliberate focus on quality of health services, which involves providing effective, safe, people-centered care that is timely, equitable and efficient (WHO, OECD, 2018).

Satisfaction is defined as 'the extent of an individual's experience compared with his or her expectations' (Pascoe, 1983a).This is in essence an individual's evaluation of services received versus his/her expectation. Patient's expectations are formed from past experiences, word-of-mouth messages, personal needs and how and what the staff communicates before delivering services while experiences are a product of the actual service given (V. Zeithaml, Parasuraman, Berry, & Berry, 1990). The discrepancy between what the patient wants and the experience of the actual service offered determines the level of their satisfaction. If the experience matches the patient's expectation, he or she will be satisfied. If it does not, they are dissatisfied (Bitner, Zeithaml, & Gremler, 2010).

Universal Health coverage on the other hand as an entity is access to preventive, curative, promotive, rehabilitative and palliative health services by all people and communities as they need, being of sufficient quality to be effective while also shielding the users from financial hardship (WHO, 2014). Universal coverage is attained when all residents enjoy similar benefits

despite diversities demographically, socially, politically and geographically and no systemic exclusions exist especially towards the poor and the vulnerable while financial protection is attained in absence of out-of-pocket payments, lack of fear in seeking health services due to financial reasons and absence of critical income loses due to healthcare payments (Abiiro, Mbera, & De Allegri, 2014). Universal access signifies availability of health facilities, personnel and services, appropriateness & quality of services and affordability of services relative to ability to pay (Evans, Hsu, & Boerma, 2013).

The importance of quality improvement in healthcare is paramount and essential in ensuring satisfactory medical experiences and outcomes. This is reflected in user satisfaction being one of the key goals of a health system set up to offer UHC as recognized by health systems frameworks (Atun et al., 2013). The consequences of poor quality care cannot be under stated. Kruk et al (2018) reported that 8.6 million deaths per year could be averted if expansion of service coverage was accompanied by investment into high quality health systems. Further, the implications of how patients perceive the quality of care has direct association with a hospital's financial performance especially in private sector (Nelsol et al 1992).

Extensive research on patient satisfaction with UHC programs has being carried out yielding varied results. Ekawati et al (2017) in a study in Indonesia on patients' experience of UHC reforms especially on quality of primary healthcare noted the primary clinics were conveniently located but long turn-around time, short opening hours and lack of trust with the primary care doctors hugely negatively impacted on the patients' experiences. On the contrary, Hemadeh, Hammoud, Kdouh, Jaber, & Ammar(2019) recently reported a remarkably high patient satisfaction with primary health care services in Lebanon especially in patient-provider communication, healthcare provider competency and health education quality. Stokes, Gurol-Urganci, Hone, & Atun, (2015) in assessing the user satisfaction with health reforms in Turkey from 2004-2012 concluded that the implementation of primary care focused UHC had significantly improved user satisfaction.

Cognizant of the central role user satisfaction plays in ensuring quality services, Kenya launched the Kenya Quality Model of Health (KQMH), a set of national guidelines and regulations meant to guarantee quality healthcare services through improved adherence to standards; enhanced structure-process-outcomes axis by applying quality management principles and tools with the aim of satisfying patients in a culturally appropriate way, was launched in 2008. However, despite this well-thought initiative to improve the quality of

healthcare services offered in public health care facilities in Kenya, a myriad of challenges still abounds. Kibui et al., (2015) concluded that decentralization of healthcare to the forty-seven (47) counties in 2013 had been plagued by health workers' dissent and constant industrial strikes resulting in interruption of services, poor intergovernmental coordination, reduced budgetary allocation, poor healthcare governance with political interference, improper management of human resource with ethnic profiling, unprocedural discharges and delayed remuneration. These challenges present a difficult environment in which to embed quality safeguards in the recently launched UHC in Kenya.

1.2.1 UHC reforms in Kenya & pilot phase

The constitution of Kenya 2010 was instrumental in changing the legal and policy terrain through which healthcare in Kenya is administered. It introduced the devolved system of governance with two tier government (national and county governments) with the sole purpose of enhancing utilization and geographical access to quality of care including to the poor and vulnerable groups (Okech & Lelegwe, 2015). Further, the constitution provided the right to access of health care including emergency and reproductive services (Constitution, 2010). This legal framework provided the basis through which devolving of health care provision to the counties (except policy, management of tertiary and teaching Hospitals) was launched in 2013. The passing and subsequent signing of Health act 2017 operationalized the articles on health in the constitution cementing and expanding the benefits of the new law.

Such broad and progressive policies served as the basis of some of the recent reforms and initiatives in Kenya that have signaled the government's good will and embrace of better public healthcare. In 2013, the then new government announced abolition of user fees at primary health care facilities and introduced free maternity care at all the public facilities in Kenya. This was meant to cushion the poor and vulnerable groups and provide access to quality care in addition to reigning on the high maternal and child mortality rates. However, the positive intentions of this policy direction would be curtailed by implementation challenges including increased utilization resulting to congestion, breakdown of equipment and machines, commodity stock-outs, delayed disbursement of funds to the counties among others(Mwaura, Barasa, Ramana, Coarasa, & Rogo, 2015).

The '*beyond zero'* initiative by the country's first lady is another such attempt meant to provide an advocacy platform for preventing preventable maternal and child deaths as well as elimination of mother to child transmission of HIV and syphilis. The mobile clinics have been

able to respond to unmet needs of the vulnerable populations especially those in hard-to-reach areas and help to link these populations to the wider health system (Moindi, Ngari, Nyambati, & Mbakaya, 2016).

The National Hospital Insurance Fund (NHIF), the country's sole public and the largest health insurer covering 16% of Kenyans (Kazungu & Barasa, 2017) was identified and settled on as the vehicle through which UHC would be implemented successfully. Reforms recently undertaken at the fund including the introduction of civil servants scheme (2012), introduction of stepwise quality improvement system (2013), health insurance subsidy for the poor (2014), revision of monthly contribution fees and expansion of the benefits package (2015) and upward revision of the provider reimbursement rates (2016) convinced the government of the day of the institutions preparedness to handle the task (Barasa, Rogo, Mwaura, & Chuma, 2018).The MOH also announced the Kenya Medical Supplies Agency (KEMSA) as the main provider of commodities during the UHC pilot phase.

The current government's (2017-2022) 'Big 4' agenda encompassing affordable housing, enhanced food security and manufacturing industry and UHC program captured the government's intention to accelerate the realization of the latter. To operationalize this, MOH launched a UHC pilot phase implementation plan in December 2018 in four Counties namely Kisumu, Nyeri, Machakos and Isiolo to demonstrate the feasibility and cost implications of providing full subsidy for health insurance for all populations in the pilot counties (in addition to the vulnerable), demonstrate the adequacy or otherwise of the current NHIF Premium, provide lessons on the resilience of the health system to provide comprehensive health services (inform policy decisions) and inform scale up to the rest of the country after the twelve months taking into account lessons learnt from the pilot phase.

The approach focused on scrapping user fees in the public health facilities at all levels, securing commodities through KEMSA, providing conditional grants to the four counties in an effort to strengthen their primary health care interventions, employing additional healthcare workers and scaling up of the use of Community Health Volunteers (CHV's) and investment into monitoring and accountability systems (Owino, Wangong'u, Were, & Maleche, 2020).

To finance the pilot phase, the government with the support of its development partners chose to use conditional grants to reimburse the lost revenue from user fees foregone. The four counties received a total of Kshs.3.1 billion divided across four areas-delivery of basic and specialized services (72%), health system strengthening (15%), community health services

(12%) and public health services (1%) (Guyo & Vilcu, 2020). As per MOH guidelines, funds flowed from the national treasury to MOH then to each county's UHC account except those meant for buying commodities which would be channeled directly to KEMSA. From county coffers, level 4 and 5 facilities would then receive the monies into their bank accounts directly with the rest of money being credited to County Health Management team (CHMT) account.

The UHC pilot program officially ran for twelve months from December 2018 to December 2019. Despite halted conditional grants from the national government, Machakos County government continues to implement the UHC program for its residents using local resources. There was no re-introduction of the user fees charged before the pilot phase and the County government continues to source commodities from KEMSA to support its 'free' health care program.

1.2.2 Overview of Matuu Sub County Hospital

Matuu Sub County Hospital, a 42- bed capacity level 4 health facility is one of ten level 4 Hospitals in Machakos County, Eastern Kenya that serves Yatta and Masinga Sub Counties as the main referral facility offering referral out-patient care, in-patient services, emergency obstetric and surgical services, specialized laboratory tests, radiology services including x-ray and ultra sound, specialized clinics such as Comprehensive Care Clinic (CCC), TB clinic and specialist's clinics. Other services offered include rehabilitative services and nutritional care.

The total catchment population for the facility is 321,105 persons with women and children comprising of 67.5% (216,705) of the total population (Kenya National Bureau of Statistics,KNBS 2019). The facility serves as the referral point for the 28 level 2 and 3 facilities in Yatta Sub County and thirteen in Masinga Sub County.

The Hospital is headed by a Medical Superintendent who is a Medical Officer (MO) by profession and has the overall responsibility of managing the facility assisted by a Hospital Administration Officer (HAO) whose duties are running administrative aspects of the facility. The facility is served by one pediatrician, one family physician, three general practitioners, two pharmacists and one dentists among its senior clinical staff. The nursing staff totals 48 while Clinical Officers (COs) are twelve (12) among them two specialists in anesthesia and one in pediatrics. The total workforce service the facility is close to 130 healthcare workers.

1.2 Problem Definition

Previous research on patient's satisfaction in countries that are in different stages of implementing UHC especially low- and middle-income Countries shows mixed results. For instance Abuosi & Atinga, (2013) showed that patient's expectations were not being met during medical treatment in Ghana while Stokes et al., (2015) reported increased user satisfaction with health services every year since the introduction of healthcare reforms meant to aid in achieving UHC in Turkey in 2003.Further, Li et al., (2012) in a study carried out in Shanghai, China showed higher satisfaction levels with clinical services available after the health care reforms of 2009 in China.

Few studies have been done to determine patient's satisfaction with UHC reforms in the early phases of implementation (first 5 years) especially in the lower middle-income countries of Sub-Saharan Africa. In one study that is reasonably close to this one, White, Levin, & Rispel, (2020) in studying migrants perceptions of health system responsiveness and satisfaction with health workers of Gauteng province in South African found out that 30% of migrants reported long waiting times as the cause of their dissatisfaction while 94.3% appreciated the fact that consulting nurses and doctors listened to them keenly. In eastern Europe's Georgia, Kuchuloria et al., (2016) looked at the patient's satisfaction after 4 years of UHC implementation and found that only 35% of the respondents were satisfied with Universal Health Program (UHP), 36% were less satisfied while 2% were dissatisfied. 27% had not utilized the services but assessed the program positively.

In Kenya, Gitobu, Gichangi, & Mwanda, (2018) focused on the government's UHC sub-agenda of free maternal healthcare policy and reported a satisfaction rate of 54.5% with mothers mostly satisfied with communication by the healthcare workers, staff availability in the delivery wards and drug availability but were dissatisfied with consultation time, general cleanliness of the facilities and privacy in the wards of the public hospitals surveyed. This study utilized a quantitative exit survey questionnaire. To the best of the researcher's knowledge, no studies have been carried out in Kenya to evaluate patients' satisfaction with the recently launched UHC reforms and especially utilizing SERVQUAL model.

This study sought to fill this gap by assessing the user satisfaction with the reforms at one of pilot phase counties in Kenya; Machakos County. The early evaluation is aimed at informing important policy tweaks and greater managerial support to ensure quality improvement practices are embedded into the UHC programming in Kenya. This will ultimately guarantee

safety and buy-in by the patients as confidence soars resulting in higher utilization and therefore enhancing population health.

1.3 Research objectives

1.3.1 General objective

To determine the overall patient satisfaction with UHC reforms at Matuu Sub County Hospital.

1.3.2 Specific objectives

i. To assess patient satisfaction with tangibles (infrastructure and general appearance of facility) since UHC reforms implementation.
ii. To determine patient satisfaction with different aspects of assurance (courtesy, trustworthy among others) since UHC reforms enforcement.
iii. To establish patient satisfaction with health system responsiveness since UHC reforms.
iv. To determine patient satisfaction with the facility's reliability since UHC reforms implementation.
v. To assess patient satisfaction with staff empathy tendencies since UHC roll out.

1.4 **Research questions**

This research seeks to answer the following questions:

i. What elements of tangibles are patients satisfied with since implementation of UHC?
ii. What are patients assured with since implementation of UHC?
iii. What aspects of health system responsiveness are patients satisfied with since UHC roll-out?
iv. What aspects of reliability of healthcare workers are patients satisfied with since UHC implementation?
v. What is the level of patients' satisfaction with empathy shown by health workers since UHC roll-out?

1.5 Significance of the study

The implementation of UHC pilot project in four counties in November 2018 presents a unique opportunity to practitioners, administrators, policy makers and academia/scholars to draw varied lessons. This study will inform the local hospital management and other public hospital management teams in Kenya on areas of care where improvement of service delivery is

urgently required in order to enhance patient perceptions of services offered. Healthcare workers and other hospital staff will benefit by identifying and correcting defects in areas plagued by quality gaps so as to better serve and satisfy patients.

Policy makers at county and national levels will draw important lessons on areas where UHC has led to improved perceptions and expectations and therefore quality of services and those that UHC hasn't influenced much or has led to declining performance. This is crucial in planning for future country-wide escalation of UHC agenda in areas of resource allocation, human resource planning and general administration of health in Kenya. Further, this will aid in formulation of relevant policies in service quality enhancement within the government facilities in the country.

Academicians and scholars will find the study useful in providing literature for future research as well as forming a basis for further research especially since UHC agenda is gaining momentum worldwide and the link between its roll-out and patient satisfaction with services rendered is not widely researched.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This Chapter reviews the existing literature on the subject of UHC and patient satisfaction. A review of the current existing theories especially Gap theory which forms the basis for the research is then presented. Empirical review of the literature is then presented and finally a conceptual framework is introduced clearly depicting the relationship between the independent and dependent variables.

2.2 Universal Health Coverage

Universal health coverage formerly dubbed 'health for all' is a resurged rallying call for global health (Pandey, 2018). WHO initially conceived the idea in 1970s and culminated in Alma Ata declaration during the International conference on Primary Health Care held in 1978 in Alma Ata (currently Almaty), Kazakhstan. The declaration reaffirmed that health is a fundamental human right, acknowledged the inequalities in health status between developed and developing nations and even within individual countries and called for formulation of policies and strategies by governments to ensure launching and sustaining of primary health care as part of comprehensive national health systems (WHO , 2017).The momentum however fizzled and within a decade most nations had abandoned the initiative altogether (Cueto, 2004).

The idea would later regain momentum in early 2000s with World Health Assembly (WHA), the governing body of WHO in 2005 adopting resolution 58.33 calling for member countries to reform their health financing mechanisms in order to attain UHC (Pandey, 2018). The importance and central role that health plays in the general well-being of the populations would further be made apparent when the 67th United Nations General Assembly passed a resolution adopting universal health coverage as one of the flagship goals of sustainable development goal 3.

In order to realize an objective interpretation of what UHC is, there's a fundamental need to independently and individually define the three UHC Words-Universal, Health and Coverage. In the UHC context, 'universal' is defined as a legal obligation of a state to provide health services to all its citizens with special attention to its disadvantaged and most vulnerable(Kirby, 1999). WHO defines 'health' as a state of complete well-being physically, socially and

mentally and not mere absence of disease or infirmity (WHO, 1946) while 'coverage' broadly refers to accessibility of services without barriers of financial hardships occasioned by out-of-pocket payments (O'Connell, Rasanathan, & Chopra, 2014). The three terms therefore encapsulate the existence of legal framework to ensure residents including the vulnerable and special groups have access to health care without suffering financial hardships.

This global agenda has quickly gained momentum with considerable number of nations moving towards its realization albeit with different results and challenges. Research shows widening gap in variance in service coverage among the 183 WHO member countries. WHO and World Bank in the report 'Tracking Universal Health Coverage: 2017 Global Monitoring Report' found that service coverage as a measure of UHC implementation progress was highest in East Asia, North America and Europe (77%) on service coverage index while Sub-Saharan Africa had the lowest value (42%) closely followed by South Asia at 53%. Some low- and middle-income countries including Sri Lanka, Rwanda, Cuba, Colombia and Chile have however reported encouraging progress towards attaining UHC (Higashi, Khuong, Ngo, & Hill, 2011)

Marten et al (2014) on examining the progress towards UHC in BRICS nations (Brazil, Russia, India, China and South Africa) found that China recorded the most rapid increase aided by the booming economic growth in the past two decades while India despite recording the second fastest economic growth in the block had the least improvement. Bangladesh faces enormous challenges to achieving UHC among them meager health investments resulting in weak health systems, absence of mandatory prepayment methods for those in formal employment and subsidized schemes for the poor, weak civil registration system harboring introduction of health information systems and ultimate lack of political commitment in appreciating the need for UHC (Huda, Khan, Ahsan, Jamil, & Arifeen, 2014).Closer home, Ghana reported good progress in mortality trends and coverage rates but struggles with inequalities in health worker's distribution, falling health care budgetary allocation and low enrollment (34% against a target of 70% by 2012) in National Health Insurance Scheme (NHIS) (Nyonator, Ofosu, Segbafah, & d'Almeida, 2014).

Progress in Kenya is no different albeit different challenges altogether. Barasa, Nguhiu, & McIntyre (2018) found that service coverage (SC) had increased from a median of 27.65% in 2003 to 41.73% in 2013 but showed a downward trend in financial risk protection (FHR) from 69.82% in 2003 to 63.78% in 2013 signifying an increased incidence of catastrophic and impoverishing health care expenditure. The study concluded that the country had a long way

to go to achieve UHC owing to the low computed UHC index (53.37% in 2013) mainly due to improper health financing systems and poor health sector governance.

2.3 Patient Satisfaction

The term satisfaction has increasingly gained popularity in the context of patient care in the last few decades due to its pointer towards the level of services given by a provider. Improvement of service management, adoption of proper management policy procedures, prioritization of resource allocations, training needs and change of health professional behaviors are areas where frequent evaluation of patient's reviews can bring a positive change in the functioning of a health system (Batbaatar, Dorjdagva, Luvsannyam, & Amenta, 2015).

In recent past, as education levels and standards of living change for better so is the demand for better medical care. In these circumstances, improved quality of medical care services has become a primary concern of patients and as such providers have put more emphasis on satisfying and retaining patients by providing better services sometimes akin to hotel services (Alhashem, Alquraini, & Chowdhury, 2011). Further, patient satisfaction has become one of the most commonly surveyed attributes of health care as consumers become more sophisticated about the care they demand, providers become more attentive to those concerns and competition intensifies (Cleary & Mcneil, 2016).

The need for Hospitals to exceed patient's expectations by giving the best experience has financial, reputational and sustainability of practice closely pegged to it. Andaleeb, (1998) concluded that patient satisfaction often enhanced a hospital's image leading to increased service use and therefore market share. Satisfied patients are likely to exhibit positive behavior by preferring the health facility over others which increases their purchase volume, leads to further referrals or paying a premium price (V. A. Zeithaml, 2018).

2.3.1 Theoretical review on patient satisfaction

The major theories on patient satisfaction were published in 1980s influenced by the emerging need for quality assurance and market competition in healthcare industry. From a consumer satisfaction perspective, satisfaction is defined as the subjective judgment of their (consumer) expectation against the actual experience of the product/service (Batbaatar et al., 2015). Patient satisfaction literature is almost identical borrowing heavily on patient expectations and actual experience of the services received.

Proponents of economic theory advocated that the price paid for a service is commensurate with the quality of services received for satisfaction to occur Crow et al., (2002). Patients will be dissatisfied if the expectations of service quality are not equal to the price paid. Donabedian, (1980) while advancing the 'health quality theory' proposed that expression of (dis)satisfaction is a product of individual patient's judgment of quality of services as a whole but mainly the interpersonal component of care. The 'needs theory' researchers believed that patient satisfaction can be explained by Maslow's human motivation theory in that patient's needs are equal to their expectations (Sixma, Kerssens, Campen, & Peters, 1998). These approaches depict the multifactorial and multidimensional nature of patient satisfaction.

Despite the many theories proposed to explain patient satisfaction, two (2) main ones discussed below are most relevant:

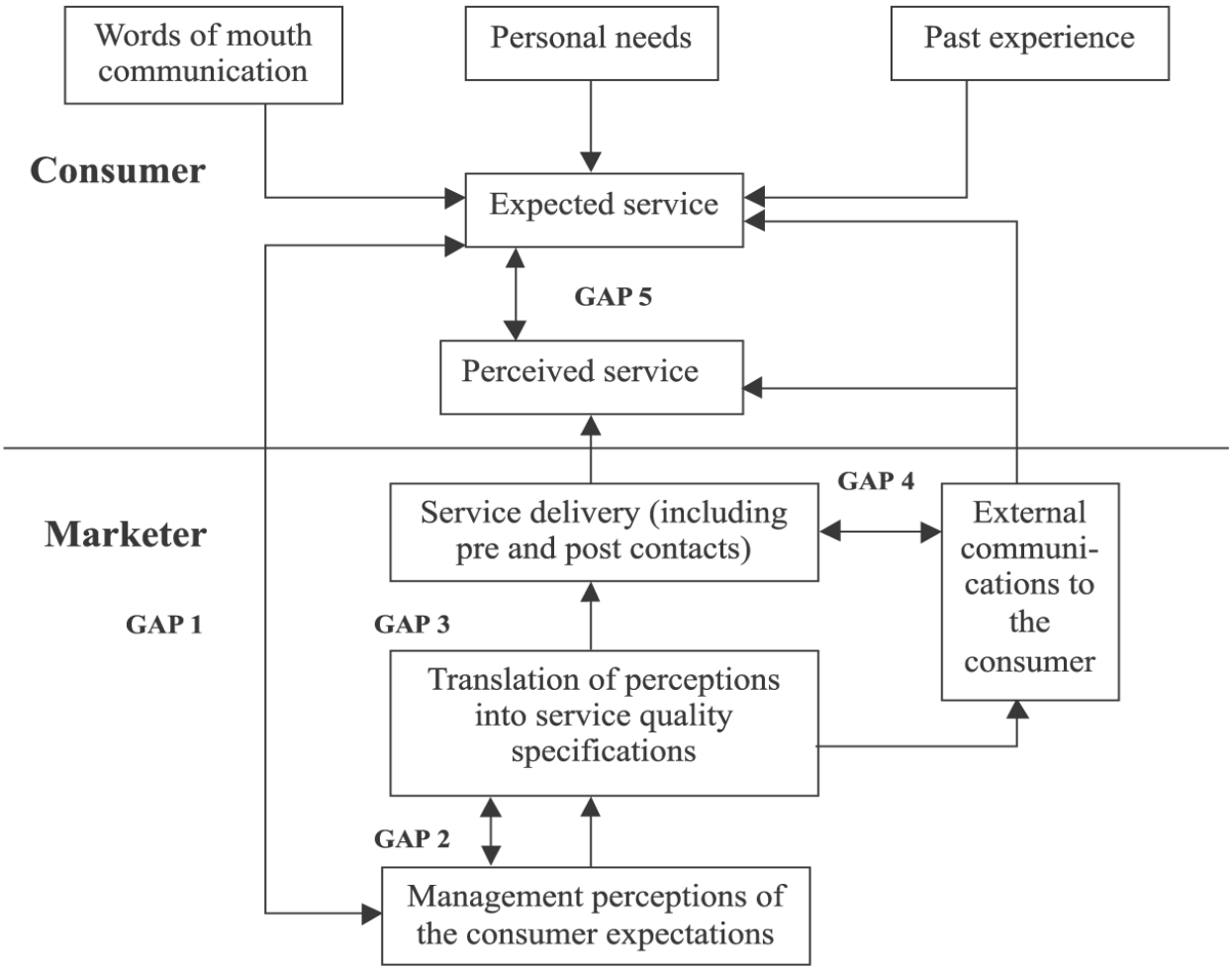
2.3.1.1 Expectancy-value theory

Linder-Pelz, (1982) believed that satisfaction is a product of one's personal beliefs and values coupled with prior expectations of care. He proposed five (5) psycho-social variables as the determinants of patient satisfaction including expectations, values, entitlements, perceived occurrences and beliefs. Support in the research community was however minimal with widespread criticism as some of determinants such as expectations only explained a partly 8% of one aspect of satisfaction, physician conduct (Pascoe, 1983b).

2.3.1.2 The Gap theory

Parasuraman, Zeithaml, & Berry (1985) proposed a conceptual foundation to investigate service quality by carrying out an exploratory qualitative study in four (4) major service industries namely retail banking, credit card, securities brokerage, and product repair and maintenance in what is today referred to as 'gap model.' Through executive interviews, the researchers identified a set of discrepancies in the managers' perception of service quality as regards service delivery to the customers. Thus, they concluded that the function difference between expectations and perceptions in the quality dimensions measured constituted the service quality. Figure 2.2 below shows the 'gap model' as advanced by Parasuraman *et al.*

Figure 2.2: 'Gap Model'



Source: Parasuraman *et al*. (1985)

The various gaps depicted are:

Customer expectation-management perception gap: This is the gap between the customer's service expectation and management's perception of those expectations i.e. the management inability to discern the customer's expectations and instead provide services which they themselves (managers) think the customers want. This is arguably the most important and prevalent gap in healthcare currently as most public and private health facilities do not have a clear understanding of their target patient expectations of services to be offered.

Management perception-service quality specifications gap: Disconnect between management's perception of customer's service quality requirements (customer expectations) and the actual

set of specifications for a service. This is possible in the absence of management commitment to service quality, resource constraints and lack of standardization.

Service quality specifications-service delivery gap: This gap exists where specific guidelines on quality of services exist but the actual services delivered by the providers are below par. This is mainly due to employees being ill equipped to manage customer needs. For example, lack of skills or poor training of employees, poor workmanship attitudes, lack of motivation among others.

Service delivery-external communications gap: External communications can raise the expectations of customers with the actual services falling short. If an organization promises more than it can deliver in reality, the perceptions of the customers about the quality of services once consumed will be lower than initially expected hence dissatisfaction.

Expected service-perceived service gap: The perceived quality of services does not meet or exceed customer's expectations.

This study primarily examines the role of UHC on expected service-perceived gap of the model whereby patients attending and admitted in Matuu Sub County Hospital were surveyed on their expectations of quality of care before service provision and perceptions of the actual services after consumption will be analyzed.

2.3.2 Empirical review of patient satisfaction with UHC

In a study conducted in South Korea to assess the public satisfaction with the UHC system of the nation, Park, Park, Kwon, Kang, & Noh, (2016) used thirteen(13) items spread across three sections: access to care, cost of care, and quality of care. They concluded that quality of care had the largest impact on satisfaction of the healthcare system.

Yip et al., (2019) recently contented that in the past ten years, China had made substantial progress in making equitable access of care available and enhancing financial protection especially for people of lower socioeconomic status. However, he also noted serious gaps in quality of care, control of non-communicable diseases, efficiency in delivery of care, control of health expenditures and low public satisfaction as some of the main challenges facing the health reforms of 2009.Indeed, Pan, Liu, & Ali, (2015) listed 'expensive medical charges' as the chief reason why the Chinese public was dissatisfied with their health care reforms since they were inaugurated in 2009.

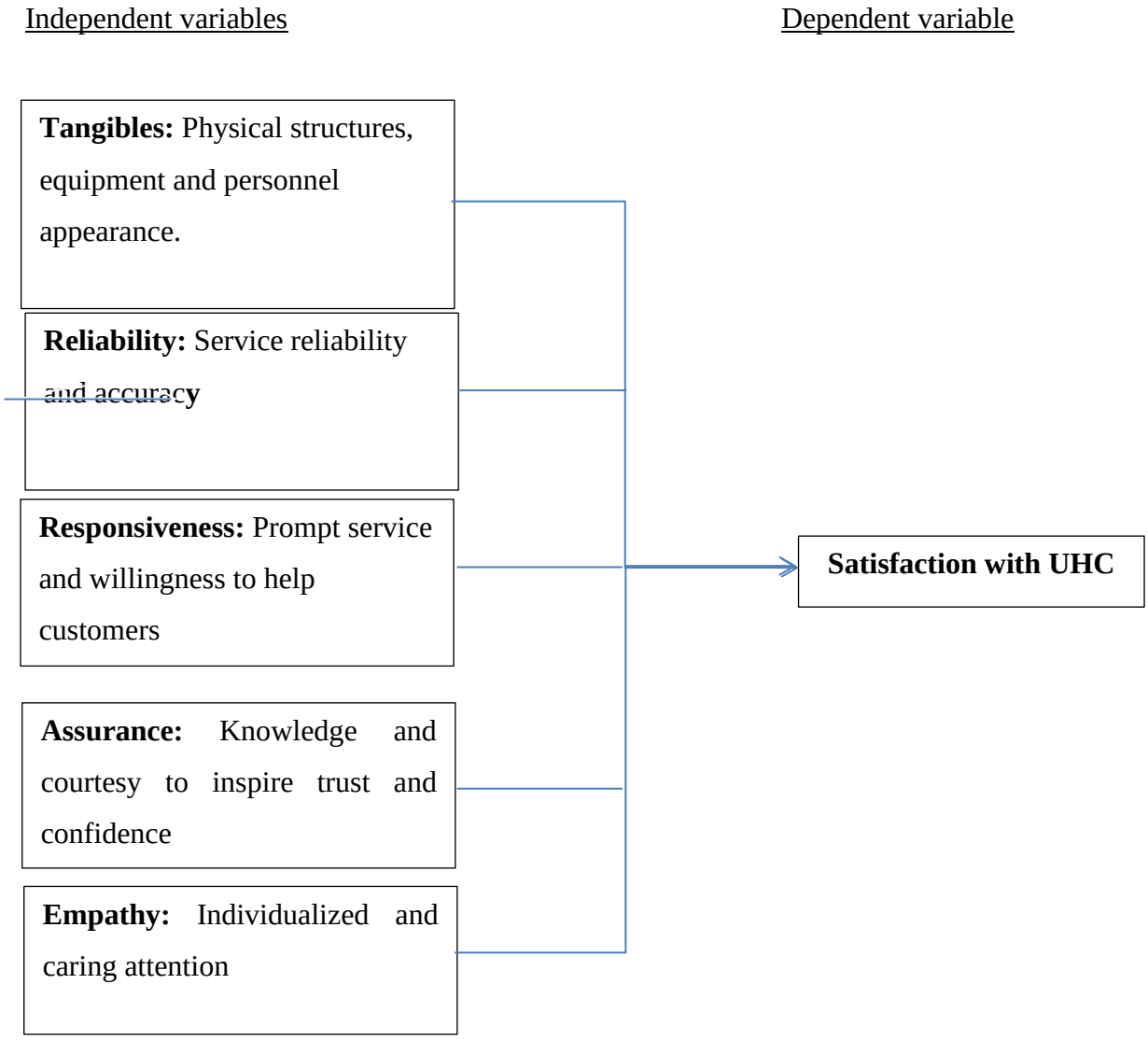
In Bangladesh, Mohiuddin, (2020) showed how public concern with quality of services in the hospitals has eroded the confidence in healthcare providers, led to underutilization of public health facilities and increased outflows of patients to hospitals abroad. Among factors contributing to this dissatisfaction and shaping the patients' negative attitudes include poor and insufficient infrastructure, lack of medical equipment and drugs, long distances to health facilities, long waiting times, lack of empathy and callous attitude by healthcare professionals, poor levels of competence among others.

Closer home, Yaya et al., (2017) provides a good account of the differences in patient satisfaction with primary healthcare reforms aimed at achieving UHC among the rural and urban populations in Ghana. The study showed an overall satisfaction of 57.1% with a statistically insignificant difference between the urban and rural areas (57.6% versus 56.6% respectively, $z = 0.64$; $p = 0.523$; 95%CI: -0.022, 0.043). However, after adjusting for confounding variables, he notes that geographical location became a key factor with primary healthcare services satisfaction with the regions in the urban greater Accra ranking higher compared to those in western, central, Volta and Ashanti regions.

2.4 Conceptual Framework

A conceptual model attempts to show the relationships that exist between salient variables (Ghobadian & Ashworth, 1994). A variable is a measure characteristic that assumes different values among subjects (Mugenda & Mugenda, 2003).There are two kinds of variables; independent and dependent variables. An independent variable is the variable that is manipulated by the researcher so as to examine its influence on the dependent variable (Kombo, Africa, & 2006, n.d.). Figure 2.2 shows this study's variables relationship.

Figure 2.3 conceptual framework



Source: Author (2020)

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

Research methodology is a collection of methods or a set of rules by which particular research is undertaken. This chapter details the research design, population and sampling technique and sample size determination, data collection methods with a thorough discussion of the SERVQUAL questionnaire employed, data analysis and quality of study. Study ethics employed are briefly discussed at the end of the chapter.

3.2 Research design

This is a descriptive cross-sectional design study. Quantitative research broadly refers to collection of data so that information can be quantified and be subjected to statistical analysis in order to support or refute a prior stated hypothesis (Marvasti, 2018). It collects typically numerical data which is mathematically analyzed by using statistical methods to yield new information for the researcher. In a Cross-sectional research design, a researcher gathers information representing what is going on at one point or over a short period of time and therefore providing a 'snapshot' of what's going on (Levin, 2006).

The appropriateness of the design to this study is in its ability to decipher patients' satisfaction with service quality at the time of data collection (approximately three years in relation to UHC reforms implementation at Matuu Sub County hospital) therefore giving snapshot feedback at this time.

3.3 Population of study

Statistically, general population is an entire group of subjects about which a study is carried out to ascertain some information while target population that is selected from the general population is the group with relevant and specific attributes for that particular study.

The general population for this study included all the patients presenting for medical services in the main departments (outpatient, inpatient, maternity, pediatrics, TB, HIV/AIDS clinic, dental, medical out-patient clinic, laboratory and radiology) of Matuu Level 4 Hospital, averaging 1400 patients per week (Matuu HMIS statistics, 2019). The target population was the number of patients seeking services in departments for which UHC has had substantial influence since its inception in November 2018. Departments such as Maternity and pediatric

wards (Under 5 ward), Comprehensive Care Clinic (CCC) and TB clinics were excluded as patients in these clinics already enjoyed waived user fees and substantial government and partners' investment. Other exclusion criteria were: Patients too sick to give consent, children aged sixteen years and below (caretakers were allowed to fill the questionnaire on their behalf) and in patients whose overall stay in the wards was less than 24 hours.

3.3.1 Sampling Design

Due to cost, time and the tedious nature studying a whole population presents to a researcher, a sample sufficient and representative enough was necessary to enable generalization of the study findings. Simple random sampling technique was used in this study. Respondents were randomly selected to fill the questionnaire at the triage/waiting bay section of the facility to ensure pre-service expectations are captured.

3.3.2 Sample size

The sample size for this study was calculated using the formula by Yamane, (1967) as follows

$$n = \frac{N}{1 + Ne^2}$$

(A 95% confidence interval and P=0.05 is assumed)

Where *n* is the sample size,

N is the population size (approximately 1400 patients visited the facility weekly since 2018- Matuu HMIS statistics)

e is the level of precision (Assumed ±5% for the above equation)

Therefore

$n = \frac{1400}{1+1400(0.05)^2}$ = 311 respondents

3.4 Data collection methods

Data was collected by use of a closed ended SERVQUAL questionnaire specially tailored to capture the expectations and perceptions of the patients on the five dimensions discussed earlier. The responses were recorded on a five (5) point Likert scale anchored on 'strongly

disagree' (1), disagree (2), neither agree nor disagree (3), agree (4) and 'strongly agree' (5) with the 'strongly disagree' end correlating with low expectations and perceptions and 'strongly agree' indicating high expectations and perceptions.

3.4.1 SERVQUAL tool

Researchers have extensively adopted the SERVQUAL tool developed by Parasuraman, Zeithaml and Berry in 1985 to measure service quality in different service organization albeit with minor modifications in the scale to suit the context. The initial tool contained ten dimensions that were later condensed to the current five: reliability, tangibility, assurance, responsiveness and empathy (Parasuraman, A. Zeithaml & Berry, 1988).The instrument administered twice, first to capture the customer's expectations and then their perceptions contains four or five numbered items to measure each dimension as shown in table 3.1. The sets of questionnaires are presented in a five-point Likert response format with the anchors "strongly agree" and "strongly disagree."

Service quality score for each dimension is calculated by subtracting the expectation scores from the corresponding perception scores (P-E=SQ) (Babakus & Mangold, 1992). According to gap theory, the overall service quality as a function of perceptions and expectations is modeled as:

$$SQ = \sum_{i=1}^{k} (Pij - Eij)$$

Where SQ= cumulative service quality: *k* number of dimensions

Pij=Perception of stimuli *i* with respect to dimension *j*

Eij=Expectation of stimuli *i* with respect to dimension *j*.

Table 3.1 SERVQUAL dimensions and items scale

Dimension	**Definition**	**Scale**
Reliability	The ability to perform the promised service dependably and accurately	5
Assurance	The knowledge and courtesy of employees and their ability to convey trust and confidence	4

Tangibles	The appearance of physical facilities, equipment, personnel and communication materials	4
Empathy	The provision of caring, individualized attention to customers	5
Responsiveness	The willingness to help customers and to provide prompt service	4

Source: European Journal of Marketing, Vol. 30 No. 1, 1996, pp. 8-32

The reliability of the tool in healthcare industry is well researched and validated. Babakus & Mangold (1992) concluded that SERVQUAL provided hospital administrators with a powerful tool to accurately measure the functional quality (manner in which healthcare is provided to the patient) in their own organizations. Camilleri & O'Callaghan (1998) accurately showed how the public healthcare sector was exceeding patient's expectations in Malta compared to private sector in provision of quality health services even though the patients initial perceptions were that private sector offered better quality services akin to 'hotel industry.' Malaysian private healthcare showed an overall moderate negative quality gap suggesting needed improvement in provision of quality medical services(Butt & de Run, 2010).

Recently and closer home in a study carried out in Ghana in 2014 using the SERVQUAL instrument, Peprah & Atarah concluded that patients were satisfied with level of service quality at Sunyani Regional Hospital although there was negative gap scores for four of the six dimensions used.

Overall, meta-analysis studies have consistently validated the worth of SERVQUAL tool to measure service since its inception in 1985. Carrillat, Jaramillo, & Mulki (2007) in a meta-analytic study to show the difference in validity of SERVQUAL and SERVPERF concluded that both instruments were equal predictors of overall service quality and different only in diagnostic purpose for which each is employed. Ladhari, 2009 in a review of 20 years of

SERVQUAL employment in service quality research concluded that the tool remained a useful instrument for service quality research despite some empirical and theoretical criticisms.

Critics of SERVQUAL model have often advanced both theoretical and operational shortcomings of the tool. Some of the theoretical criticisms include the fact that SERVQUAL heavily leans on measuring process of service delivery with little regard for outcomes of the service encounter, the five dimensions lack of universality and therefore the need to contextualize and that the instrument is based on disconfirmation paradigm rather than attitudinal paradigm (Buttle, 1996). Operationally, the polysemic nature and ambiguity in the term expectations leads researcher to believe that standards rather than expectations should be used to measure service quality (Iacobucci, Grayson, & Ostrom, 1994). Moreover, the Likert scale midpoint 'three' can easily be used to represent neutral responses and therefore induce respondents to select it in order to quickly finish the task ultimately increasing the chance of misinterpretation of results (Coulthard, 2004).

Data was collected over one week from Monday to Friday with two research assistants recruited to assist in administering of the questionnaire. Randomly selected respondents were asked to fill the questionnaire at the facility's service entry point (waiting bay/triage) to register their pre service expectations and then fill the perceptions section while exiting the hospital.

3.5 Data analysis

Completed questionnaires were checked and edited for completeness and consistency before analysis of the responses. Captured demographic data including age, gender, level of education and employment status was displayed using pie charts, bar graphs and prose-form as shown in the following chapter on 'presentation of study findings.' These factors influence health seeking behavior and closely correlate how patients are satisfied with service delivery.

Service quality gap scores for each of the five dimensions (tangibles, assurance, responsiveness, empathy and reliability) were then calculated to show the discrepancy between patient's perception and expectations of the quality dimension under study. The overall quality gap was then estimated as the sum of the five quality gaps. Positive gap scores signified that the patient's expectations were met or exceeded while negative scores indicated unmet expectations and therefore dissatisfaction with service quality.

Analysis with descriptive statistics by using SPPS (version 25) was then carried out to present information inform of percentages, mean, standard deviation and paired t-score for interpretation as per study objectives. Factor analysis was used to extract the constructs subject to Kaiser-Meyer-Olkin measure of sampling adequacy tests and Bartlett's Test of Sphericity.

3.6 Research quality

Validity and reliability are two terms closely associated with quality of quantitative research. Validity is the truthfulness of research results or the ability of a research instrument to truly and objectively measure the intended research subject (Maxwell, 1992). Reliability on the other hand is the extent to which results are consistent and reproducible overtime under the same methodology.

A pilot study of 15 questionnaires was commissioned in Mwala Level 4 Hospital (in neighboring Sub County, similar infrastructure and patient flow, similar health seeking tendencies) before the commencement of actual data collection for the researcher to test the questionnaire content validity and clarity to the respondents. The crucial advice of the supervisor and other examiners especially during proposal defense was taken in and areas that presented a challenge either through ambiguity or unclear meaning were modified and inconsistencies expunged so as to allow the tool to measure its intended dimensions. The pilot study ultimately presented an opportunity for the researcher and assistant(s) to familiarize with administration procedures before the actual data collection started.

Following the pilot study, the computed Cronbach's Alpha values are as shown on table 3.2. Cronbach Alpha coefficient is the most widely used and appropriate measure of reliability when using Likert scales Taherdoost, (2018) and is used to measure the internal consistency of an instrument. Although a Cronbach’s Alpha score of >0.7 is generally accepted as sign of acceptable reliability (Heale & Twycross, 2015), other studies have suggested that values equal to or above 0.6 are a good measure of reliability Straub & Gefen, (2004). Indeed, Hinton et al.,(2004) suggested four cutoff points which includes excellent reliability (>0.9), high reliability (0.70-0.9), moderate reliability (0.5-0.7) and low reliability (<0.5).

Table 3.2: Cronbach Alpha values

Reliability Statistics

Constructs	Cronbach's Alpha	N of Items
Expectation-Tangibles	0.849	4
Expectation-Reliability	0.728	3
Expectation-Responsiveness	0.736	3
Expectation-Assurance	0.601	4
Expectation-Empathy	0.649	4
Perception-Tangibles	0.880	4
Perception-Reliability	0.657	5
Perception-Responsiveness	0.761	4
Perception-Assurance	0.608	3
Perception-Empathy	0.696	5

The computed Cronbach's Alpha values for all the constructs lie above 0.6 signifying that the research instrument was reliable for collection of data.

3.7 Research Ethics

A research license was granted by the National Commission for Science Technology and Innovation (NACOSTI) after the Strathmore University Institutional Ethics Review Committee (SU-IERC) reviewed and approved the proposal. As the facility of interest is situated in Machakos County, permission was sought and granted by Machakos County health research and ethics committee through the County Director of Medical Services (DMS) with a letter of introduction from Strathmore University facilitating. A participant information and consent form detailing all about the study, the purpose of the research and use of the findings and that respondents' particulars will not be disclosed was attached for respondents to familiarize and sign before filling the questionnaire.

CHAPTER FOUR

PRESENTATION OF RESEARCH FINDINDS

4.1 Introduction

This chapter presents a discussion on the interpretation of the data obtained from the respondents including the response rate, analysis of their background information and findings as per the study objectives. Data extraction techniques including factor analysis and principal component analysis, descriptive and inferential statistics have been used to discuss these findings.

4.2 Response rate

Table 4.1 summarizes the response rate of the study

Table 4.1 patients' response rate

Questionnaire	Frequency	Percentage
Filled & returned	310	99.7%
Unreturned	1	0.3%
Total	**311**	**100%**

99.7% of the respondents surveyed returned the questionnaire and after inspections for completeness, all were deemed eligible to progress for analysis. This represented 99.7% response rate. This was an excellent response rate according to Mugenda & Mugenda, 1999 (70 percent and above is deemed excellent and therefore fit to make study conclusions). The use of face-to-face approach rather than recruitment or data collection by mail where respondents filled the questionnaire in presence of the researcher/research assistant in case any need for clarifications arose ensured this nearly perfect response rate.

4.3 Patients Demographics

The demographics for the respondents surveyed are as analyzed below

4.3.1: Age of respondents

The age of the respondents is presented in figure 4.1 below

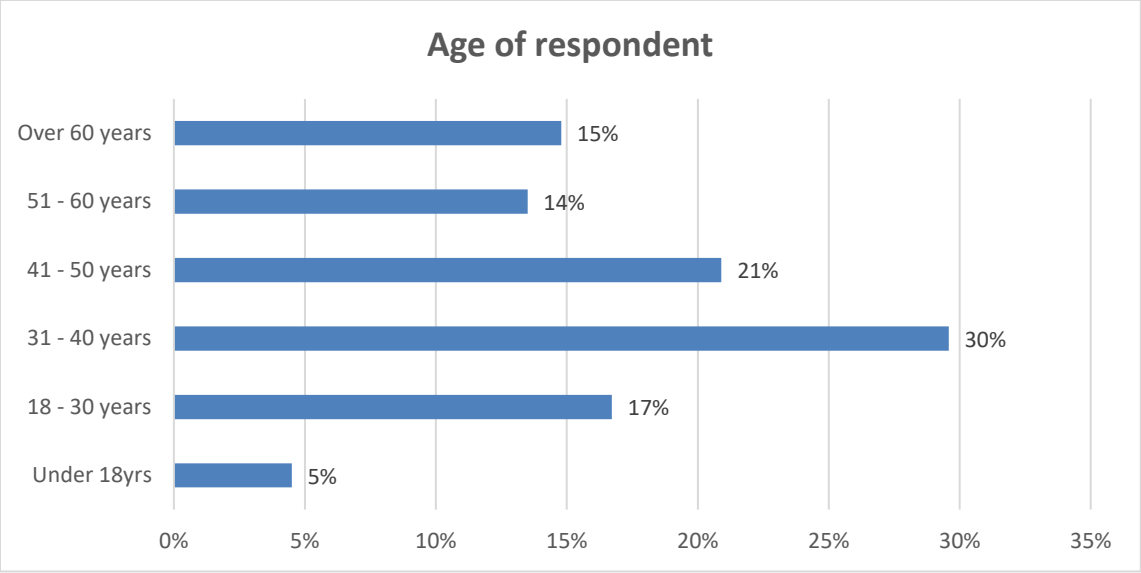


Figure 4.1 Age of respondents

The age group with the highest representation was that between 31-40years (30%) with those between 41-50 years accounting for 21%, 18-30 years represented 17% while those between 51-60 years and over 60 years represented 14 % and 15% respectively. The least represented were those under 18 years (5%). The findings confirmed that all age groups were represented in the study.

4.3.2 Gender

The study findings indicated that 51% of the respondents were female while 49% were male as shown in figure 4.2 below. The fair distribution of the two sexes proves that no gender bias was evident in the study.

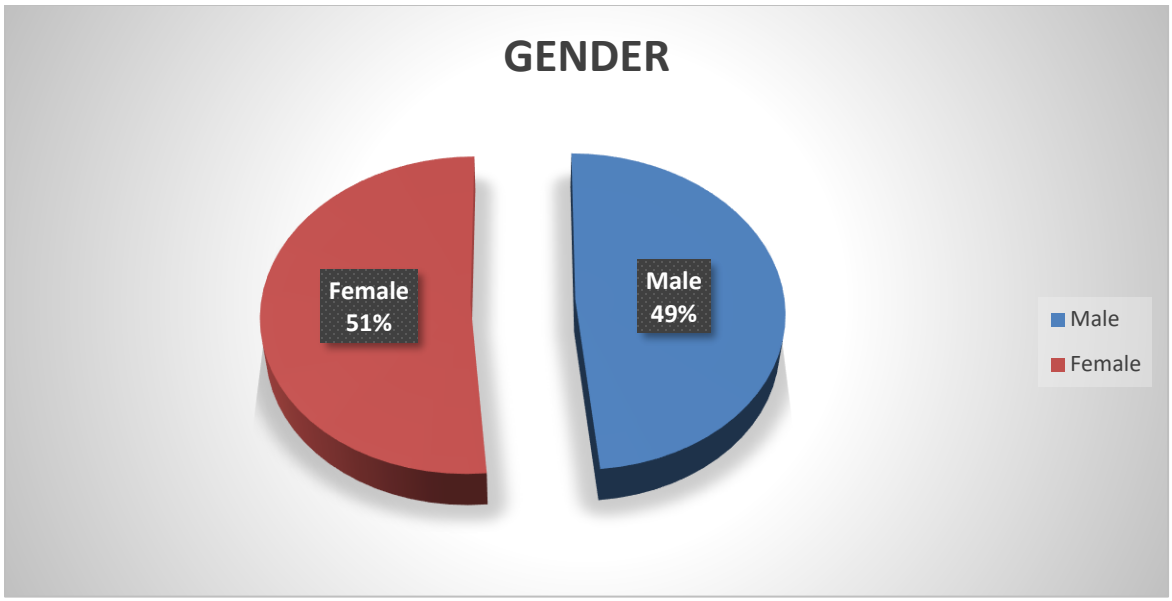


Figure 4.2 Gender of respondents

4.3.3 Education Level of respondents

Figure 4.3 shows a bar graph representation of education level of respondents.

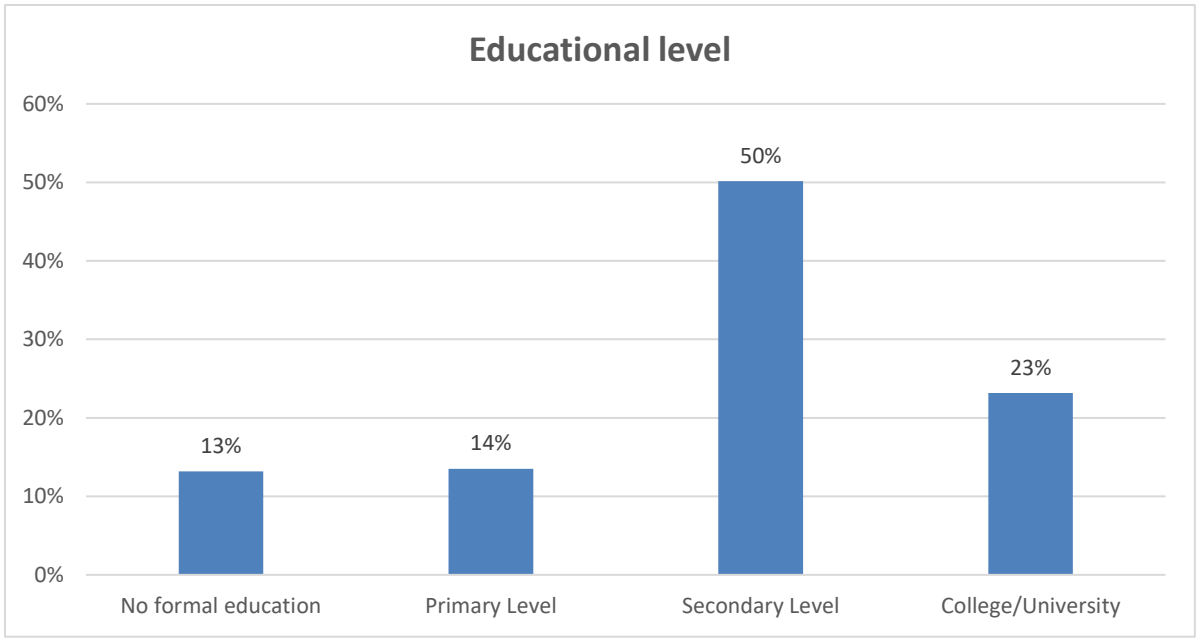


Figure 4.3 Education levels of respondents

The level of education of the respondents showed those with secondary level education accounting for 50% while those with tertiary level education representing 23%. Primary level education and

those with no formal education represented 14% and 13% respectively. Thus means the majority of the respondents (87%) had basic education to allow them to adequately understand the questions and give a credible response. Those without any form of education required considerable help translating which can be a basis for communication bias (the percentage was rather low, 13%).

4.3.4 Employment status of respondents

Figure 4.4 summarizes the employment status of the respondents

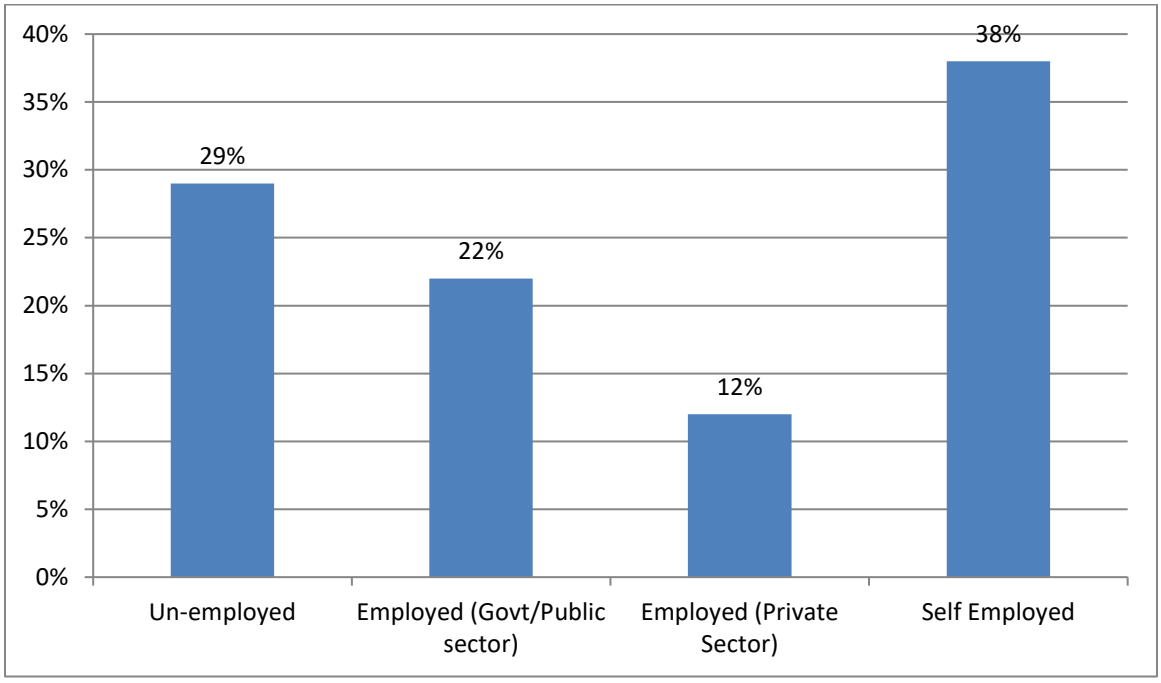


Figure 4.4 Employment statuses of respondents

Among the respondents, those employed in public and private sectors represented a total of 34% (22% and 12% respectively). The majority of those surveyed though indicated they were in self-employment (38%) and the remaining 29% as unemployed.

4.4 Patients' satisfaction with tangibles since UHC reforms implementation

The study sought to assess patients' satisfaction with tangibles since the implementation of UHC phase program.

4.4.1 Factor analysis

Factor analysis is a cluster of common methods used to explore the underlying pattern in multivariate data (Baglin, 2014).There are two types of factor analysis namely exploratory factor analysis (EFA) and confirmatory factor analysis (CFA) . EFA (utilised in this study) works by reducing measurable and observable variables to fewer latent ones that share observable common variance (Yong & Pearce, 2013). Principal component analysis (PCA) on the other hand is a multivariate technique used to reduce the number of variables in a data set into smaller number of dimensions (Vyas & Kumaranayake, 2006).

The four items of tangibles surveyed for expectations and perceptions were subjected to principal components analysis (PCA) using SPSS version 25. Prior to performing PCA, the suitability of data for factor analysis was assessed. From table 4.2 below, the Kaiser- Meyer-Olkin value exceeded the minimum recommended value of 0.6 (Kaiser, 1970) and Bartlett's Test of Sphericity (Bartlett 1954) reached statistical significance ($p<0.05$), supporting the factorability of the correlation matrix.

Table 4.2: KMO and Bartlett's test

KMO and Bartlett's Test				
Constructs	KMO	Approx. Chi-Square	df	Sig.
Expectation(Tangibles)	0.793	569.091	6	0.000
Perception(Tangibles)	0.820	664.480	6	0.000

Principal components analysis revealed the presence of one component with eigenvalue exceeding 1, explaining 69% of the variance for expectations and 73% for perception as shown in table 4.3 and 4.4 below. A single score for each sub-scale was then calculated using the mean for expectations and perceptions.

Table 4.3: Principal Component Analysis for expectation (tangibles)

Total Variance Explained: Expectation (Tangibles)

Component	Initial Eigenvalues	Extraction Sums of Squared Loadings

	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.769	69.219	69.219	2.769	69.219	69.219
2	0.623	15.566	84.785			
3	0.353	8.823	93.609			
4	0.256	6.391	100.000			

Extraction Method: Principal Component Analysis.

Table 4.4: Principal Component Analysis for perceptions (tangibles)
Total Variance Explained: Perception(Tangibles)

	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.945	73.626	73.626	2.945	73.626	73.626
2	0.493	12.336	85.962			
3	0.302	7.559	93.521			
4	0.259	6.479	100.000			

Extraction Method: Principal Component Analysis.

4.4.2: Descriptive statistics

Table 4.2 shows the findings of descriptive statistics for patients' satisfaction with tangibles since UHC program reforms commenced.

Table 4.5: Descriptive statistics for patient satisfaction with elements of tangibles

Statement for Tangibles	**Expectations**		**Perception**		**P-E gap score**
	Mean	**Std. deviation**	**Mean**	**Std. deviation**	
New and modern equipment availability	3.66	0.930	3.82	0.956	+0.16
Physical facilities and buildings that are more visually appealing	3.71	0.930	3.80	0.955	+0.09
Staff at the Hospital dress well and neatly	4.01	0.959	4.01	0.992	0.00

New &appealing service material	3.36	0.873	3.66	0.947	+0.30

From the findings on table 4.2, it's evident that among the four elements of tangibles surveyed, grooming of staff ranked highest on the five-point Likert scale for both patients' expectations and perceptions (mean=4.01). Service materials used in the facility impressed the least on the patients and therefore ranked lowest (Mean=3.36 and 3.66 for expectations and perceptions respectively). Overall, the new and appealing service materials such as stationery and uniforms in the facility since UHC reforms inception recorded the highest positive change/P-E gap score (+0.30) while staff grooming recorded no change on the two parameters of study.

4.4.3: Inferential statistics

The summary inferential statistics for patient satisfaction with tangibles is a shown on table 4.6 below.

Table 4.6: Summary inferential statistics for patients' satisfaction with tangibles

		Paired Differences							
					95% Confidence Interval of the Difference				
		Mean difference/P-E gap score	Std. Deviation	Std. Error Mean	Lower	Upper	t	df	P values
Pair	Perc-Tangibles Expe-Tangibles	+0.13548	0.57752	0.03280	0.07094	0.20003	4.131	309	0.000

The study found the overall mean difference between the patients' perceptions after service consumption and their pre-service expectations on the elements of tangibles since inception of UHC reforms pilot program (overall P-E gap score for tangibles) was positive (+0.135) signifying patient satisfaction. This closely correlates with the difference in the eigenvalues of component accounting for the highest variance in perception and expectations of the tangibles construct as shown on tables 4.3 and 4.4 (+0.146). Paired t test returned a statistically significant difference ($t = 4.131, p < 0.05$) between the two means at 5% level of significance.

4.5 Patients' satisfaction with assurance since UHC pilot phase enforcement.

The study in sought to determine the patients' satisfaction with different aspects of assurance since UHC program was introduced in Matuu Sub County hospital.

4.5.1 Factor analysis

The suitability of data for factor analysis of the 4 assurance items for both expectations and perceptions is as shown on table 4.7. The Kaiser- Meyer-Olkin value exceeded the recommended value of 0.6 and Bartlett's Test of Sphericity reached statistical significance ($p < 0.05$) supporting the factorability of the correlation matrix.

Table 4.7: KMO and Bartlett's test

KMO and Bartlett's Test				
Constructs	KMO	Approx. Chi-Square	df	Sig.
Expectation(assurance)	0.669	137.689	6	0.000
Perception(assurance)	0.674	131.594	6	0.000

Principal components analysis revealed the presence of one component with eigenvalue exceeding 1, explaining 46.656% and 45.375% of the variance for expectations and perception respectively as shown in tables 4.8 and 4.9. A single score for each sub-scale was then calculated using the mean for expectations and perceptions

Table 4.8 Principal Component Analysis for expectations (assurance)

Total Variance Explained: Expected Assurance

	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	1.866	46.656	46.656	1.866	46.656	46.656
2	0.872	21.796	68.452			
3	0.707	17.665	86.117			
4	0.555	13.883	100.000			

Extraction Method: Principal Component Analysis.

Table 4.9: Principal Component Analysis for perceptions(assurance)

Total Variance Explained: Percpetion of Assurance

	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	1.855	46.376	46.376	1.855	46.376	46.376
2	0.883	22.086	68.462			
3	0.663	16.571	85.033			
4	0.599	14.967	100.000			

Extraction Method: Principal Component Analysis.

4.5.2 Descriptive statistics

Table 4.10 presents descriptive statistics for patients' satisfaction with different elements of assurance surveyed.

Table 4.10: Descriptive statistics for patient's satisfaction with elements of assurance

Statement for assurance	Expectations		Perception		P-E gap score
	Mean	Std. deviation	Mean	Std. deviation	
Staff are trustworthy and instill confidence	3.97	0.750	4.10	0.863	+0.13
Patients feel safe when transacting with healthcare	3.91	0.875	3.95	0.801	+0.04

Staff are polite and courteous	4.09	0.738	4.14	0.839	+0.06
Staff are well supported by the administration/ County to offer services	3.36	1.230	3.39	1.243	+0.03

As per the study findings, patients expected and perceived highly the staff courtesy and politeness (mean=4.09 and 4.14 respectively) on a five-point scale while they least expected and perceived the facility's administration and county support to the staff to offer services (mean=3.36 and 3.39 respectively). Staff trustworthiness and ability to instill confidence on patients while giving services recorded the highest positive jump between patients' expectations and perceptions (+0.13) while the facility's administration and county support to the staff to deliver quality services recorded the lowest positive change (+0.03).

4.5.3 Inferential statistics

The inferential statistics of average patients' satisfaction with assurance is as shown on table 4.11 below

Table 4.11: Inferential statistics of patients' satisfaction with assurance

		Paired Differences							
		Mean difference/P-E gap score	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		t	df	P values
					Lower	Upper			
Pair	Perc-Assurance Expe-Assurance	+0.22829	0.59818	0.03397	0.16144	0.29514	6.720	309	0.000

The study found that the overall mean difference of patient's expectations and perceptions of assurance since UHC implementation was 0.22829 representing a positive P-E gap score (+0.228) signifying that patients were generally satisfied with the different elements of assurance as surveyed. This was statistically significant ($t = 6.720, p < 0.05$) at 5% level of significance.

4.6 Patients' satisfaction with health system responsiveness since UHC reforms.

The study sought to establish the patients' satisfaction with the health system responsiveness since UHC reforms agenda was rolled out in Matuu sub county hospital.

4.6.1: Factor analysis

The suitability of data for factor analysis of the 5 items of responsiveness for both expectations and perceptions is as shown on table 4.12. The Kaiser- Meyer-Olkin value exceeded the recommended value of 0.6 and Bartlett's Test of Sphericity reached statistical significance ($p< 0.05$) supporting the factorability of the correlation matrix.

Table 4.12: KMO and Bartlett's test

KMO and Bartlett's Test				
Constructs	KMO	Approx. Chi-Square	df	Sig.
Expectation(responsiveness)	0.654	236.506	6	0.000
Perception(responsiveness)	0.751	297.495	6	0.000

Principal components analysis revealed the presence of one component with eigenvalue exceeding 1, explaining 51% of the variance for expectations and 58% for perception as shown in tables 4.13 and 4.14 below. A single score for each sub-scale was then calculated using the mean for expectations and perceptions.

Table 4.13: Principal Component Analysis for expectations(responsiveness)

Total Variance Explained: Expected Responsivess

	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.061	51.523	51.523	2.061	51.523	51.523
2	0.946	23.647	75.170			
3	0.593	14.824	89.994			
4	0.400	10.006	100.000			

Extraction Method: Principal Component Analysis.

Table 4.13: Principal Component Analysis for perceptions(responsiveness)

Total Variance Explained: Percpetion of responsivess

	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.331	58.264	58.264	2.331	58.264	58.264
2	0.670	16.756	75.020			
3	0.587	14.665	89.686			
4	0.413	10.314	100.000			

Extraction Method: Principal Component Analysis.

4.6.2: Descriptive statistics

Table 4.15 below presents the descriptive statistics of different attributes of responsiveness surveyed and their corresponding P-E scores

Table 4.15: Descriptive statistics for patient's satisfaction with attributes of responsiveness

Statement for responsiveness	Expectations		Perception		P-E gap score
	Mean	Std. deviation	Mean	Std. deviation	
Patients kept informed when services will be offered	3.93	0.779	3.89	0.812	-0.04
Staff are providing prompt and instant services	3.73	0.845	3.90	0.786	+0.17

Staff more willing to help patients out	3.94	0.888	4.05	0.847	+0.11
Staff ready to respond to patients requests and enquiries	3.92	0.774	4.06	0.780	+0.14

The results revealed that among the four elements of responsiveness surveyed, patients' expectations and perceptions received the highest average score on five-point scale on staff readiness to respond to patients' requests and inquiries (Mean=3.92 and 4.06 respectively). Staff promptness and ability to respond instantly to emergency situations ranked lowest on the same scale (expectations mean=3.73, perceptions mean=3.90). The highest positive change on patients' pre service expectations and perceptions after consuming services (+0.17) was on staff promptness to respond to emergency cases. A negative change (-0.04) was recorded on the staff ability to communicate on when services will be offered signifying dissatisfaction on this element of the facility's responsiveness.

4.6.3: Inferential statistics

The inferential statistics of average patients' satisfaction with the health system responsiveness is as shown on table 4.15 below

Table 4.15: Inferential statistics of patients' satisfaction with health system responsiveness

		Paired Differences							
		Mean difference/P-E gap score	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		t	df	P values
					Lower	Upper			
Pair	Perc-Responsiveness Expe-Responsiveness	0.1126	0.5428	0.0303	0.0519	0.1733	3.64	309	0.000

The mean difference of pre-service expectations and post-service consumption perceptions of the combined attributes of responsiveness of the system at Matuu sub county hospital since UHC reforms roll out in December 2018 was 0.11266. The corresponding P-E gap score (+0.11266) signified that patients were satisfied with the overall responsiveness of the healthcare system. This was statistically significant ($t = 3.654, p < 0.05$) at 5% level of significance.

4.7 Patients' satisfaction with the facility's reliability since UHC reforms implementation.

The study sought to find out the patients' satisfaction with the facility's reliability since the advent of UHC pilot program

4.7.1: Factor analysis

The 4 components of reliability surveyed for expectation and perceptions were subjected to principal components analysis (PCA) before which the suitability of data for factor analysis was evaluated. From table 4.17 the Kaiser- Meyer-Olkin value for both expectations and perceptions exceeded the cut off value of 0.6 (0.724 and 0.719 respectively) and Bartlett's Test of Sphericity reached statistical significance (P<0.05), supporting the factorability of the correlation matrix.

Table 4.17: KMO and Bartlett's Test

KMO and Bartlett's Test				
Constructs	KMO	Approx. Chi-Square	df	Sig.
Expectation(reliability)	0.724	244.720	10	0.000
Perception(reliability)	0.719	213.796	10	0.000

Principal components analysis revealed the presence of one component with eigenvalue exceeding 1, explaining 43% of the variance for both expectations and perception as shown in tables 4.18 and 4.19 below. A single score for each sub-scale was then calculated using the mean for expectations and perceptions.

Table 4.18: Principal Component analysis for expectations (reliability)

Total Variance Explained: Expected reliability

	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %

1	2.174	43.482	43.482	2.174	43.482	43.482
2	0.984	19.676	63.159			
3	0.840	16.805	79.964			
4	0.535	10.698	90.662			
5	0.467	9.338	100.000			

Extraction Method: Principal Component Analysis.

Table 4.19: Principal Component Analysis for perceptions (reliability)

Total Variance Explained: Perception of Reliability

	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.158	43.162	43.162	2.158	43.162	43.162
2	0.960	19.190	62.353			
3	0.723	14.459	76.812			
4	0.639	12.783	89.595			
5	0.520	10.405	100.000			

Extraction Method: Principal Component Analysis.

4.7.2: Descriptive statistics

The descriptive statistics summary of different attributes of reliability is as per table 4.19 below.

Table 4.19: Descriptive statistics of the patients' satisfaction with the facility's reliability

Statement for reliability	Expectations		Perception		P-E gap score
	Mean	Std. deviation	Mean	Std. deviation	
Services offered within the promised/shortest time possible	3.82	2.566	3.63	0.995	-0.19
Staff dependable to handle patients complains/problems	3.89	0.859	3.89	0.829	0.00
Staff offering the right services the first time and no repeat procedures/treatment	3.75	0.900	3.85	0.855	+0.10
Services provided are as promised by the national and county government	3.38	1.235	3.59	1.203	+0.21
Accurate medical records	4.08	0.848	4.34	0.819	+0.26

The study findings revealed that patients' pre-service expectations and perceptions after consuming the services were highest on the facility's ability to keep accurate medical records (Mean =4.08 and 4.34 respectively) while service provision as promised by the county and national governments before and during the launch of UHC pilot program was lowest (mean=3.38 on expectations and 3.59 on perceptions. The parameter with the highest positive p-e score (+0.26) was accurate record keeping signifying exceeded expectations. Staff dependability to handle patients complains posted a 0.00 p-e score meaning patients were neither satisfied nor dissatisfied. Turn-around times of the facility recorded a negative expectation perception score (P-E gap score) of -0.19 implying a dissatisfaction with that element of facility's reliability since UHC reforms begun.

4.7.3: Inferential statistics

The overall patient satisfaction with the facility's reliability is summarized on table 4.21 below.

Table 4.21: Inferential statistics of the overall patient satisfaction with the facility's reliability

		Paired Differences							
		Mean difference/P-E gap score	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		t	df	P values
					Lower	Upper			
Pair	Perc-reliability Expe-reliability	+0.18717	0.61497	0.03493	0.11844	0.25589	5.359	309	0.000

The overall mean difference of different attributes of reliability of the facility since UHC pilot reforms in Matuu sub county hospital was 0.18717. The corresponding positive p-e gap score (+0.187) is a testament to patients' satisfaction with the facility's ability to be relied upon for care since UHC pilot phase reforms were introduced. The statistical significance of this was confirmed at 5% level of significance($t = 5.359, p < 0.05$).

4.8 Patients' satisfaction with staff empathy since UHC pilot phase roll out

The study sought to assess the patients' satisfaction with staff empathy tendencies since UHC pilot phase promulgation.

4.8.1: Factor analysis

The 4 components of empathy surveyed for expectation and perceptions were subjected to principal components analysis (PCA) but prior, the suitability of data for factor analysis was assessed. From table 4.22 below, the Kaiser- Meyer-Olkin value for both expectations and perceptions exceeded the cut off value of 0.6 (0.713 and 0.769 respectively) and Bartlett's Test of Sphericity reached statistical significance (P<0.05), supporting the factorability of the correlation matrix.

Table 4.22: KMO and Bartlett's Test

KMO and Bartlett's Test				
Constructs	KMO	Approx. Chi-Square	df	Sig.
Expectation(empathy)	0.713	149.978	6	0.000
Perception(empathy)	0.769	285.127	10	0.000

Principal components analysis revealed the presence of one component with eigenvalue exceeding 1, explaining 48% of the variance for expectations and 46% for perception as shown in tables 4.23 and 4.24 below. A single score for each sub-scale was then calculated using the mean for expectations and perceptions

Table 4.23: Principal Component Analysis for Expectations(empathy)

Total Variance Explained: Expected Empathy

	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	1.951	48.780	48.780	1.951	48.780	48.780
2	0.767	19.168	67.948			
3	0.681	17.020	84.968			
4	0.601	15.032	100.000			

Extraction Method: Principal Component Analysis.

Table 4.24: Principal Component Analysis for perceptions(empathy)

Total Variance Explained: Percpetion about Empathy

	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.343	46.859	46.859	2.343	46.859	46.859
2	0.979	19.589	66.448			
3	0.641	12.821	79.269			
4	0.564	11.283	90.552			
5	0.472	9.448	100.000			

Extraction Method: Principal Component Analysis.

4.8.2: Descriptive statistics

Table 4.25 below summarizes the descriptive statistics of this dimension.

Table 4.25: Descriptive statistics of the patients' satisfaction with facility's staff empathy tendencies

Statement for empathy	Expectations		Perception		P-E gap score
	Mean	Std. deviation	Mean	Std. deviation	
Healthcare workers give individualized attention to patients	3.76	0.778	3.88	0.803	+0.12
Staff care towards the patients	4.11	0.840	4.09	0.835	-0.02
Healthcare workers have patients' best interest at heart	3.77	0.694	4.05	0.795	+0.28
Staff understand the needs of the patients well	4.00	0.865	4.09	0.775	+0.09

The hospital operation hours are convenient for patients.	4.25	0.846	4.51	0.663	+0.26

The research findings showed that the patients' expectations and perceptions of convenience of operating hours of the facility were ranked highest on a 5-point scale (mean= 4.25 and 4.51 respectively) while the staff individualized attention received the lowest ratings (mean=3.76 and 3.88 respectively). The staff patients' interest recorded the highest positive change between patients' expectations and perceptions (+0.28) closely followed by convenience of operating hours implying patients' general satisfaction with those two attributes of empathy. Healthcare workers care towards patients recorded a negative p-e score (-0.02) signifying patients'

4.8.3: Inferential statistics

The inferential statics on the overall patient satisfaction with the facility's staff empathy tendencies is summarized on table 4.256 below.

Table 4.26: Inferential statistics of the overall patient satisfaction with staff empathy tendencies

		Paired Differences							
		Mean difference/P-E gap score	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		t	df	P values
					Lower	Upper			
Pair	Perc-empathy Expe-empathy	+0.21446	0.44441	0.02524	0.16480	0.26413	8.497	309	0.000

The overall patients' mean difference of expectations and perception of different constructs of staff empathy tendencies in the facility since UHC pilot program promulgation was 0.21446 with a subsequent positive p-e gap score of +0.214 implying patient satisfaction with this dimension. This was statistically significant ($t = 8.497, p < 0.05$) at 5% level of significance.

4.9 Overall patients' satisfaction with UHC reforms

The general objective of the study was to determine the overall patient satisfaction with UHC reforms at Matuu Sub County Hospital. According to the gap theory discussed earlier, the overall service quality which is an antecedent of patient satisfaction is modeled as;

$$\mathrm{SQ} = \sum_{i=1}^{k} (Pij - Eij)$$

Where SQ= cumulative service quality: *k* number of dimensions

Pij=Perception of stimuli *i* with respect to dimension *j*

Eij=Expectation of stimuli *i* with respect to dimension *j*.

Thus

$$\mathrm{SQ} = \sum_{i=1}^{5} (19.8418 - 18.9637)$$

=**+0.8781**

Table 4.26 below shows the sum mean of the expectation and perceptions of the five dimensions researched and the calculated overall service quality hence patient satisfaction.

Table 4.26: Sum mean expectations and perceptions and overall p-e gap score of the five dimensions

Paired Samples Statistic							
	Mean	N	Std. Deviation	Std. Error Mean	t	df	Sig. (2-tailed)
Perceptions	19.8418	310	2.7674	0.15718			
Expectations	18.9637	310	2.90405	0.16494			
Overall P-E gap score	**+0.8781**				**9.767**	**309**	**0.000**

The study's ultimate verdict on the overall patients' satisfaction with UHC reforms since inception of the pilot program in December 2019 in Matuu Sub County hospital is that patients are generally satisfied with the reforms initiated. This is showed by the positive overall p-e score gap (+0.8781) with a statistical significance on the paired t score of 9.767 at 5% level of confidence (p value<0.05).

CHAPTER FIVE

DISCUSSION, CONCLUSION AND RECOMMENDATIONS

5.1: Introduction

This chapter delves into the discussion of the findings and their relationship to the study objectives. Further, conclusions are drawn and thereafter recommendations advanced for further studies as per the study findings and limitations of the study.

5.2: Discussion of the study findings

Patient satisfaction is a key success indicator in healthcare and one of the most important measures of quality in service industry. By calculating the gap that appears between patients' expectations and perceptions of services delivered, researchers been able to decipher satisfaction. The rationale for measuring patient satisfaction is mainly for cost containment and wading off competition. Cost-effective therapies can be identified through monitoring of process and outcomes while marketers are able to convince consumers by comparing competing healthcare systems to promote rational decision making about which system suits individual needs better.

Quality health care as one of the three tenets of UHC is crucial in ensuring safety, timeliness, efficiency, effectiveness and patient-centeredness of services. Studies have shown that as financial barrier to access of health care is lifted; the services delivered have often been of questionable quality due to overutilization, poor financing mechanisms, and deficient governance structures among others. Meeting or exceeding patients' expectations by deliberately setting up health care systems responsive to patients' needs is one way of ensuring quality in the health care system.

This study aimed to evaluate the overall patients' satisfaction with the UHC reforms launched in December 2018 by the national government of Kenya and piloted in four counties namely Machakos, Isiolo, Kisumu and Nyeri. By assessing the patients' pre-service expectations and perceptions after service delivery at Matuu sub county hospital and calculating the perception-expectation gap scores, we were able to show that overall patients' were satisfied with the UHC reforms being implemented. Among the five dimensions studied, patients' were most satisfied with assurance; followed by empathy, reliability, tangibles and finally the facility's responsiveness.

5.2.1: Patients' satisfaction with tangibles

The findings from the study indicated patient satisfaction with the elements of tangibles surveyed including new and modern equipment, appealing physical infrastructure, grooming of the stuff and service materials introduced since UHC pilot advent. This could be associated with the facility's upcoming pediatric and isolation wards, the new theatre that was inaugurated in March 2019 and general infrastructure facelift done in mid-2019. New theatre machines and laboratory equipment coupled with the accreditation of the facility's laboratory by Kenya Accreditation Service (KENAS) in January 2019 could also have played a part. Overall, a statistically significant patient satisfaction score was recorded on the tangibles affirming patients believe that there's been a positive change on the appearance of physical facilities, equipment, personnel and communication materials in the facility since UHC reforms roll out.

These findings are consisted with those of AlOmari, (2020) in a study to assess service quality in Syrian health-care setting where among the five dimensions, only tangibles posted a positive gap score (+0.57) signifying satisfaction. Further, Bellio & Buccoliero, (2021) recently showed that perceived quality of physical environment has a positive impact has an impact on patients experiential satisfaction.

5.2.2: Patients' satisfaction with assurance

The study revealed marginal positive patient perception and expectation gap scores (ranging from +0.03 to 0.13) in the four elements of knowledge and courtesy of an employee and their ability to convey trust and confidence during treatment. The fact that patient's least felt the support of the county government and facility's administration towards the healthcare workers points towards a possible over utilization and therefore burn out. This could explain the relatively low scores on staff politeness, courtesy, ability to instill confidence and patients' feeling safe. Overall, the study found out that the patients were satisfied with the elements of assurance.

5.2.3: Patients' satisfaction with health system responsiveness

The study found a statistically significant patient satisfaction response to the facility's healthcare workers' willingness to help customers and to provide prompt service since UHC reforms were introduced. Staff ability to provide prompt services, willingness to help and respond to enquiries is some attributes patients were satisfied with. This could be associated with deployment of specific cadres to address these particular elements of client care including patient attendants and

customer care personnel. However, patients were dissatisfied with the staff's communication skills especially not being informed when services will be offered.

Although the verdict of the study was that patients were generally satisfied with the facility's healthcare workers responsiveness since UHC inception, it recorded the lowest satisfaction score among the five dimensions. The facility and county administration need to find ways to quickly improve the attitudes of the staff in provision of prompt service and willingness to assist patients.

5.2.4: Patients' satisfaction with the facility's reliability

The findings of the study underscored the overall patients' satisfaction with the facility's ability to perform the promised service dependably and accurately. Patients were most satisfied with the accurate and reliable medical records keeping attributable to the facility's adoption of a Health Management Information System (HMIS) in early 2018 and meticulous physical record keeping. Patients also felt the staff and the administration were dependable to handle complains which could be explained by the existence of an active grievances redress mechanism headed by the nursing services manager.

Patients however were dissatisfied with the turn-around times at different service points. The facility lacks a patients' service charter with stipulated turn-around time for each service leaving patients guessing as to when service will be given. The over utilization of services since financial barriers to access of care were lifted during the roll out of UHC pilot program coupled with few clinical staff and service points most likely explains this long waiting period. Owusu-Frimpong, Nwankwo, & Dason, 2010 collaborates this finding when in a study to measure service quality and patient satisfaction in private and public sectors in London, unsatisfactory outcomes were recorded on time taken to get appointments and see doctors in public sector as opposed to private sector.

5.2.5: Patients' satisfaction with staff empathy

Based on the study findings, patients rated the provision of caring, individualized attention by the staff since UHC reforms advent as satisfactory. The patients ranked the healthcare workers' ability to put their best interest at heart as the most satisfactory empathy attribute closely followed by the convenient operation hours (The hospital operates 24 hours even before UHC reforms). Patients felt dissatisfied though with the uncaring attitude of the staffs since UHC reforms commenced. This is likely due to overwhelming workload resulting to less individualized care.

5.3: Summary conclusions of the study

This study aimed to determine the overall patient satisfaction with UHC reforms at Matuu Sub County Hospital. This was done by administering a tailored questionnaire based on SERVQUAL tool to examine the five dimensions of service quality namely tangibles, assurance, responsiveness, reliability and empathy. Perception expectation gap scores were then calculated and further analysis carried out via Statistical Package for Social Sciences (SPSS Version 25) to obtain paired t scores and confirm statistical significance of mean differences of the dimension's perceptions and expectations.

The study's overall determination was that patients were satisfied with UHC reforms launched in December 2018 (P-E score= +0.8781) with a few notable areas of dissatisfaction including the long turn-around times (P-E score= -0.19), staff inability to communicate on when services will be offered (P-E score= -0.04) and the uncaring attitude of the healthcare workers (P-E score= -0.02). In ranking order, patients were most satisfied with assurance (P-E score=+0.228) followed by empathy (P-E score=+0.214), reliability (P-E score=+0.187), tangibles (P-E score=+0.135) and finally responsiveness (P-E score=+0.113).

5.4: Recommendations

The following recommendations can be implemented by Machakos county government and the hospital administration to further enhance patients' satisfaction hence improved service quality:

- National and County government should endeavor to strengthen the health system to guarantee and improve physical facilities, ensure consistent supply of basic hospital amenities such as drugs, modern diagnostic and treatment equipment and deployment of additional health care workers among others.
- Machakos County government and facility's administration should ensure regular staff training on customer care and appropriate communication skills.

- The County government should ensure each facility has an operational quality management team tasked with among others frequent sensitization of healthcare workers on quality health care as a cornerstone to UHC, carrying out quarterly service quality exit surveys, strengthening the grievance redress mechanisms etc.

- The County government should ensure all health facilities have a comprehensive patient service charters outlining patients' rights, service turn-around time and general commitment to provide quality services.

5.5: Areas for further research

The study recommends examination of patients' satisfaction with UHC reforms in other primary and secondary health care facilities within Machakos County and beyond to gain further insight into patients with different demographics especially urban educated populations. Further, regression analysis can be carried out to determine which among the five dimensions' influence patients' satisfaction most. This will aid the policy makers in targeted strengthening of the UHC program as emphasis moves towards countrywide roll out.

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APPENDICES

Appendix 1: NACOSTI license

REPUBLIC OF KENYA

NATIONAL COMMISSION FOR SCIENCE,TECHNOLOGY & INNOVATION

Ref No: 928292

Date of Issue: 27/May/2021

RESEARCH LICENSE

This is to Certify that Dr.. Benjamin Nzomo of Strathmore University, has been licensed to conduct research in Machakos on the topic: Patient's satisfaction with Universal Health Coverage reforms: A case of Matuu Sub County Hospital, Machakos County for the period ending : 27/May/2022.

License No: NACOSTI/P/21/10713

928292

Applicant Identification Number

Director General
NATIONAL COMMISSION FOR SCIENCE,TECHNOLOGY & INNOVATION

Verification QR Code

NOTE: This is a computer generated License. To verify the authenticity of this document, Scan the QR Code using QR scanner application.

Appendix 2: Ethical approval

Strathmore UNIVERSITY

13th May 2021

Dr Nzomo
Benjamin,
benjar254@
gmail.com

Dear Dr Nzomo,

RE: Patient's Satisfaction with Universal Health Coverage Reforms: A Case of Matuu Sub County Hospital, Machakos County

This is to inform you that SU-IERC has reviewed and **approved** your above **master's** research proposal. Your application reference number is **SU-IERC1024/21.** The approval period is **13th May 2021 to 12th May 2022.**

This approval is subject to compliance with the following requirements:

i. Only approved documents including (informed consents, study instruments, MTA) will be used
ii. All changes including (amendments, deviations, and violations) are submitted for review and approval by SU-IERC.
iii. Death and life-threatening problems and serious adverse events or unexpected adverse events whether related or unrelated to the study must be reported to SU-IERC within 48 hours of notification
iv. Any changes, anticipated or otherwise that may increase the risks or affected safety or welfare of study participants and others or affect the integrity of the research must be reported to SU-IERC within 48 hours
v. Clearance for export of biological specimens must be obtained from relevant institutions.
vi. Submission of a request for renewal of approval at least 60 days prior to expiry of the approval period. Attach a comprehensive progress report to support the renewal.
vii. Submission of an executive summary report within 90 days upon completion of the study to SU-IERC.

Prior to commencing your study, you will be expected to obtain a research license from National Commission for Science, Technology and Innovation (NACOSTI)

https://research- portal.nacosti.go.ke/ and also obtain other clearances needed

Yours sincerely,

for: Dr Virginia Gichuru,

Secretary; SU-IERC

Cc: Prof Fred Were,

Chairperson; SU-IERC

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Appendix 3: Research tool

Questionnaire

I'm Dr. Benjamin Nzomo, an MBA-Healthcare Management student at Strathmore University Business School. This questionnaire seeks to find out patients' expectations and perceptions of healthcare services given at Matuu Sub County Hospital since UHC was inaugurated in November 2018, hence the level of patients' satisfaction. Kindly respond sincerely to the questions contained herein by using a tick (√) against your choice of response. All information provided will be strictly confidential and used purely for academic purposes. Thank you for your consideration and time.

Respondent's demographics

1. Age of respondent

Under 18yrs ( )

Over 18-30yrs ( )

31-40 years ( )

41-50 years ( )

51-60 years ( )

0ver 60 years ( )

2. Gender

Male ( )

Female ( )

3. Highest educational level

No formal education ( )

Primary Level ( )

Secondary Level ( )

College/University ( )

4. Employment status

Un-employed ( )

Employed (Govt/Public sector) ( )

Employed (Private Sector) ( )

Self Employed ( )

Expectation Questionnaire

Dimension	**Question**	**Likert scale**				
		Strongly disagree				Strongly agree
		1	2	3	4	5
Tangibles	The hospital should have new and modern equipment since UHC was rolled out					
	Physical facilities and buildings should be visually appealing since UHC roll out					
	Staff should be neatly dressed					
	I expect new appealing service materials such as uniforms, stationery since UHC roll out					

Reliability	Services should be offered within the promised and shortest time possible since UHC was implemented					
	Staff should be dependable to handle patients' complains/problems since UHC was rolled out.					
	3. Since UHC implementation, I expect staff are offering the right services the first time and no need of repeat procedures or treatment					
	Services being provided are as promised by the national and county government during UHC launch					
	I expect the facility is keeping accurate medical records					
Responsiveness	Patients should be kept informed of when services will be offered since UHC roll out					
	I expect staff in the hospital are providing prompt and instant services since UHC implementation					
	I expect staff to be more willing to help patients out since UHC implementation					
	Staff should be ready to respond to patients requests and enquiries since UHC roll out					

Assurance	Since UHC was implemented, staff should be trustworthy and instill confidence on the patients					
	I expect healthcare workers in the hospitals to make patients feel safe when transacting since UHC implementation					
	I expect staff are polite and courteous to patients since UHC was implemented					
	I expect staff to be well supported by the administration and the County government to offer services since UHC started					
Empathy	I expect Healthcare workers to give individualized attention to patients since UHC implementation					
	Since UHC was implemented, I expect staff to be more caring towards the patients					
	I expect healthcare workers to have patients best interest at heart since UHC implementation					
	I expect staff to understand the needs of the patients well since UHC was implemented					
	Since UHC roll out, I expect the hospital operation hours to be convenient for patients.					

Perceptions Questionnaire

Dimension	**Question**	**Likert scale**				
		Strongly disagree				Strongly agree
		1	2	3	4	5
Tangibles	1.Since UHC was introduced, the hospital has acquired new and modern equipment					
	2.Physical facilities and buildings are more visually appealing since UHC introduction					
	3.Since UHC implementation, staff at the Hospital dress well and neatly					

	4.UHC roll out has introduced new appealing service materials such as uniforms, registers, etc					
Reliability	1.Services are offered within the promised and shortest time possible since UHC was implemented					
	2. Healthcare workers are more dependable to handle patients' complains/problems since UHC was rolled out.					
	3. Since UHC implementation, staff are offering the right services the first time and no need of repeat procedures or treatment					
	4. Services are being provided as promised by the national and county government during UHC roll-out.					
	5.The facility is keeping accurate medical records since UHC implementation					
Responsiveness	1.Since UHC was implemented, patients are kept informed of when services will be offered					
	2.Staff in the hospital are providing prompt and instant services since UHC implementation					
	3.Since UHC was implemented, staff are more willing to help patients					

	4.Staff are ready to respond to patients' requests and enquiries since UHC roll out					
Assurance	1.Since UHC was implemented, staff are trustworthy and instill confidence on the patients					
	2.Patients feel safe when transacting with healthcare workers in the hospital since UHC implementation					
	3. Staff are polite and courteous to patients since UHC was implemented					
	4.Staff seem well supported by the administration and County to offer services since UHC started					
Empathy	1.Healthcare workers are giving individualized attention to patients since UHC implementation					
	2.Since UHC was implemented, staff are more caring towards the patients					
	3.Healthcare workers have patients best interest at heart since UHC roll out					
	4.Staff understand the needs of the patients well since UHC was implemented					
	5. Since UHC roll out. the hospital operation hours are convenient for patients					